INTERNATIONAL SOCIETY OF SURGERY (ISS/SIC)

Krakow, Poland
11 – 15 August 2019

INTERNATIONAL SOCIETY OF SURGERY (ISS/SIC)

48th World Congress of Surgery

Incorporating the 69th Congress of the Association of Polish Surgeons (APS)

Abstract Book

International Society of Surgery / Société Internationale de Chirurgie (ISS/SIC)
and its Integrated Societies:

IAES - International Association of Endocrine Surgeons
IATSIC - International Association for Trauma Surgery and Intensive Care
IASMEN - International Association for Surgical Metabolism and Nutrition
BSI - Breast Surgery International
ISDS - International Society for Digestive Surgery
ASAP - Alliance for Surgery and Anesthesia Presence

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48th World Congress of Surgery WCS 2019

11 – 15 August 2019, Krakow, Poland

of the

International Society of Surgery
Société Internationale de Chirurgie
ISS/SIC

and its Integrated Societies

International Association of Endocrine Surgeons (IAES)
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International Society for Digestive Surgery (ISDS)
Alliance for Surgery and Anesthesia Presence (ASAP)

Incorporating the

69th Congress of the Association of Polish Surgeons

APS

Organization 48th World Congress of Surgery WCS 2019

Krakow, Poland, 11 – 15 August 2019

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and its Integrated Societies and Partner Societies

incorporating the
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ISBI International Society for Burn Injuries
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www.worldburn.org

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4.01

RANDOMIZED STUDY TO COMPARE EFFICACY OF TWO TYPES OF 2-LAYER COMPRESSION BANDAGE SYSTEMS FROM KOB WITH MULTI-LAYER LOCALLY USED COTTON CREPE BANDAGES IN THE TREATMENT OF VENOUS ULCERS

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Introduction: Leg ulcers are largely ignored due to lack of awareness and a standard treatment protocol for these patients. This study is being conducted to evaluate the effectiveness of compression bandaging in the treatment of venous ulcers. Lack of compliance due to the difficulty in multilayer bandaging can be improved with the use of a 2-layer system. With this study, we intend to evaluate responses to different types of compression bandaging systems and arrive at a consistent treatment protocol to treat these patients.
Materials & Methods: Primary Objective: To compare efficacy of two types of 2-layer compression bandage systems from KOB and multi-layer locally used cotton-crepe bandages in the treatment of leg ulcers. Patients aged>18yr, withvenous ulcer excluding arterial disease, acute DVT, pelvic and groin malignancies or lymphatic obstruction were enrolled. Three study groups: Group 1: 4-layer cotton crape bandage, Group 2: 2-layer KOB short stretch bandage (752) and Group 3: Elastic padding with KOB elastic crape bandage(394).
Results: Of 38 patients, group 1, group 2, group 3 had 12,11 and 14 patients respectively. Median decrease of 5.57cm^2, 7.1cm^2 and22.69 cm^2 with mean healing rates of 0.18 cm^2, 0.14cm^2 and0.27 cm^2 /day in group 1,2 and 3 respectively. While all the three groups showed significant decrease in ulcer size at 3 months (*p* values 0.002,0.004,0.001), their rate of healing did not differ significantly (*p*=0.32).Mean decrease in limb girth was 1 cm, 1.5 and 2 cm at ankle and 1.75 cm, 0.5 and 1.25 cmat calf in group 1,2 and 3 respectively.
All groups showed significant improvement in the QOLwith most improvement in the mean quality of life in Group 3(increase by 45.25 points) compared to group 1 and group 2(38 and 24 .81 points respectively). Slippage of bandage was significantly less in group 3 (p=0.006). Sub-bandage pressures measured by Pico press device were significantly higher in group 3 both in resting and standing posture.
Conclusion: All bandaging groups had similar rate of ulcer healing. Better sub-bandage pressure, greater decrease in limb girth and lesser slippage of cotton padding with KOB elastic crepe bandage translated in a better quality of life.
Disclosure of Interest: None declared

4.02

VARIOUS MARKERS OF ENDOTHELIAL DYSFUNCTION, INFLAMMATION & VASCULAR GROWTH FACTORS IN INDIAN POPULATION WITH PAD AND COMPARISON WITH CONTROLS

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Introduction: Conventional risk factors are well known to contribute for development of peripheral arterial diseases (PAD). Various markers of endothelial dysfunction, inflammation & vascular growth factors in Indian Population with PAD correlating them with their clinical symptoms & comparing them with healthy controls without PAD are being explored, a step closer to find a newer therapy for the PAD patients.
Materials & Methods: Patients of peripheral arterial disease before initiating treatment were recruited for the study. Two set of controls, healthy controls and second group was hypertensive patients without PAD. Testing of the blood was done by "sandwich ELISA Testing Method "for level of biomarkers of inflammation (TNF-α), Interferon gamma (INF-Ɣ), Interfeukin-10, IL-6 tissue injury- endothelial Nitric Oxide Synthase (eNOS) & angiogenic VEGF-A in PAD and compare it with the healthy & hypertensive controls without PAD.
Results: Comparison of baseline parameters between all patients (n=76), healthy control (n-30) and hypertensive control (n-29) showed significant difference in various parameters. Endothelial Nitric Oxide Synthase, a marker of endothelial dysfunction was found significantly less in PAD patients as compared to the healthy and the hypertensive controls. VEGF-A level was found to be high in PAD patients than controls. All the pro-inflammatory markers were raised in PAD, like IL-6, TNF-α, interferon-Ɣ, whereas all the anti-inflammatory markers like IL-10 was found less in PAD patients. TNF- was found to be raised in hypertension. This can be used as a screening and for follow-up biomarker in patients of hypertension on treatment. Smoking was the leading risk factor in our population followed by hyperlipidemia.

Conclusion: Peripheral arterial disease patients show ethnic variations. This study gives evidence for presence of endothelial dysfunction and evidence that atherosclerotic disease is a systemic inflammatory disease in Indian PAD patients.
Disclosure of Interest: None declared

4.03

MODIFIED HIGH LIGATION AND TAILORED SMALL SAPHENOUS VARICOSE VEIN REMOVAL IS EFFECTIVE AND SAFE

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Introduction: Small saphenous vein (SSV) surgery is considered to be at risk for clinical and duplex recurrence. There are reports on a high complication rate, especially permanent nerve injury.
Materials & Methods: This is a report on prospective evaluation and mid- and long-term follow-up of modified high ligation and tailored small saphenous varicose vein (SSV) removal (5-10 cm).
Patients were examined by colored duplex sonography before and after operation at follow-up.
Results: 103 patients with 113 operations, n=38 women and n=64 men, had 133 limb procedures.
8 limbs presented with recurrence varicose veins of SSV.
Histological evaluation was performed in 102 operations. Phlebosclerosis could be demonstrated in all specimens.
There were no severe complications (DVT, PE, injury to large vessels and nerves).
Minor temporary complications were: ecchymosis (18), paresthesia (9), local inflammation (12), wound healing (6), allergic reaction (3), induration (2), thrombophlebitis (1).
N=4 patients had recurrent SSV recurrence, 2 patients presented already with varicose veins.
Mean follow-up with colored duplex examination and clinical investigation was 2,5 years, cosmetic results were considered to be very good to good. There is an ongoing review with interviews of patients.
Conclusion: Modified high-ligation and tailored SSV removal is effective and safe.
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Disclosure of Interest: None declared

4.04

THE ROLE OF PLATELETS IN THE TREATMENT OF VENOUS ULCERS OF LOWER LIMBS

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Introduction: Tissue regeneration remains a current multidisciplinary issue. Up to 48% of patients with trophic ulcers are at the peak of the age. 67% of patients with trophic ulcers become disabled, and 81% have considerably lower quality of life. Platelets are a new perspective in tissue regeneration used as platelet rich fibrin (PRF) and platelet rich plasma (PRP). Aim of this study is to evaluate the effect of thrombocytes in tissue regeneration in patients with venous ulcers.

Materials & Methods: Prospective study, beginning of January 2017. The study included 26 patients, divided into 2 groups, with small and medium-sized lower extremities venous ulcers with a duration of 6-24 months without healing dynamics and epithelization. I group - 13 patients with chronic venous insufficiency and ulcer of lower limbs were treated with several injection of PRP in the ulcer combined with aplications of PRF membrane. Control group - 13 patients with venous ulcers were treated by conventional methods. All patients received general and local basic treatment. The ulcer surface area and volume was measured. The microbiological examination in dynamics was performed in all patients. PRP and PRF membranes were obtained by centrifugation of peripheral venous blood under special conditions.
Results: Complete epithelization at 12 months of treatment combined with platelets was achieved in 76.9% (10) patients. In the control group at 12 months of treatment complete epithelization was obtained in 53,8% (7) patients. The histological comparison between groups demonstrates neovascularity and PMN in group I groups compared to group II poor in granulation tissue.
Conclusion: Using platelets into the PRP and PRF is a simple, effective and accessible method in treatment of chronic venous ulcers. Trombocites initiate and accelerate granulation tissue and angiogenesis.
Disclosure of Interest: None declared

4.05
ROLE OF AUTOLOGOUS PLATELET RICH FIBRIN IN CHRONIC WOUND MANAGEMENT

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Introduction: Chronic wounds and non healing ulcers are a challenge for both physician and the patient posing a burden on medical resources and loss of man hours cost. Platelet rich fibrin (PRF) is a second generation platelet concentrate and acts as a biological dressing. Concentrated platelets and fibrin adhesives have shown promising results in microvascular surgical procedures. The present study aims to understand the role of PRF as an adjunct in management of Chronic nonhealing wounds.
Materials & Methods: Twenty eight patients with fifteen non healing ulcers i.e. an ulcer which has not improved in last 4 weeks, either neuropathic and post burn ulcers were covered with PRF dressings every 5thday. Changes were analyzed in terms of formation of healthy granulation tissue and reduction in maximum diameter. Ulcers less than 5 cm were treated with only PRF whereas those larger were covered with skin grafts eventually.
Results: Mean age of the patients was 43.4 years with 22 male patients. All twelve ulcers less than 5cm size healed with a mean of 3 PRF dressings. Larger ulcers (nine) were covered with 4 PRF dressings on an average till the formation of healthy granulation tissue and a mean reduction in maximum diameter by 2.3 cm was noted. These patients were then taken up for split thickness skin graft. The graft uptake was good and ulcers healed well. One ulcer failed to improve. There was no secondary infection and patient scores of pain became better with each PRF dressing.
Image:

Conclusion: Autologous platelet rich fibrin matrix has emerged as a new therapeutic modality. This technique of healing, by modified secondary intention, is inexpensive and associated with good patient acceptability. This forms an important part of a surgeosn armamentarium in mangement of complex wounds especially in low resource settings as in many cases it obviates the need for extensive surgical procedures.
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Disclosure of Interest: None declared

4.06

EARLY OUTCOMES OF SUBFASCIAL ENDOSCOPIC PERFORATOR SURGERY IN CHRONIC VENOUS INSUFFICIENCY PATIENTS: AN EXPERIENCE FROM AN INSTITUTION OF DEVELOPING COUNTRY.

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Introduction: Chronic venous insufficiency is caused by weakening of valve and wall of superficial vein and perforators of legs. If patients have chronic venous insufficiency (CVI) then most likely perforators are also incompetent. Various treatment for incompetent perforators are Endovenous thermal ablation (EVTA), sclerotherapy, subfascial endoscopic perforators surgery (SEPS) and open ligation of perforators (modified Linton). EVTA for the perforators is costly for most of Indian patients and this procedure need expertise also. Open ligation causes delayed healing , morbidity, as skin is compromised in these patients. This study is done to see the outcomes of SEPS in CVI and its feasibility.

Materials & Methods: This prospective study was done in Department of General Surgery, at KG'S Medical University, Lucknow, India from Oct 13 to Aug 18. Secondary varicose veins were excluded. SEPS was performed in 94 adult legs having incompetent perforators ,which was diagnosed by duplex Doppler USG. SEPS was performed under spinal anaesthesia ,through two ports, placed below knee on medial aspect. CO2 was passed to create subfascial space. Perforators were visualized and interrupted by ligasure or ultrasonic scalpel. Concurrently incompetent GSV or SSV was also treated by laser or stripping. Out of 94 patients, 90 Patients were completely followed for 3 months and repeat doppler USG was done at 1 and 3 month postoperatively.

Results: Results: Out of 90, one patients had DVT which was managed conservatively, 12 patients had temporary pareshthesia on medial aspect of below knee , recovered within 1.12(±6) months. Ten patients had superficial SSI, 04 patients had calf seroma managed conservatively by compression therapy, one patient developed sinus at port site, gradually healed. Pulmonary embolism, sepsis and death were absent.(Table 1)

Table 1 : Results of SEPS (n=90)

Serial no	characteristics	No of patients
1	Paresthesia	12 (13.3%)
2	DVT	01 (1.1%)
3	Pulmonary embolism	00
4	Calf Seroma	04 (4.4%)
5	SSI(superficial)	10 (8.8%)
6	Sinus	01 (1.1%)
7	Recurrence	00

Image:

Conclusion: Endovenous thermal therapy by Laser or radiofrequency for perforators are preferred treatment nowadays. These fibres are costly for patients of Low socioeconomic status. If patient is not able to afford cost of Endovenous thermal fibre for perforators or surgeon is not expertise for this, then SEPS should be preferred and this is feasible at Low cost. It causes minimum but acceptable complications.

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5.01

OUTCOMES AFTER SURGERY FOR UNILATERAL DOMINANT PRIMARY ALDOSTERONISM IN SWEDEN

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Introduction: Primary aldosteronism (PA) is the most common cause of secondary hypertension. Minimally invasive surgery is the mainstay of treatment for unilateral dominant PA with reported cure rates ranging from 20 to 72 %, but definitions of cure are diverse and large population based series are scarce. Recently, uniform reporting criteria for outcome after surgery for PA (PASO-criteria) have been proposed. The aim of the present study was to investigate contemporary cure rates and practice for follow-up after surgery for PA in Sweden.
Materials & Methods: All patients operated for PA and registered in the Scandinavian Quality Register for Thyroid, Parathyroid and Adrenal Surgery (SQRTPA) 2009-2015 were identified. Patient data were extracted from the SQRTPA and patient records. Follow-up data was recorded from 1 through 24 months after surgery. Doses of antihypertensive medication and potassium supplementation were calculated using defined daily doses (DDD) according to the WHO. The Clavien-Dindo classification for surgical complications and the PASO criteria were used.
Results: Of 190 registered patients 171 (47 % female, mean age 53 years, mean follow-up 6 months, median follow-up 3,7 months) were available for analysis, however in 75 patients (44%) missing data precluded evaluation of biochemical cure according to the PASO-criteria. Preoperatively 98 % used antihypertensive medication with a mean DDD of 3.7 and 89 % had potassium supplementation with a mean DDD of 2.0. A minimal invasive approach was used in 168/171 patients (98 %), and the overall complication rate (Clavien-Dindo >3a) was 3 %. No mortality was registered. Mean postoperative antihypertensive medication use was 1.7 DDD, and in patients with available potassium data (n=156) 152 (97 %) had postoperative normokalemia. Complete/partial biochemical and clinical cure according to the PASO-criteria were achieved in 92/7 % and 34/60 %, respectively.
Conclusion: In this large population based series reflecting contemporary clinical practice in Sweden complete or partial biochemical and clinical cure rates after surgery for PA were 99 and 94 % at short/intermediate follow-up. Evaluation of biochemical cure was hampered by lack of uniform reporting of relevant outcome measures. We suggest mandatory reporting of surgical outcomes using the PASO criteria for all units performing surgery for PA.
Disclosure of Interest: None declared

5.02

PARATHYROIDECTOMY IS SAFE IN ELDERLY PATIENTS: A MULTI-INSTITUTIONAL STUDY OF 47,701 PATIENTS

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Introduction: Incidence of primary hyperparathyroidism increases with age and surgery provides the only potential for cure. This is the largest multi-institutional study to evaluate parathyroidectomy outcomes in elderly patients.
Materials & Methods: Patients having parathyroidectomy for primary hyperparathyroidism in the ACS-NSQIP database from 2005-2017 were stratified into age groups: ≤60, 61-79, and ≥80. Patient variables included gender, race, body mass index (BMI), ASA class, steroid use, smoking status, inpatient/outpatient status, anesthesia type, and modified frailty index (mFI). Outcomes included complications, 30-day mortality, return to the OR, operating times, and length of hospital stay (LOS). Patients 61–79 and ≥80 were compared with those ≤60 using multivariable logistic regression. Patients ≤60 and ≥80 were propensity score matched using gender, race, BMI, smoking status, steroid use, mFI, ASA class, procedure, setting, anesthesia, and wound class. Complication rates and mortality from parathyroidectomy were compared to those from elective inguinal hernia repair.
Results: Of 47,701 patients: 22,220 were ≤60, 22,683 were 61-79, and 2,798 were ≥80; 76.5% were women, 76.7% were White, and 3.8% had redo parathyroidectomy. Patients ≥80 were more likely to have inpatient parathyroidectomy (33.1% vs 24.1%, 24.5%, p<0.01) and higher mFI (19.5% vs 18.8%, 9.7%, p<0.01) compared to 61-79 and ≤60. Most patients in each age group had general anesthesia (93%, 95.1%, 95%, P<0.01). Patients aged ≥80 were more likely to have a complication (2.3% vs 1.5%, 1.0%, p<0.01), LOS > 1 day (10.3% vs 5.8%, 6.7%, p<0.01), and 30-day mortality (0.21% vs 0.11%, 0.03%, p<0.01). On multivariable analysis, older age, male gender, steroid use, high mFI, outpatient procedure, and general anesthesia increased the risk of complications. On propensity score matched analysis, there was no statistical difference in complications (1.5% vs 2.2%, p=0.06) or 30-day mortality (0.04% vs 0.23%, p=0.12) between patients aged ≤60 and ≥80. Morbidity and mortality from parathyroidectomy was significantly lower compared to elective inguinal hernia repair in patients ≤60 (7.2%, 0.12%, p<0.01), 61-79 (8.5%, 0.42%, p<0.01), and ≥80 (10%, 1.1%, p<0.01).
Conclusion: There is no difference in morbidity/mortality after parathyroidectomy in elderly patients when variables are matched and it is significantly less than most elective general surgery operations. Therefore, parathyroidectomy is safe in elderly patients including octogenarians.

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Disclosure of Interest: None declared

5.03

IS BEDTIME REPLACEMENT OF LEVOTHYROXINE BETTER THAN EARLY MORNING IN POST TOTAL THYROIDECTOMY PATIENTS?- A RANDOMIZED CONTROLLED TRIAL FROM AN INSTITUTE IN SOUTH INDIA

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Introduction: Following total thyroidectomy, levothyroxine replacement is imperative and required lifelong. Conventionally this drug is given at least an hour before breakfast, however many patients find it inconvenient to take the drug on an empty stomach in the morning because of their lifestyle. There are many studies done to assess the effectiveness of morning levothyroxine administration versus bedtime levothyroxine administration in hypothyroid patients with the intact thyroid gland. This study was intended to evaluate bedtime versus early-morning replacement of levothyroxine in post total thyroidectomy patients.

Materials & Methods: Aim: To compare bedtime dose of levothyroxine with the early morning dose in patients who have undergone total thyroidectomy. A randomized control study conducted on patients who underwent total thyroidectomy for benign thyroid disorders from September 2017 to August 2018 at endocrine surgery department in a tertiary care institute (South India). Patients were randomly assigned into two groups, Group A received levothyroxine in early-morning one hour before food and the Group B received levothyroxine in bedtime two hours after food up to 3 months. 6 weeks and 12 weeks fT4 (freeT4) and TSH (Thyroid stimulating hormone) were measured during follow up.

Results: A total of 123 patients were recruited and randomized into either of the study groups 58 patients in Group A and 53 patients in Group B were considered for statistical evaluation. At 6th week assessment, mean TSH level of early-morning group (2.45±0.68 µIU/ml) and bedtime group (2.862±0.30 µIU/ml) did not show any statistical difference (p=0.72). At 12th week assessment mean TSH level of the early-morning group (2.14±0.34 µIU/ml) and bedtime group (2.90±0.33 µIU/ml) did not show any statistical difference (p=0.31). At 6th week assessment, mean fT4 level of bedtime group (1.64±0.06ng/dl) was higher than the early-morning group (1.23±0.4ng/dl), and the difference was statistically significant (p= 0.01). At 12th week assessment, mean fT4 level of bedtime group (1.55±0.06ng/dl) was higher than early-morning group (1.41±0.05ng/dl), and the difference was also statistically significant (p<0.0001).

Conclusion: There is a notable correction in fT4 level when levothyroxine was taken at bedtime as compared to early-morning. Surgeons may consider replacing levothyroxine at bedtime as an alternative to the conventional early-morning dose in post total thyroidectomy patients.

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Disclosure of Interest: None declared

5.04

SHOULD 68GA-DOTATATE PET CT BE PERFORMED ROUTINELY IN PATIENTS WITH NEUROENDOCRINE TUMORS BEFORE SURGICAL RESECTION?

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Introduction: ^{68}Ga-DOTATATE PET CT has been shown to change management in a majority of patients with neuroendocrine tumors (NETs) when used for staging and surveillance. However, its role as a routine preoperative imaging modality is unclear. The aim of this study was to evaluate whether ^{68}Ga-DOTATATE PET CT changes intraoperative management in patients undergoing resection of abdominal NETs, and to compare its accuracy to other imaging modalities.

Materials & Methods: Records of patients who underwent ^{68}Ga-DOTATATE PET CT prior to operative intervention for abdominal NETs from November 2016 to October 2018 were prospectively evaluated. All patients also had preoperative anatomical imaging, which consisted of a CT abdomen/pelvis with and without contrast and/or an MRI abdomen with EOVIST. Clinical and histopathologic variables were collected for analysis. Wilcoxon signed rank tests along with descriptive statistics were conducted.

Results: Twenty-one patients who underwent operations for abdominal NETs were included. Primary tumor sites were small intestine (9), pancreas (7), stomach/duodenum (3), rectal (1), and unknown (1). Ten patients (48%) had an index surgical procedure and 11 patients (52%) underwent surgery for tumor recurrence. Sixteen patients (76%) underwent cytoreductive surgery for liver metastases. Patients were significantly more likely to have liver lesions found on MRI than on ^{68}Ga-DOTATATE PET CT ($p = 0.02$) or on CT ($p = 0.04$). Twice as many lesions were found on ^{68}Ga-DOTATATE PET CT than on CT, but this was not statistically significant ($p = 0.07$). ^{68}Ga-DOTATATE PET CT changed operative management in 24% of patients (5/21). ^{68}Ga-DOTATATE PET CT allowed for identification and resection of unknown primary tumor sites in two patients, resection and observation of indeterminate liver lesions seen on MRI in two patients, and for an extended lymphadenectomy in one patient.

Conclusion: MRI with EOVIST is the most sensitive imaging modality for identifying liver lesions and should therefore be obtained before hepatic cytoreduction. Although preoperative ^{68}Ga-DOTATATE PET CT is probably not indicated in all patients undergoing surgery for abdominal NETs, our study demonstrates that it may be useful in certain situations. These include patients in whom the primary tumor is unknown on anatomic imaging, or when there are indeterminate lesions on MRI or CT.

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Disclosure of Interest: None declared

6.01

FAILED NISSEN FUNDOPLICATION: CONVERSIÓN TO TOUPET FUNDOPLICATION PLUS ROUX-EN-Y DISTAL GASTRECTOMY

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Introduction: Nissen fundopliction fails due to different causes as was described before. The clinical manifestation is the combination of dysphagia, retrosternal pain and reflux. Endoscopic and radiological findings include esophagitis, Barretts´s esophagus and hiatal hernia. Revisional procedures are more complex, also associated with postoperative complication and high rate of re failures.
Objective
Report post-operative outcome of patients submitted to revisional surgery performing conversion of Nissen to Toupet fundoplication combined with distal gastrectomy with Roux –en Y- gastrojejunostomy.
Materials & Methods: Prospective cohort of 18 patients. Inclusion criteria were patients with previous Nissen fundoplication for treatment of pathological gastroesophageal disease that developed dysphagia, heartbun or retrosternal pain, in whom a pathological reflux disease was detected in the upper endoscopy, 24 hr pH esophageal monitoring and barium radiological esophagogram. Also, all patients were tested with esophageal manometry prior to surgery. The surgery performed was conversion of Nissen to Toupet fundoplication combined with distal gastrectomy with Roux –en Y-gastrojejunostomy. All the pre-operative tests were repeated 1 year post-operative. The follow-up is 100%.
Results: The results pre and post-operative are respectively as follow: retrosternal pain 27.8% and 0% (p= 0.016), stenosis of the cardias 38.9% and 5.6% after surgery (p=0.016), hiatal hernia 50% and 5.6% (p=0.016), LESP= 10.6 mmHg and 15mmHg (p=0.036), %time<4pH 9.4 and 1.4 (p=0.004), DeMeester score 48.3 and 8.1 (p=0.008). The post-operative complications were 27.8%, all complications were Clavien-Dindo $\leq$ 2. There was no mortality in the cohort
Conclusion: The surgical approach tested is safe and effective for management of failed Nissen fundoplication.
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Disclosure of Interest: None declared

6.02

LEARNING CURVE FOR LAPAROSCOPIC HELLER MYOTOMY FOR THE TREATMENT OF ACHALASIA. IS IT POSSIBLE TO LEARN THE PROCEDURE SAFELY?

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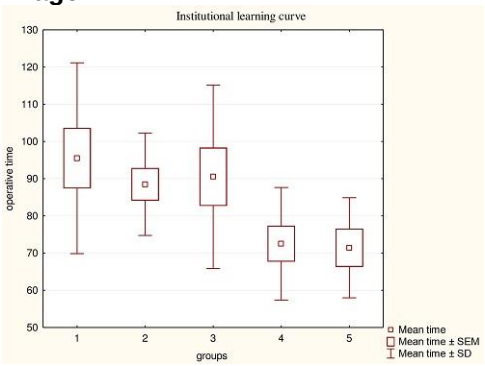
Introduction: This study was conducted to determine a learning curve for laparoscopic Heller myotomy for the treatment of achalasia. The differences in outcome between the operations performed by senior surgeon and surgical trainees were assessed.
Materials & Methods: All patients who underwent a laparoscopic cardiomyotomy for achalasia between 2010 and 2017 in tertiary referral center for general surgery were identified from a prospectively collected database. The institutional learning curve of cardiomyotomy was assessed based on operative and clinical outcome parameters.
Results: A total of 47 patients (mean age 43.53+/-16.11, female-51.06%) met the inclusion criteria. 26 procedures were undertaken by senior surgeon and 21 by two surgical trainees. In 8 cases additionally Dor fundoplication was performed. The length of operation decreased after 30 cases (from 91.5+/-21.46min to 72.06+/-14.04, p=0.0409). There was no conversion to open surgery, 30-day mortality rate was equal 0. No reoperation and endoscopic dilatation was needed during the one year follow-up. Intraoperative difficulties and complications were not associated with the institutional or the surgeon's operative experience. During the learning curve the length of the operation was similar for senior surgeon and surgical trainees (p = 0.2751), no other differences in outcome between the operations performed by senior surgeon and surgical trainees were detected. 5 times senior surgeon proceeded some parts of the procedures instead of trainees due to intraoperative difficulties and/or complications.
Image:



Conclusion: An institutional learning curve for laparoscopic Heller myotomy for achalasia can be defined as 30 cases. Laparoscopic cardiomyotomy can be done safely by supervised and actively proctored surgical trainees.
Disclosure of Interest: None declared

6.03

AUTOLOGOUS AUGMENTATION OF HIATAL HERNIA REPAIR WITH PLATELET CONCENTRATE IMPROVES RESULTS IN PATIENTS WITH LARGE HIATAL HERNIAS.

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Introduction:
Following our hypothesis we believe that the use of a mesh implant with autologous platelet-rich plasma (PRP) can be effective to prevent the large number of recurrence rate in patients with large hiatal hernia (HH). The purpose of our study is to evaluate whether the addition of PRP to self-fixated ProGrip ™ mesh would improve HH repair.

Materials & Methods: The study was performed on 104 patients with gastroesophageal reflux with large hiatal hernias (the size of hernias 10-20 cm2), who underwent Nissen fundoplication and crura repair. All patients were divided into two groups: I group (54 patients) - we used non-absorbable self-fixating ProGripTM mesh for reinforcement of crura repair, II group (50 patients) - crura repair was done without mesh. In the patients of I group pieces of mesh were infiltrated by 2-4 ml of autologous PRP. We determined type-I, and type-III collagens in patients of both groups. PRP was prepared from 20 ml blood of the patient. The groups were evaluated according to the following criteria: dysphagia, patient's symptomatic outcome judgment according to the GERD-HRQL questionnaire and patient's satisfaction, hiatal hernia recurrence according to upper endoscopy and barium contrast swallow study. Follow-up was completed in 100 (96%) patients with a mean follow-up duration of 29 months (range 12-48 months).
Results: There were no serious complications in the patients of both groups. Mean operative time was not significantly different in both groups. The quantity of total, type-I , and type-III collagens was significantly lower by about 55 % in patients of both groups. In the patients of I group there were no problem with fixation of the mesh. The surgeons can identify very strong fixation of the ProGripTM mesh infiltrated by autologous PRP to the crura after pressure on it for 1-2 min. During the 48 months of follow-up, no recurrences occurred in the mesh group and 6 recurrences appeared in the non-mesh group ($p<0.05$). Patient satisfaction was significantly higher in the mesh group ($p<0.05$).
Conclusion: Our study has shown that the collagen content is reduced in patients with large HH. Thus, in such patients it is advisable to use a mesh for crural reinforcement. Use of autologous PRP can increase strength of fixation of ProGripTM mesh. Mesh reinforcement of crura repair improves results of laparoscopic HH repair in the patients with large HH.
Disclosure of Interest: None declared

6.04

UPPER ESOPHAGEAL SPHINCTER MOTILITY AND THORACIC PRESSURE ARE DETERMINANTS OF ESOPHAGEAL BODY PRESSURIZATION IN ACHALASIA SUBTYPES ACCORDING TO THE CHICAGO CLASSIFICATION.

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Introduction: High resolution manometry defines phenotypes of achalasia according to the Chicago classification based on patterns of esophageal body contractility and pressurization. Esophageal pressurization is not; however, uniform in all swallows of the same individual and the reasons that lead to a pressurized wave is still unclear. This study aims to evaluate manometric parameters that may determine esophageal pressurization in patients with achalasia.
Materials & Methods: We studied 50 consecutives cases of untreated achalasia that underwent high resolution manometry (54% females, mean age 55 years). Conventional manometric parameters defined by Chicago classification 3.0 were recorded as well as esophageal shortening during swallow; transdiaphragmatic pressure gradient (thoracic-abdominal pressure), and the LES retention pressure (LES basal pressure-transdiaphragmatic gradient); and upper esophageal sphincter (UES) basal and relaxation pressures. Parameters recorded were compared between pressurized (amplitude >= 30mmHg) and non-pressurized waves (amplitude < 30mmHg) (n=500 swallows).
Results: There were 37 (74%) achalasia type I, and 13 (26%) type II. 75 (15%) waves were pressurized and 425 (85%) not pressurized. Manometric parameters comparing pressurized and non-pressurized waves are shown in table 1.

Manometric parameter	**Pressurized wave (n=75)**	**Non-pressurized wave (n=425)**	**p**
LES basal pressure	24±20	19±23	0.1
LES integrated relaxation pressure	21±21	18±27	0.3
Wave pressure	44±11	12±11	<0.01 *
Gastric pressure	4±4	4±6	0.7
Thoracic pressure	9±19	4±11	<0.01 *
Transdiaphragmatic pressure gradient before swallow	9±18	0.2±12	<0.01 *
Transdiaphragmatic pressure gradient during swallow	36±9	9.3±11	<0.01 *
LES retention pressure	14±16	19±24	0.08
UES basal pressure	128±58	76±51	<0.01 *
UES pressure during wave	197±84	174±94	0.04 *
UES relaxation pressure	16±9	7±7	<0.01 *

LES = lower esophageal sphincter
UES = upper esophageal sphincter
All pressures in mmHg
* statistical significance

Conclusion: Esophageal body pressurization in patients with achalasia is not linked to gastric pressure or to the LES but to a higher resting thoracic pressure that is increased during swallow. This pressurization happens in a closed compartment not equalized with gastric pressure due to LES lack of relaxation and not ventilated upwards as a result of UES hypertonicity and lack of relaxation. These findings suggest that pressurized waves occur when the esophagus is replenished with liquid and a forceful swallow increases the pressure in a closed compartment.
Disclosure of Interest: None declared

6.05

ABDOMINAL PRESSURE PLAYS A CENTRAL ROLE IN REFLUX HEIGHT IN THE OBESE PATIENT

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Introduction: Few studies have analyzed the presence, severity and importance of proximal reflux in the obese patient. An increased transdiaphragmatic pressure gradient (TPG) may be a main element for GERD in the obese patient. However, it`s unclear the role of TGP in proximal reflux. This study aims to evaluate the role of TGP in proximal reflux in obese individuals.

Materials & Methods: We studied 47 unselected consecutive candidates for bariatric operations (body mass index - BMI > 35). All patients underwent anthropometric measurements, high resolution manometry and dual channel esophageal pH monitoring. We calculated DeMeester Score and the number of proximal reflux episodes (20 cm above lower esophageal sphincter – LES). Abdominal pressure (AP) and thoracic pressures (TP); transdiaphragmatic pressure gradient (AP-TP) and LES retention pressure (LES basal pressure – TPG) were determined. We correlated the total numbers of proximal reflux with age, BMI, waist circumference, DeMeester score, TGP, AP, LES basal pressure and LES retention pressure using the Pearson correlation coefficient (R).

Results: There were 27 (57%) GERD + patients and 20 (43%) GERD – patients, according to DeMeester score. Thirty (64%) patients had at least one episode of proximal reflux. The number of proximal reflux episodes had positive correlation with waist circumference ($p<0.01$), DeMeester score ($p<0.01$), TGP ($p<0.01$), AP ($p<0.01$), and negative correlation with LES retention pressure ($p<0.01$) (figure 1), but it was not correlated with age ($p=0.2$), BMI ($p=0.3$), thoracic pressure ($p=0.1$) and LES basal pressure ($p=0.07$).

Image:

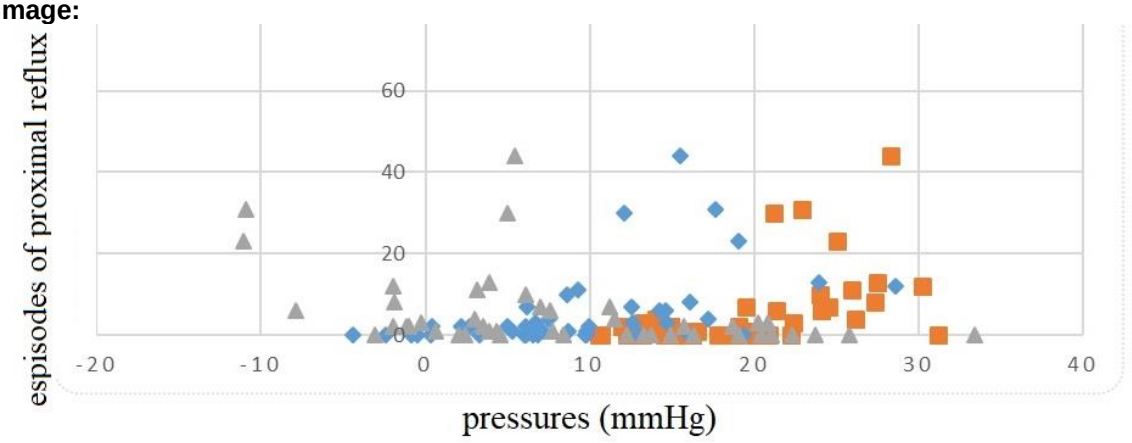

Figure 1. Correlation between number of episodes of proximal reflux and Abdominal presure (■), transdiaphragmatic pressure (◆) gradient and lower esophageal sphincter retention pressure (▲)

Conclusion: Proximal reflux presence and severity in the obese is associated to a high TPG due to increase AP. LES and thoracic pressure do not play a role in proximal reflux.

Disclosure of Interest: None declared

6.06

SUPERIORITY OF THE HYBRID POSITION TO THE PRONE POSITION FOR THORACOSCOPIC ESOPHAGECTOMY WITH UPPER MEDIASTINAL LYMPHADENECTOMY

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Introduction: Thoracoscopic esophagectomy (TE) is becoming a major surgical method for esophageal cancer. There are several approaches for TE; left lateral decubitus position, prone position and hybrid position combining the left lateral decubitus and prone positions. However, there are only few studies that compared clinical utility of those approaches. In our institute, we introduced TE in the prone position (prone TE) in 2014, and have performed TE in the hybrid position (hybrid TE) since 2017 March. In this study, we compared short-term outcomes of those two surgical procedures.
Materials & Methods: Sixty-nine patients with esophageal or esophagogastric junction cancer who underwent TE between 2014 March and 2018 December were enrolled. Clinicopathological data were retrospectively reviewed and compared between 43 and 42 patients who underwent prone TE and hybrid TE, respectively.
Results: There was no difference in age. Female rate was significantly higher in the prone TE (23.3% vs 7.1%, *P*=0.039). Tumor depth (cT), lymph node metastasis (cN) and tumor stage (cStage) were lower in the prone TE (*P*=0.001, 0.001 and <0.001, respectively) because only superficial cancers were indicated for TE in the introduction phase of prone TE. Operation time for the thoracoscopic procedure was shorter in the hybrid TE (318.9 vs 245.8 min, *P*=0.001). There were no significant difference in the number of mediastinal lymph nodes dissected between the two groups. Although several factors could affect postoperative complications, rate of recurrent laryngeal nerve paralysis (Clavien-Dindo grade I-III) was significantly higher in the prone TE (41.9% vs 11.9%, *P*=0.002), whereas there were no difference in anastomotic leakage, atelectasis or pneumonia.
In the hybrid TE, upper mediastinal procedures were performed in the left lateral decubitus position. Therefore, upper mediastinal procedures most significantly differ between the prone TE and hybrid TE. Because the assistant stands opposite to the operator in the hybrid TE, the motion of assistant forceps is less interfered that enables better operative field compared to the prone TE in which the assistant stands by the operator. Hybrid TE appears to have advantage in the approaching angle of operator's forceps to upper mediastinal lymph nodes and recurrent laryngeal nerve for appropriate traction.
Conclusion: Hybrid TE has advantages in the upper mediastinal approach that result in shorter operation time and less recurrent laryngeal nerve paralysis compared to the prone TE.
Disclosure of Interest: None declared

6.07

CONSERVATIVE VERSUS SURGICAL TREATMENT OF GASTROESOPHAGEAL REFLUX-RELATED COUGH

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Introduction: Gastroesophageal reflux disease (GERD) is a condition developing when the reflux of gastric content causes troublesome symptoms and/or complications. Typical (esophageal) symptoms of GERD are heartburn and regurgitation, although 10 - 30% of the patients reported cough which is one of the most common extraesophageal symptoms. Treatment of GERD with this clinical picture is more difficult and not fully defined. The aim of this study was to compare conservative and surgical treatment of patients with cough as an extraesophageal manifestation of GERD.

Materials & Methods: We performed prospective randomized trial in Odessa Regional Hospital from September 2015 to October 2016. Sixty six patients (25 males, 39 females), from 42 to 68 years old with heartburn, acid regurgitation and chronic cough were enrolled and divided into two groups. I group included 41 patients, who underwent laparoscopic Nissen fundoplication (LNF), and II group - 25 patients who received proton pump inhibitors (PPI) therapy. The results of the treatment were assessed using 10-point visual analogue scale (VAS) for frequency and intensity of cough, and GERD-HRQL quality of life questionnaire.
Results: Baseline characteristics were similar between groups. After a median follow-up of 26 months the prevalence of cough was significantly lower in patients who underwent LNF to compare with PPIs group (14.3% vs 48.4%, $p < 0.001$). Patients who undergo LNF to compare with PPIs therapy group had more significant decrease (measured by VAS) in frequency (14.3 vs 14.1, $p > 0.1$ at baseline, 2.2 vs 9.7, $p < 0.001$ at long term follow up) and intensity (4.3 vs 4.0, $p>0.05$ at baseline, 1.1 vs 3.1, $p < 0.001$ at long term follow up) of cough. The quality of life significantly improved in both groups (I group from 15.9 ± 7.2 to 5.1 ± 0.6, $p =0.001$ vs II group from 16,2±8,4 to 10,4±1,7, $p =0.001$).
Conclusion: This study demonstrates that LNF comparing to PPI therapy have more significant impact on improvement of respiratory manifestations of GERD.
Disclosure of Interest: None declared

6.08

THE RELATION BETWEEN LAPAROSCOPIC FUNDOPLICATION & WEIGHT LOSS IN PATIENTS SUFFERING FROM GASTROESOPHAGEAL REFLUX DISEASE

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Introduction: Laparoscopic Nissen fundoplication is the standard surgical approach for treatment of incurable gastroesophageal reflux disease (GERD). [1] GERD has an increase in prevalence and cost, and it affects a large population in Egypt. [2] The pathophysiological mechanisms include hypotonia of the lower esophageal sphincter, hiatal hernia and increased abdominal pressure due to excess weight [3]. The diagnostic tests of GERD are upper gastrointestinal endoscopy, contrasted radiological examinations, esophageal manometry and 24-h pH monitoring [4]. The relationship between obesity and GERD is an interest for most researchers and its treatment is the goal of several studies worldwide and is demonstrated by the large number of comorbidities caused by the association of these illnesses [5,12]. According to Anand and Katz, the frequency of transient lower esophageal sphincter relaxation progresses with an increase of both BMI and abdominal circumference [6].
Materials & Methods: Thirty patients with class I body mass index with symptoms of gastroesophageal reflux with changes of stomach pH and/or erosive esophagitis seen in endoscopy were selected. The evaluation of the weight was performed preoperatively and postoperatively. The weight, body mass index, percentage of excess weight loss were evaluated pre and post-operatively.
Results: In this cross-sectional study, 17 women and 13 men were included, totalizing 30 patients. The age of patients ranged from 18 years to 62 years. All patients undergoing surgery had a significant weight loss postoperatively, which was evaluated on return visits. The mean of preoperative weight was 96.4 kg with a minimum of 78 kg and a maximum of 115 kg. There was a statistically significant reduction of weight, with a mean of weight loss of 15.6 kg ($p<0.001$). The median of preoperative BMI was 33.6 kg/m2 and after surgery was 26.5 kg/m2. Median BMI reduction was also statistically significant, and the reduction of BMI was 5.9 kg/ m2 ($p<0.001$). The mean of excess weight loss (EWL) percentage was 54.3% (median 50%), ranging from 17.1% to 98 %.
Conclusion: Nissen surgery is a viable procedure in treating GERD and appears to be an acceptable option for the treatment of both GERD and excess weight gain in obese patients, especially patients with obesity class I.
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Disclosure of Interest: None declared

6.09

"MANY WAYS TO SKIN GASTRIC CANCER" - ROBOTIC VERSUS LAPAROSCOPIC VERSUS OPEN GASTRECTOMY

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Introduction: Robotic techniques relevance in gastric cancer surgery is being examined. The study presents comparison of perioperative outcome between different surgical approaches for gastric adenocarcinoma (AC
Materials & Methods: retrospective cohort of 85 patients that underwent gastrectomy for (AC) at Rambam Hospital during 2012-2016. Patients data was collected based on demographic characteristics, BMI, operating room time (ORT), number of lymph nodes (LN), length of hospitalization (LOH), and perioperative complications.
Results: ,study population included 55 patients after total gastrectomies, 10 of them robotic and 30 partial gastrectomies .of them robotic. Age, gender and BMI were similar between patients who underwent any type of procedures 12
Median length of hospitalization (LOH) for robotic total gastrectomy was 4.5 days and it was significantly shorter than .both laparoscopic total gastrectomy (LTG) 7.0 days ($p=0.003$) and open total gastrectomy (OTG) 9.0 days ($p<0.001$)
Similar significant differences in (LOH) between the groups were observed among patients who underwent partial gastrectomy, but the comparison between robotic and laparoscopic procedures was limited due to small numbers of .(LPG)
Median(ORT) was significantly longer among robotic gastrectomies compared to open, the difference was 64 min in total gastrectomy group and 145 min in partial gastrectomy group ($p<0.001$ for both differences), but the difference in(ORT) .between laparoscopic and robotic procedures were smaller and non-significant
The number of dissected (LN) was similar between the 3 procedures in total gasrectomies. In partial gastrectomies, the number of dissected (LN) was even higher among both laparoscopic and robotic gastrectomies compared to open (.)$p<0.001$(
Conclusion: robotic total and partial gastrectomies for gastric (AC) are associated with oncologically adequate lymphadenectomy and faster patient recovery, but longer ORT.
Disclosure of Interest: None declared

6.10

35 YEARS OF THE MULTICENTER PROJECT: POLISH GASTRIC CANCER STUDY

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Introduction: Some epidemiological trends have been recently reported worldwide for gastric cancer but no such data are available for the Polish population. The aim of this study was to analyze temporal trends in clinical and demographic characteristics of patients with gastric cancer in a multicenter dataset.
Materials & Methods: An electronic database of all patients with GC treated between 1977 and 2012 at seven university surgical centers cooperating in the Polish Gastric Cancer Study Group was reviewed. All relevant data were collected prospectively using standard forms.
Results: From 1977 to 2012, a total of 5510 patients were identified with completed 5-year follow-up (December 2017). The mean age of patients has gradually increased with a rising trend of the male/female ratio. The proportion of tumors located in the distal part of the stomach declined with a significant trend toward lowering incidence of intestinal type GC. The percentage of resective procedures increased significantly due to the lowering proportion of stage IV cancers. The prevalence of early GC increased markedly, but remained below 15%. Overall 5-year survival increased over the study period for both resectable and uncresectable cases.
Conclusion: Changes in some patterns of GC, including stage, location and histology, observed over the last three decades have important diagnostic and therapeutic implications.
Disclosure of Interest: None declared

6.11

SURGICAL OUTCOMES OF REDUCED-PORT LAPAROSCOPIC GASTRECTOMY VERSUS CONVENTIONAL LAPAROSCOPIC GASTRECTOMY FOR GASTRIC CANCER: A PROPENSITY-MATCHED RETROSPECTIVE COHORT STUDY

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Introduction: *Although a few studies have reported the surgical outcomes of reduced-port laparoscopic gastrectomy (RPG) for gastric cancer,* its technical feasibility and oncological efficacy *remain unclear.*
Materials & Methods: A series of 767 patients with gastric cancer who underwent R0 laparoscopic gastrectomy were retrospectively matched for age, gender, lymph node dissection, and pathological stages by propensity scoring, and data from 294 patients [60 who underwent conventional distal gastrectomy (CLDG); 60, reduced-port distal gastrectomy (RPDG); 87, conventional total gastrectomy (CLTG); and 87, reduced-port total gastrectomy (RPTG)] were selected for analysis.
Results: *Compared with the conventional laparoscopic gastrectomy group, the RPG group had significantly longer operation times (RPDG, 268 min vs. CLDG, 240 min, p = 0.013 and RPTG, 316 min vs. CLTG, 283 min p = 0.006) and reduced blood loss (RPDG, 50 ml vs. CLDG, 68 ml, p = 0.008 and RPTG, 75 ml vs. CLTG, 112 ml, p = 0.018). Furthermore, the number of postoperative complications was significantly higher in the CLTG group than in the RPTG group (17 vs. 33, p = 0.012). No significant difference was observed in overall survival (OS) (5-year OS: RPDG, 97.1% vs. CLDG, 98.3%, p = 0.896 and RPTG, 90.9% vs. CLTG, 95.2%, p = 0.230) or relapse-free survival (RFS) (5-year RFS: RPTG, 93.8% vs. CLTG, 97.0%, p = 0.293).*
Conclusion: *Our results suggest that RPG for gastric cancer by an experienced surgeon is a feasible and safe technique. RPG should be presented to patients as one of the effective treatment options.*
Disclosure of Interest: None declared

13.01

COMPARISON OF PROGNOSTIC SIGNIFICANCE OF THE 5TH AND 7TH EDITIONS OF TUMOR-NODE-METASTASIS STAGING SYSTEM IN PATIENTS WITH ESOPHAGEAL CANCER TREATED WITH COMBINED THERAPY WITH NEOADJUVANT THERAPY WITH CHEMO- OR CHEMORADIOTHERAPY.

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Introduction: Squamous cell carcinoma of the esophagus is eighth most common cancer in the world. Currently the combined treatment with chemo- or chemoradiotherapy is recommended management of this highly malignant neoplasm. So far available TNM classifications were constructed based on patients undergoing only surgical treatment. It is important to identify which classification provides better prognostic significance in all esophageal cancer patients regardless of the treatment applied.
Materials & Methods: In this study we included 245 patients with esophageal squamous cell carcinoma who underwent surgical resection with or without neoadjuvat therapy between 1990 and 2012 in single institution. Transthoracic esophagectomy with 2-field lymph node dissection we carried out as a surgical treatment. Patient undergoing neoadjuvant treatment received cisplatin and 5-FU based chemotherapy and irradiation with a total dose of 30 Gy. We excluded patients with postoperative deaths. Totaly we analyzed 119 patients who completed surgery alone (S) and 90 patients who completed the combined modality therapy (CMT).
Results: We received 5-year survival rate in both groups of patient in particular stages distributed as follows:
5-th edition of TNM classification: I-st stage – 20 % (S) and 30% (CMT), II-nd stage- 31,3% (S) and 31,4% (CMT), III-th stage – 4,1% (S) and 2,4% (CMT), IV-th stage – 0%.
7-th edition of TNM classification, I-st stage – 20% (S) and 30% (CMT), II-nd stage – 42,9% (S) and 33,3% (CMT), III-th stage – 3,9% (S) and 9,8% (CMT), IV-th stage – 0%.
Conclusion: TNM 5-th edition appeard to be more homogeneous in particular stages both in patients undergoing only surgical treatment and combined modality therapy with neoadjuvant chemo- or chemoirradiation. Thus in patients with squamous cell carcinoma of the esophagus TNM 5 ed could be better prognostic classification regardless of the treatment applied.
Disclosure of Interest: None declared

13.02

UPPER GASTROINTESTINAL BLEEDING DUE TO DUODENAL GASTROINTESTINAL STROMAL TUMOR MANAGED BY PARTIAL DUODENECTOMY WITH PANCREATIC PRESERVATION.

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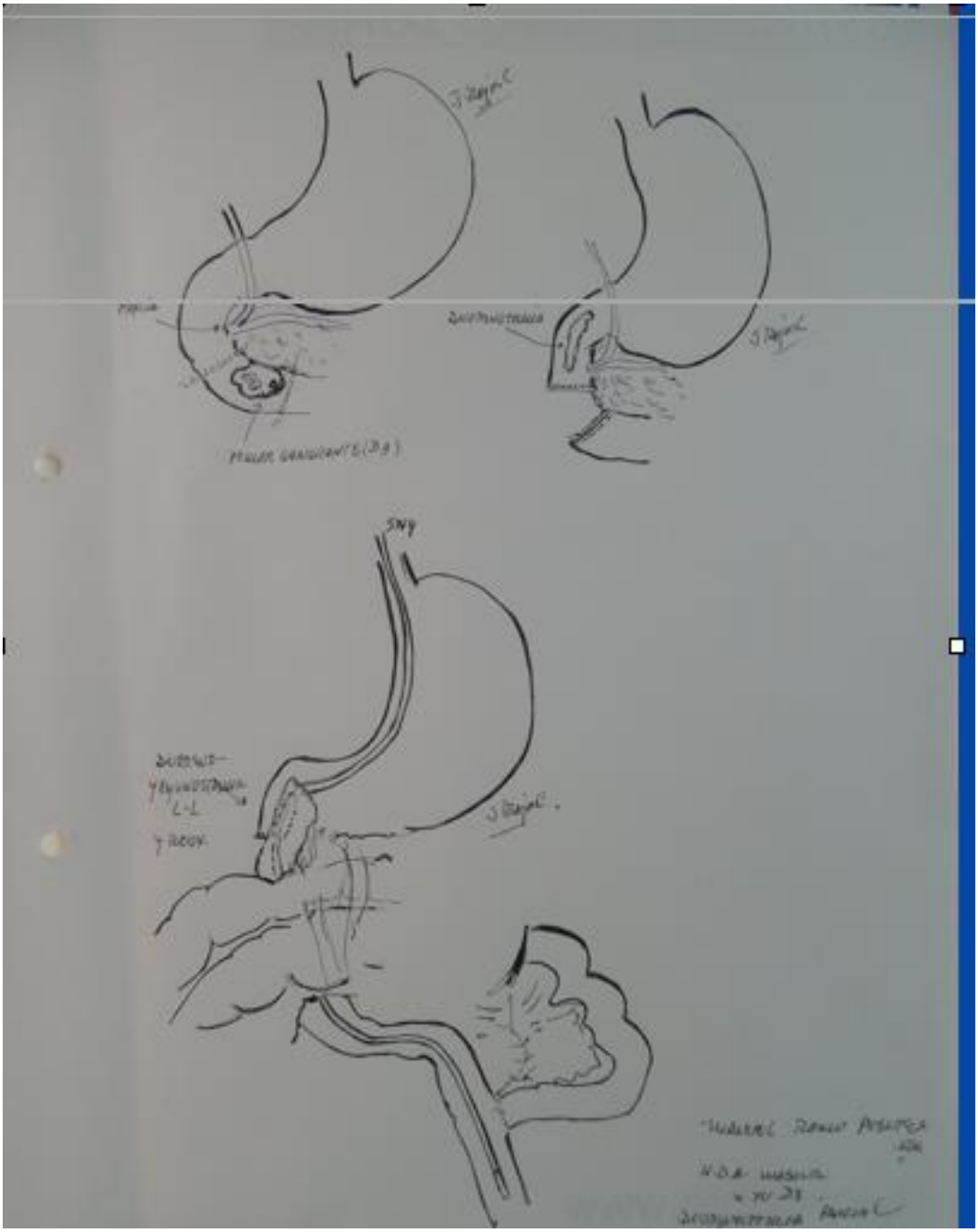
Introduction: Gastrointestinal stromal tumor are low frequency tumors. Duodenal location is rare constituting 3-5 % of total GIST. The common clinical presentation is bleeding detected by upper digestive endoscopy. Surgical resection is the treatment of choice.
Materials & Methods: The purpose is to present the diagnostic workup, the technique of partial duodenectomy with pancreatic preservation for duodenal GIST and outcome. (Case report)
Results: Result: endoscopy only demonstrated bleeding of second portion of duodenum, but angioTC identified suspicion of duodenal bleeding and laparatomy was indicated which confirmed a local tumor of second-third portion of duodenum. Complete third portion of duodenum below the papila was resected with preservation of pancreatic head and digestive tract was reconstructed by Roux-en-Y latero-lateral duodeno-jejunostomy.
Biopsy confirmed low grade malignant GIST. Outcome was uneventfully. Patient is alive 7 years after operation.

Image:



Conclusion: Conclusion: partial duodenectomy with pancreatic preservation is possible to perform safety in selected patients

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Disclosure of Interest: None declared

13.03

SYSTEMATIC INTESTINE RESECTION FOR CROHN'S COLITIS COMPLICATED WITH SPONTANEOUS INTRAABDOMINAL ABSCESS: SURGICAL OUTCOMES AND EFFECT ON ABSCESS RECURRENCE.

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Introduction: Crohn's disease is characterised by transmural inflammation of the intestine which can lead to perforation of the bowel wall. As a result, spontaneous intraabdominal abscess occurs in up to 20% of patients with Crohn's disease. Its treatment combines antibiotics, percutaneous drainage and surgical resection of the pathologic intestine when needed. Herein, we evaluate the effect of systematic intestine resection on abscess recurrence.
Materials & Methods: It was a retrospective study extending from January 2001 to December 2017. Where included patients who had a systematic intestine resection after medical management of a spontaneous intraabdominal abscess complication Crohn's colitis.
Results: During the period of study, 110 patients had a systematic intestine resection after medical management of a spontaneous intraabdominal abscess complicating Crohn's colitis. Sex-ratio (M/W) = 1,07. Mean age was 31 (10-65). The abscess inaugurated the disease in 50 patients (45%). All the patients had antibiotics. Forty-two patients had percutaneous drainage (38,1%). Complete regression of the abscess was obtained in 90 patients (81%). All the patients had an intestine resection on average 120 days after the abscess' diagnosis. Laparotomy was performed in 35 patients (31,8%), laparoscopy with intracorporeal anastomosis in 12 patients (10,9%) and laparoscopy with extracorporeal anastomosis in 63 patients (57,3%). Surgery consisted in an ileocecal resection in 81 cases (73,6%) and in an ileocolic resection in 29 cases (26,4%). Also, jejunal resection was done in two cases (1,8%) and sigmoidectomy was done in two cases (1,8%). Mean intestine resection length was 30 centimetres. Thirteen patients had stoma (11,8%). After surgery, no patient had remaining pathologic intestine. No major complications were noted. Six anastomotic fistulas were recorded (6%). No reintervention was performed. No deaths were recorded. After the surgery, 10 patients required a long-term medical treatment to prevent crohn's recurrence (9%). At five years of follow up, only eight patients (7%) experienced recurrence of the disease. Only one of them needed a second intestine resection.
Conclusion: Systematic intestine resection for Crohn's colitis complicated with spontaneous intraabdominal abscess is safe. Moreover, it permits to fix the disease, to lower drug consummation and prevents from abscess recurrence.
Disclosure of Interest: None declared

13.04

SURGERY TREATMENT FOR UNCOMMON TYPES OF HIATAL HERNIAS- SINGLE CENTRE EXPERIENCE

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Introduction: Gastroesophageal reflux disease (GERD) is getting more common problem in 21 century society. Symptoms of this condition mostly coexists with esophageal hiatus hernia (HHO). Four types of HHO can be distinguished: type I - sliding hernia, type II - paraesophageal hernia, type III - mixed hernia (elements of both types I and II) and type IV called upside-down hernia. Since '90 a high tendency for minimally invasive surgery treatment have been observed. However not all types of mentioned hernias can be easily cured in laparoscopic way. In II Chair and Department of General and Gastrointestinal Surgery and Surgical Oncology of the Alimentary Tract we are taking care of patients with all types of HHO using small-invasive procedures or classic operations if the case is needed.
Materials & Methods: For this study, cases of 98 patients with types II, III and IV hernias have been analysed. The operations took place between 2013 and 2019. Each procedure was analysed by type of hernia, length of operation, surgery approach, intraoperative complications. Also a correlation between the length of hospitalization and perioperative mortality with treatment in the intensive care unit was performed. Statistical tests were used to perform the data analysis.
Results: Data from 89 operations were obtained. 51 (57,30%) patients were diagnosed with type IV hernia, 19 (21,35%) with type III and also 19 (21,35%) with type II. In most cases, there were primary hernia. 96,08% for type IV, 94,74% for type III, 94,74% for type II. Incarceration of hernia was most common in type IV (19,61%). The laparoscopic approach was most commonly used in the case of type III. 78.95% compared to 68.42% (type II) and 58.82% (type IV). The mean operation time (mins.) was as follows: 149.41 - type IV, 121.73 - type III, 84.41 - type II. Conversion to laparotomy was needed more often due to type IV (28,57%) and II (30,77%) vs 0% in type III. A significant percentage of organ resections fell on type IV (29.41%) and II (21.05%).
Conclusion: Basing on the obtained results, we can conclude that the most difficulties in therapy are provided by type II and IV HHOs. Furthermore, this two types significantly stood out in term of performed resections. Slightly than half of type IV hernias were operated using the laparoscopic approach and in last 2 years there was increasing tendency to this approach. We believe that the discussed subject matter requires increasing the workload to improve the quality of treatment.
Disclosure of Interest: None declared

13.05

RETROPERITONEAL COMPOSITE PARAGANGLIOMA WITH NEUROBLASTOMA DEVELOPED IN THE ADULT

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Introduction: Paraganglioma is more common in the head and neck region than in the retroperitoneum. Neuroblastoma is one of the derived from the embryonal sympathetic nervous system usually developed in children. Composite paraganglioma with neuroblastoma(CPN) consists of a neuroendocrine component mixed with a neural component, and has been reported occasionally in the children, but extremely rarely in the adult.
Materials & Methods: A 62-year-old man visited complaining right upper abdominal pain. Abdominal CT and MRI demonstrated 11x11x16 cm sized multiseptated cystic mass containing hemorrhagic fluid in right hepatic lobe. All routine laboratory finding with tumor markers were within normal range. The elective operation was planned under the impression of hepatocellular carcinoma in right lobe of liver with questionable retroperitoneal invasion. In operation finding, there was about 20x15cm sized large mass was detected in the area between posterior portion of right hepatic lobe and retrohepatic retroperitoneum with invasion of right adrenal gland. Right hepatectomy and right adrenalectomy with resection of retroperitoneal tissue was performed.
Results: The tumor was well marginated and demarcated from the liver, and was composed of both cystic and solid component. Pathological result of cystic lesion was paraganlglioma with CD56(+), synaptophysin(+) and Ki-67(+, 2-3%). On the other hand, the res solid component was anaplastic neuroblastoma with CD56(+), synaptophysin(-), Ki-67(+, 10-15%). The final pathological diagnosis was confirmed by CPN in retroperitoneum.
Conclusion: CPN of the retropeitoneum developed in the adult extremely rare. Here in, we report a case of retroperitoneal CPN mimicking hepatocellular carcinoma developed in the adult.
Disclosure of Interest: None declared

13.06

IS IT THE MEANS OR THE END? - APPROACHES TO PARADUODENAL HERNIA

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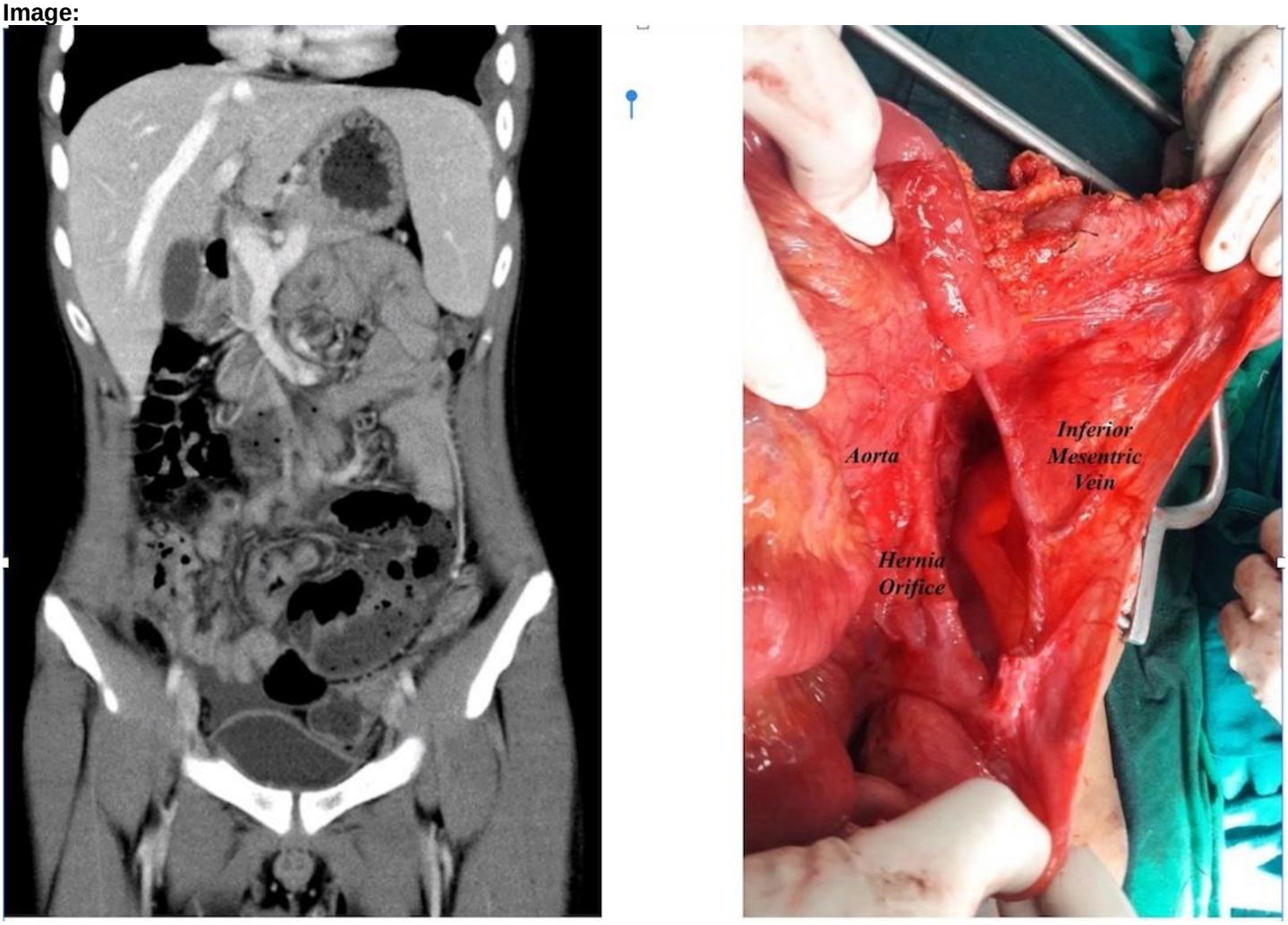
Introduction: Paraduodenal hernia is an uncommon cause of acute intestinal obstruction. Well described are left and right paraduodenal hernias and the need for surgical exploration. However the best surgical approach has no clear consensus.Here we describe two cases of left sided paraduodenal hernia strikingly similar in presentation but varied in the surgical approach undertaken.

Materials & Methods: Design and Setting: Brief report of two cases done in a teaching hospital and descriptive approach to paraduodenal hernia

Results: Two cases of acute intestinal obstruction were evaluated and imaging revealed a left sided paraduodenal hernia through the fossa of landzert. On exploratory laparatomy, there was a left paraduodenal hernia in both the cases with, clumped obstructed small bowel loops as the content. However, due to intricate variation in the anatomy of the inferior mesenteric vein, the ascending left colic artery and the position of the fourth part of the duodenum between both the cases, a varied approach was undertaken viz closure of the hernial defect in one and laying open of the hernial sac in the other. Both the approaches had similar outcomes proving there is no one single solution to a given problem!!

Image:



Conclusion: It would be wise to say, this uncommon cause of abdominal pain requires a high degree of suspicion and a computed tomography (CT) of the abdomen prior to intervention is the least recommend investigation. The surgical approach requires a sound knowledge of the anatomy and the mainstay lies in relieving the obstruction either by closing the defect or laying it open either laparoscopically or a open procedure.

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Disclosure of Interest: None declared

13.07

A CLINICAL STUDY OF OUR 15 SURGICAL CASES WITH NON-AMPULLARY DUODENAL CARCINOMA OR AMPULLARY CARCINOMA.

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Introduction: Because of the low prevalence of duodenal tumors, standardized clinical management of them has not been established. The aim of this study is to clarify clinical differences between non-ampullary duodenal carcinoma (NADC) and ampullary carcinoma (AC).
Materials & Methods: Between June 2010 and November 2017, twenty patients with a duodenal tumor underwent surgical resection in our hospital. Fifteen patients with carcinoma were extracted from them and divided into a NADC group, consists of 6 patients, and an AC group, consists of 9 patients. Clinical differences between two groups were evaluated retrospectively.
Results: The median age of NADC group was 64.5 years (range, 55-77 years), whereas that of AC group was 80 years (range, 55-86 years). Five tumors in NADC group were located at second part of the duodenum and only one was on the duodenal bulb. The median maximum diameter of tumor was longer in NADC group than in AC group, at 2.1 cm (range, 1.8-5.2 cm) versus 1.7 cm (range, 0.8-3.5 cm) ; however, all the patients in NADC group were clinically asymptomatic and most of the patients in AC group developed jaundice or pyrexia. All of the patients in AC group received a definitive diagnosis of adenocarcinoma from the biopsy specimen, while only 50 % of patients in NADC group received an accurate diagnosis preoperatively. All of the accurate biopsy-proven cases in NADC group had an advanced tumor, but the others in NADC group belong to Stage 0 (Tis, N0, M0, TMN 7th). In NADC group, four patients underwent pancreaticoduodenectomy (PD), and two local full-thickness resection. In AC group, eight patients underwent PD except for one transduodenal papillectomy. One patient with lymph node metastasis was existed in each group.
Conclusion: Compared with AC, some in NADC were incidentally found relatively advanced stage without any overt manifestations; however, most of NADC were located at second part of the duodenum, which suggest the possibility of easy found at an early stage by medical screening. The case of unproven by preoperative biopsy, however large size, may be at an early stage. Considering these aspects, it remains possible that overtreatment in surgery may be avoided.
Disclosure of Interest: None declared

13.08

AN ANALYSIS OF PALLIATIVE SURGICAL PROCEDURES IN PATIENTS WITH GASTRO-INTESTINAL TRACT CANCERS PERFORMED AT A TERTIARY CARE CENTER

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Introduction: Palliative surgery is an often neglected though an integral part of management of advanced malignancies to improve the quality of life (QOL). This is reflected by the relative paucity of literature on palliative care surgeries. A significant proportion of gastro-intestinal tract (G.I Tract) cancer patients are suitable for surgical palliation only. We present an audit of the palliative surgical procedures performed in these patients.
Materials & Methods: All patients having a surgical procedure for a palliative indication between January, 2000 to 2016 for G.I tract malignancies were identified from a prospectively maintained database. A descriptive analysis of clinical spectrum, indication for surgery and profile of surgical procedures was performed.
Results: A total of 1522 patients of gastrointestinal malignancy had major surgery of whom 463 (30.4%) had surgery for palliation of symptoms. Colo-rectal carcinoma was the most common subset (40%) followed by esophagus (32.8%), gastric carcinoma (23.3%), anal cancer and small bowel carcinoma. Bowel obstruction (35%) was the most common symptoms for which a palliative procedure was performed followed by dysphagia (32.6%), gastric outlet obstruction, bleeding, fecal incontinence, intestinal perforation, recto-vaginal fistula .The procedures performed were feeding jejunostomy (37.3%), diversion ostomy (25.7%), gastrojejunostomy, small intestinal resection-anastomosis/bypass, hemicolectomy, feeding gastrostomy, gastrectomy, abdominoperineal resection (APR) and intra-thecal drug delivery pump implant. Surgical site infections, ostomy related complications, burst abdomen, bleeding, pneumonia were the common complications encountered after palliative care surgeries. 85.6% of patients had improvement in symptoms within 30 days after performance of palliative procedure.

Type of palliative surgical procedures	Percentage (%)
Feeding jejunostomy	37.3
Diversion ostomy	25.7
Others (gastrojejunostomy, small intestinal resection-anastomosis/bypass, hemicolectomy, feeding gastrostomy, gastrectomy, abdominoperineal resection (APR) and intra-thecal drug delivery pump implant)	37.0

Conclusion: Surgical Palliation plays an important role in the management of G.I Tract malignancies and approximately one third of patients with G.I tract cancer need palliative surgical procedures. Close collaboration with palliative care team and appropriate and judicious surgical intervention can lead to improvement in QOL of advanced G.I Tract cancer patients.
Disclosure of Interest: None declared

13.09

SENTIMAG FOR TARGETING RESCUE SURGERY AFTER ENDOSCOPIC TREATMENT OF COLON CANCER

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Introduction: Colorectal cancer is one of the most commonly occurring malignant tumors. It occupies third place after lung cancer and breast cancer. Early colorectal cancer can be radically removed by endoscopic methods: polypectomy, mucosectomy and submucosal dissection. Endoscopic techniques are recommended for early lesions, qualified as pT1 - infiltrating the mucosa and submucosa of the intestinal wall without infiltration of the muscular layer, without the metastatic lymph node and distant metastases . Detection of the sentinel lymph node is a well-known method of assessing the severity of the tumor, also affecting the lymphadenectomy range.
Materials & Methods: Sentinel lymph node biopsy has been known since 1977. The identification of the sentinel lymph node is usually carried out using a radioisotope with the addition of a blue dye that enables intraoperative visualization.In the presented project, we propose the use of Sentimag as a safe method of detection of the sentinel lymph node. It uses a special marker, Sienna+, a superparamagnetic iron oxide, which can be detected with the Sentimag magnetometer.The procedure with the use of Sentimag consists in applying the marker during the endoscopic examination to the lesion area. According to recommendations, the dye should be administered 3 cm distal from the change in 2-3 injections. The marker collected in the primary tumor and metastatic lymph nodes will be identified during the intraoperative study with the Sentimag® probe, which determines the amount of tracer accumulated in the tissue.
Results: Case report concerns a 46-year-old man with 2 polyps of the large intestine. First polyp was removed by polypectomy. Second polyp in the sigmoid occupy the half of the intestine. Histopathological examination resulted in endothelial adenocarcinoma. Patient was qualified for surgery. The Sienna marker was injected during the colonoscopy 23 days before the operation. During the operation, the primary tumor and the SLN were detected and resected. The histopathological examination confirmed the radical removal of the primary tumor and the lack of involvement of the lymphatic system.
Conclusion: The use of the Sentimag system allows the location of primary tumor and sentinel lymph node, improving the efficiency of surgical treatment.
Disclosure of Interest: None declared

13.10

UP-REGULATION OF MIR-128 IN THE PATHOGENESIS OF HEPATOCELLULAR CARCINOMA

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Introduction: microRNAs(miRNAs) are endogenous non-coding 21-23 nucleotide RNAs that are involved in post-transcriptional regulation and they control various cellular processes, one of which is tumorigenesis. miRNAs were reported to be implicated in the pathogenesis of hepatocellular carcinoma(HCC) and the aim of this study is to evaluate the role of miRNAs in the development of HCC.
Materials & Methods: To find yet-to-be-identified miRNAs associated with HCC tumorigenesis, we carried out miRNA microarray analysis with miRNAs extracted from normal and HCC liver tissues resected from the same patients. Of the miRNAs showing significantly different expression levels between normal and HCC liver tissues, we focused on miR-128. The difference in expression levels of miR-128 was verified by real-time PCR. In addition, the target gene of miR-128, axin1, was determined by bioinformatics study, luciferase assay and Western blotting.
Results: Four pairs of liver tissues were selected for RNA extraction. miRNA microarray and FDR calculation were performed and four genes were selected due to the previous report on their correlation with HCC. The results of luciferase assay and transfection of HepG2 cells indicated that miRNA-128 indeed binds to the 3' UTR of Axin1. In Western blotting study miR-128 indeed decreased Axin1 protein levels, demonstrating that Axin1 is indeed a target of miR-128 in HepG2 cells.
Conclusion: In this study we report that miR-128 is up-regualted in clinical HCC tissues and that miR-128 binds to 3' UTR of Axin1. The identification of miR-128 as oncomir and determination of its target gene Axin 1 will shed light on the pathogenesis of HCC.
Disclosure of Interest: None declared

13.11

PANCREATIC FISTULAS AS A COMPLICATION OF ACUTE AND CHRONIC PANCREATITIS.

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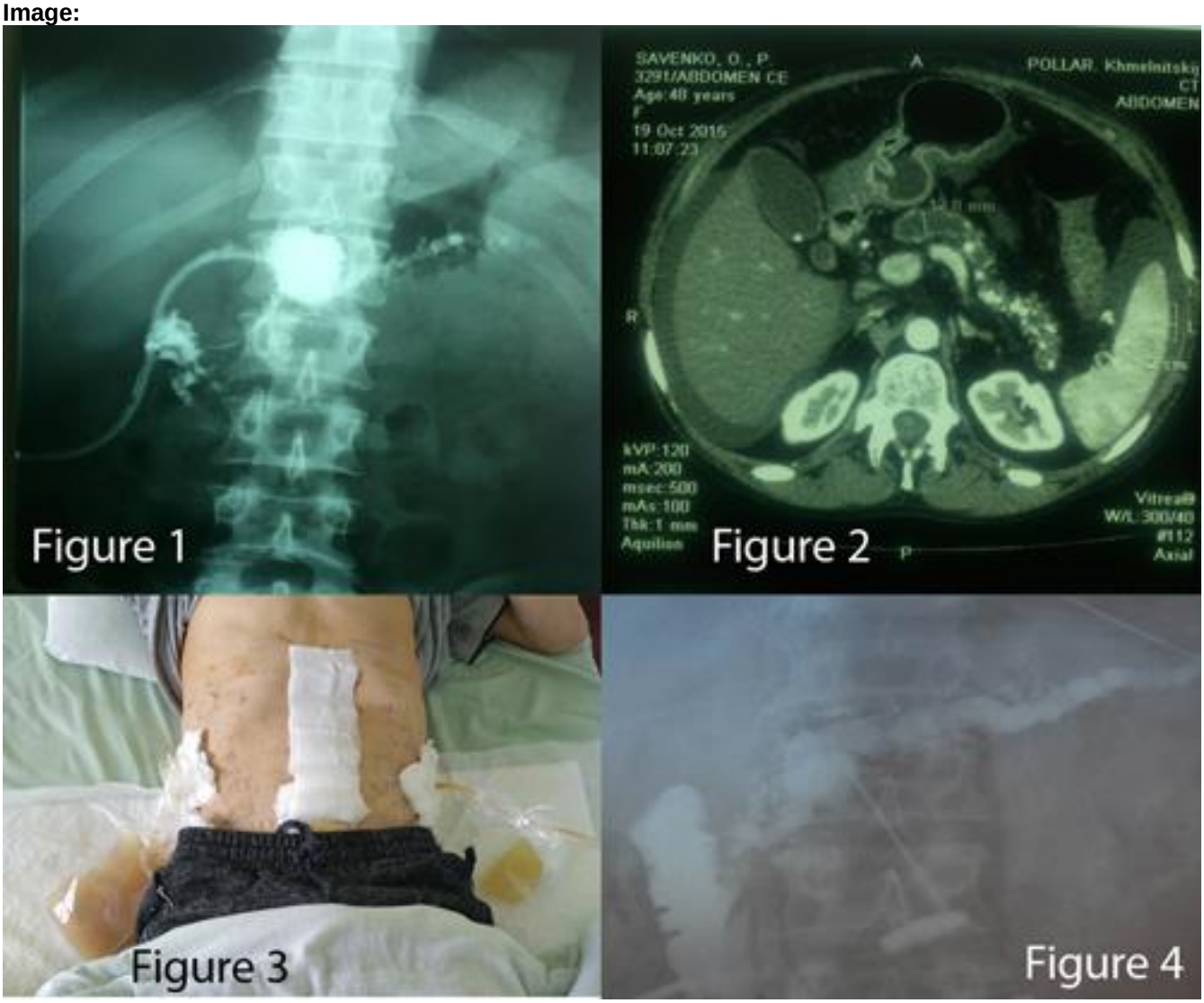
Introduction: Pancreatic fistulas (PF) arise both after acute (AP) and chronic pancreatitis (CP), trauma, and are also a complication of pancreatic surgery. Internal PF can spread to the abdominal cavity, retroperitoneal space, pleural cavity, the result of which is pancreatic ascites, pleurisy.

Materials & Methods: Over the past 7 years, we have operated 219 patients with AP and complicated forms of CP. Of these, 47 (21.5%) patients with external and internal PF were observed. The cause of the PF in 18 (34%) patients was AP, in 30 (63.5%) patients - CP, in one patient - an injury. Treatment started with conservative therapy. In 15 (32%) patients, with a debit up to 100 ml, over time, under the influence of drug therapy, regular sanation, PF were eliminated. In the remaining 32 (68%) patients, surgical intervention was performed on medium and large PF and pancreatic-pleural fistulas (PPF). Preoperative screening included - performing fistulography (fig.1), ERCP, ultrasound and CT (fig.2), pleural and abdominal puncture with the definition of fluid amilasa.

Results: 17 (53.5%) patients with pancreatic ascites (PA) and pleurisy undego surgery. Of these, 9 (46.5%) were diagnosed with PPF. In 3 (43%) patients, the fistulous tract was connected with the right pleural cavity, 6 (57%) patients perfomed pancreatic-entero anastomosis (PEA) with the “Roux-en-Y”. In four patients with right-sided PPF and total hydrothorax, without duct hypertension, a fistulous tract was visualized and crossed, with the drain of the pleural cavity. PEA did not overlap, because the pancreatic duct was too thin. In the postoperative period there was a relapse and formed an external PF (fig.3) with a debit of 200-400 ml per day. One patient with a bilateral PPF didn’t manage to visualize fistulous tract, but formed a longitudinal PEA, which facilitated the closure of the fistula. In another patient, as a result of trauma, the pancreas was damaged in half. In that evidence was formed invaginaited PEA with a tail of pancreas with the “Roux-en-Y” and closing of the proximal part of the pancreas. In 12 (43%) patients who were previously operated because of AP and CP, an external PF was formed. All of these patients were operated, with a successful restoration of the juice passage by forming the PEA.

Image:



Conclusion: 1. Regardless of the origin and type of fistula, we consider compulsory drain of the duct system of pancreas.
2. Screening of the PF should include fistulography, ERCP, intraoperative pancreatography (fig.4).

Disclosure of Interest: None declared

13.12

SIGNIFICANT REDUCTION OF POSTOPERATIVE PANCREATIC FISTULA USING TRANSPANCREATIC MATTRESS SUTURES WITH VICRYL MESH: A NOVEL SURGICAL TECHNIQUE OF STUMP CLOSURE AFTER DISTAL PANCREATECTOMY

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Introduction: Postoperative pancreatic fistula (POPF) after distal pancreatectomy (DP) remains the most common surgical complication. We have developed a novel stump closure technique after DP using transpancreatic mattress sutures with Vicryl mesh (polyglactin, Ethicon, Inc., Somerville, NJ, USA) and reported our initial experience (J Am Coll Surg 223:21-5, 2016). The aim of this study was to evaluate the efficacy of the surgical technique comparing to the conventional stump closure technique.
Materials & Methods: This retrospective single center study included 165 consecutive patients who underwent open DP from January 2010 to May 2018. Of these, 71 patients underwent DP using transpancreatic mattress sutures with Vicryl mesh (TMV group) after September 2014. Ninety-four patients underwent DP with conventional hand-sewn closure technique between January 2010 and August 2014 (HSC group). The surgical outcomes were compared between the two groups. POPF was defined by the International Study Group on Pancreatic Fistula. Morbidity was defined by Clavien-Dindo classification.
Results: atient characteristics (age, sex, BMI, preoperative diabetes, ASA score, tumor size, tumor location, histology) were comparable between the two groups. Operative time and intraoperative blood loss were no differences between the groups. The mortality rate was zero in the both groups. POPF rates in the TMV and HSC groups were 69% and 87%, respectively. The difference was significant (P=0.004). Clinically relevant POPF (grade B and C) rates in the TMV and HSC groups were 5.6% and 17.2%, respectively. Clinically relevant POPF rate in the TMV group was significantly lower than those in the HSC group (P=0.027). Overall morbidity (≥ grade II) rate was higher in the HSC group than in the HSC group (16.9% vs. 27.7%, P=0.104). Duration of postoperative hospital stay was no difference between the two groups (median, 12 days in each).
Conclusion: Transpancreatic mattress suture with Vicryl mesh for pancreatic stump closure can be safe and effective for preventing POPF development after DP.

Disclosure of Interest: None declared

13.13

TRANSANAL TOTAL MESORECTAL EXCISION (TATME) FOR CANCER LOCATED IN THE LOWER RECTUM – ASSESSMENT OF COMPLICATIONS DEPENDING ON THE SURGICAL TECHNIQUE

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Introduction: In 2010 transanal total mesorectal excision (TaTME) was presented as a revolutionary technique in order to treat low and ultra-low rectal cancer. It is a promising alternative for patients previously qualified to the abdominoperineal resection which allows to preserve proper anal sphincter function. The aim of the study was to assess complications following the TaTME procedure performed for the first 54 cases carried out at the Lower Silesian Comprehensive Cancer Center in Wrocław.
Materials & Methods: Between May 2016. and January 2019 TaTME was performed in 54 patients (age between 31 and 86, mean age 61 ± 11 years) with low rectal cancer (median anorectal junction distance 3 cm, the first quartile 1 cm and third quartile 3 cm), the local spread was ranging from CT1N0, cT4N2. The neoadjuvant treatment was given in 28 patients (in 17 patients radiotherapy alone, in 7 patients radio-chemotherapy and in 1 patient chemotherapy alone). In 33 patients' abdominal part of the surgery was performed in an open approach (OA group), 21 patients were operated with laparoscopic technique (LT group). All patients had a protective defunctioning ileostomy. Early complications were assessed using Clavien-Dindo classification.
Results: The mean time of operation was shorter in OA group (193 ± 42 vs. 241 ± 52 min.).
39% (13/33) anastomoses in OA group and 48% (12/20) in LT group were done manually (p=0.14). The mean operation time was comparable in patients with stapled vs. hand sewn anastomoses in both groups.
Any complications regardless the classification were present in 38 % (13/34)in OA group and 25 % (5/25) in LT group, p=0,32.
Depending on the hand-sewn vs. stapled anastomoses in OA and LT groups, there was raising a trend (p=0,1) of patients with complications as followed:
6 % (1/12) in LT group with stapled anastomoses,
18% (3/13) in OA group with stapled anastomoses,
24% (4/9) in LT group with manual anastomoses,
53% (9/19) in OA group with manual anastomoses.
In OA group mean time of hospitalization after surgery was 9 days regardlessthe type of anastomoses and significantly shorter (mean 5 days) in LT group (also regardless of the anastomoses).
Conclusion: The TaTME approach is a novel and promising technique and, in our experience, shows that performing it laparoscopically with stapled anastomosis results in lower complication rate and shorter length of stay.
Disclosure of Interest: None declared

13.14

COMPARISON OF TWO TREATMENT METHODS FOR LEFT SIDE COLON CANCER OBSTRUCTION: PROSPECTIVE COHORT STUDY

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Introduction: Left sided colon cancer is most common cause of large bowel obstruction. There is discussion about best treatment method of this disease, because surgical operations for this disease are different tipes and accordingly quality of life of patients after that surgical methods are different. The aim of our study was to compare and analyze the results of two methods: Hartmann's procedure and left side colectomy/ sigmoid resection with primary anastomosis.
Materials & Methods: 80 patients with left side colon cancer obstruction were followed up. This study was designed as a prospective cohort study with two stratums. 40 patients was treated with hartmann's procedure (group 1) and 40 patients was treated with left side colectomy/sigmoid resection with primary anastomosis (group 2). Several preoperative, intraoperative and postoperative complications: leaking, bleeding, abscess, peritonitis, wound complications and stoma complications were determined and compared between the groups.
Results: There were no difference found in this groups by age, gender, ASA score, comorbidies and hospitalization time. No significantly difference has been found between two groups by total postoperative complications. In group 1 postoperative complications developed in 10(25%) patients, in group 2- in 7(17.5%) patients (P=0.59). 1 patient died in each group after surgery. Complications which developed after surgery are shown in the table 1.
Table 1

complications	group 1 n=40	group 2 n=40	P value
Leak	-	3	
Bleeding	1	1	
Peritonitis	1	1	
Abscess	1	1	
Wound complications	5	1	
Stoma complications	1	-	
total	10(25%)	7(17.5%)	0.59

Conclusion: Our research shows no significant difference in frequency of complications between Hartmann's procedure and left side colectomy/sigmoid resection with primary anastomosis for treatment of left side colon cancer obstruction. With this results, left side colectomy/sigmoid resection with primary anastomosis may be the first choice treatment method in selective cases. After performing above mentioned surgical operation, patients quality of life is better then after Hartmann's procedure, because of absence of colostomy and no need in reconstructive surgery.
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Disclosure of Interest: None declared

13.15

PERIPHERAL BLOOD INFLAMMATORY MARKERS IN COLORECTAL CANCER PATIENTS.

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Introduction: Colorectal cancer is the third most common cancer in the Western World. Due to introduction of novel diagnostic and treatment methods there is observed the decrese of the mortality rates, however morbidity is still increasing. Chronic inflammation takes part in many aspects associated with carcinogenesis. Neoplasm creation and inflammatory response are related processes.
Materials & Methods: Our population included 50 patients with colorectal cancer. Exclusion criterias were distant metastases, neoadjuvant therapy and cancer diagnosis in the past history. Blood examination was compared with histopathology examination result. Patients were divided into two groups - with and without fat tissue carcinoma infiltration in histopathological examination.
Results: All patients had elevated serum C-reactive protein (CRP) level. In the group with infiltration tested indicator was higher but wasn't statistically significant. Furthermore in both groups white blood cell (WBC) count was normal, but in the group with infiltration tested rate was lower and the result was statistically significant.
Conclusion: CRP level and WBC can be a helpful marker in staging assessment in colorectal cancer patients. Widespread availability and low cost of mentioned above blood tests makes it easy to conduct in daily medical practice. The decrease in the WBC count was proportional with the increase of cancer's staging and has to be investigated.
Disclosure of Interest: None declared

13.16

OUTCOME OF PERORAL ENDOSCOPIC MYOTOMY POEM IN ACHALASIA PATIENTS- OWN EXPERIENCE

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Introduction: Peroral endoscopic myotomy (POEM) has been developed as a minimally invasive endoscopic treatment for achalasia. The aim of this study was to retrospectively investigate the clinical efficacy and safety of POEM in patients treated in 2nd Department of General and Gastrointestinal Surgery and Surgical Oncology of the Alimentary Tract in Lublin. Relief of patients' symptoms was defined as the primary outcome. Secondary outcomes included symptoms relapse, and clinical reflux adverse events. Procedure-related complications were also analyzed.

Materials & Methods: The analysis included forty patients (20 men and 20 women) from 2015-2018 diagnosed with achalasia according to high-resolution manometry (HRM), X-ray with barium swallow and upper gastrointestinal endoscopy. Median age was 47,1 (±12.66 years). Patients with previous treatment (e.g pneumatic dilation, botulin injection) were excluded from study. Eckardt score was taken before POEM procedure and after 3 months follow-up.
Results: At the follow-up, (3 months after the treatment) the median Eckardt score significantly reduced from 8.75 ± 2.2 preoperatively to 1.53 ± 1.4 ($P < 0.01$). Median operation time was 85 min. Procedure-related complications were noted mostly at the beginning of the learning curve: three cases of pneumothorax, four cases of capno-peritoneum. No severe complications were noted. In one case the procedure was aborted due to intense fibrosis within the submucosal layer. Three patients (7.6%) had symptoms relapse and five patients (12%) developed gastro-esophageal reflux.
Conclusion: The study indicates a high rate of short-term clinical success. The first experience with POEM in our center confirmed that this method is a safe and efficient option for reducing symptoms in patients with achalasia. Further long-term follow- up, including development of gastro-esophageal reflux, should be obtained to confirm the real value of POEM.
Disclosure of Interest: None declared

13.17

ENDOSCOPIC SUBMUCOSAL DISSECTION AS AN ALTERNATIVE TREATMENT FOR LATERAL SPREADING TUMORS AND EALY CANCER IN RECTUM

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Introduction: Endoscopic submucosal dissection as an alternative to surgery for lateral spreading tumours (LST) and early cancer (T1a) in rectum.
Materials & Methods: 53 patients (25 male and 28 female) were treated in General Surgery Ward of Copernicus Hospital in Gdańsk between 2016 and 2018 by endoscopic submucosal dissection (ESD) due to early tumors of rectum (32), stomach (20) and oesophagus (1). 5 patients were disqualified form endoscopic treatment due to recognised stroma infiltration. Removed tumours of the rectum were located between 0 and 7cm from the crested line and had 2-8cm of diameter. Follow-up consisted of endoscopies repeated every 6 months for the 2-year period. We calculated intervention time, endoscopic radicality of the procedure, complications, blood transfusions, hospitalisation time, pathological report and recurrence.
Results: Average procedure duration was 171,25 minutes, with median of 152,5 min. Average hospitalisation time was 3,6 days with time from procedure to discharge 1,7 days. We noted complications during procedure (perforation or bleeding) in 11 cases, all treated simultaneously. There were 4 complications in the post-procedural period: bleeding (2) requiring blood transfusion in one case and subcutaneous emphysema (2) treated conservatively. None of the patients required surgical intervention. All procedures were endoscopically radical. That was confirmed in pathologists report for all specimens except for two (due to fragmentation of the specimen). Follow-up revealed no recurrences. Pathological reports confirmed adenocarcinoma in 13 cases (40,6%), including intraepithelial cancer (5 cases) and invasive T1a carcinoma (7 cases). In one case vascular involvement was reported with negative specimen margins. This patient refused consent for supplementary surgery and was treated by chemo-radiotherapy). There were 12 cases of high-grade dysplasia and 4 of low-grade dysplasia reported by pathologists.
Conclusion: Endoscopic submucosal dissection is an effective alternative for radical treatment of LST and early carcinoma in rectum.
Disclosure of Interest: None declared

18.1.01

PSOAS MUSCLE DENSITY IS A BETTER PREDICTOR OF 30-DAY MORTALITY THAN PSOAS MUSCLE CROSS SECTION IN THE ELDERLY POPULATION UNDERGOING EMERGENCY LAPAROTOMY.

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Introduction: Exploratory Laparotomy is an increasingly common procedure in the elderly. Numerous parametershave been associated with mortality,
Many of which do not focus particularly on the sub-population of frail patients.
Sarcopenia has been investigated as a surrogate for frailty and poor post-operative prognosis.
In this study we looked at sarcopenia measured in CT scans performed in the emergency department in the elderly population undergoing emergency laparotomy. We evaluated the association between sarcopenia and 30-day post-operative mortality
Materials & Methods: We conducted a retrospective cohort study of elderly patients older than 65 years who underwent emergent laparotomy at a tertiary university hospital between the years 2006-2011.
We evaluated sarcopenia by measuring both density and the product of perpendicular cross-sectional diameters (PCSD) of the psoas muscle measured at the L3 vertebrae level on the CT scan upon admission. We investigated the association of both with 30-day post-operative mortality. We defined sarcopenia as belonging to the lower quartile in density or PCSD. We used chi square test for categorial variables. Using variables shown most significantly associated with 30-day mortality, multi-variant logistic regression was carried out to better understand confounding effects between sarcopenia and these variables
Results: During the years 2006-2011, 403 patients, older than 65 years, underwent EL in our tertiary center, 283 fit the inclusion criteria, 65 patients (22.9%) died within 30 days.
In univariate analysis, psoas muscle density was found to be a risk factor for 30-day mortality with 0.007 significance and OR of 2.36, on the other hand, PCSD failed to significantly predict 30-day mortality (Sig. 0.052, OR=1.812), hence was not included in further multi-variate logistic regression models.
In a logistic regression model, Hypoalbuminemia and Age older than eighty years were statistically significant risk factors for 30-day mortality with p-value of 0.000 (OR=5.27) and 0.003 (OR=2.579) respectively, but sarcopenia was not, p-value of 0.256 (OR=1.52).
Conclusion: There is an association between sarcopenia and 30-day mortality following EL in the elderly population. Psoas density rather than cross section is a better predictor of mortality. Density on CT scans can be easily measured by ER physicians to evaluate the risk for post-operative mortality.
Parameters such as albumin and age, psoas muscle density are codependent factors in predecting 30-day post-opertive mortality.
Disclosure of Interest: None declared

18.1.02

ANAEROBIC NECROTIZING FASCIITIS IS A SERIOUS SURGICAL COMPLICATION. A CASE REPORT AND LITERATURE REVIEW

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Introduction: The necrotic fasciitis was previously classified as an adult disease. It was described in detail in 1924 by Melen. The term "necrotizing fascist" was introduced by Wilson in 1952, when he observed a progressive acceleration of inflammation and subcutaneous tissue necrosis, and the superficial part of deep fascies with gangrene presence at its various levels.

Materials & Methods: We describe a 33-year-old man with omphalitis anterobes that was administered surgically after peri-umbilical edema, erythema and tenderness with purulent discharge and inflammation extending into subcutaneous fat and in a deep coat 1 week prior to hospital treatment.

Results: He was admitted to the Intensive Care Unit (ICU) with a clinical appearance of severe sepsis. Early surgical cleansing of affected areas and critical care therapy were performed. On average, 10 serial debridements were performed. During the treatment, other intensive care applications were applied with a combination of antibiotics therapy. After the stabilization of soft tissue wounds and the formation of fresh tissue particles, soft tissue defects were reconstructed using simple complex reconstruction methods.

Conclusion: FN is an acute surgical condition. Early diagnosis and removal of necrotic tissue is very important, which affects a great deal in the treatment and course of treatment and ultimately in its survival.

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Disclosure of Interest: None declared

18.1.03

IMPROVED OUTCOMES FOR INDEX CHOLECYSTECTOMY FOR ACUTE CHOLECYSTITIS FOLLOWING A DEDICATED EMERGENCY SURGERY AND TRAUMA SERVICE

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Introduction: Early laparoscopic cholecystectomy (ELC) during index admission may reduce perioperative morbidity, conversion rates and operation time as compared to interval laparoscopic cholecystectomy (DLC). However, logistics and manpower limitations often preclude ELC. With a dedicated emergency surgery and acute trauma (ESAT) service, we evolved from a mixture of ELC and DLC in the pre-ESAT era to ELC for acute cholecystitis in the ESAT period. We compare outcomes and costs of laparoscopic cholecystectomy in the pre-ESAT versus ESAT period.
Materials & Methods: This is a single centre retrospective comparison of laparoscopic cholecystectomies performed between 2 periods, May 2013 to October 2014 (pre-ESAT) and January 2017 to August 2018 (ESAT). Baseline demographics, efficiency and clinical outcomes were collected.
Results: There were 119 patients in the pre-ESAT era and 231 patients in the ESAT era. The mean age was 53.8 and 54.2 years respectively, p=0.773. Both groups had comparable comorbidities. Fifty one percent (61/119) had ELC in the pre-ESAT while the rest had DLC. All patients in the ESAT era had ELC. In the ESAT era, patients had more severe grading of cholecystitis based on Tokyo Guidelines (TG 18) p=0.03. However, there were comparable blood loss, rates of postoperative collection, bile duct injury, wound infection and organ injury. Conversion rates decreased from 9.2% (11/119) to 0.9% (2/231), p=0.001 in the ESAT era. The 30-day readmission rates decreased from 10.9% (13/119) to 1.7% (4/231), p=0.01 in the ESAT era. More cases were performed in the daytime than night 79% (ESAT) vs 41%(pre-ESAT). Mean length of stay decreased from 7.14 days to 4.07 days, p=0.001 in the ESAT era. Mean cost decreased from $5322 to $4883, p=0.294 in the ESAT era.
Conclusion: The introduction of ESAT and increased ELC has decreased conversion rates, 30-day readmission rates and total length of stay significantly without increased costs.

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Disclosure of Interest: None declared

18.1.04

FISHBONE INGESTION IN THE GASTROINTESTINAL TRACT- A SINGLE INSTITUTION EXPERIENCE

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Introduction: Accidental fishbone ingestion is not an uncommon occurrence in areas where there is a high consumption of seafood. Most pass through the gastrointestinal tract without complications but in some cases they may become impacted and cause complications. We aim to report our experience with complicated fishbone ingestion of the gastrointestinal tract treated in our institution.
Materials & Methods: This is a retrospective study of patients treated in the Department of Surgery, Khoo Teck Puat Hospital from Jan 2010 to Dec 2018. Patient demographics, type of imaging, intervention and outcomes were recorded.
Results: There were 22 patients identified with fishbone ingestion. Nineteen (86.3%) cases were diagnosed with computed tomography (CT) scan, while 3 (13.6%) cases were seen on X-ray imaging. There were 19 (86.3%) males and 3 (13.6%) females with a median age of 61 years. Sixteen (72.7%) developed gastrointestinal perforation requiring abdominal surgery of which 7 (31.8%) patients required laparotomy and 6 (27.2%) were managed with laparoscopic surgery. One required conversion to open surgery. Three (13.6%) were managed conservatively with one patient requiring radiological guided drainage of abscess formation. Five (22.7%) were lodged in the distal oesophagus and stomach and managed with gastroscopy, while 2 (9%) were lodged in the anus and were removed with examination under anaesthesia. There were no mortalities in our series. Patients managed with laparotomy had a median length of stay of 7 days, compared with 3 days in the laparoscopic group. Two (28.6%) patients in the laparotomy group developed post-operative ileus, with 1 (14.3%) post-operative wound infection. There was no morbidity in the laparoscopy group.
Conclusion: Majority of fishbone ingestion are radiolucent and diagnosed on CT imaging. The laparoscopic approach appears safe and feasible in selected cases and may confer a shorter length of hospital stay.
References: -
Disclosure of Interest: None declared

18.1.05

EFFECT OF THE NEGATIVE PRESSURE WOUND THERAPY AND DELAYED SUTURE FOR INCISIONAL SURGICAL SITE INFECTION AFTER HARTMANN'S PROCEDURE FOR COLORECTAL PERFORATION: A RETROSPECTIVE COHORT STUDY.

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Introduction: Incisional surgical site infection (i-SSI) in surgery for colorectal peroration is common. Furthermore, i-SSI is associated with increased mortality, extended hospital stay and increased healthcare costs. Some previous studies advocated the negative pressure wound therapy (NPWT) prevented i-SSI after several surgery. Though, the effect of NPWT for contaminated laparotomy is still unclear. The aim of this study was to compare the background and the outcome of patients with NPWT and after Hartmann's procedure for colorectal perforation to that without NPWT and clarify the effect of NPWT for i-SSI.
Materials & Methods: In this retrospective cohort study, we evaluated patients who underwent Hartmann's procedure as laparotomy for colorectal perforation in our hospital from April 2007 to March 2018. Main exposure was whether NPWT underwent or not. Primary outcome was the incidence of i-SSI. As the primary analysis, we estimated adjusted odds ratio (OR) by using multivariable logistic regression. Besides, we also compared the relation between undergoing NPWT and other outcomes.
Results: We included 84 subjects; subjects with NPWT were 23 (27%). In primary analysis, NPWT significantly decreased the incidence of i-SSI (adjusted OR 0.088, 95% confidence interval 0.020–0.395; p=0.015). NPWT was not significantly associated with the in-hospital mortality (4% vs. 10%; p=0.712), though the length of hospital stay and ICU stay in subjects with NPWT were shorter than without NPWT (17 days vs. 25 days; p=0.012) (4 days vs. 7 days; p=0.054). There was no significant difference about the hospital cost between them ($2,783 vs. $3,884; p=0.1237).
Conclusion: NPWT might decrease the incidence of i-SSI for patients who undergo Hartmann's procedure for colorectal perforation and improve the outcome of them.
Disclosure of Interest: None declared

18.1.06
MOBILE VENTILLATING AND FILTERING DEVICE FOR OPERATION ROOM.

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Introduction: Introduction.
Today many regulatory institutions have developed standarts and guidlines for OR ventillation systems. In OR ventillation systems must fullout special needs:
-comfort of patient in OR
-comfort of surgeons and other personnel
-control of infections (microbiological pollutants)
-control of ESU-associated smoke
Our aim was to develope combined device - portable, patient heating combined with HEPA air filter and filtered air recirculating.
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-comfort of patient in OR
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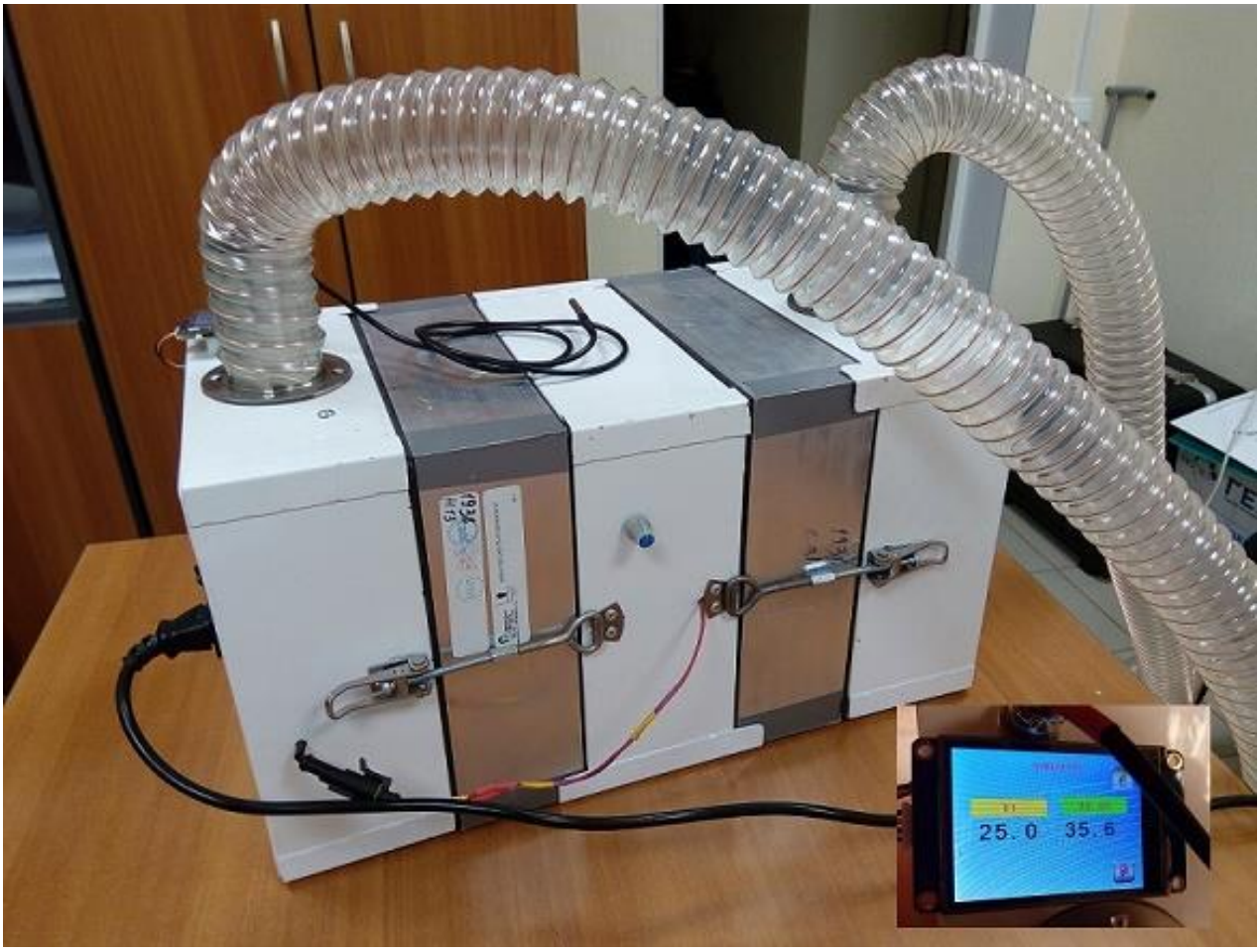
-control of infections (microbiological pollutants)
-control of ESU-associated smoke
Our aim was to develope combined device - portable, patient heating combined with HEPA air filter and filtered air recirculating.
On the basis of the analysis of literary and patent data the device meeting all necessary requirements of the device is not found.
Materials & Methods: Elaborated device fits all requrements.
It is not only compact , but also performs all the necessary operations : it takes air from the operating room — directly from the operating area ,filters it to a sterile state ,conditions it to a predetermined temperature and supplies heated air to maintain a given temperature of the patient's body.(pic 1)
Results: The tested prototype completely removed all aerosol particles arising during operation of electrocoagulating devices, removed unpleasant odors, maintained the set temperature of the patient with the outgoing warm air, maintaining it within the specified limits.
Image:



Conclusion: The use of this device revealed the convenience of using it , more comfortable working conditions for the operator and the patient were achieved.

Disclosure of Interest: None declared

18.1.07

ASSOCIATION BETWEEN VENTILATOR-INDUCED LUNG INJURY AND AQUAPORIN CHANNELS.

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Introduction: Mechanical ventilation with a high tidal volume (TV) induces lung injury. However, exact mechanisms have not been conclusively studied. Aquaporins (AQP) are water-specific membrane channel proteins that may play roles in edema formation. We examined a rat model of ventilator-induced lung injury (VILI) to evaluate whether AQP was involved in lung pathophysiology.
Materials & Methods: Wistar rats were ventilated under general anesthesia with normal (TV of 6 mL/kg) or high-volume (15 or 25 mL/kg) protocol for 4hours. After mandatory ventilation period, the lungs of ventilated or sham rats were removed to measure the wet to dry weight ratio. The harvested lung samples were also analyzed the changes in transcription and protein expression of AQP1 and AQP5 by real-time PCR and Western blot.
Results: The wet to dry weight ratio as evidence of lung water was 4.8±0.1 in sham, 4.5±0.5, 5.5±0.5 and 5.5±0.8 ($p<0.01$) in the rats ventilated at 6, 15 and 25 mL/kg, respectively. The peak inspiratory pressures in rats ventilated at 15 and 25 mL/kg were significantly higher than that of 6 mL/kg ($p<0.01$). The AQP1 protein expression in the 25 mL/kg group was higher than that of the 6 mL/kg group ($p<0.05$). On the other hands, the protein expression of AQP5 tended to decrease with high-volume groups. The levels of AQP5 protein in the 15 mL/kg and 25 mL/kg groups were lower than that of sham group ($p<0.05$, $p<0.01$, respectively).
Conclusion: VILI could be reproduced in the animal model of this study. It was suggested that VILI and AQP may be related by measurement of the protein level of AQP1 and AQP5. The control of AQP expression is considered important for prevention and treatment of lung injury.
Disclosure of Interest: None declared

18.2.01

POINT OF CARE LOAD-AND-GO FLOW CYTOMETRY IN TRAUMA PATIENTS IN THE EMERGENCY BAY: THE START OF A NEW ERA

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Introduction: Traumapatients often develop severe infections during hospital admission. The risk of these infections is determined by the severity of tissue damage and the amplitude of the following immune response. The main effector cell in this response is the neutrophil. Neutrophil responsiveness to a bacterial stimulus can be used to predict severe infections later on. Due to technical and logistical difficulties however, this test is ample used in the clinical setting. Recently, an automated flow cytometer became available that significantly reduces measuring time, while improving reproducibility. The aim of this study is to assess the applicability of routine 24/7 point-of-care neutrophil flow cytometry measurement in trauma patients.
Materials & Methods: We performed a prospective mono-center feasibility study in our level one trauma center. All trauma patients >18y initially presented in the shock room were included by the trauma team. The trauma team drew an extra blood tube from the patient during diagnostic work up. This extra tube was placed in the point-of-care 24/7 available load-and-go flowcytometer located in the shock room. This machine pierced the tube caps, added antibodies, lysed and measured blood samples within 20 minutes after vena puncture. Measurements were done in presence or absence of the bacterial stimulus fMLF. Median Fluorescent intensity (MFI) was used to analyze the results.
Results: A total of 30 multi trauma patients were successfully included in the study by the trauma team without the need of experienced flow cytometry personnel. The machine successfully measured neutrophils antibody markers in almost all traumapatients. Implementation of point-of-care neutrophil analysis in the workup of multi trauma patients did not obstruct patient care in most cases. Distinct patterns of antibody expression were related to injury severity.
Conclusion: Implementation of routine 24/7 point-of-care neutrophil analysis by flow cytometry in the shock room is applicable. First results of neutrophil antibody expression seems to be an adequate readout for injury severity.
Disclosure of Interest: None declared

18.2.02

NON-VIABLE NEUTROPHILS IN SURGICAL PATIENTS: A NEWLY DESCRIBED PHENOMENON.

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Introduction: The number of non-viable leukocytes is routinely measured in every blood analysis, as quality check of timely analysis. Under homeostatic conditions there are no non-viable leukocytes in fresh blood samples. However, as incidental finding, non-viable leukocytes were found in blood samples of critically ill patients. Not much is known about this phenomenon, its implications for leukocyte functioning and clinical outcomes.
Materials & Methods: Surgical patients who had > 5% non-viable leukocytes in fresh blood samples (standard cutoff value), were included. After inclusion, the percentage of non-viable leukocytes was reassessed by image stream analysis and leukocyte functioning (phagocytosis and responsiveness to a bacterial stimulus) was analyzed. In addition, clinical outcomes were investigated.
Results: Fifteen patients with non-viable leukocytes were included. Leukocyte cell death was confirmed by image stream analysis. Leukocyte phagocytosis and responsiveness to a bacterial stimulus were not impaired for the whole neutrophil population in the included patients. Of these patients, 13 (87%) were admitted to the Intensive Care Unit (ICU) and 9 (60%) died.
Conclusion: The presence of non-viable neutrophils is a true phenomenon in critically ill surgical patients and is associated with clinical deterioration. It therefore renders more attention to determine their role in the clinical course of critically ill patients.
Disclosure of Interest: None declared

18.2.03

TRAUMA EXTREMITY VASCULAR REPAIR: PREDICTORS OF PROPHYLACTIC FASCIOTOMY

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Introduction: Isolated civilian extremity trauma with vascular injury carries a 10% risk of mortality or limb loss, with a high rate of morbidity. One major morbidity is the need for prophylactic fasciotomy for post revascularization compartment syndrome. We aim to identify the predictive factors of the need for fasciotomy.

Materials & Methods: A retrospective review was conducted of patients aged ≥18 years old diagnosed with traumatic extremity vascaular injury (TEVI) between January 2013 and December 2016. Data pertaining to demographics, medical history, injury characteristics, emergency department course, operative course, and hospital course were collected to evaluate the management and outcomes of patients with TEVI. Chi-squared tests, t-tests, and Mann Whitney U tests were used in the univariate analyses. A multivariate logistic regression model was constructed to evaluate for independent predictors.

Results: A total of 91 patients met our inclusion criteria of whom 76.9% were male with a median age of 28.0 years [interquartile range (IQR): 22.0 – 41.0) and median extremity injury severity score of 3.0 (IQR: 2.0 – 3.0). Among the study group, 26 (28.6%) and 65 (71.4%) had upper and lower extremity injuries, respectively, 25 (27.5%) had popliteal injuries, 44 (48.4%) had transection vascular injuries, 64 (70.3%) had associated extremity injuries,39 (42.9%) had associated orthopedic injuries, and 35 (38.5%) had concurrent arterial and venous injuries. The median time to the operating room was 36 minutes (IQR: 20 – 125). The trauma service performed the vascular repair in 44 (48.4%) patients and 47 (51.6%) received a prophylactic fasciotomy.

On univariate analysis, lower extremity injury (p=0.002), popliteal artery injury (p=0.002), associated extremity injury (p =0.0001), associated orthopedic injury (p=0.009), and concurrent arterial and venous injuries (p=0.013) were significant predictors for prophylactic fasciotomy. The results of the multivariate analysis are shown in table 1.

Image:

Variable	Reference	p-value	OR (95% CI)
Extremity injured	Upper	**0.025**	4.5 (1.2 – 16.5)
Concurrent arterial and venous injuries	No	**0.018**	16.9 (1.6 – 176.6)
Associated orthopedic injury	No	0.051	9.7 (0.9 – 96.1)
Associated extremity injury	No	0.425	0.3 (0.02 – 4.8)
Popliteal artery injury	No	**0.042**	3.9 (1.0 – 14.8)

Table 1. Multivariate logistic regression with prophylactic fasciotomy as an outcome.

Conclusion: Prophylactic fasciotomy after TEVI is a clinical decision to be considered in patients with lower extremity, concurrent arterial and venous, associated popliteal artery, and possibly associated orthopedic injuries.

Disclosure of Interest: None declared

18.2.04

FRAILTY AND ISOLATED RIB FRACTURES IN TRAUMA – DOES IT MATTER? A SINGLE ASIAN INSTITUTION STUDY

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Introduction: The ageing population in Singapore has risen awareness about the impact of geriatric syndromes on clinical outcomes and health-related quality of life in patients. Increasingly, frailty in patients have been shown to have led to worse prognosis and outcomes in surgery. In this study, we evaluate patients solely with rib fractures following a trauma to examine if frailty impacts morbidity and outcome.
Materials & Methods: The Tan Tock Seng Hospital Trauma Database was reviewed and 281 patients admitted for only rib fractures following a trauma was identified from the year 2018. Their medical records were reviewed to look at their demographics, medical condition, mechanism of injury, outcomes and length of stay. The clinical frailty scale (CFS) was used to evaluate frailty in these patients retrospectively looking at the hospital clinical, nursing and physiotherapy records.
Results: 281 patients, including 178 males and 103 females were identified. Mean age was 67.4 years old. Injuries were mainly falls (n=189) and motor-vehicular accidents (n=74). 208 patients were admitted for unilateral rib fractures while 10 had bilateral rib fractures.
We divided the group into two groups: non-frail (CFS 1-4) and frail (CFS >4). Comparing both groups, frail patients (n=59) tended to be older (mean age 83.6) compared to non-frail (n=218, mean age 63.0) and this was statistically significant ($p<0.0001$). There was no significant difference in the number of rib fractures between the frail (3.70) and non-frail (3.60) group ($p=0.63$).
The average length of stay was 6.2 days. Length of stay appeared to increase with number of rib fractures. Patients in the frail group stayed longer than the non-frail group. (11.0 days versus 4.8 days, $p<0.0038$). Comparing mortality, patients in the frail group were 7.6 times more likely to die but this was not statistically significant ($p=0.10$).
100 patients (36%) had a haemothorax or pneumothorax. In this subgroup, frail patients stayed longer (11.3 days) compared to non-frail groups (7.9 days) but this was not statistically significant ($p=0.46$).
Conclusion: Frail patients tended to do worse in terms of length of stay and mortality despite no difference in number of rib fractures. These patients would benefit from early review by the pain, geriatric and physiotherapy teams. Further evaluation with subgroup analysis should be done to examine confounder of age and frailty.
Disclosure of Interest: None declared

18.2.05

OUTCOMES OF ISOLATED RIB FRACTURE TRAUMA IN AN ASIAN INSTITUTION

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Introduction: Rib fractures is a common pathological condition following trauma. Depending on the severity of the rib fractures, morbidity may vary. Our study aims to look at outcomes of patients with only isolated rib fractures in our institution and to examine what factors affect these outcomes.
Materials & Methods: The Tan Tock Seng Hospital Trauma Database was reviewed and 281 patients admitted for only rib fractures following a trauma was identified from the year 2011 to 2016. Their medical records were reviewed to look at their demographics, medical history, mechanism of injury, complications and length of stay.
Results: 281 patients, including 178 males and 103 females were identified. Mean age was 67.4 years old. Injuries were mainly falls (n=189) and motor-vehicular accidents (n=74). 208 patients were admitted for unilateral rib fractures while 10 had bilateral rib fractures.

Average length of stay was 6.2 days. Length of stay of patients appeared to increase with number of rib fractures. Patients with 3 or less rib fractures (n=144) stayed for 4.7 days while patients with 4 or more rib fractures stayed for 7.6 days. This could be due to pain from the multiple rib fractures. There were 6 patients with flail segments, with average stay of 4.9 days.

100 patients (36%) had complications i.e. haemothorax or pneumothorax. Of the 281 patients, 8 suffered from pneumonia as a complication. These patients did not have an increased number of rib fractures. Patients with a haemopneumothorax was 3.1 times more likely to get a pneumonia, although this was not statistically significant (p=0.12). 47 (16.7%) patients were on aspirin, but this was not a risk factor for having haemothorax.
Conclusion: Patients with increased number of rib fractures tended to have an increase in length of hospital stay. Patients with haemothorax tended to be complicated by pneumonia. We suggest that these groups of patients have an early review by the pain and physiotherapy service to decrease morbidity and hasten recovery.
Disclosure of Interest: None declared

18.2.06

CHRONIC NEGLECTED NON-REDUCED SHOULDER DISLOCATIONS CAN BE SUCCESSFULLY MANAGED BY CLOSED REDUCTION;OUR EXPERIENCE IN A LOW-MIDDLE INCOME SUB SAHARAN COUNTRY CONCERNING 33 CASES

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Introduction: Chronic neglected unreduced shoulder dislocations (CNUSD) are difficult to reduce in the conventional manner, requiring a surgical procedure in order to reduce and stabilize the joint. Dislocations of the shoulder account for almost 45% of all dislocations with almost 90% being the anterior subtype [1]. A CNUSD is a rarer entity with only few cases being reported in the literature. The penchant for unorthodox treatment for musculoskeletal injuries makes CNUSD common in sub-Sahara. The aim of this study is to evaluate the outcome of closed reduction of CNUSD in a low income sub Saharan setting.

Materials & Methods: This study was hospital based observational, analytical and prospective. Subjects were recruited from January 2008 to January 2018 at the Cardinal Paul Emile Leger National Rehabilitation Center for Persons with Disabilities (CNRPH) in YAOUNDE. The patients with dislocations of at least 1 month duration underwent closed reduction in the theatre under general anaesthesia; unsuccessfully reduced shoulders had open reduction. Control x-rays were done. Temporal stabilisation for 6 weeks was done using K wires and an arm to body sling after which all had intensive physiotherapy. The functional outcome of the shoulder was evaluated using the Constant-Murley shoulder score at latest visit at the clinic.

Results: 34 shoulders surveyed with one patient having bilateral CNUSD [2]. The ages ranged from 21 to 80 years, with a mean age of 42.71±16.13. There were more males than females giving a sex ratio of 3.2:1. There were 33 anterior, one posterior dislocation. The major cause of dislocation was road traffic injuries (23.5%). Most of them initially had treatment from traditional bone setters. Closed reduction was successful in 79.4% of cases while 20.6 % had closed reduction. Complications were a case of spiral humeral during closed reduction, surgical site infection and K-wire migration during open reduction. The Constant-Murley score was good after closed reduction at average the latest visit of 17 months (3–72)

Conclusion: CNUSD are common. Major cause of chronicity is initial traditional treatment. Road traffic injuries are the commonest etiologies. Successful reduction and good functional outcome can be obtained by careful closed reduction under general anesthesia and intensive physiotherapy.

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Disclosure of Interest: None declared

18.2.07

CLINICAL ASPECTS AND TREATMENT OUTCOME OF PELVIC RING INJURIES IN A LOW-MIDDLE INCOME SETTING.

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Introduction: Pelvic ring fractures are usually severe and have high mortality and morbidity. Fractures of the pelvic ring are due to high energy (road traffic accidents). In our setting, their management is not always adequate given our peculiar socio-economic status and a less developed health facility [1]. These fractures have a poor prognosis due to the damage of intra pelvic organs like the bladder, urethra, genitalia, rectum, nerves and blood vessels. Our objective was to describe the epidemiological, clinical, and therapeutic aspects as well as the functional outcome of pelvic injuries in our context
Materials & Methods: We conducted a descriptive cross-sectional and retrospective study over a period of 9 years 3 months (spanning from January 1st, 2008 to March 31st, 2017) in the orthopedic and traumatology ward of the Yaounde central hospital. In order to evaluate their outcome, patients meeting our inclusion criteria (any patient who had been operated for a fracture of the pelvic ring and who agreed to participate in the study) were called back for a clinical re-evaluation using the MAJEED score
Results: We recruited 31 patients, 23 men and 8 women, given a sex ratio of 2.8. The mean age of our patients was 35.1 ± 10.1 years (20 to 65). The most represented age group was 30-40 years (42%; 13 cases)[2]. Technicians were the most represented (26%; 8 cases). Road traffic accidents were the leading cause (81%; 25 cases), car - pedestrian collisions accounted for 45% of cases. The antero-posterior compression mechanism was the most frequent (58%; 18 cases). Associated lesions were frequent; Limb fractures (43%; 10 cases), neurological lesions (30%; 7 cases) and abdomino-pelvic lesions (27%; 6 cases). The median MAJEED score was 79. It was poor in 4 cases (12.92%), medium in 11 cases (35.5%), excellent in 12 cases (38.74%). Thirty eight percent (12 cases) of the patients resumed the same work and 35% (11 cases) no longer felt any pain
Conclusion: In our setting, fractures of the pelvic ring are usually secondary to road traffic accidents and mostly affect young adults. It is mostly associated with fractures of the limbs. MAJEED score was good in most cases managed.
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Disclosure of Interest: None declared

18.3.01

CHARACTERISTICS RELATING TO THE DEVELOPMENT OF VENOUS THROMBOEMBOLISM IN POLYTRAUMA PATIENTS DESPITE CHEMICAL THROMBOPROPHYLAXIS AT A TERTIARY TRAUMA CENTRE IN AUSTRALIA

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Introduction: The incidence of Venous Thromboembolism (VTE) is between 5 to 65% in trauma patients. Despite chemical thromboprophylaxis, at least 15% of trauma patients develop VTE. This study's aim was to investigate characteristics of polytrauma patients who developed VTE despite the administration of chemical thromboprophylaxis.
Materials & Methods: Data was analysed from a prospectively collected database at a Level 1 Trauma Centre in Sydney, Australia (Westmead Hospital). Data was collected relating to polytrauma patients admitted between 1 Jan 2017 to 31 Dec 2018 who received protocolized chemical thromboprophylaxis (heparin or enoxaparin) and developed VTE in their index admission.
Results: A total of 37 trauma patients developed VTE despite chemical prophylaxis in this period. The median age was 51 years (IQR 39.5 - 63.5) and 83.8% were male. Patients spent a median of 10 days in ICU, with a median of 19 ventilator free days. Multiorgan failure was present in 21.6% of patients. The median ISS score was 22. Types of injuries included head injuries (48.6%), pelvic injury (32.4%) and extremity injuries (73%). Interruptions to prophylaxis was observed in 64.8% of patients. Head injury or bleeding concerns led to delayed initiation of prophylaxis in 13.5%. Most patients received heparin VTE prophylaxis (59.5%) followed by enoxaparin (24.3%) and heparin conversion to enoxaparin in 16.2%.
Conclusion: There is a significant variation in the administration of chemical thromboprophylaxis in polytrauma patients, due to multiple factors. Further analysis will enable us to develop a risk-scoring system to stratify trauma patients at risk of developing VTE.
Disclosure of Interest: None declared

18.3.02

BETWEEN THE DEVIL AND THE DEEP BLUE SEA: CONCOMITANT CORONARY ARTERY DISSECTION AND INTRACRANIAL HEMORRHAGE IN A TRAUMA PATIENT

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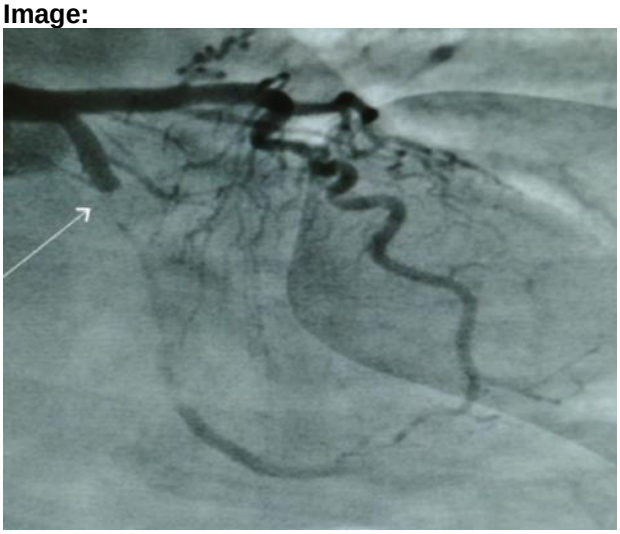
Introduction: Coronary artery dissection (CAD) is an uncommon complication of BCI with less than 20 cases reported in literature of which left circumflex artery (LCx)xx dissection has been reported only thrice. Conservative management maybe successful in select patients, others may require coronary artery stenting, bypass and/or anticoagulation. The management of traumatic CAD becomes more complex in patients with concomitant injuries with risk of bleeding
Materials & Methods: We review the case of a 65-year-old lady who sustained CAD of the left circumflex artery (LCx) with concomitant intracranial haemorrhage following a motor-vehicle accident (MVA). She was a restrained front seat passenger involved in a T-bone collision with another vehicle while travelling at 70km/h. She had momentary loss of consciousness and complained of severe chest pain. Her primary survey was unremarkable except for tenderness over left sternum. FAST was negative and Chest XR demonstrated undisplaced left 10^{th} rib fracture with no hemopneumothorax. Electrocardiogram demonstrated ST-T segment elevation in leads II,III, aVF and ST segment depression in V1-V3 compatible with posterior STEMI. She was loaded with aspirin prior to brain imaging CT brain showed hemorrhagic contusion in the right cingulate gyrus and trace acute sub-arachnoid haemorrhage over the right frontal sulci. She subsequently underwent cardiac catherization. Diagnostic angiogram revealed complete occlusion of the left circumflex artery (LCx) suggestive of dissection. [Figure 1] Plain angioplasty did not restore flow and stenting was not performed in view of contraindications to antiplatelet therapy.
Results: There is currently no consensus on the evaluation and management of traumatic CAD with concomitant injuries. We suggest a simple flowchart for management of multi-injured patients based on hemodynamic status. In a hemodynamically unstable patient, an echocardiogram may differentiate between cardiac and hypovolemic cause of hypotension. If cardiac ischemia is the culprit, care should be undertaken to minimize systemic risks to other injuries during revascularization techniques. In a hemodynamically stable patient, consider delaying revascularization techniques till other significant injuries have stabilized and bleeding risks reduced.
Image:



Conclusion: CAD following blunt chest trauma is a rare but potentially devastating complication requiring high index of suspicion.
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Disclosure of Interest: None declared

18.3.03

TOURNIQUET USE IN EXTREMITY TRAUMA: THE JAPANESE BIG DATA HAS NOT SHOWED IMPROVEMENT IN MORTALITY

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Introduction: Despite many reports that suppose the efficacy of tourniquet use for civilians, there is no evidence for it using big data.
The purpose of this study is to investigate the prognosis of the patients with severe limb injuries registered in the Japan Trauma Databank (JTDB).
Materials & Methods: We retrospectively extracted patients with severe limb injury (AIS>=3 in either upper or lower extremity) from multi-institutional trauma registry from 2004 to 2017 with clear in-hospital mortality. We performed logistic regression analysis after adjusting for age, gender, GCS, ISS, and systolic blood pressure (SBP) and respiratory rate (RR) in the Emergency department (ED).
Results: A total of 305 tourniquet applications were documented among 59,592 patients meted for inclusion criteria. The tourniquet group has larger number in blunt trauma, higher Abbreviated Injury Scale (AIS) in upper extremity and Injury Severity Score (ISS), and lower systolic blood pressure both at the scene and ED. Adjusted mortality was similar in the tourniquet group and non-tourniquet group (odds ratio = 1.16 [0.70 - 1.93]).
Conclusion: This study did not demonstrate the advantage of using tourniquets for severely injured limb trauma patients. However, the timing of tourniquet application was not registered in JTDB, some modification of the registry is needed. Because the experience of tourniquet use is small in Japan, popularization among health care providers and the citizens is considered to be needed.
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Disclosure of Interest: None declared

18.3.04

THE OUTCOMES OF CODE RED TRAUMA PATIENTS AT A UK TRAUMA CENTRE

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Introduction: Since the introduction of major trauma centres (MTC) in 2012, there has been a reported decrease in trauma related mortality in the UK. However it is not known whether the most severely injured patients (Code Red) who have the highest expected morbidity and mortality and by definition require the skills available at an MTC are benefitting. The aim is to evaluate the outcomes of code red patients presenting to East Midlands MTC.
Materials & Methods: Retrospective review using EMMTC database and the Trauma Audit Research Network (TARN). Inclusion criteria: ≥18years, code red trauma call 2015-2017. Code red criteria based on lactate, pre-hospital and emergency department shock index. Predicted survival (Ps) and expected survival data were extracted from TARN. Analysed in STATA v15.
Results: Between 2015 and 2017, EMMTC received 250 code red traumas (4.7% of all trauma calls). 175 males and 75 females. Average age 45 (18-110). Mechanism of injury were vehicle collision (65%), stabbing (11%), fall >2m (10%), and fall <2m (6%). Mortality rate was 33% (27/80) 2015, 39% (34/87) in 2016 and 30% (25/83) in 2017. Overall mortality 2015-2017 was 34% (85/250). Vehicle collision was most common mechanism (62%) followed by fall >2m (15%). Most common dominant injuries were brain (27%), 2 severe injuries (20%) and ≥3 severe injuries (13%). Median Injury Severity Score (ISS) 37.5. Patients ≥50 years had more than twice the odds of mortality as those <50 (OR 2.2 CI 1.2-3.8 p=0.0029). 70.5% (177/251) had no comorbidities. Those with at least one comorbidity had more than twice the odds of mortality as those without (OR 2.62 CI 1.36-5.05 p=0.0027). 58% (146/250) underwent operative intervention. 29% of the deceased underwent operative intervention compared to 73% of the surviving patients. Those that underwent operative intervention were significantly more likely to survive (OR 0.13 CI 0.07-0.27 p<0.00001). 27% of those that did not undergo operative intervention had a dominant brain injury. Those with ISS 9-15 had an 80% increased odds of mortality compared to ISS 0-8 (OR 1.88 CI 0.408-8.678 p<0.00001). 6 (7%) of the deaths were considered unexpected.
Conclusion: Annual crude mortality has remained relatively constant at 30-39%. Older comorbid patients have significantly worse outcomes than younger patients with no comorbidities. Patients that underwent operative intervention were more likely to survive than those without, which may suggest that code red patients are benefitting from the surgical expertise at EMMTC.
Disclosure of Interest: None declared

18.3.05

THERAPEUTIC STRATEGY AND OUTCOME FOR TRAUMATIC CARDIAC INJURY

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Introduction: Cardiac injury due to thoracic trauma is relatively rare in patients transported to hospitals, since it cause instant death at the scene. Prompt diagnosis and treatment can improve chances of survival. We evaluated strategy and outcome among patients receiving surgical treatment for traumatic cardiac injury.
Materials & Methods: In this single center retrospective study, we reviewed medical chart of 20 consecutive patients without cardiac arrest underwent cardiac repair for traumatic cardiac injury from January 2010 to December 2018. The operative outcome and mortality were analyzed. Severity was evaluated according to the American Association for Surgery of Trauma (AAST) Injury Scoring Scale. Results are expressed as median (IQR).
Results: The median age was 52 years (21-91), 13 (65%) patients were male. The median injury severity score (ISS) of the patients was 32.2 (25-43). Blunt injury included 10 traffic accident, and 3 others.
All of 7 penetrating injuries were stabbing. The sites of injury were; Rt.atrium:6, Rt.ventricles:4, Lt.atrium:3, Lt.ventricle:1, inferior vena cava:1, papillary muscle:1, pericardium:4. AAST injury Scoring Scale were Ⅰ:4, Ⅳ:15, and V:1. Of these, emergency surgeries were performed in 19 patients. Hemodynamics of 15 patients (75%) were unstable on arrival (blunt:12, penetrating:3).
Cardio-pulmonary bypass (CPB) was achieved in 12 patients before thoracotomy (blunt:10, penetrating:2). The in-hospital mortality was 20% (blunt:3, penetrating:1), including intra-operative death due to hypovolemic shock:3, hypoxic encephalopathy:1. All non-survived cases had unstable hemodynamics before arrival, and CPB was not available before thoracotomy.
Conclusion: We experienced 20 surgical cases of traumatic cardiac injuries, with acceptable outcomes.
Thus, diagnosis of blunt cardiac injury was difficult, and caused delayed diagnosis and poor outcome, we propose to prepare CPB set-up before thoracotomy.
Disclosure of Interest: None declared

18.3.06

AN AUDIT ON THE EMERGENCY MANAGEMENT OF DISTAL RADIUS FRACTURES IN A UK TRAUMA UNIT. ARE WE FOLLOWING THE BOAST GUIDELINES?

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Introduction: Distal radius fractures are common injuries with great variability in their initial management.
We aimed to compare our practice in a large trauma unit in the UK with the 2017 BOAST (British Orthopaedic Association Audit Standards for Trauma) guidelines.
Materials & Methods: We performed a retrospective review of all patients admitted with a distal radius fracture to the Royal Derby Hospital UK, between the 1st January 2017 and the 31st December 2017, reviewing all radiographs, electronic records and discharge summaries.
Results: 814 patients were identified. After applying our exclusion criteria, 550 patients remained. Mean age was 62 years ([17-100]). There were 108 males (19.7%) and 442 females (80.3%). 379 fractures were displaced, 358 were extra-articular and 192 intra-articular. Initial treatment was conservative in 545 cases. 13% of fractures required re-manipulation at a later date. Definitive treatment consisted of surgical fixation in 122 patients (22.1%) and conservative management in 428 (77.8%). When surgical fixation was required, intra-articular fractures were operated after a median 56.5 hours ([2;240]), and extra-articular fractures after a median 43 hours ([5;188]).
Conclusion: Our 1-year study identified that 99% of patients were initially treated conservatively however, definitive non-surgical management was seen in 77.8% of cases. BOAST recommends surgery within 72 hours for intra-articular and within 7 days for extra-articular fractures. Our study confirms that we were able to meet this standard for extra-articular fractures but currently there are greater delays in treating intra-articular fractures, possibly due to their increased complexity often requiring an upper limb specialist. BOAST also recommends operating within 72 hours of fractures re-displacing after failed manipulation, and this was achieved in only 56% of cases.
We recommend for departments to set a system highlighting those patients at trauma meetings with a clear timer in place to avoid delays ultimately detrimental to the patient.
References: The Management of Distal Radial Fractures, British Orthopaedic Association Audit Standards for Trauma, Guideline December 2017, online [accessed 9 January 2019]
Disclosure of Interest: None declared

18.3.07

MASSIVE TRANSFUSION INCLUDING FFP:RBC RATIO TO MORTALITY FOR SEVERE TRAUMA PATIENTS

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Introduction: Hemorrhagic death is major cause of traumatic and adequate transfusion is an important factor for preventable death. Definition of massive transfusion was traditionally defined as transfusion of 10 or more than 10 units of red blood cells within the first 24 hours after admission. This study was performed to demonstrate tendency of massive transfusion in a trauma center focusing on the difference of transfusion ratio FFP: RBC by survival.
Materials & Methods: Retrospective data were driven from a Regional Trauma center from 2014 to 2016 about information of transfusion, which includes the units of packed RBCs, FFP and platelets along with the taken time for these transfusion units to be given within the first 4h and 24h after admission. To analyze the impact of FFP to RBC ratio, patients were classified into two groups. ”High FFP : RBC” group were assigned to the patient with ratios of 1:2 or less than 1: 2 transfusion ratio.
Results: Total 185 patients were received massive transfusion. Ratio of FFP to RBC was 1.5 ± 1.3 within 4h, 1.3 ± 1.2 within 4-24h, and 1.9 ± 1.2 within 24h. Mortality was lower in high FFP: RBC group than that of low FFP: RBC group, but the result was not statistically significant. In univariate logistic regression, transfusion ratio of FFP : RBC within 4-24h, and within 24h were associated with mortality. However, in multivariate logistic regression, they were not determined as a critical factor for the mortality. For the multivariate logistic regression, age, sex (female to male), INR and lactate was determined as statistically significant factors for mortality.
Conclusion: Trauma patients who received transfusion with higher ratio of FFP:RBC (> 2) within the first 24 h after admission showed decreased mortality.
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Disclosure of Interest: None declared

18.4.01

TREATMENT OF PATIENT WITH EXTENSIVE INJURIES CAUSED BY THE BEAR - CASE REPORT

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Introduction: The aim of the work is to present the case of hospitalization of a patient with numerous injuries inflicted by the bear (Numerous bony facial and eyelid wounds with the loss of skin layers.) Left eyelid collapse. Side wall collapse of the left eye socket. Numerous right thigh wounds with damage to the straight muscle and large medial right thigh. Numerous bite wounds of the right forearm with damage to the long palmarus muscle). The injured person was transported to the local hospital by air transport from the Bieszczady area. This is a rare case, considering way of wounds occur.
Data on the bear population in the Bieszczady region is estimated at approx. 80-160 pieces (depending on the data sources). In Romania, in 1987-1992, there were 24 fatalities and four fatal cases in Yugoslavia in the years 1945-1988. Attacks of wild animals in Europe and beyond are very rare.
The number of bear attacks is extremely rare in Poland. In the Podkarpackie voivodship over the last few years there have been only a few events involving the bear (including one lethal).
Materials & Methods: The report presents a treatment regimen for a patient with multiple site injuries treated in the Surgical Ward.
Photo documentation of the patient was performed during subsequent stages of treatment.
The analysis of imaging examinations, laboratory tests and description of physical examination of the patient and methods of treatment were performed.
The original multifaristic supply of injuries using antibiotic therapy, anticoagulant therapy, anti-tetanus prophylaxis and anti-rabies prophylaxis was presented.
Application of early rehabilitation. For chronic infected wounds, using NPWT (Negative Pressure Wound Therapy)
An analysis of the difficulties associated with a "rare case"
Results: During the 6-week hospitalization, a good (cosmetic and functional) effect of treatment of soft tissue injuries of the head and limbs was obtained. The patient was well rehabilitated. The patient received proper psychological help.

Image:

Conclusion: Patients with multiple site injuries require a simultanous and multidisciplinary approach to achieve good treatment results.Patients who survive the attack of a dangerous animal require psychological care.Early rehabilitation determines a good treatment effect.In the case of difficult-to-heal wounds, NPWT should be considered.
References: Case documentation
Photographic documentation
Regional Diretoctorate of Enviromental Protection in Rzeszów
Information portal poznajtatry.pl
Disclosure of Interest: None declared

18.4.02

LACTATE LEVEL AS A PREDICTOR OF MASSIVE TRANSFUSION AT AN URBAN TRAUMA CENTER IN TOKYO

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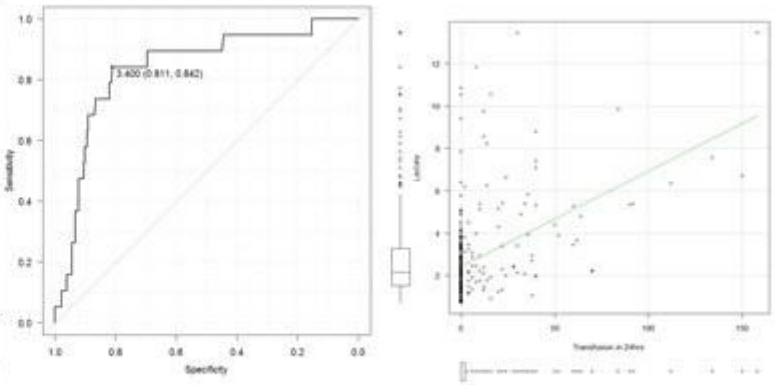
Introduction: Trauma induced coagulopathy is caused by shock and the exsanguination is the most common cause of early death in trauma patients. Early activation of massive transfusion (MT) may improve the mortality in those case. The lactate level is a quickly available parameter to identify unstable states due to hemorrhagic shock. This study aimed to identify predictors of MT focused on lactate level in early phase of trauma resuscitation.
Materials & Methods: We conducted the retrospective chart review in single trauma center between July 2018 and April 2019. The definition of MT was transfusion of more than 10 units of red blood cells including non-cross-matched transfusion within 24 hours. The patients over 16 years of age were divided into two groups as MT and non-MT. The predictors for MT were compared between each group, and a receiver-operating curve (ROC) was used to determine the threshold of lactate level for MT. Subsequent analysis were performed on this threshold.
Results: We included 319 cases in total, and 19 patients (6.0%) were required massive transfusion. There were no significant differences in age, sex, and mechanism of injury between the MT and non-MT group. The MT group had higher Injury Severity Score, the rate of systolic blood pressure (sBP) < 90mmHg, mortality and lactate level, and also lower Glasgow Coma Scale (GCS) and Body temperature (BT). ROC curve analysis revealed a threshold of lactate level of 3.4 mmol/L with an area under the curve of 0.839 (specificity 81.1%, sensitivity 84.2%). There was a correlation between lactate level on admission and total units of transfusion within 24 hours with correlation coefficient of 0.468 ($p<0.001$). Patients with a lactate more than 3.4 mmol/L had increased mortality in 24 hours (8.6% vs 0.0%), mortality in hospital (17.1% vs 2.1%), longer intensive care unit stay (6.2 vs 2.8 days, all P values<0.001).
Image:

	Non-MT (n=300)	MT (n=19)	P value
Age (year, mean±SD)	52.5 ± 22	47.7 ± 21	0.342
Male (n, %)	75.7	63.2	0.273
Blunt trauma (n, %)	93.3	89.5	0.63
ISS (median, range)	10 (4-17)	34 (25-41)	<0.001
sBP<90mmHg (n,%)	3.3	36.8	<0.001
Lactate (mmol/L, mean±SD)	2.75 ± 2.08	5.02 ± 0.99	0.008
GCS (median, range)	15 (14-15)	9 (5-13)	<0.001
BT (degrees, mean±SD)	36.4 ± 0.8	35.3 ± 0.9	<0.001
	Lac≧3.4	Lac< 3.4	P value
Mortality in 24hours (n, %)	8.6	0	<0.001
Mortality in hospital (n, %)	17.1	2.1	<0.001
ICU stay (day, mean ± SD)	6.2 ± 7.3	2.8 ± 5.1	<0.001



Conclusion: The elevated lactate level on admission with serious clinical parameters (as low sBP, low GCS, and low BT) is a predictor of MT, and correlated to the amount of total transfusion within 24hours from admission. The threshold of lactate level as more than 3.4 mmol/L is associated with poor outcomes.
Disclosure of Interest: None declared

18.4.03

MOB VIOLENCE AND ITS CONSEQUENCES: AN UNDERESTIMATED CONTRIBUTOR TO TRAUMA DISEASE BURDEN IN SOUTHERN AFRICA

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Introduction: Community assault (CA) is a term used to describe a mechanism of injury (MOI) that produces diverse but potentially lethal injuries. The phenomenon is common in many South African communities and fulfills a role in perceived social justice. CA injuries carry high rates of morbidity and mortality, requiring a considerable amount of medical resources. Few studies have focused on the epidemiological trends of this MOI. This study aims to describe the entity of CA as a distinct MOI, focusing on injury patterns and the early recognition of the need for higher levels of care.

Materials & Methods: A prospective study was conducted from June to December 2018 in the trauma unit of Tygerberg Hospital (TBH), a tertiary referral hospital in the Western Cape, South Africa (SA).

70 patients qualified, 21 were excluded for abnormal GCS scores and consent was obtained from 49.

Results: The mean age of the sample was 30.1 years. All participants were male, and most were from three distinct areas in the referral zone of TBH. More than 50% were admitted on weekends. The history of CA was reported by ambulance personnel (26.5%) and patients themselves (24.5%). The police reported on 2% of cases.

The MOI consisted of diverse combinations of whipping or caning (45.2%), stoning or blows using rocks/bricks (31%), stabs (14.3%), physical assault (4.8%), burns and dog bites (4.8%). None of the CA victims sustained gunshot wounds.

Common injuries included abrasions (77.6%), lacerations (75.5%), bruises (63.3%) and tramline bruises (30.6%). Stab wounds and extremity fractures were present in a minority of cases, while various degrees of crush injury, traumatic brain injury and facial fractures were invariably present.

The mean length of hospital admission was 5.66 days (range: 1 to 23 days). No mortalities were identified, as severe head injuries were excluded due to lack of consent.

Conclusion: This study highlights the diversity and serious nature of injuries caused by CA, which further increases the burden of trauma in resource constrained health care system. The lack of formal recognition of CA as a distinct MOI allows this phenomenon to go underreported. Prevention strategies require consideration of the sociological, judicial and economical contributors to crime and violence in these societies.
Disclosure of Interest: None declared

18.4.04

WHICH TRAUMA INJURY GROUP SHOULD BE THE MAIN FOCUS OF OUR PREVENTION STRATEGY BASED ON THE JOHANNESBURG TRAUMA DATA OVER 8 YEARS

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Introduction: Trauma is a preventable disease and because of resource constraints and high burden of disease within South Africa strategies to prioritize resources in order to evoke an effect and decrease burden of disease are of utmost importance. Allowing outreach responsibilities to be identified and appropriately carried out may alleviate this burden of disease. The aim of the study is to analyse the load of trauma in Charlotte Maxeke Johannesburg Academic Hospital (CMJAH) Trauma Unit to Guide prevention strategy policies of the unit and aim them at the most vulnerable and at-risk population groups.

Materials & Methods: A retrospective study for eight years assessing mechanism of injury in patients coming in to the Trauma unit of CMJAH and reviewing the demographics (age and sex) of such patients. Ethics through the Wits Ethics Committee was obtained. The Statistica V8 application was used to analyze the data that was collected and a P value of <0.05 was reported as significant.

Results: A total of 18 087 patients were reviewed in this study with ages ranging from 1-92 years and all mechanisms of injury were recorded. Penetrating trauma had a higher incidence than blunt trauma, however blunt trauma carried a higher mortality prevalence. Seven times more men than women presented to the trauma unit and the most affected age group was that of 21-45years of age.

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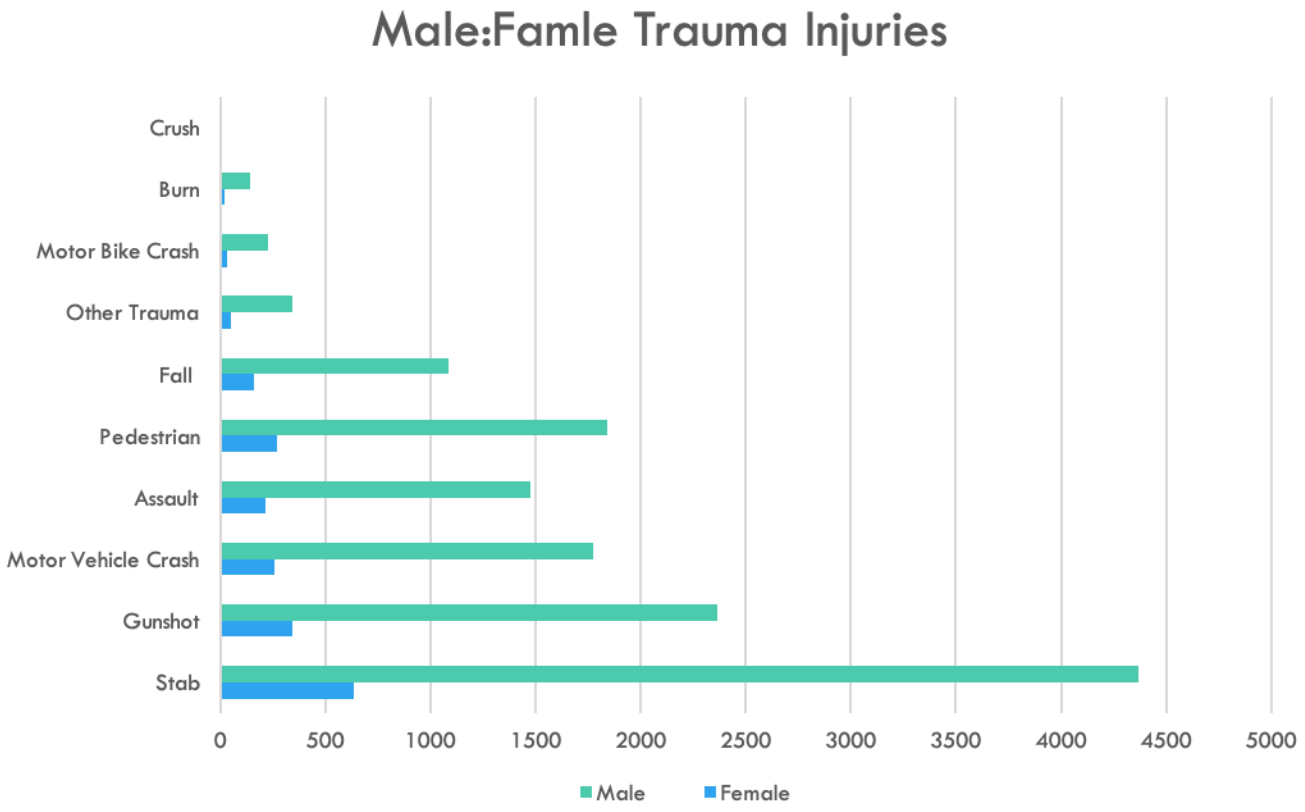

Conclusion: Prevention strategies aimed and reducing penetrating trauma will reduce the incidence of trauma, but, strategies aimed at prevention of blunt trauma may reduce mortalities.

Disclosure of Interest: None declared

18.4.05

TRAUMA PATIENTS AT RISK OF IN-HOSPITAL MORTALITY

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Introduction: The trauma incidence in South Africa is significantly high and forms one of the top-five causes of unnatural death. Thus, one of the higher incidences of trauma across the world. Subsequently the in-hospital mortality forms a high burden of disease on the health systems in South African health care facilities. Therefore, analysing the incidence of trauma and the various mechanisms of trauma allows for in-hospital trauma mortalities to assessed. The aim of the study is to analyse the in-hospital mortality distribution factors at a Johannesburg Trauma unit over a sustained period.

Materials & Methods: An eight-year retrospective review for eight years and Analysis of Trauma Bank data forms at Charlotte Maxeke Johannesburg Academic Hospital (CMJAH). Looking at demographics, physiological parameters, mechanism of Injury, Injury Severity Score (ISS) and New Injury Severity Score (NISS). Ethics through the Wits Ethics Committee was obtained. The Statistica V8 application was used to analyse the data that was collected and a P value of <0.05 was reported as significant.

Results: A total of 18 087 Priority 1 patients were reviewed in this study. This sample demonstrated the 21-45 years of age group was the most affected trauma group (87.3%). Penetrating injuries (Stab and gunshot wounds) had the highest incidence yet lower mortalities. However, blunt injuries (ranging from Pedestrian- and Motor- vehicle crashes, blunt assaults, falls and burns) had lower incidences and higher mortalities.

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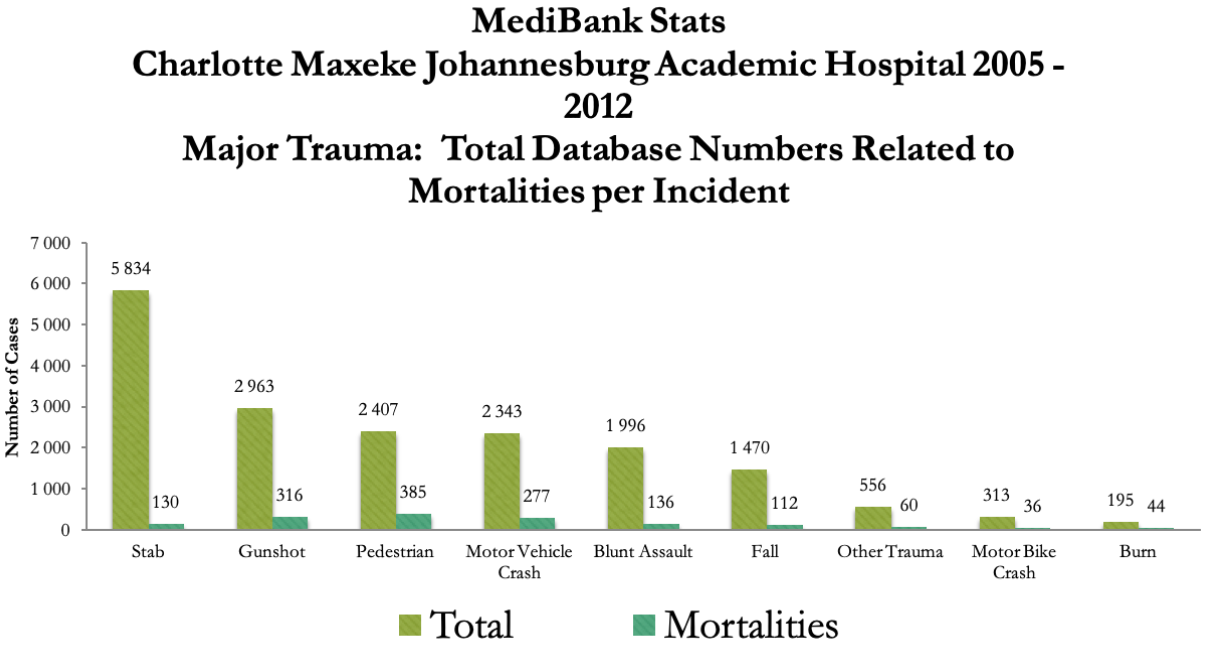

Conclusion: The highest in-hospital mortality was due to burns patients (22.56%) followed by PVC patients affecting the predominantly young male population. Poor probability of survival was demonstrated amongst Motor Vehicle Crashes (Ps 44%) and Motorbike Crashes (34%), and PVCs.

Disclosure of Interest: None declared

18.4.06

ANALYSIS OF AIR-CRASH INJURY PATTERNS

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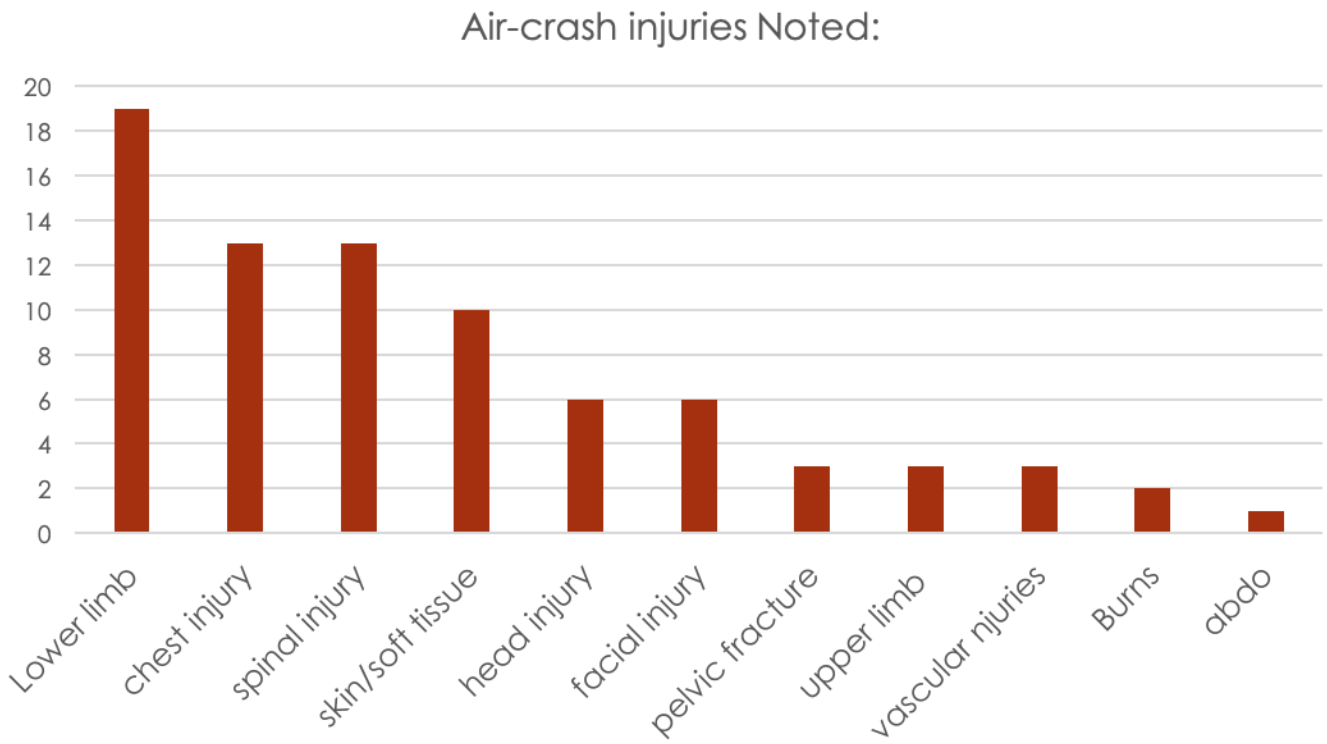
Introduction: Aviation crashes are few and far in between but when they do occur they are usually fatal. Only a few subjects survive to reach the hospital and because of this, there is very scarce literature on injuries sustained and possible patterns of injury observed. The aim of the study is to describe the injury patterns and outcomes of subjects involved in air crash incidents who presented at a Level 1 Trauma Unit in South Africa over a period a period of six years.
Materials & Methods: A retrospective analysis from 01 January 2011 – 31 December 2017 in Milpark Hospital reviewing the patients coming into the Trauma Unit – including, sustained injuries, Injury Severity Score (ISS), surgical intervention carried out, length of ICU admission, length of Hospital stay, associated morbidity, mortality, and outcome. Ethics through the Wits Ethics Committee was obtained. The Statistica V8 application was used to analyse the data that was collected and a P value of <0.05 was reported as significant.
Results: Helicopter crashes and fixed wing crashes were the main vector involved. A total of twenty-three patients were included in the study and the age range was 12 – 67years, with an average ISS of 14,7, and an average NISS of 16. Musculoskeletal injuries, followed by chest injuries, and spinal injuries, were the most common injuries sustained, and burn injuries were noted too. Orthopaedic surgeries were carried out as the most frequent surgical intervention. And a low mortality (8.7%) was noted.
Image:



Conclusion: Surviving the crash to make it to a trauma facility demonstrated a reasonable prognosis. The highest incidence of injuries were musculoskeletal and combination injuries (chest and spinal injuries with some burns). These findings allow Level 1 Trauma units to improve protocols to manage air-crash injury patients.
Disclosure of Interest: None declared

18.4.07

DIFFERENCES IN MASSIVE TRANSFUSION PROTOCOLS

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Introduction: A massive transfusion protocol (MTP) describes the ratio of blood components (erythrocytes/plasma/platelets) and additional medication to patients with massive uncontrolled blood loss. In the Netherlands a guideline for the MTP with a fixed ratio of blood components was first described in 2011. In preparation of a multicenter clinical trial on the use of frozen versus liquid stored platelets in the treatment of massive blood loss (MAFOD), the MTPs of the candidate hospitals were evaluated.
Materials & Methods: The primary goal of this study is to assess the current MTP strategies in level-1 trauma centers in the Netherlands and Dutch Ministry of Defence (D-MOD) and compare these with each other, the guideline and current international literature. A questionnaire was send to a trauma surgeon and an anaesthesiologist of each level-1 trauma center to elucidate their MTP. In addition, the respondents were asked to participate in a personal interview.
Results: All participants responded to the questionnaire and send their documented MTP. The 2011 guideline for MTP is a transfusion ratio of 3:3:1 RBC:Plasma:Platelets and a bolus injection of tranexamic acid in the first 3 hours. In the six participating centers and the D-MOD the transfusion ratio is 3:3:1, 5:5:1, 5:3:1, 2:3:1 and 4:3:1. Although platelets are part of the MTP, the platelets are given in five centers based on platelet count and one center based on rotational thromboelastometry (ROTEM®). In all centers one gram of tranexamic acid was administered directly and fibrinogen was given in four centers based on clinical evaluation and in two centers guided by ROTEM®. Prothrombin complex administration was reported in four centers. Initiation of the MTP was clearly described, but information about transition to lab-based transfusion was lacking.
Conclusion: Transfusion ratios and use of medication in MTPs differed between institutes and from (inter)national guidelines. The discrepancies in transfusion ratio can be explained by (inter)national differences in preparation of blood components (platelets) and volume of blood components (Fresh Frozen Plasma vs. Omniplas) and/or interpretation of the “1:1:1” guideline. In the Netherlands, transfusion strategies differ between hospitals and these differences will make the interpretation of multicenter data more complex. For initiation of the MAFOD-clinical trial, a common protocol is preferably to be used.
Disclosure of Interest: None declared

18.5.01

EMERGENCY PANCREATICODUODENECTOMY AFTER ABDOMINAL BLUNT TRAUMA BY A BIKE HANDLEBAR IN A 10-YEAR-OLD BOY

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Introduction: Pancreatic injury is the fourth most common solid organ injury, following the spleen, liver, and kidneys. Early diagnosis of pancreatic trauma is a key for optimal management, but remains a challenge even with more advanced imaging modalities. For both penetrating and blunt pancreatic injuries, the presence of main pancreatic ductal injury is the major determinant of morbidity and the major factor guiding management decisions. The complete pancreaticoduodenectomy is often the choice of treatment on the surgeon confronting for an injured pancreatic head particularly in the presence of concurrent duodenal injury to rescue a patient considering his or her acute hemodynamics.
Materials & Methods: A-10-year old boy refers to emergency department with the complaint of ongoing abdominal pain after hitting of a bike handlebar to his abdomen. He tended to be immobile and sit instead of lying down. He was hemodynamically stable with a notable tenderness mostly in the periumbilical region and an abdominal wall progressively became guarded. Focused abdominal sonography for trauma (FAST) was positive for free intraperitoneal fluid that indicated CT scan in which the intraperitoneal solid organs were intact. For the peritonitis, He underwent laparotomy. The peritoneal cavity contained about half liter of bloody fluid. There was a massive disruption of the pancreatic head and its main duct within surrounding non expanding hematoma with obvious main pancreatic duct disruption. The decision to Whipple procedure was made. For a tiny pancreatic duct he had, the intact part of pancreatic tissue including tail and nearly the 10% distal of body was attached with a one-layered invagination end-to-side pancreatojejunostomy technique to the jejunum. Ensuring efficiency of anastomosis and the absence of the leaking, abdominal wall after inserting drainage tubes was repaired and the patient was sent to intensive care unit.
Results: There was neither complication before nor after enteric feeding and in the several careful follow-ups.
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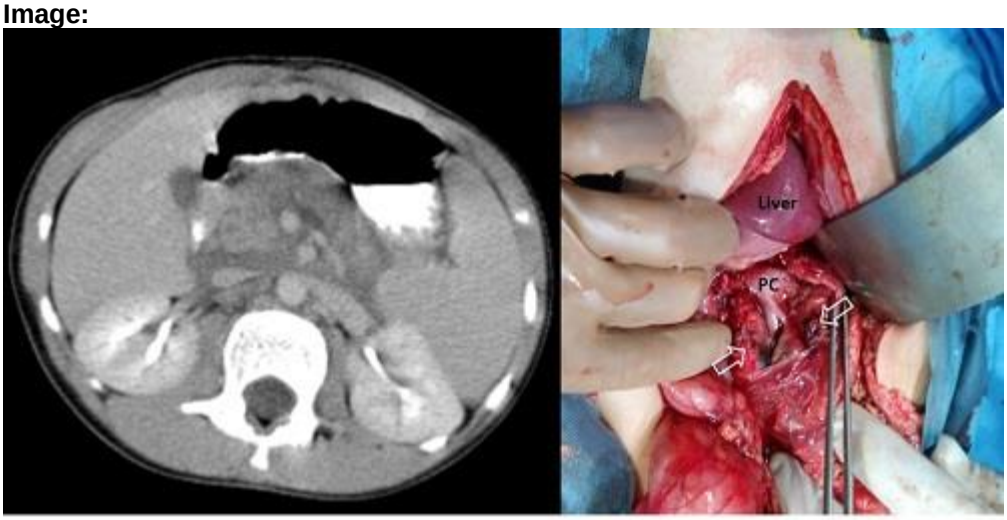

Abdominal CT scan showing hazy appearance of the pancreas along with surrounding edema in the retroperitoneal space and on the exploratory laparotomy, completely disruption in the junction of pancreatic head and body (the arrows) so that the portal components (PC) are apparent behind.

Conclusion: The current report of a trauma-related pancreaticoduodenectomy underlines the importance of early and proper intervention in a case of a concurrent pancreatic and duodenal crushed injury. In addition, the trauma surgeon deals with narrow ducts of a child not having opportunity to be dilated compared with Whipple procedures for pancreatic tumors of an adult.
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Disclosure of Interest: None declared

18.5.02

WHEN CARDIAC TAMPONADE BECOMES A RESULT OF LEFT VENTRICULAR APEX RUPTURE FOR CARDIAC STABBING IN A 28 YEAR OLD MALE

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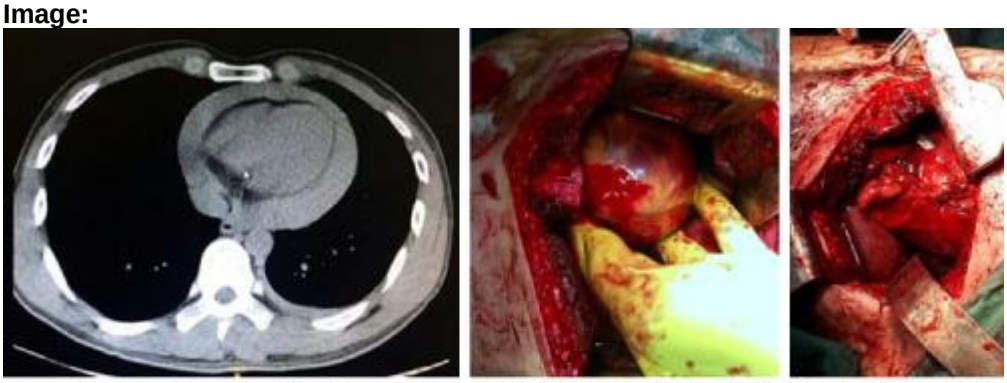
Introduction: Cardiac trauma is considered as an emergency and due to its higher mortality rate its management is a challenge for trauma teams. It is often in the result of direct penetrating injury, vehicle accidents and sporadically during percutaneous cardiac intervention. However, even today, about 90% of the victims die before reaching the hospital. Mortality is higher in patients with cardiac tamponade.

Materials & Methods: Here we are describing a 28 year old male with a stabbing in his subxiphoid region as long as 0.5 centimeter. He was conscious but lethargic with initial vital signs as blood pressure=100/70, heart rate=90, respiratory rate=24, and palpable peripheral pulses, no signs of decrease in respiratory sounds but relatively elevated jugular venous pressure. Focused assessment with sonography for trauma was suspicious to cardiac tamponade. For surveying other probable contemporaneous lesions of lungs, heart, and diaphragm a thoracic and upper abdominal CT scan was performed. Then due to sudden changes in hemodynamic he was undergone pericardiocentesis twice that totally 50 cc blood was evacuated. Continuing resuscitation in the operating room immediately anterolateral thoracotomy was done which revealed an extensive cardiac tamponade compressing the heart severely. After pericardiotomy, the operation team encountered spurting blood from the site of through and through ruptured left ventricular apex that in no time was reconstructed by horizontal suturing with Prolene and using pericardial fat pledget.

Results: Controlling the bleeding source, a pericardial chest tube was performed then the patient was transferred to the intensive care unit. After surgery he improved promptly.

Image:



A thick rim of blood accumulation around the heart in an axial section of non-contrasted thoracic CT scan in the left (arrows), blood spurting from ruptured beating heart apex during left lateral thoracotomy in the middle and reconstructed heart wall using pericardial fat pledget in the right pictures.

Conclusion: Considering that, almost always patients with cardiac penetrating traumas refer to general trauma centers, it is necessary to general surgeons to know the basis of confronting with these vital surgeries in the absence of cardiopulmonary pump.

Disclosure of Interest: None declared

18.5.03

MANAGEMENT OF HIGH GRADE BLUNT SPLENIC INJURIES IN A LEVEL ONE TRAUMA CENTER

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Introduction: Splenic injury accounts for 45,6% of all injuries after blunt abdominal trauma. Blunt splenic injury in hemodynamically unstable patients is preferably treated by splenectomy. Nowadays hemodynamically stable patients with low grade splenic injuries are mostly treated by non-operative treatment (NOM). However no consensus exists about the management of high grade splenic injuries in hemodynamically stable patients. Therefore the aim of this study was to analyze patients with high grade splenic injuries in our institution.
Materials & Methods: We retrospectively included all patients with a splenic injury presented to our level one trauma center during the 5-year period from 2012-2017. Baseline characteristics, data regarding complications and mortality were collected from the electronic patient registry. Patients were grouped based on splenic injury and the treatment they received.
Results: We included 173 patients of which 123 were male with a median [IQR] age of 25 (16-45) and a median ISS of 22 (14-34). High grade injuries (n=43) consisted of 35 Grade IV injuries and 8 grade V injuries. Operative management was required in 17/43 patients, of whom 16 patients were hemodynamically unstable. A total of 26 patients with high grade injuries were treated by NOM. Ten of these patients received angio-embolization (AE). Secondary hemorrhage was present in 2 of these patients, resulting in a success rate of 92%. Both patient required re-intervention with a splenectomy. There is no mortality seen in patient with high grade splenic injuries.
Conclusion: We conclude that NOM treatment with augmented AE in high grade splenic injuries is a safe treatment modality in hemodynamically stable patients. However patients need to be adequately resuscitated and monitored to prevent mortality in case of secondary hemorrhage.
Disclosure of Interest: None declared

18.5.04

COMPARING THE USE OF ARTERIAL VERSUS VENOUS BLOOD GAS IN TRAUMA PATIENTS - A RETROSPECTIVE STUDY

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Introduction: Arterial blood gas and serum lactate levels are routinely drawn during trauma activations to demonstrate acidosis and predict severity of injury and outcomes. They can also be trended to look at resolution of acidosis (and base excess) to show adequacy of resuscitation. However, arterial blood gas requires a seperate blood draw and is painful to the patient. We look at the correlation of venous to arterial blood gas in trauma patients as the venous sample can be drawn from initial trauma activation.
Materials & Methods: We look at all 4498 trauma patients who attended the hospital for trauma related issues. 525 patients had an arterial blood gas drawn of which 76 had an arterial and venous blood drawn during initial resuscitation. This may be due to the initial attempted arterial blood draw being venous and hence a formal repeat arterial blood gas. We examined the characteristics of these patients and compared their ABG and VBG readings and its correlation with class of shock, length of stay, morbidity, mortality, prediction for surgery and complications.

Results: = Results are still undergoing statistical analysis including Bland-altmans graph and T tests =
Preliminary results seem to suggest a good correlation of venous blood gas with arterial blood gas in Mild/Moderate trauma (ISS 15 or less) while correlating poorly in severe trauma (ISS > 15).
We await further statistical analysis to evaluate venous versus arterial blood gas in trauma which should be ready soon.

Conclusion: We predict that venous blood gas should not differ significantly from arterial blood gas for mild trauma. For more accutely ill patients with severe trauma, an ABG will be required for more accurate acid-base status measurement.
References: Agreement between arterial and central venous values for pH, bicarbonate, base excess, and lactate. P Middleton, A-M Kelly, J Brown, M Robertson; Emerg Med J 2006;23:622–624. doi: 10.1136/emj.2006.035915
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Disclosure of Interest: None declared

18.5.05

LONG-TERM OUTCOMES OF SURGICAL RIB FIXATION FOR THE PATIENTS WITH MULTIPLE RIB FRACTURE.

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Introduction:

Severe thoracic wall injury still has high mortality and many patients have difficulty for returning usual life or same work because of persistent pain, deformity of the chest, and shortness of breath after exertion.

Recently there has been increased interest about the surgical fixation of multiple rib fractures including flail chest and several good short-term outcomes are described globally.

But we have few data or reports evaluating the long-term outcomes or complications about surgical rib fixation with plate and screw.The aim of this study isto describe the safety, long-term quality of life, and implant-related complications after rib fixation for flail chest and multiple rib fractures.

Materials & Methods:

We performed hearing investigation about their current ability of work or usual life for the patients who had underwent rib fixation for flail chest or multiple rib fracture during January 2014 to January 2019.

From our previous study protocol, we performed rib fixation for the patients with flail segment, massive fractured rib dislocations such as ribs lacerating the lung or when overlapping of fractured rib was > 15 mm and the patients could not be tapered from continuous intravenous narcotics or could not undergo rehabilitation.

Results:

Totally 15 patients were performed rib fixation during the study period. Two patients with flail chest were died after years from the surgery because of insenescenceand follow-up was obtained from 13patients (86.7%).

The medianage was66 (IQR 51-72) years old and medianthoracic AIS was 4 (IQR 4-5). The follow-up duration was46.5 (IQR 31-51) months. The most undesirable event during the study period was irritation caused by palpable plate (n=2, 15.4%) probably because of thin skin of over 70 years old. 12 patients wereable to returning theirusual life or same workas premorbid statewith no complains. One patient is still under the rehabilitation because ofconcomitantextremities fractures.

The median EQ-5D-5L index was 0.92(IQR 0.89-0.94). There were no implant-related complicationsrequiringplate explanting.

Conclusion:

We conclude that rib fixation has good long-term benefitsto return premorbid statefor the patientswith flail chest or multiple rib fracture. Older patients especially with thin soft tissue have possibility to complain irritation caused by plate and should be informed prior to surgery.

Disclosure of Interest: None declared

18.5.06

INTRODUCTION OF POINT OF CARE THROMBOELASTOGRAPHY DIRECTED RESUSCITATION IS ASSOCIATED WITH AN IMPROVEMENT IN MORTALITY

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Introduction: To assess whether the introduction of point of care thromboelastography (TEG®) is associated with improvement in transfusion ratios and mortality.
Materials & Methods: All trauma patients activating the major haemorrhage protocol one year pre and post the introduction of a TEG® 6S analyser driven transfusion algorithm into the trauma resuscitation guideline were included. Data collected on age, gender, mechanism and site of injury, injury severity score (ISS), shock index (SI), blood product ratios and outcome at 24 hours and 30 days. Mortality at 24-hours and 30-days was analysed using the Chi-squared test. Blood product use in the first 24 hours was recorded to determine the ratio.
Results: There were 126 patients in the pre-TEG® and 175 in the post-TEG® group. Apart from less females in the post TEG® group ($p<0.05$ there were no statistically significant differences in demographics between the two groups. There was no significant difference in ISS, SI, mechanism or site of injury between the groups. More post-TEG® patients had a massive transfusion although this did not reach statistical significance ($p=0.08$). There was no difference in blood products transfused between groups although more platelets were transfused post-TEG® ($p<0.05$) The ratio of blood:FFP:platelets transfused were similar between groups 1:0.70:0.24 pre compared to 1:0.67:0.42 post.
Mortality at 24-hours (13% vs 5%; $p=0.006$) and 30-days (25% vs 11%; $p=0.002$) was significantly lower in the post-TEG® group. There was a statistically significant increase in length of stay in the post-TEG® group (9 vs 14 days $p<0.05$)
Conclusion: The introduction of TEG® 6S directed haemostatic resuscitation is associated with a significant improvement in mortality independent of the transfusion ratio. The mechanism of this needs further assessment.
Disclosure of Interest: None declared

18.5.07

INTRODUCTION OF POINT OF CARE THROMBOELASTOGRAPHY GUIDED RESUSCITATION IS COST EFFECTIVE

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Introduction: Point of care thromboelastography (TEG®) has been advocated to individualise transfusion in major trauma. The objective was to assess whether the introduction of TEG® directed haemostatic resuscitation is cost effective in a UK major trauma centre during the initial 24 hours.
Materials & Methods: Data was prospectively collected on patients who activated the major haemorrhage protocol one year pre and post the introduction of a TEG® 6S analyser and a TEG® driven transfusion algorithm into our code red resuscitation protocol.
Data collected on age, gender, mechanism, site of injury, injury severity score (ISS), shock index (SI), blood products used and wasted, outcomes at 24 hours and TEG results. Initial rapid TEG® ACT <120s with no clinical evidence of bleeding was used to stand down the MHP prior to transfusion. Cost was defined as overall blood product usage and TEG® cartridge cost within initial 24 hours. Wastage defined as blood products requested, but not transfused and not re-issued by blood bank.
Results: There were 126 patients in the pre-TEG® and 175 in the post group. There was no statistical difference between the groups for ISS, SI, injury site and mechanism, excluding gender (post group fewer females, $P<0.05$). Mortality over the first 24-hours was significantly lower in the post group ($p<0.05$).
There was no difference in number of blood products transfused although more platelets were transfused post TEG® ($p<0.05$). Wastage was significantly lower in the post group ($p<0.05$). More post group patients had no transfusion as the MHP was stood down prior to transfusion.
There was no statistically significant difference in resuscitation cost between the two groups over the initial 24 hours (£753+/-£651 versus £830+/-£847; $P=0.41$).
Conclusion: Point of care TEG® 6s directed resuscitation is cost neutral when introduced as part of a haemostatic resuscitation algorithm.
Disclosure of Interest: None declared

18.6.01

ECHOCARDIOGRAPHY IN PATIENTS WITH BLUNT CARDIAC INJURY

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Introduction: The diagnosis of cardiac injury following blunt chest trauma is often indistinct and the prevalence and implications of significant cardiac injury is largely unclear. The EAST guidelines recommend initial screening with Troponin I and electrocardiogram (ECG), with a 2 Dimensional Echocardiogram (2DE) if these detect abnormality. Our aim was to assess the utility of 2DE in this setting, with a focus on time from injury to scan as well as the findings on scan.
Materials & Methods: Following ethics board approval, a list of all patients with a diagnosis of BCI was extracted from our hospital's trauma database over the last 8 years. The electronic records of these patients was then evaluated for the following parameters: time from injury to scan, findings on scan, overall mortality rate.
Results: A total of 135 patients had cardiac injury, of whom 35 patients had penetrating cardiac injury. 100 patients presented with blunt cardiac trauma and 29 patients (29%) were found to have at least deranged a Troponin I or ECG, with an average time of 1.92 days (SD 1.35) for 2DE assessment. 6/29 (20.7%) of these patients were found to have abnormal 2DE. 3/6 (50%) had known cardiac disease prior to injury, of which 2 had normal previous 2DE and 1 did not have any prior 2DE. Of the 6 patients, only 1 (16.7%) patient demised from his cardiac injury and another 1 (16.7%) developed acute myocardial infarction subsequently.
Conclusion: Our results suggest that despite obtaining rapid 2DE scans in a significant proportion of patients with BCI, these scans did not demonstrate any abnormal findings or significantly alter clinical management. Further studies can focus on the indications for 2DE to minimise wastage of a scarce resource.
Disclosure of Interest: None declared

18.6.02

DELAYED PRESENTATION OF A MASSIVE SUBCUTANEOUS EMPHYSEMA, IS IT POSSIBLE?

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Introduction: Subcutaneous emphysema is not uncommon and occurs following a chest injury or surgical procedure. It normally happens when there is a rupture of the broncho-alveolar walls with escape of air into the subcutaneous plane. It is usually associated with pneumothorax or pneumomediastinum. It is generally managed conservatively with supplementary oxygen with or without chest tube.
Materials & Methods: We report a case of a delayed presentation of subcutaneous emphysema and left pneumothorax
Results: Patient is a 41 year-old gentleman, allegedly fell and hit his left upper back while attempting to lean against a bus railing two days prior to admission. He subsequently developed left sided facial swelling and scrotal swelling and sought treatment at our centre. Upon arrival, he was alert, conscious and speaking in full sentence. Examination of the thorax revealed subcutaneous crepitation over the left anterior chest extending upwards to the left scapula, neck and downwards to the left scrotum. He was hemodynamically stable. Lungs were hyper resonant on the left side on percussion and air entry was reduced on the left side. Patient was placed on high flow mask and SPO2 on HFM was 100%. Crepitations were felt over the whole circumference of the neck, bilateral anterior chest wall, left upper and lower back, anterior abdominal wall and left flank, extending to the scrotum. Bruises were noted over the left flank as well . Blood parameters were normal. Blood gases showed respiratory alkalosis. Chest radiograph showed extensive subcutaneous emphysema. CT was done and it revealed left 7^{th}, 8^{th} and right 6^{th} rib fracture with left pneumothorax and pneumomediastinum. Left sided chest drain was inserted and connected to a suction pressure of 20 mm Hg. Chest tube was subsequently removed after two days and patient was subsequently discharged well with no residual pneumothorax upon discharge.
Conclusion: Subcutaneous emphysema is usually benign however if the amount is significant, it can interfere with breathing and may be uncomfortable for the patient, needing surgical drainage. Possible adverse outcomes would be where the pressure of the air is so massive that it can compress the trachea, or impede the blood flow to the areola of the breast, skin of the scrotum or the labia, resulting in skin necrosis. When subcutaneous emphysema occurs with a pneumothorax, chest tube is normally placed, as it will reduce the source of air entering the subcutaneous space, with suctioning to remove the air faster.
Disclosure of Interest: None declared

18.6.03

THE IMPACT OF COMPUTED TOMOGRAPHY-ASSESSED SARCOPENIA ON OUTCOMES FOR TRAUMA PATIENTS – A SYSTEMATIC REVIEW AND META-ANALYSIS

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Introduction: Sarcopenia is the age-associated and progressive loss of skeletal muscle mass, strength and general decline in function. Computed tomography (CT)-assessed sarcopenia has recently been shown to be an independent predictor of post-operative outcomes in a wide range of gastro-intestinal pathologies and surgical procedures. This systematic review aims to determine the impact of CT-assessed sarcopenia on patient outcomes following trauma.
Materials & Methods: A systematic review of the literature was conducted according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Two authors independently searched EMBASE, MEDLINE and CENTRAL databases from database inception to 26 November 2018. The primary outcome was mortality data. Meta-analysis was performed using Review Manager v5.3 using a random effects model.
Results: Following an initial search of 1984 records, a total of 20 retrospective observational studies were included for qualitative analysis. Ten studies consisting of a pooled, partly-overlapping, 2867 patients were included in the meta-analysis. There was a wide variation in the reported prevalence of sarcopenia (25.0 – 71.14%). Sarcopenia patients were at a significantly increased risk of mortality at 30-days (RR 1.60 [95%CI 1.21 – 2.13], $p = 0.001$), during inpatient stay (RR 1.96 [95%CI 1.30 – 2.94], $p = 0.001$) and at 1-year (RR 3.11 [95%CI 1.94 – 4.96], $p < 0.00001$). There was no significant difference in total complications encountered, ICU duration or total inpatient stay ($p > 0.05$).
Conclusion: Sarcopenic trauma patients identified by CT is associated with increased relative risk of inpatient, 30-day, and 1-year mortality.
Disclosure of Interest: None declared

18.6.04

IMPLEMENTATION RESUSCITATIVE ENDOVASCULAR BALLOON OCCLUSION OF THE AORTA (REBOA) PROTOCOL BY TRAUMA SURGEON: EARLY EXPERIENCE IN KOREA

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Introduction: Resuscitative endovascular balloon occlusion of the aorta (REBOA) is using as adjunctive management for a profound shock in some trauma centers. We report our early experience of REBOA to describe implementation and possible indications of REBOA.
Materials & Methods: Descriptive case series of REBOA in profound shock due to noncompressible torso hemorrhage (NCTH) at a single Korean trauma center.
Results: All cases (n=22) were done for blunt mechanisms. Twelve cases (55%) were REBOA in zone 1 and ten cases (45%) in zone 3. Mean pre-occlusion systolic blood pressure (SBP) was 56.5mmHg and mean SBP increase was 42.7mmHg. 77.3% of the patients survived at trauma bay and five patients (22.7%) survived and discharged without neurologic deficit. There were two complications directly related to the procedure.
Conclusion: REBOA can be an effective method of aortic control in profound shock due to NCTH. Implementation of REBOA by trauma surgeons with education can be safe and feasible.
Disclosure of Interest: None declared

18.6.05

SURGICAL NEEDS AT THE END OF THE BATTLE OF MOSUL: RESULTS FROM MOSUL GENERAL HOSPITAL

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Introduction: The Battle of Mosul raged from October 2016 to July 2017 during this time-period Iraqi and Kurdish forces fought to retake the city from the Islamic State group (ISg). Most epidemiological studies from conflicts are restricted to the time-period for the ongoing conflict; few are focusing on the period immediately after the ending of a conflict.
The aim of this study was to describe the surgical needs for all patients presenting at the Mosul General Hospital at the end of an intense battle in a densely populated area.
Materials & Methods: We analyzed routinely collected hospital data from the International Committee of the Red Cross (ICRC) supported, Mosul General Hospital, from June 6th, 2017 to October 1st, 2017.
All patients with war related injuries as well as all patients with other types of injuries or acute surgical illness were included.
Results: The total number of patients admitted during the study period was 265. Non-weapon related conditions were more common than weapon related (55.1%). The most common non-weapon related condition was appendicitis (24.0%) followed by hernia (19.2%) and soft tissue wounds (18.5%). Blast/shell was the most frequent war-injury mechanism followed by gunshot. The most commonly injured body regions were chest and abdomen (64.4%). Children accounted for 34.7% of all weapon related conditions. Total mortality in the cohort was 0.03%.
Conclusion: While Mosul was officially liberated at the beginning of July 2017 a substantial number of patients with weapon related injuries were presenting at the ICRC supported Mosul General Hospital more than 2 months after the fighting officially ceased. However, the majority of patients needing surgical care had everyday illnesses or non-weapon related injuries. A considerable proportion of those injured by the fighting in this cohort were children.

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18.6.06

CIVILIAN BYSTANDERS AS IMMEDIATE RESPONDERS TO LIFE-THREATENING HEMORRHAGE IN TRAUMA: INTRODUCTION AND DISSEMINATION OF A TEACHING PROGRAM IN THE NETHERLANDS

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Introduction: Due to terrorist attacks, we are increasingly confronted with civilian victims sustaining military-type of injuries with life-threatening hemorrhage. Direct control of external bleeding is the most important life -saving measurement during the pre-hospital phase. The military principles of early hemorrhage control have been successfully translated to civilian prehospital care. However, to save more lives, bystanders at the scene should act as immediate responders to stop life-threatening external hemorrhage in victims of terrorist attacks and accidents.
Materials & Methods: After their training in the USA, surgeons from VUmc, Amsterdam introduced the non-profit *Stop the bleed – save a life* initiative and training course for civilians in the Netherlands with permission of the American College of Surgeons and Hartford Consensus (1). The course includes the immediate identification of life-threatening hemorrhage and bleeding control through direct pressure, tourniquet application and wound-packing with hemostatic gauzes. Proctored practical skills form the core of the course. Parallel, an instructor-course was initiated to disseminate the course. By affiliation of other Trauma/Acute Care Area Networks a national set-up of instructor courses was effectuated.
Results: Within 2 years, 6797 immediate responders (citizens, first-aid instructors, company first-aid instructors) present at public places were trained. Among this group, 776 followed the instructor - course. Instructors have free access to the educational material in order to facilitate dissemination of the course. The initiative *Stop de bloeding – red een leven* provides for a pratical and informative website (2). Five other Trauma Area Networks have started to give instructor-courses. Purchase of *Bleeding control*-kits as well as wound-packing models and tourniquets for practice is facilitated. The initiative has been welcomed with the formal support of the Dutch Society for Trauma Surgery.
Conclusion: The enthusiasm for the initiative and course is overwhelming. Ideally, the training program should be positioned within the curriculum of all medical and nursing students, first aid-training, company first aid training and first-aid training of police-officers and firefighters. Successful dissemination is effectuated through trauma surgeons, educationalists and officials of other Trauma/Acute Care Networks in The Netherlands. Trauma surgeons may take the lead to train civilians as immediate responders to life-threatening hemorrhage in trauma.
References: (1) www.bleedingcontrol.org
(2) www.stopdebloedingredeenleven.nl
Disclosure of Interest: None declared

18.6.07

TRAUMA ELECTIVES IN SOUTH AFRICA PROVIDE VALUABLE TRAINING FOR INTERNATIONAL SURGEONS.

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Introduction: This study aims to investigate and document the extent of trauma clinical electives and to assess the impact these had on the career of the various foreign surgeons who undertook them.

Materials & Methods: A mixed methods style questionnaire was compiled which sought to document the demographics of the surgeons undertaking a South African trauma clinical elective, the clinical experience in trauma which they had prior to the elective as well as the volume of experience they acquired during their elective.

Results: A total of 60 questionnaires were sent out and twenty-one were completed. Of the respondents there were 16 males and 5 females. Only 17 had undertaken a formal trauma rotation prior to their elective in South Africa. The mean number prior to their elective each surgeon had been exposed to 0.5 gun-shot wounds (GSWs) per year, 2 stab wounds (SWs), 0.1 blast injuries and 19 road traffic accidents (RTAs). The equivalent mean number for their year in South Africa was 106 GSWs, 153 SWs, 4 blast injuries and 123 RTAs. The time necessary to achieve a similar level of exposure to their South African experience if they had remained in their country of origin was 213 years for GSWs, 73 years for SWs, 41 years for blast injuries and 7 years for RTAs. It would take each respondent 18 years to explore as many SW of the neck and 93 years to explore as many GSW of the neck as they did during their South African elective. The same applies to laparotomies for trauma. It would take 33 years to see and perform as many laparotomies for SWs to the abdomen and 374 years to perform an equivalent number of GSWs to the abdomen in their countries of origin. In terms of vascular trauma, it would take 23 years to see as many vascular injures secondary to SW and 77 to see an equivalent number of vascular injuries secondary to a GSW.

Conclusion: A clinical elective in trauma in South Africa provides an un-paralleled exposure to almost all forms of trauma in conjunction with a well-developed academic support program. Formalizing these trauma electives may allow for the development of exchange programs for South African trainees who wish to acquire international exposure to advanced general surgical training.

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18.7.01

ADVERSE EVENTS ASSOCIATED WITH PREHOSPITAL TOURNIQUET USE: A SYSTEMATIC REVIEW

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Introduction: A substantial part of civilian trauma related mortality is caused by haemorrhage. A total of 33-56% of these deaths occur during the prehospital period. In some of these cases, in particular extremity haemorrhage, a tourniquet may prevent exsanguination. However, the use of a tourniquet, may be associated with adverse effects or complications. The purpose of this systematic review is to evaluate the known adverse events associated with prehospital tourniquet use.
Materials & Methods: A systematic literature review was performed using the 2009 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist. The databases PubMed, EMBASE and Cochrane were searched for eligible studies describing complications of tourniquet use in the prehospital setting. Keywords used for the search were tourniquet, emergency treatment, trauma, first aid, ATLS and prehospital.
Results: A total of 11 articles were included, with a total of 1,656 patients treated with 2,087 tourniquets. Ten out of eleven articles had a retrospective design. Forty-two percent of the included patients were situated in a military setting. The total complication rate ranged from 0% to 86%. The most frequent listed adverse outcomes were amputation, acute compartment syndrome, necessitating a fasciotomy, acute kidney insufficiency and neurological sequelae; but it was not specified to be due to primary injury pattern or tourniquet use.
Conclusion: This systematic review showed highly divergent complication rates related to the use of tourniquets in the prehospital setting. This divergence is likely to be caused by a large variation in scoring adverse events as a tourniquet caused complication and a difference in setting in which patients were included. However, the direct correlation between adverse events and prehospital tourniquet use remains unclear, as it is shown that the primary injury could in fact be the real cause of the scored adverse event. Further research is needed to exactly identify the complication rate of prehospital tourniquet use with thorough discrimination between adverse events which are tourniquet induced or due to the primary injury.
Disclosure of Interest: None declared

18.7.02

ANALYSIS OF THE BURDEN AND CONSEQUENCES OF ROAD TRAFFIC INJURIES IN AN URBAN AREA IN THE SOUTH WEST REGION: A COMMUNITY BASED STUDY.

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Introduction: it is estimated that 90% of the disease burden associated to Traffic-related injuries (TRIs) is carried by Low and Middle-Income Countries. TRIs have been identified as the main cause of injuries in Cameroon and other sub-Saharan African countries. However, no attempt to assess their physical and economical consequences on survivors has ever been initiated in most of these countries and they receive very little attention as a public health problem. This study aimed at estimating the burden of TRIs on its survivors and their families in terms of Disability and Socioeconomic cost. We also intended to assess their long term consequences on quality of life.
Materials & Methods: A community-based cross-sectional study carried out in the South-West region of Cameroon. A two stage cluster sampling was used to select households. A structured interviewer-administered questionnaire inclusive of but not limited to EQ-5D-5L and HUI3 was used to obtain data on self-reported RTIs in the 12 months preceding this study from the family head or his representative. Data was entered using EPi Info version 7 and transported to SPSS version 20 which was used for analysis.
Results: The annual incidence rate of TRIs was 36 per 1000 population. The prevalence of TRIs-related disability was 21.4 per 1000 population.The most common types of disability reported included difficulty/inability to ambulate (61.1%) and difficulty using a hand or arm (19.4%). Less than one-third of RTI victims reported having used economic coping strategies to cover expenses due to their injury and 14.6% suffered catastrophic out-of-pocket expenditure. Over one-third reported a decrease in their household monthly income and food consumption as a direct consequence of their injuries and 10.7% of RTI victims lost their jobs while 5.8% reported that a household member lost employment as a result of their injury. Factors associated with road traffic injuries were age group 15-69 years and higher level of education. The most affected components of Health related quality of life were the pain/discomfort, anxiety/depression and usual activities components.
Conclusion: There is a high burden of RTIs in this urban population. RTIs resulted in considerable morbidity, economic and productive days of work lost.With the appropriate focused attention on RTIs by the Government of Cameroon, these findings could assist in planning reliable and sustainable initiatives to reduce the RTI burden.
Disclosure of Interest: None declared

18.7.03

THE SAFETY AND EFFICACY OF IMPROVISED TOURNIQUETS IN LIFE-THREATENING HEMORRHAGE; A SYSTEMATIC REVIEW

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Introduction: The increased incidence of mass casualty events with penetrating injuries in the civilian setting creates a call for implementing military experience in civilian first aid, such as the use of a tourniquet (TQ). Bystanders can act as immediate responders after an attack or accident in order to prevent a victim from exsanguination using commercial tourniquets (C-TQ). Presently, bystanders with immediate access to such TQ's is unlikely, objects available at the trauma scene can be used to make an improvised tourniquet (I-TQ). The aim of this systematic review of literature is to summarize the existing literature on design, efficacy and safety of I-TQ's.
Materials & Methods: A systematic review of the literature has been performed. Bibliographic databases PubMed, EMBASE.com and Cochrane Library were searched. All types of original studies about I-TQ's have been included. Review studies, exempts from textbooks or studies with a TQ applied during elective surgeries were excluded.
Results: Twenty studies were included for this study. In both simulated experiments and real-life situations, I-TQ's were outperformed significantly by commercial TQ's (C-TQ) regarding success rate. Of the I-TQ's the band and windlass design performed best and most consistently. Although lacking any statistical analysis, there was no difference in adverse events between I-TQ's and C-TQ's
Conclusion: We conclude, with the knowledge comprised from the included studies that the use of improvised tourniquets by civilian immediate responders is not recommended due to concerns regarding efficacy and safety. Direct pressure is a viable alternative in these situations. However, after taking into consideration the large heterogeneity of the included studies, the subject requires more thorough investigation. Improvised tourniquets may save lives when applied correctly with proper objects, therefore future studies concerning design and ultimately education in application of the most effective design should be encouraged.
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18.7.04

IN-HOSPITAL MORTALITY AS AN INDICATOR OF PRE-HOSPITAL DEATH: DATA FROM THREE TRAUMA CENTERS IN IRAQ AND AFGHANISTAN

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Introduction: The concept of the “golden hour” has long been a leading principle in modern trauma care; this is the period following a hemorrhagic injury during which resuscitation is most likely to be successful. Western military trauma systems have, with the advent of the wars in Afghanistan and Iraq, been reformed to enable evacuation of injured combatants within this timeframe, resulting in improved battlefield survivability. However, similar systems for civilians affected by conflict-related trauma remain rudimentary. The authors postulate that in modern conflict zones, the burden of prehospital death is high, and that this is reflected in a low in-hospital mortality rate in facilities providing trauma care in these settings. The aim of this study was to estimate the mortality rate in facilities providing trauma care in modern conflict environments with long distances to reach care and weak prehospital care systems.
Materials & Methods: The authors sourced routinely collected programmatic data from three institutions which have provided trauma care in recent conflicts. These include Emergency Management Center (EMC) which received patients from the Mosul offensive approximately 90 km away, as well as two Médecins Sans Frontières (MSF) field hospitals. These included Hammam al-Alil (MSF-HAL), 25 km from Mosul and Kunduz Trauma Center (MSF-KTC), which was the only trauma facility in a large, conflict-affected area in northern Afghanistan until its destruction in 2015. Only patients who presented with violence-related trauma were included. Data was collected in Microsoft Excel and analyzed using JMP 13.
Results:

Hospital	Period of Data Collection	Total (n)	Total Deaths (n)	MR (%)
EH	October 16, 2016 to June 10, 2017	1,725	8	0.5
MSF-HAL	February 19, 2017 to July 16, 2017	2,165	24	1.1
MSF-KTC	January 1, 2015 to September 18, 2015	17,916	101	0.6

Conclusion: These results indicate that in all three facilities, the mortality is around or below 1%. Our interpretation is that long distances to reach care, coupled with weak prehospital care systems, result in a large proportion of critical patients that do not reach definitive care within the “golden hour”. This is subsequently reflected in a low in-hospital mortality rate as the patient population only includes those patients stable enough to reach care. Further studies into which prehospital interventions are useful, depending on length of transport time, type of injuries and available resources, are needed to ascertain potential areas of public health action.
Disclosure of Interest: None declared

18.7.05

EVALUATING THE DECADE OF ACTION FOR ROAD SAFETY IN A RAPIDLY DEVELOPING COUNTRY: ARE WE USING THE RIGHT INDICATORS?

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Introduction: Qatar is a rapidly developing country with a population growth of 4% per annum driven by the influx of migrant workers needed for infrastructure development. Road traffic injuries [RTIs] are the leading cause of death; consequently, the country has participated in the Decade of Action for Road Safety [DoARS] coordinated by the United Nations Road Safety Collaboration, since 2011. Its goal is to reduce the number of road traffic deaths by 50% from 2011-2020. This study will evaluate the DoARS in Qatar, to date, linking publicly accessible national RTI data and globally accepted indicators.

Materials & Methods: Data, on road traffic deaths and injuries, from the Traffic Department, Ministry of Interior, the National Traffic Safety Committee and the Hamad Medical Corporation National Trauma Registry for the years 2011-16 were collected and analyzed. The absolute number of RTI deaths, the main DoARS indicator, was analyzed and compared with other, population-based, indicators.

Results: For the over-all DoARS indicator, the number of RTI deaths, Qatar has only improved by 13.2%; but death rates have dropped by 42.9%. There have been more RTIs, by 14.3%, but a 25.1% drop in their incidence rate. A reduction in the number and rate of pre-hospital deaths were the highest among all indicators analyzed. And the number of in-hospital deaths increased during the study period [see Table 1].

Table 1: Road Traffic Injury Indicators, 2011 & 2016, Qatar.
Traffic Department, Ministry of Interior and Hamad Medical Corporation National Trauma Registry

		2011	2016	Absolute Change	Percent Change	
RTI Deaths		205	178	-27 deaths	-13.2%	
RTI Death Rate		12.6	7.2	-5.4 per 100,000	-42.9%	
RTIs		791	904	+113 RTIs	+14.3%	
RTI Rate		48.7	36.5	+12.2 per 100,000	-25.1%	
Pre-Hospital RTI Deaths		167	134	-33 deaths	-19.8%	
Pre-Hospital RTI Death Rate		10.3	5.4	-4.9 per 100,000	-47.6%	
In-Hospital RTI Deaths		34	37	+3 deaths	+1.1%	
In-Hospital RTI Deaths		2.1	1.5	-0.6 per 100,000	-28.6%	

Conclusion: Qatar has made dramatic improvements in road safety since 2011, most notably in pre-hospital mortality. In similar settings, with rapidly transforming populations,

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Disclosure of Interest: None declared

18.7.06

A DEATH REVIEW FROM PREMATURE TRAUMA CENTER IN KOREA: COMMON ERRORS AND SYSTEM FAILURE

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Introduction: Trauma deaths can be preventable if the trauma system is well established. The objective of this study is to review and identify errors in all trauma deaths in a regional trauma center in Korea.
Materials & Methods: We analyzed 294 deaths associated with trauma for 3years. The data was extracted from the trauma database including demographics, Glasgow Coma Scale (GCS), Revised Trauma Score (RTS) and Trauma and Injury Severity Score (TRISS) were evaluated. Preventability and medical errors were determined by the panel discussion.
Results: 206 (70.1%) patients were male and the mean age was 56.5 years. Most of the patients (89.1%) were injured by a blunt mechanism. Mean GCS, ISS, TRISS were 5.64, 27.1, 0.39, respectively.
Conclusion: Evaluation of trauma deaths can improve trauma center performance.
Disclosure of Interest: None declared

18.7.07

ASSESSMENT OF FRAILTY AND NUTRITION TO IMPROVE CURRENT RISK PREDICTION SCORES IN EMERGENCY LAPAROTOMY

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Introduction: Risk prediction for emergency laparotomy (EL) is an integral part of patient care and audit/quality improvement programs. The most commonly used risk prediction scores are P-POSSUM, ACS-NSQIP and APACHE-II. More recently the National Emergency Laparotomy Audit (NELA) in the UK has developed a specific risk assessment score more accurate than P-POSSUM. Frailty and nutritional status have been identified as a predictor of risk in a number of surgical conditions. Thus, we aimed to assess the effectiveness of frailty assessment to improve the accuracy or discrimination of risk assessment scores for mortality for patients undergoing EL.
Materials & Methods: We evaluated records for patients undergoing EL for 5 years prior to June 2017. We evaluated physiological and comorbidity parameters. We also utilised the 11-point modified frailty index (mFI) and recent weight loss, as a surrogate for nutritional status. Discrimination was assessed by analysing the Receiver Operating Characteristic (ROC) Area Under the Curve (AUC).
Results: Seven hundred and fifty-eight patients underwent EL in the 5 year period. Physiological and comorbidity assessment (including Charlson index) did not significantly add to the accuracy of risk assessment. The mFI and weight loss were the most effective variables to improve risk prediction. Alone, the mFI and weight loss showed poor discrimination with AUC of 0.69 and 0.65 respectively. The mFI and weight loss combined with NELA improved AUC from 0.83 to 0.88. For 1-year mortality NELA prediction was improved from AUC of 0.81 to 0.87. Discrimination for ACS-NSQIP improved marginally from an AUC of 0.80 to 0.81. P-POSSUM improved with the addition of mFI and weight loss from an AUC 0.72 to 0.79. APACHE-II score showed the most improvement with AUC from 0.76 to 0.84.
Conclusion: Current risk assessment scores used in EL do not include measures of nutritional status nor frailty. The addition of those factors in the form of weight loss and mFI appear to improve the accuracy of the predictive scores. The most accurate score remains the NELA score. Further prospective research is needed to identify the ideal frailty measure and nutritional assessment to further improve risk prediction in EL.
Disclosure of Interest: None declared

18.8.01

THREEFOLD-RARE CASE OF SPLENIC VASCULAR LESION – COMPOSITE HEMANGIOENDOTHELIOMA IN AN ADULT COMPLICATED WITH KASABACH-MERRITT PHENOMENON CAUSED BY TRAUMA.

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Introduction: Composite hemangioendothelioma is a rare vascular tumour of low to moderate malignancy. Very few cases have been reported worldwide, majority of which consists of paediatric patients presenting with various skin lesions located on the extremities and facial area. Among the few visceral cases even fewer present with coagulation disorders, which can be fatal. We present a case of diffused composite hemangioendothelioma originating from the spleen that progressed to acute liver failure due to hepatic consumptive, which resembled Kasabach-Merritt phenomenon (KPM).
Materials & Methods: Patient, a 36y.o. male with no relevant co-morbidities, has been admitted to a non-trauma centre hospital after suffering blunt low-energy abdominal trauma to his abdomen 2 weeks earlier. The CT scan showed sub-capsular injury of enlarged spleen as well as splenic lesion of unknown character with possible metastases to vertebral column. Because of that the patient has been transferred to trauma and oncological hospital as the specialist centre. Elective splenectomy with distal pancreatectomy was performed. Histopathological examination showed composite hemangioendothelioma of the spleen.
Results: Recovery period after surgery was uneventful. More than 5 weeks post-discharge patient returned to A&E with abdominal pain. CT scan showed diffused coagulopathy in the liver was diagnosed and the patient was scheduled for hospitalisation in haematological unit. As the general condition worsened, the patient has been admitted via A&E. The laboratory results and MRI of the liver performed then suggested KPM leading to patient's death 66 days post-surgery. Comparison of the scans performed immediately after trauma and upon first A&E admission and later during final hospital stay revealed progression of the disease that can most likely be linked to the traumatic event.
Conclusion: The case is unique in joining various aspects of composite hemangioendothelioma's clinical presentation. In our report, we present rare point of origin in the spleen rapidly progressing with rare vascular complication triggered by abdominal trauma. KPM was diagnosed on basis of clinical, biochemical and radiological signs, although most commonly it is linked to either tufted angioma or Kaposiform hemangioendothelioma. The case serves as an example of need for careful consideration of haematological implications when performing emergency splenectomy in patients with co-existing splenic vascular lesions.
Disclosure of Interest: None declared

18.8.02

RARITY OF EMERGENCY HERNIAS IN ELDERLY PATIENTS – CASE SERIES PRESENTATION.

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Introduction: Emergency abdominal hernias are one of the most frequently encountered pathologies occurring in the elderly patients. It is related to progressive loss of elasticity of connective tissues and common co-occurrence of comorbidities leading to an enlarged pressure in the abdominal cavity. To the most typical abdominal hernias encountered in the clinical practice, rare types can also occur and should be taken into consideration.
Materials & Methods: Authors present and compare a case series of three patients with unusual kinds of abdominal hernias: two cases of Spigelian hernia and one of the obturator hernia. Considering atypical localization and non-specific symptoms, frequently suggesting other, more common diseases, these types of hernias cause significant difficulties in diagnostic process.
Results: We selected three cases of emergency abdominal hernia admitted and surgically treated in our Department. It were three females in age of 77, 78 and 90 years old.
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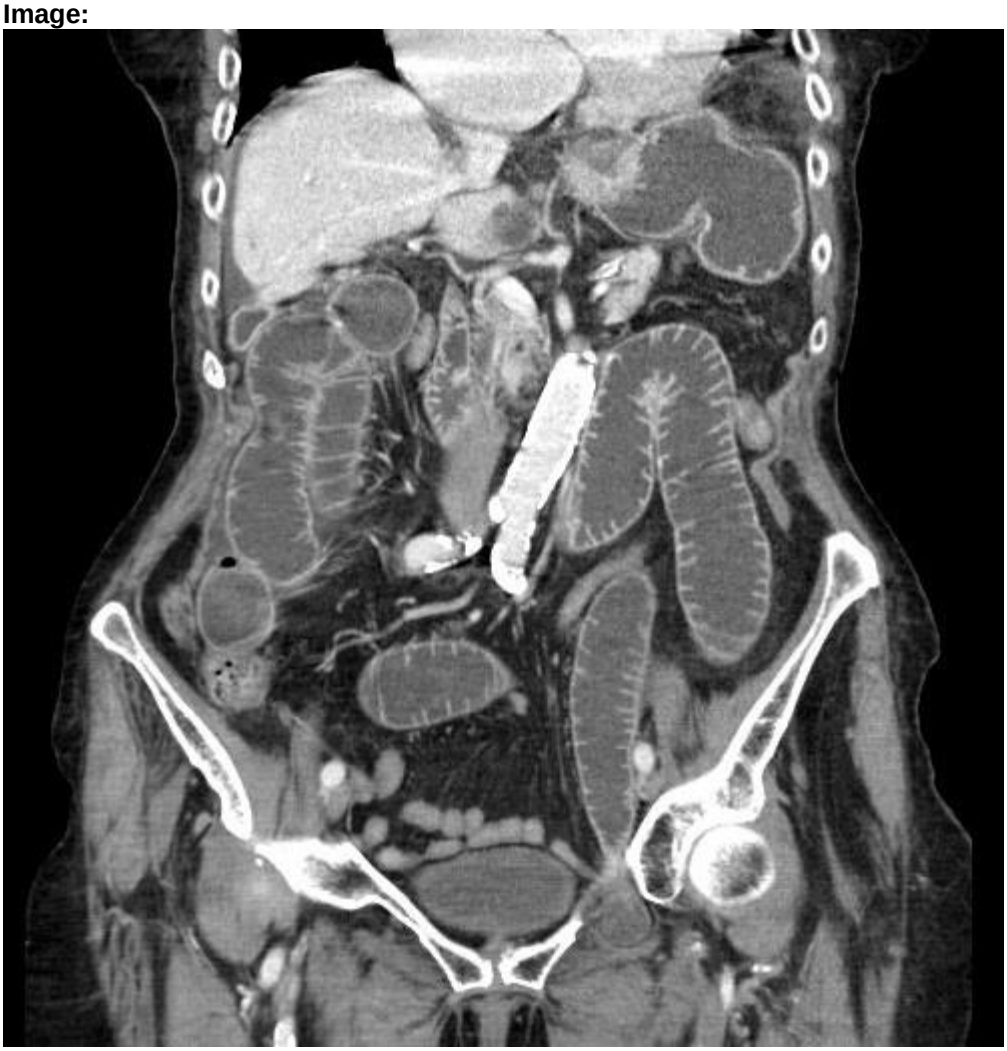

Conclusion: Spigelian and obturator hernia should be taken into consideration as a potential cause of abdominal pain in elderly patients because of a high risk of incarceration and following severe complications in case of delayed diagnosis. Varied clinical manifestations determine the use of diverse imaging methods, but in many cases these hernias could not be discovered until the surgery. In presented cases, fast surgical intervention prevented occurrence of necrotic complications and necessity of intestine loop resection.
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Disclosure of Interest: None declared

18.8.03
GIANT POSTRAUMATIC HERNIA WITH 60 YEARS OF HISTORY-CASE REPORT.

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Introduction: A case of 89 yeard old male with a giant postraumatic left sided diaphragmatic hernia is presented.The aim of the presentation is to disccuse about emergency therapeutic approach to disolve acute bowel obstruction with this patient.
Materials & Methods: In the medical history patient as a 14 years old boy underwent car crash and during hospitalization he was treated conservatively.On admission patient was in a bad condition.He claimed on thorax pain and vomites.The abdomen was soft ,tender in the epigastrium,peristalis was not detected.
Results: A chest X-ray and a CT scan revealed displacement of the stomach and bowels to the left thoracic cavity with enermous distention.
Conclusion: We underline that no medical papers found about so long survival with asymptomatic post-traumatic hernia.
Disclosure of Interest: None declared

18.8.04

PREDICTIVE FACTORS OF BLUNT BOWEL INJURIES IN PATIENTS WITH MINIMAL INTRA-PERITONEAL FREE FLUID WITHOUT SOLID ORGAN INJURY

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Introduction: Blunt bowel injuries(BBI) are regularly missed by abdominal computed tomography(CT) scans. Less than 1% of all patients who present with blunt trauma have a hollow viscus injury (HVI). We aimed to study the possible clinical, laboratory and radiological parameters which could predict blunt bowel injuries in patients with minimal free intra-peritoneal fluid without solid organ injury on Computerized Tomography
Materials & Methods: The study was conducted at our tertiary care referral center in South India which included all patients admitted after blunt abdominal trauma. Clinical and laboratory parameters of these patients were analyzed and correlated with blunt bowel injuries. Categorical variables were assessed using Fischer exact test, chi square or continuity correction as appropriate. ROC curve analysis was performed and cut-offs were obtained for various predictors. Non parametric data were assessed using the Mann Whitney U test. A logistic regression analysis was performed to assess the association between significant independent predictors of blunt bowel injuries.
Results: 2179 patients were admitted with blunt abdominal trauma during the period out of which 104 patients were included in the study. On Univariate and multivariate analysis we found the significant predictors of BBI to be abdominal distension at admission(p=0.05), FAST positivity(p=0.032), Injury severity score > 28(p=0.03), Neutrophil-to-lymphocyte ratio(NLR) > 6.5(p=0.04) and lactate values > 2.15 at admission(p=0.03) . Logistic regression analysis revealed that that NLR > 6.5(p=0.04) and Serum lactate levels > 2.15 at admission(p=0.036) were significant predictors of BBI.
Conclusion: The outcome of our study suggests that NLR and lactate values at admission could help predict blunt bowel injuries in patients with inconclusive CT scans
Disclosure of Interest: None declared

18.8.05

REPORT OF A SUCCESSFUL TREATMENT OF THORACIC PENETRATING TRAUMA TO THE IVC WALL IN A 13 YEAR OLD BOY BY AN AIR GUN BULLET

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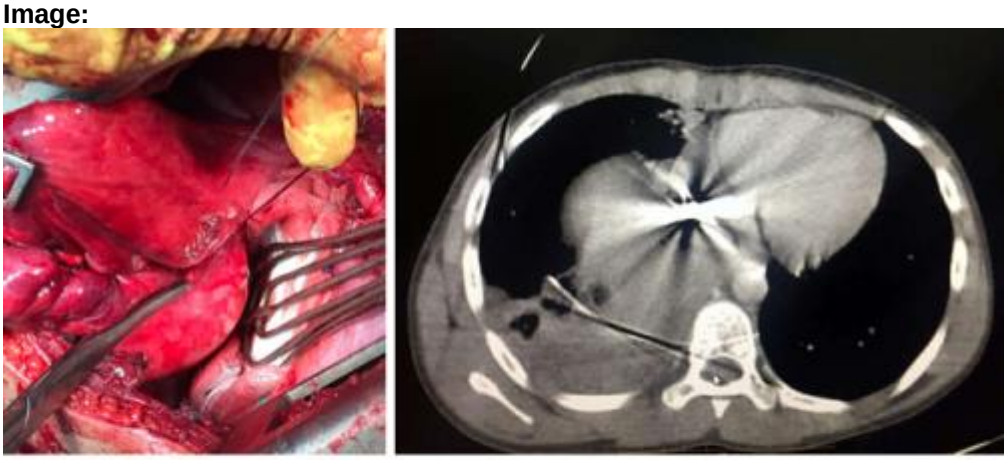
Introduction: Penetrating traumas to the thorax could be potentially serious. Although rare, vena caval penetrating injuries are the results of gunshot wounds. Whether caused by blunt or penetrating mechanisms, caval wounds are highly lethal so that half of the patients die before reaching the hospital and another 50% may die perioperatively. However, it is technically difficult vena caval repair with direct suturing technique can lead to narrowing and deep vein thrombosis.
Materials & Methods: In the case we are reporting, a 13 year old boy shot by an air gun through his right hemi thorax had referred to the trauma center. In his initial chest radiography the position of the bullet seemed to be in the middle mediastinum. He was then undergone the right sided thoracotomy with the preoperative diagnosis of right lower lobe laceration of the right lung and mediastinal injury. Having removed about 200 cc blood after thoracotomy and pericardiotomy, an air gun bullet appeared right in the wall of thoracic inferior vena cava that penetrated the right lung through and through on its way to IVC. There were not any ongoing bleeding because of its tightly package. Knowing that ligature of the IVC is not practicable and the cardiopulmonary bypass pump was not accessible, the only way to repair perforation was the release of the abdominal IVC, making an incision at the diaphragm then gripping it and immediate suturing the defect which was done successfully. Immediately following completing the vital assignment of potentially lethal bleeding source, tractotomy and ligature of small bronchi and vessels then repairing the diaphragmatic cut, finally a right chest tube and a pericardial tube were prepared.
Results: During staying at hospital no complications like rebleeding or air leakage occurred and the patient successfully improved.
Image:



The chest CT scan demonstrating metal artifact with the right hemothorax in the right and releasing the thoracic IVC and immediately suturing the mural defect in the left following the tractotomy procedure.

Conclusion: Considering that, a general surgeon at a trauma center may encounter a mediastinal penetrating trauma, it is necessary to him or her to know the basis of handling with the vital surgeries of mediastinal great vessels in the absence of cardiopulmonary pump.
Disclosure of Interest: None declared

18.8.06

DUODENAL PERFORATION FOLLOWING BLUNT TRAUMA ABDOMEN: HOW AGGRESSIVE THE SURGICAL TREATMENT SHOULD BE?

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Introduction: Duodenal injuries following blunt abdominal trauma are associated with increased morbidity and mortality and its management is challenging for the surgeons. The anatomical location of the duodenum and also the surgical treatment is very complex with high rate of postoperative complications. There are several techniques described to repair the duodenum but no technique is full proof.
We report a case of isolated duodenal injury in the second part posteriorly following blunt abdominal trauma and highlight the challenges associated with the management.
Materials & Methods: A 30 year old man attended the emergency department after 35 hours of blunt trauma abdomen following road traffic accident. The general condition was poor with abdominal distension and FAST positive. On emergency laparotomy, the peritoneal cavity was filled with bilious fluid hence kocherisation of the duodenum revealed a large perforation on posterior aspect in the second part with visualisation of the ampulla of vater through which bile was coming out.
Results: The case was challenging as the injury was old, large size of 7 cm and the patient was on inotropic support with increased blood lactate level. Due to frustrating experience in the past with duodenorrhaphy and serosal patch, the bold decision to reconstruct by Roux-en-Y duodenojejunostomy (RYDJ) with antegrade tube duodenostomy and feeding jejunostomy was taken. The patient in contrast had a faster recovery with hemodynamic stability within three days. The patient recovered fast without any biliary leakage and started on feeding through FJ, until diagnosed with mild pancreatitis on day 10. The pancreatitis was suspected as the patient suffered from transient visual impairment. After conservative management the patient recovered fully in 3 weeks with all the tubes removed.
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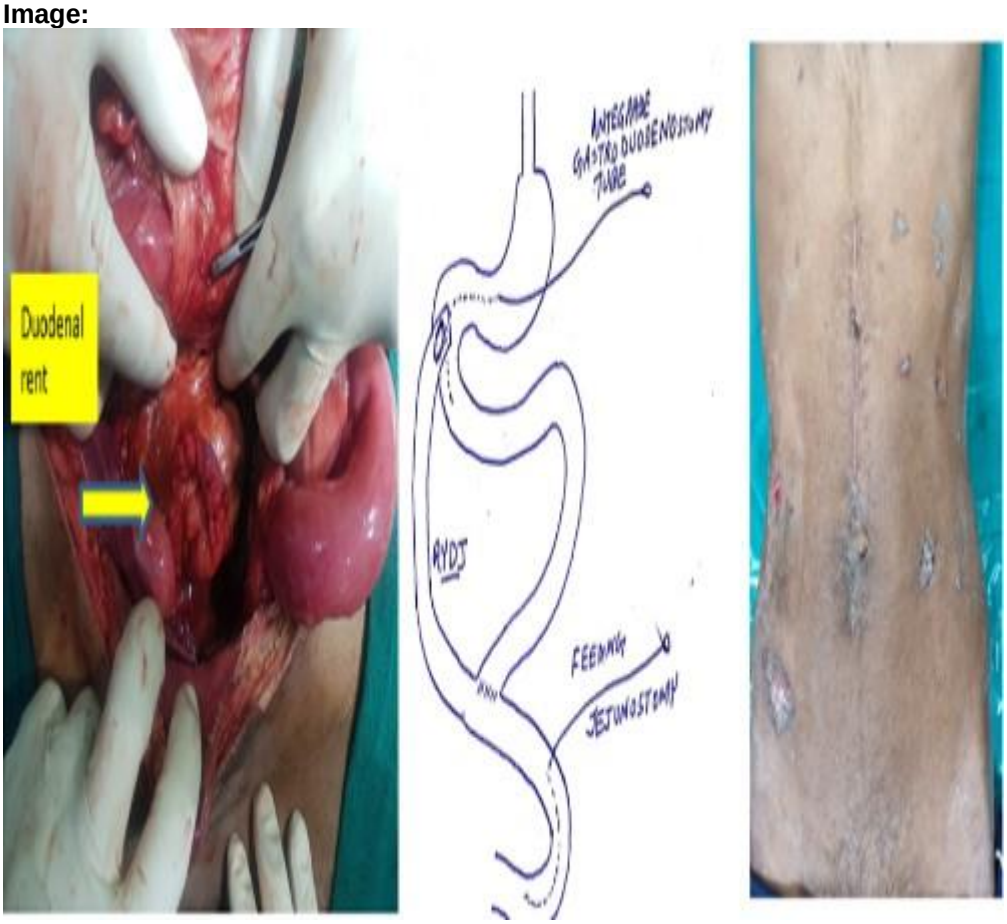

Conclusion: In duodenal injuries, aggressive surgical options like roux-en-y reconstruction can be a boon if done fast and appropriately.
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Disclosure of Interest: None declared

18.8.07

EARLY MANAGEMENT OF RETAINED HEMOTHORAX IN BLUNT HEAD AND CHEST TRAUMA

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Introduction: Maior blunt chest injury usually leads to the development of retained hemothorax and pneumothorax, and needs further intervention. The purpose of this study is to analyze the outcomes of head injury patients who received early, versus delayed thoracic surgeries.
Materials & Methods: From May 2005 to February 2012, 61 patients with major blunt injuries to the chest and head were prospectively enrolled. These patients had an intracranial hemorrhage without indications of craniotomy. All the patients received video-assisted thoracoscopic surgery (VATS) due to retained hemothorax or pneumothorax. Patients were divided into two groups according to the time from trauma to operation, this being within 4 days for Group 1 and more than 4 days for Group 2. The clinical outcomes included hospital length of stay (LOS), intensive care unit (ICU) LOS, infection rates, and the time period of ventilator use and chest tube intubation.
Results: All demographics, including age, gender, and trauma severity between the two groups showed no statistical differences. The average time from trauma to operation was 5.8 days. The ventilator usage period, the hospital and ICU length of stay were longer in Group 2 (6.77 vs. 18.55, p = 0.016; 20.63 vs. 35.13, p = 0.003; 8.97 vs. 17.65, p = 0.035). The rates of positive microbial cultures in pleural effusion collected during VATS were higher in Group 2 (6.7 vs. 29.0%, p = 0.043). The Glasgow Coma Scale score for all patients improved when patients were discharged (11.74 vs. 14.10, p\0.05).
Conclusion: In this study, early VATS could be performed safely in brain hemorrhage patients without indication of surgical decompression. The clinical outcomes were much better in patients receiving early intervention within 4 days after trauma.
In this study, early VATS could be performed safely in brain hemorrhage patients without indication of surgical decompression. The clinical outcomes were much better in patients receiving early intervention within 4 days after trauma.

Disclosure of Interest: None declared

24.01

COMPARISON OF TWO DIFFERENT HEMOSTATIC AGENTS IN THE PROCEDURE OF THYROIDECTOMY.

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[1]Department of Endocrine and breast surgery, SANJAY GANDHI INSTITUTE OF MEDICAL SCIENCES, Lucknow,
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Introduction: Introduction:
Hemostatic agents are used in various surgical procedures and in thyroidectomy for a safe surgery is placed in the thyroid bed with or without drain. Surgicel is an oxidized cellulose polymer and surgicel fibrillar is oxidized regenerated cellulose which has 33% faster hemostasis and also conforms to the site for optimal adherence.We compared the use of surgicel Vs Surgicel fibrillar in patient's undergoing Total thyroidectomy for benign cytology.

Materials & Methods: Material and Methods:
Prospective study between January 2018 to December 2018. A patient in surgicel group was compared to surgicel fibrillar group. All patient had drain placed in the thyroid bed. All patients had benign cytology. The patient in surgical fibrillar group was operated by a single endocrine surgeon drain was removed when the output was less than 20 ml.

Results: Results:
Each group had 20 patients with benign goiter on FNAC. The groups were comparable in terms of age, weight of goiter and size. Mean drain in surgical fibrillar was 18.75± 9.89 ml. Mean drain in surgicel was 32.89±12.16 ml ($p<0.000$).The Mean days for discharge was 1.45±.6 vs 2.00±.8 ($p=0.129$)
Hypocalcaemia

	Biochemical	Symptomatic
Surgicel fibrillar	6/20	1/20
Surgicel	5/20	2/20

Conclusion: Conclusion:
Surgical fibrillar is better which compared to surgical as a hemostatic agent but the productive cost and large numbers are needed.

Disclosure of Interest: None declared

24.02

ROLE OF 18F-FDG – PET/CT SCAN IN CERVICAL TUBERCULOSIS – A PROSPECTIVE STUDY.

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Introduction: Tuberculosis is the most common cause of cervical nodal enlargement. FDG - PET integrated with computed tomography (CT) is capable of early detection and assessment of disease involvement. Pulmonary and extrapulmonary TB involvement are assessed simultaneously, with time-saving and cost-saving implications. We undertook this study to determine and correlate the response of therapy in cervical tuberculosis with FDG- PET/CT findings.

Materials & Methods: It was a prospective study done on all consecutive adult patients with proven cervical tuberculosis visiting the outpatient clinic of our department. PET /CT of the patients was done two times, one at presentation and second at 2 months of ATT (anti-tubercular treatment).

Results: In our study on 30 patients, female patient proportion (53.3 %) was higher and mean age was 26.8 years. Both involvement (63.3%) and abscess formation (56.7%) was most common in Level 2 group of cervical lymph nodes. None of the patient had bacterial activity confined only to cervical area with Pulmonary(56.7%) followed by Mediastinal(53.35), Abdominal(36.7%) and Bone(23.3%) were involved alongwith Cervical lymph nodes in decreasing order of frequency. After two months of ATT maximum mean percentage change of SUV max on PET /CT was observed in mediastinal tuberculosis(38.1%) after that pulmonary(33.1%), cervical(30%), abdominal(29%) and Bone(10%) tuberculosis. Mean percentage change decrease in size of cervical lymph node was 38.46% following ATT.

Conclusion: PET/CT can be used in TB cervical lymphadenopathy to diagnose other sites of TB involvement and monitor the response to ATT.

Disclosure of Interest: None declared

24.03

PREOPERATIVE HBA1C LEVEL IS NOT ASSOCIATED WITH POSTOPERATIVE OUTCOMES AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY – A COHORT STUDY.

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Introduction: We found scarce of clinical data regarding influence of baseline HbA_{1c} postoperative morbidity and readmission after laparoscopic sleeve gastrectomy. That inspired us to conduct multicenter retrospective study evaluating the influence of chronic hyperglycemia on postoperative course among patients undergoing laparoscopic sleeve gastrectomy (**SG**). We aimed to investigate the influence of baseline HbA_{1c} level on postoperative outcomes in patients after SG.

Materials & Methods: Multicenter, retrospective cohort study of consecutive patients who underwent SG from March 2017 to March 2018 in 7 referral centers for bariatric surgery. Exclusion criteria: revision surgeries, other bariatric operations, sleeve gastrectomy combined with other procedures, and lack of necessary data. Patients were divided into three groups depending on preoperative glycated hemoglobin level (HbA_{1c}): <5.7%, 5.7-6.4% and ≥6.5%. Primary endpoints: influence of HbA_{1c} on early and late postoperative morbidity, on prolonged length of hospital stay (LOS) and readmission rate.

Results: 842 (49%) patients were in group of HbA_{1c}<5.7%, 587 (34%) in HbA_{1c} 5.7-6.4%, and 289 (17%) in HbA_{1c} ≥6.5%. Overall morbidity was 6.23% and did not differ groups (p=0.571). There were 3 postoperative demises. Late postoperative morbidity was comparable between groups (p=0.312). Ratio of prolonged LOS and readmission did not differ groups (p=0.363 and 0.571). Using ROC analysis, we found that HbA_{1c} >7.3% have increased OR for hospital readmissions (p=0.007).

Conclusion: Preoperative HbA_{1c} is not related to postoperative morbidity and prolonged LOS after SG. Patients with HbA_{1c} >7.3% have increased chance for hospital readmissions.

Disclosure of Interest: None declared

24.04

MANAGEMENT OF SIGMOID VOLVULUS

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Introduction: To report the results of treatment of sigmoid volvulus in the national hospital of Niamey and to propose a therapeutic classification

Materials & Methods: It was a retrospective, descriptive, and analytical study of 10 years, including all adult patients treated for sigmoid volvulus in the National Hospital of Niamey. An association between morbidity and mortality and the variables was investigated and the results were analyzed and interpreted according to the literature data to deliver a therapeutic classification.

Results: The series included 168 patients, whether 17.31% of intestinal obstruction and 2.64% of abdominal emergencies. They were 166 men and 2 women. The average age was 50.80 (±15.52) years old. The average time before consultation was 4.18 (±2.85) days. Abdominal pain was the most common symptom in all patients. Paraclinical diagnosis was essentially made by radiography of the abdomen without preparation. Ileosigmoid knot was found in 4.76% of patients. The necrosis rate was 22.02%. Sigmoid resection according to Hartmann was performed in 68.45% followed by resection and then by immediate colo-colonic anastomosis (25.60%). Overall morbidity was 14.60%, and 7.15% of patients had died, including 5.95% after sigmoid resection according to Hartmann. The occurrence of complications was influenced by necrosis (P = 0.04) and a long time before consultation (P = 0.04). The mortality was influenced by sigmoid resection according to Hartmann (P = 0.01). The analysis of our results according to the literature data has allowed us to define four treatment groups of patients.

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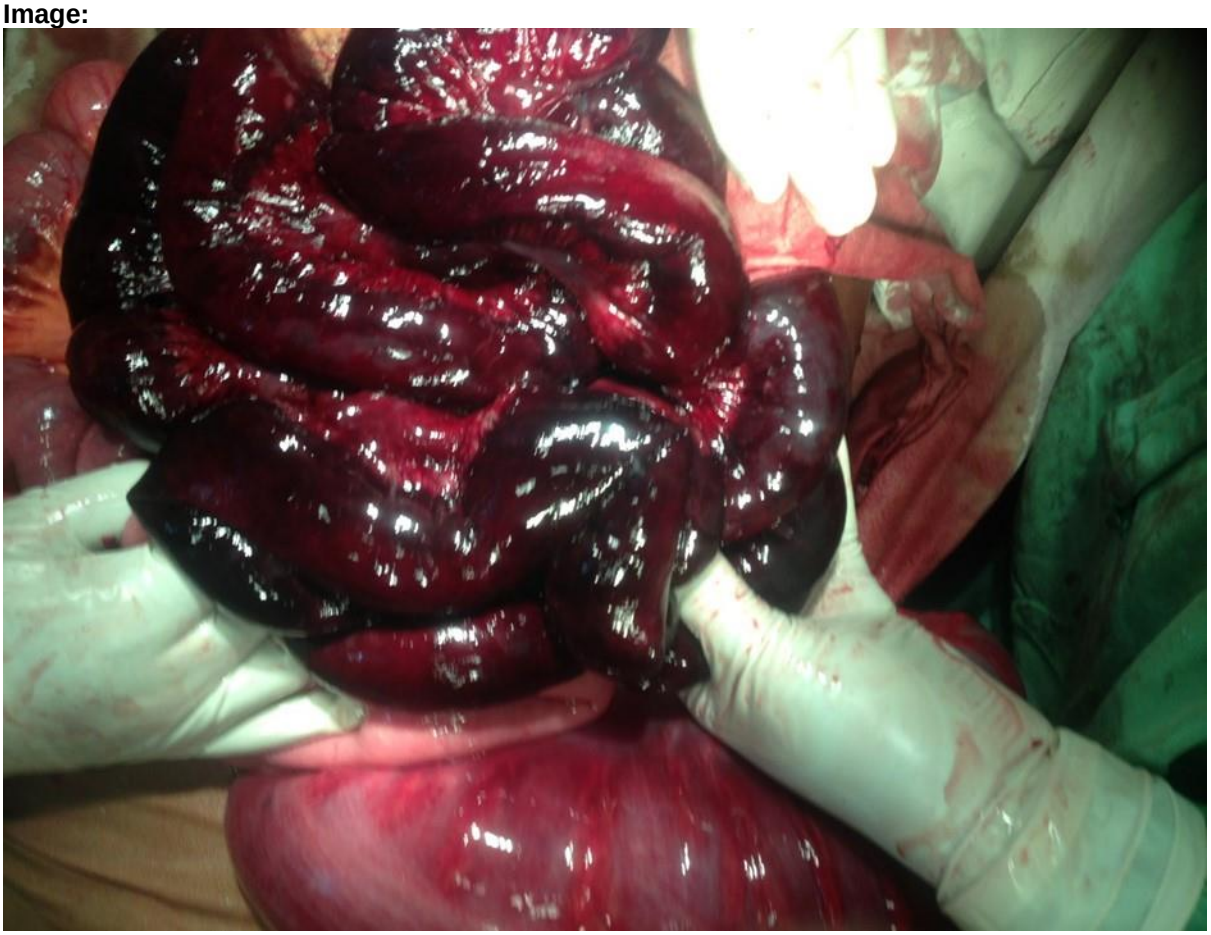

Conclusion: The determination of four groups of patients could help in the management of sigmoid volvulus.

Disclosure of Interest: None declared

24.05

EFFICACY AND SAFETY OF MINIMAL ACCESS SURGERY IN HYDATID DISEASE

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[1]Surgery, AIIMS, Bhubaneswar, Bhubaneswar, India

Introduction: Hydatid disease is a zoonotic disease, caused by Echinococcus granulosus, a cestode that resides in the intestine of canines like dogs. The larvae which accidentally enters the human body by oral route erodes the intestinal wall and disseminate via the portal system to develop into cysts at various sites like liver (50% to 90%), lung, spleen, etc. The aim of this study is to review the cases of hydatid disease treated in our hospital affecting various organs, with regards to their management by minimal access techniques and tips along with complications.
Materials & Methods: This retrospective study is a review of cases of hydatid cysts affecting various organ systems like liver, spleen, lungs and other uncommon sites managed by minimal access surgery, with a brief discussion on the operating tips & techniques, appropriate usage of different scolicidal agents and complications.
Results: In last four years, 34 patients had undergone treatment for hydatid disease in various sites of the body by minimal access surgery (MAS). 24 cases had cysts in the liver, 3 cases of pulmonary hydatid, 3 splenic cysts, all managed by MAS. The unusual sites operated were in the left subphrenic, lesser sac and pelvis. Amongst the cases with multivisceral diseases, a boy having ruptured hydatid in left lung with pneumothorax and cysts in the right lung and spleen was managed by staged MAS effectively. There was postoperative biliary leakage in 4 cases without any mortality.
Image:

Conclusion: The fear of anaphylaxis reaction had discouraged the minimal access approach to the disease. However with the use of effective and appropriate scolicidal agent, advanced laparoscopic gadgets and proper techniques, minimal access surgery is a safe and effective alternative for the treatment of hydatid cysts.
References: 1- Palanivelu C, Jani K, Malladi V, et al.Laparoscopic management of hepatic hydatid disease. JSLS.2006;10(1):5662.
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Disclosure of Interest: None declared

24.06

POINT PREVALENCE SURVEY OF HEALTH CARE ASSOCIATED INFECTIONS AND ANTIMICROBIAL USE (PPS HAI & AU) STUDY IN THE DEPARTMENT OF GENERAL AND TRANSPLANTATION SURGERY (DGTS) FROM 2016 TO 2018: IT IS REALLY WORK.

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Introduction: The objectives of the point prevalence survey (PPS) of healthcare-associated infections (HAIs) and antimicrobial use (AU) in acute care hospitals are as follows: · to estimate the total burden (prevalence) of HAIs and antimicrobial use in DGTS · to describe patients, invasive procedures, infections (sites, microorganisms including markers of antimicrobial resistance) and antimicrobials prescribed (compounds, indications) · to describe key structures and processes for the prevention of HAIs and antimicrobial resistance at the hospital · to disseminate results to those who need to know at local · to provide a standarised tool for hospitals to identify targets for quality improvement.
Materials & Methods: PPS HAI & AU studies performed every year 2016, 2017 and 2018. Data from 35 beds DGTS were collected. Ward data were collected in the standard and light protocol options. Denominator data were collected for all patients admitted before or present at 8 a.m. in the ward and not discharged from the ward at the time of the survey. The use of antimicrobials will often lead to the detection of a HAI. Some patients may have a HAI that is not treated by an antimicrobial. It is not the objective of this survey to relate the use of an antibiotic to the information on HAIs (such as microorganisms). Both types of data were collected separately.
Results: PPS HAI & AU studies showed patients treated by antimicrobials: 83% in 2016, 52%:2017, 53% :2018. Changes in intentions for the use of antimicrobial agents: Surgical (SP)- 38% in 2016, 17%:2017 , 13%:2018 , Medical (MP) – 3% in 2016, 0%:2017, 7%:2018, Community infections (CI) – 10.4% in 2016, 26% :2017, 20%:2018, Hospital (HAI) – 17.5% in 2016, 9%:2017, 20% :2018, Treatment without intention – 20.5% in 2016 , 0% :2018 . The use of antimicrobials at defined daily doses (DDD) / 100 person-days of hospitalization. Antibacterial (AB), Antifungal (AF): Surgical Intensive Care Unit : AB (88.24 DDD in 2016 , 101.17 in 2017), AF (37.84 DDD in 2016 , 50.26 in 2017) General Care Unit: AB (72.15 DDD in 2016, 65.12 in 2017), AF (10.74 DDD in 2016 , 14.92 in 2017).
Conclusion: 1.Perioperative prophylaxis is carried out in accordance with the approved rules.
2.The need to consider the risk factors for MDR strains when choosing empiric treatment
3.Absolute evaluation of the validity of empirical treatment after 3 days
4.Results showed more effective control and knowledge of medical personel after PPS HAI & AU report.
Disclosure of Interest: None declared

24.07

SIMULTANEOUS TREATMENT OF PROLAPSIS POSTERIOR AND CENTRAL PELVIC ORGANS

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Introduction: Patients with obstructed defecation caused by more than only rectocele need a more extensive surgical correction of pelvic organ prolapse (POP). Associated conditions such as enterocele, apical prolapse, perineal descent and internal rectal prolapse, mucous rectal prolapse can be corrected by a combinations of ventral rectopexy (VP) and an anterolateral histeropexy.

Materials & Methods: The authors report a vídeo demonstrating of Laparoscopic Simultaneous Treatment of Rectocele and Apical Prolapse (LAPSTAR).

The patient is positioned in a Lloyd-Davies modified position, a pneumoperitoneum is created to a pressure of 12 mmHg. Four ports are introduced: umbilical, right and left lower quadrants' transition and midline bellow the umbilicus. The uterus is elevated using transvaginal manipulation. The rectovaginal space is dissected down to the pelvic floor. A biologic collagen prosthesis is fixed to the anterior wall of the extraperitoneal rectum with separate points of PDS 2/0 and to the sacred promontory with tackers; a second collagen prosthesis is introduced into the abdomen the central part of the prosthesis is fixated to the uterine isthmus. Two abdominal incisions are made in the abdominal wall superiorly and medially to the anterosuperior iliac spine with dissection of the subcutaneous tissue and opening of the external oblique fascia. A long grasper is introduced in the incision passing the muscle plane up to the perperitoneal space where it will be advanced in subperitonealy to the rectovaginal space. Then the superior parts of the prosthesis are grasped and brought all the way to the fascia where they will be fixated. The traction of the prosthesis repositions the uterus or vagina. The peritoneum is closed.

Results: Discharge to the 1st postoperative day, with oral analgesia. Resolution of the symptoms of defective obstruction and perineal pain.

Conclusion: In the majority of cases of pelvic floor dysfunction there is a multicompartmental POP, and it is necessary to correct posterior and central compartments, simultaneously. RV and LAPSTAR have the advantages of minimal invasion techniques, presenting lower rates of intra and postoperative complications, with excellent clinical results.

Disclosure of Interest: None declared

25.01

PEDIATRIC RISKS OF HYPOPARATHYROIDISM FOLLOWING TOTAL THYROIDECTOMY FOR THYROID CANCER: A 21-YEAR TERTIARY CARE CENTER EXPERIENCE

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Introduction: Hypoparathyroidism is a relatively frequent complication following thyroid surgery in children. To date, only a few studies have reported risk factors for postoperative hypoparathyroidism in pediatric-age patients. We aimed to identify risk factors for hypoparathyroidism following total thyroidectomy operated for malignant indication in children.
Materials & Methods: Children (age ≤ 18) who underwent total thyroidectomy for malignancy at our institution from 1997 to 2018 were included. The demographics, indication for surgery, adverse events, perioperative laboratory results, pathology, and duration of calcium/calcitriol supplementation were retrospectively reviewed. Hypoparathyroidism was defined by postoperative parathyroid hormone (PTH) level < 10 pg/mL and calcitriol was required. Permanent hypoparathyroidism was defined as no recovery of PTH level and continuous need of calcitriol at postoperative 6 months. Risk factors for hypoparathyroidism were identified by multivariate logistic regression.
Results: 184 patients were included. 111 patients had surgery for neoplastic thyroid disease, of which 105 (94.6%) were for malignancy, with papillary being the predominant type (102, 91.9%); 73 patients had thyroidectomy for hereditary medullary thyroid cancer/MEN2. 67 (36.4%) patients had hypoparathyroidism, with 57 of these (85.1%) being transient and 10 (14.9%) permanent. In multivariate analysis, central neck dissection (odds ratio 4.3, 95% confidence interval 2.0-9.1) and gross extrathyroidal extension (odds ratio 4.9, 95% confidence interval 2.0-12.1) predicted overall risk of hypoparathyroidism, while none were associated with permanent hypoparathyroidism. Disease requiring therapeutic central neck dissection accounted for 80 % of permanent hypoparathyroidism.
Image:

Table 3. Univariate and multivariate analyses for factors associated with risk of hypoparathyroidism

	Overall hypoparathyroidism				Permanent hypoparathyroidism	
	Univariate		Multivariate		Univariate	
	OR (95% CI)	p value	OR (95% CI)	p value	OR (95% CI)	p value
Age		0.10				0.87
0-4	1				1	
5-12	1.76 (0.45 – 6.86)				0.82 (0.09 – 7.93)	
13-18	3.06 (0.81 – 11.52)				0.76 (0.08 – 7.00)	
Sex: Male vs. Female	0.53 (0.27 – 1.02)	0.06			1.3 (0.35 – 4.79)	0.69
Body weight (kg)		0.20				0.94
<50	1				1	
≥50	1.73 (0.94 – 3.19)				1.05 (0.29 – 3.75)	
Missing value	2.32 (0.14 – 38.44)				NA	
Comorbidity: Yes vs. No	2.87 (0.97 – 8.46)	0.06			5.79 (1.33 – 25.27)	0.02
Indication for surgery		<0.001				0.95
MEN2/FMTC	1				NA	
Neoplasm	6.65 (3.10 – 14.27)				1	
Distant metastasis before surgery: Yes vs. No	4.64 (0.87 – 24.59)	0.07			18.21 (3.41 – 97.43)	<0.001
Parathyroid on specimen: Yes vs. No	2.33 (1.22 – 4.47)	0.01			1.53 (0.38 – 6.13)	0.55
Parathyroid re-transplantation: Yes vs. No	2.49 (1.34 – 4.60)	0.004			1.98 (0.54 – 7.27)	0.30
Gross extrathyroidal extension: Yes vs. No	8.11 (3.39 – 19.40)	<0.001	4.87 (1.95 - 12.14)	0.001	13.28 (3.23 – 54.69)	<0.001
Central neck dissection: Yes vs. No	6.14 (2.98 – 12.67)	<0.001	4.26 (1.99 - 9.09)	<0.001	7.31 (0.91 – 58.96)	0.06
Retrieved central node number		<0.001				0.27
<10	1				1	
≥10	4.03 (2.14 – 7.61)				2.08 (0.57 – 7.62)	
Central node metastasis: Yes vs. No	4.52 (2.34 – 8.71)	<0.001			9.64 (1.20 – 77.70)	0.03
Pathology		<0.001				1.00
Benign / C-cell hyperplasia	1				NA	
Medullary	2.34 (0.69 – 7.91)				NA	
Papillary	9.23 (3.37 – 25.24)				1	
Tumor size (mm)		<0.001				0.39
<40	1				1	
≥40	2.79 (1.17 – 6.67)				1.86 (0.45 – 7.71)	
No tumor	0.35 (0.15 – 0.81)				NA	
Multifocality: Yes vs. No	3.55 (1.89 – 6.66)	<0.001			3.91 (0.98 – 15.66)	0.05
Microscopic invasion to adjacent tissue: Yes vs. No	4.66 (2.45 – 8.87)	<0.001			15.47 (1.92 – 124.92)	0.01
Lymphovascular invasion: Yes vs. No	5.44 (2.83 – 10.44)	<0.001			15.86 (1.96 – 128.07)	0.01

*. No statistically significant risk factor could be identified in multivariate analysis for permanent hypoparathyroidism.

Conclusion: In pediatric total thyroidectomy, major identified risk factors for hypoparathyroidism were central neck dissection and gross extrathyroidal extension. Surgeons performing thyroidectomy in such patients should be aware of the relatively high risk for postoperative hypoparathyroidism, take special care to preserve parathyroid tissue, be mindful that central neck dissection is associated with increased risk of hypoparathyroidism, and be conscientious regarding postoperative calcium monitoring and replacement.
Disclosure of Interest: None declared

25.02

UTILITY OF ACTIVATED CARBON NANOPARTICLE (CNP) DURING TOTAL THYROIDECTOMY FOR CLINICALLY NODAL POSITIVE PAPILLARY THYROID CARCINOMA (PTC)

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Introduction: Activated carbon nanoparticle (CNP) is a novel operative tracer that can potentially facilitate the appropriate extent of nodal dissection during thyroidectomy in papillary thyroid carcinoma (PTC). Shortly after peri-tumoral injection of CNP, regional lymphatics and nodes are stained dark to help to guide the surgeon on the extent of nodal dissection. The present study aimed to evaluate the benefits of intraoperative CNP injection during total thyroidectomy by comparing the surgical and oncological outcomes between those who received intraoperative CNP injection and those did not receive it in clinically nodal PTC.
Materials & Methods: Among 503 patients with PTC, 206 (41.0%) underwent a total thyroidectomy with nodal dissection for a clinically nodal positive (cN1) PTC. Among those receiving CNP injection, 0.2mL of CNP suspension was injected in the thyroid close to the tumor with the injected site pressed for 3 minutes before dissection began. For those who underwent surgery without CNP, a standardized procedure was performed. All patients were operated by one surgical team. Study endpoints included operative time, rate of inadvertently-removed or auto-transplanted parathyroid glands (PGs), number of total and metastatic lymph nodes, postoperative parathyroid hormone and calcium levels and postoperative thyroglobulin (Tg) level. Biochemical complete response (BCR) was defined as suppressed Tg ≤1ng/mL and/or stimulated Tg ≤2ng/mL.
Results: Patient demographics, tumor characteristics and operative time were comparable between the two groups. However, the total mean number of normal and metastatic lymph nodes excised were significantly greater in the CNP group (11.0 v. 6.4, p=0.021 and 5.9 vs. 3.4, p=0.039). Meanwhile, the rate of inadvertently removed or auto-transplanted PG was also significantly less in the CNP group (16.2% vs. 21.9%, p=0.042). The postoperative Tg level and BCR rate were also significantly lower in the CNP group (9.9ng/mL vs. 14.7ng/mL, p=0.297 and 82.4% vs. 72.9%, p=0.002, respectively). However, in terms of rate of lymph node staining, large-sized (≥ 3cm) tumors had significantly lower rate than smaller-sized PTCs (10.3% vs. 69.4%, p<0.001).
Conclusion: CNP injection can potentially facilitate nodal dissection during thyroid surgery in PTC by increasing the normal and metastatic nodal yield rates while reducing the rate of inadvertent PG removal. To improve the utility of CNP further, a greater volume of CNP injection might be necessary for larger-sized (>3cm) PTCs.
Disclosure of Interest: None declared

25.03

USE OF ELECTRICAL IMPEDANCE SPECTROSCOPY FOR INTRAOPERATIVE TISSUE DIFFERENTIATION DURING THYROID AND PARATHYROID SURGERY

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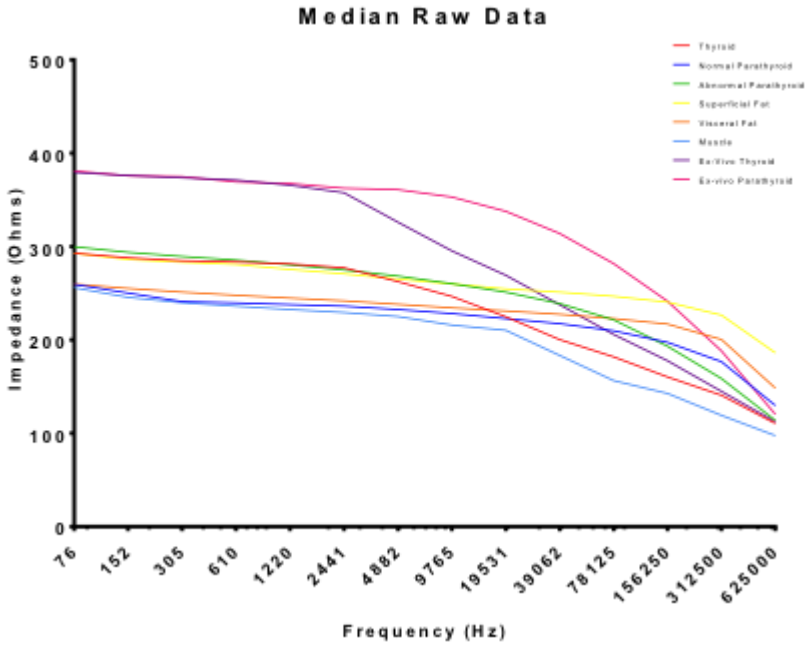
Introduction: Electrical impedance (EI) is a measure of resistance of a circuit to alternating current. Measuring EI of tissues across frequencies may help identify tissue type. Intra-operative use of electrical impedance spectroscopy (EIS) may facilitate early and accurate identification of parathyroid glands and thereby improve outcomes following thyroid and parathyroid surgery. This study looks at the impedance patterns of different soft tissue structures in the human neck to determine if parathyroid tissue can be differentiated from other soft tissues using EIS.
Materials & Methods: This was a phase 1, single arm interventional study involving patients undergoing thyroid and/or parathyroid surgery. 80 patients were screened and 56 patients participated. After exposure of the thyroid and/or parathyroid gland(s), up to 12 EI readings were taken over 14 frequencies to produce spectra from the glands, adipose tissue and muscle. Two patients were excluded from the study due to device malfunction.
Results: 56 patients participated in the study (9 males, 47 females). The median age of participants was 53.5 (range 20-85).
603 EIS spectra were downloaded and reviewed for suitability. The spectra were rejected if negative values were recorded or if impedance rose with frequency. 184 spectra were rejected. Rejection rates were higher from fat (21%) and muscle (18%); likely to be due to high tissue impedance and/or poor probe contact with the tissues. This produced 231 spectra for analysis. The median spectra from each tissue type is shown in Figure 1.

The EI ratio of low (152Hz) to high (312kHz) frequencies were compared using Friedman's 2-way analysis of variance by ranks test and demonstrated a significant difference between thyroid, parathyroid and muscle tissues (p 0.006). The spectra were transformed by normalising the spectrum to the mean amplitude. This reduced variability in amplitude but maintained changes in impedance over the frequencies. The spectra of different tissues were matched to the mean normal parathyroid template and used to produce ROC curves to determine sensitivity and specificity. On this basis, thyroid and parathyroid tissue can be distinguished with a sensitivity of 76% and specificity of 60%.
Image:



Conclusion: This early phase study demonstrates the feasibility of using electrical impedance spectroscopy to aid parathyroid identification and preservation. Further modelling of the data to focus on the differences in the shape of the curve may provide a higher degree of sensitivity and specificity.
Disclosure of Interest: None declared

25.04

TRACTION INJURY OF RECURRENT LARYNGEAL NERVE DURING THYROIDECTOMY

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Introduction: Loss of the neuromonitoring signal (LOS) during thyroidectomy signifies recurrent laryngeal nerve (RLN) injury, which is one of the common complications, especially by traction injury. Transient LOS means spontaneously recover during the operation or within 6 months postoperatively. The purposes of this study are to identify the risk factors of RLN traction injury, its recovery course and determining the maximum waiting time for nerve recovery during operation once LOS occurred.
Materials & Methods: This retrospective study included patients who accepted thyroidectomy in National Cheng Kung University Hospital, Taiwan, between 2015 and August 2018. A total of 775 patients (with 1000 nerves at risk) who underwent intermittent intraoperative neuromonitoring during thyroidectomy were included in this study. The LOS nerves were divided into 4 groups according to LOS type and whether intraoperative recovery or not. We defined transient LOS as that the injury can recover in 6 months. The post-operative vocal cord function was determined by thyroid ultrasound and/or laryngoscope. All the patients would be followed up post-operatively in 2-3 days, 1 week, 2 weeks, and 4-6 weeks.
Results: Intraoperative LOS was present in 67 of 775 patients, and 70 of 1000 risk nerves (7.0%). There were 2 in 70 nerves (2.9%) with LOS type 1 (segmental nerve traction injury) with intraoperative recovery (Group 1), 5 (7.1%) with LOS type 1 without intraoperative recovery (Group 2), 47 (67.1%) with LOS type 2 (global injury) with intraoperative recovery (Group 3), and 16 (22.8%) with LOS type 2 without intraoperative recovery (Group 4). All the injured nerves were belonged to transient LOS, no any permanents injury. All the LOS type 1 nerves had pathological lesions near the nerve ($p<0.05$), and no any other anatomic or pathologic factors related with LOS were found. The resolving time intra-operatively in Group 1 was 5 minutes and 10 minutes respectively. The resolving time intraoperatively in Group 3 was 1-20 minutes, and the mean time was 5.44 minutes. In Group 2, 3 injured nerves recovered within 6 weeks postoperatively, and 2 nerves in 3 months. In Group 4, all the 16 injured nerves recovered within 6 weeks postoperatively.
Conclusion: Applying intermittent intraoperative neuromonitoring during thyroidectomy, traction recurrent laryngeal nerve injury still happened in 7.0%, and 70% of the injured nerves recovered the function intraoperatively after releasing the traction and the longest duration of recovery is 20 minutes.
Disclosure of Interest: None declared

25.05

COMPARING RATES OF TRANSIENT HYPOPARATHYROIDISM AFTER THYROIDECTOMY: IT IS ALL IN THE DEFINITION

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Introduction: Transient hypoparathyroidism is the most common complication after thyroid surgery. The definitions of this complication vary, making it impossible to compare outcomes across studies or registries. We aim to highlight how this variability impacts reported complication rates and to identify a definition to best capture clinically significant transient hypoparathyroidism.

Materials & Methods: This is a prospective analysis of 52 patients undergoing total thyroidectomy for cancer between June 2014 and August 2018. Post-operative calcium (Ca) and parathyroid hormone (PTH) levels were drawn in the recovery room (PACU) and at 2 weeks. Patients were treated empirically post-operatively with Ca and/or activated vitamin D (calcitriol) per institution protocol (Ca for PTH<20 pg/mL, calcitriol added for PTH<10 pg/mL). Patients maintained a detailed log of hypocalcemic symptoms, medication use, and were categorized with occasional (1-2 episodes), regular (1-2 episodes daily for multiple days), or severe symptoms (>2 episodes daily for multiple days).

Results: Rates of transient hypoparathyroidism varied greatly in this cohort based on various defining criteria (Figure 1). If the criterion was calcium level, rates ranged 0-40%. If the criterion was PTH level, the rates ranged 13.5-51.9%. If the criterion was medication, 53.9% were prescribed Ca and 34.6% calcitriol. If the criteria were symptoms, 53.9% of patients reported at least occasional symptoms, but only 28.9% went on to report clinically significant symptoms (regular or severe). We evaluated which numeric definition best captured the patients who experienced clinically significant symptoms. Table 1 shows sensitivity and specificity of different PTH cutoff criteria. A PTH<12 in PACU was the best predictor with 100% sensitivity for detecting severe symptoms and 80% sensitivity for detecting regular symptoms.

Table 1. Sensitivity & Specificity of PTH Cutoff for Detecting Symptoms

PTH Cutoff (pg/mL)	Regular		Severe	
	Sensitivity	Specificity	Sensitivity	Specificity
Undetectable PTH	26.7%	91.9%	22.2%	88.4%
PTH <9	53.3%	86.5%	66.7%	83.7%
PTH <10	60.0%	82.9%	77.8%	76.7%
PTH <12	**80.0%**	**75.7%**	**100.0%**	**72.1%**
PTH <20	86.7%	64.9%	100.0%	60.5%
PACU PTH drop >62%	86.7%	62.2%	100.0%	58.1%

Image:

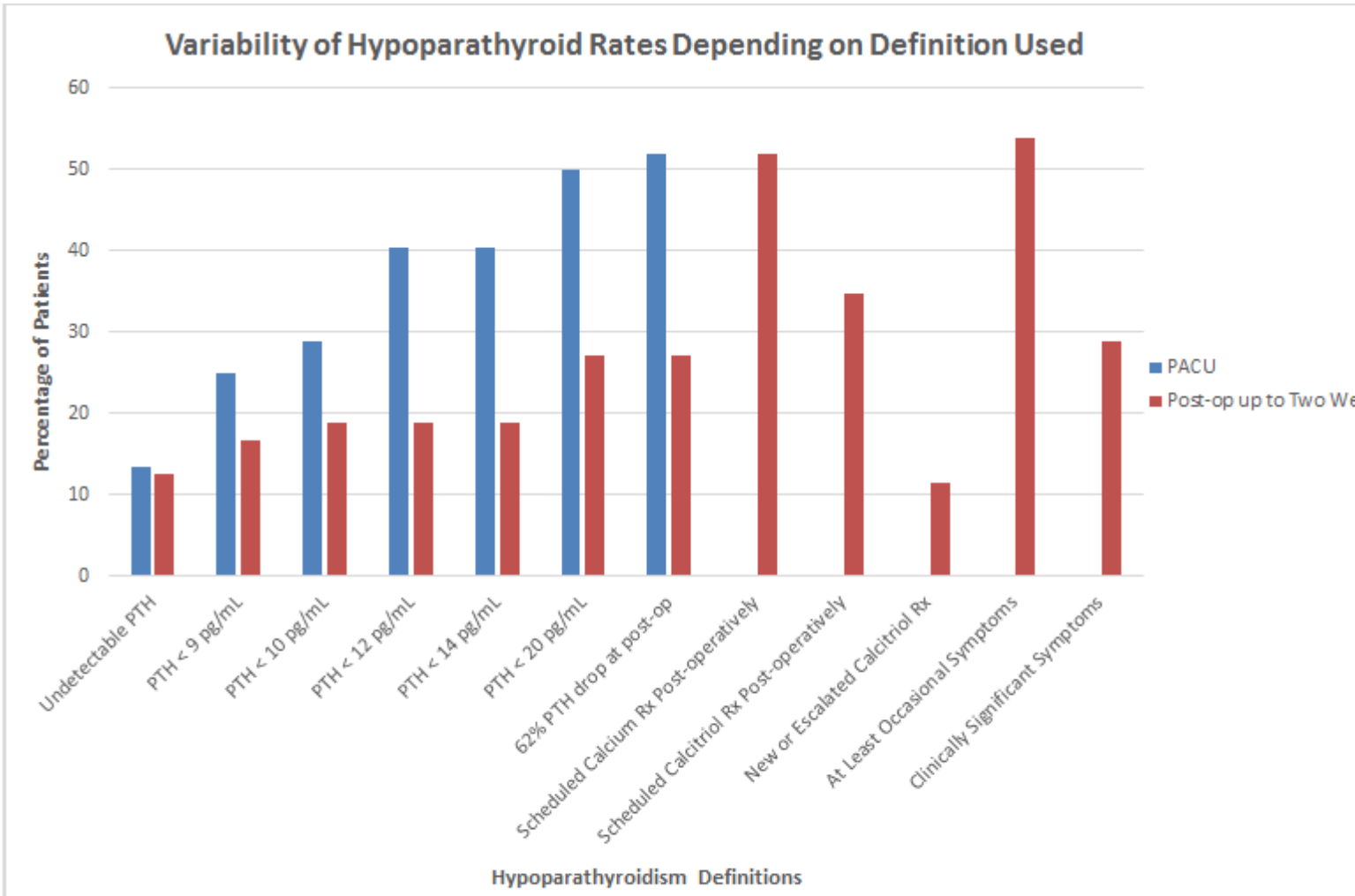

Figure 1. Rates of transient hypoparathyroidism varied greatly among study patients based on defining criteria used.

Conclusion: Postoperative hypoparathyroidism is common, yet the reported rates vary significantly depending on the definition. A standardized definition will allow us to compare outcomes across institutions. Based on our analysis, a PTH<12 best identifies patients suffering from clinically significant symptoms.

Disclosure of Interest: None declared

25.06

PROGNOSTIC CHARACTERISTICS OF PRIMARY SQUAMOUS CELL CARCINOMA OF THE THYROID: A NATIONAL CANCER DATABASE ANALYSIS.

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Introduction: Primary squamous cell carcinoma of the thyroid (ThySCC) is a rare malignancy, with a poor prognosis that is almost exclusively described in case reports. We aimed to characterize the prognosis of ThySCC and compare its oncologic behavior to other well-characterized thyroid cancers.
Materials & Methods: The National Cancer Database was queried to identify patients with ThySCC, papillary (PTC), anaplastic (ATC), and poorly differentiated (PDTC) subtypes treated from 2004-2015. PTCs smaller than 1cm were excluded. Demographics, tumor characteristics, treatments, and overall survival (OS) were compared using the Kaplan Meier method. Cox regression models were used to identify independent predictors of OS.
Results: 116, 529 patients were included: 314 ThySCC (0.27%); 112,452 PTC (96.5%); 563 PDTC (0.48%); and 3,200 ATC (2.75%). Median follow up was 60 months. ThySCC patients had a 5-year OS of 17.7%, more closely resembling ATC (8.3%) than PDTC (58.0%) or PTC patients (93.6%) ($p<0.001$). (Figure 1)
When comparing ThySCC to ATC patients, demographics were similar except ThySCC patients were younger (68.0 vs 70.2 years, $p<0.05$). ThySCC patients had smaller tumors (median 50 (IQR 35-67) vs 60 (45-80) mm) and lower rates of extra-thyroidal extension (ETE) (64.0% vs 73.8%), lympho-vascular invasion (8.3% vs 12.3%), and positive margins (22.0 vs 28.3%) compared to ATC patients ($p<0.05$). For ThySCC patients, ETE (HR 2.9 (95%>CI 1.4-6.1), $p<0.05$) and positive lymph nodes (HR 2.1(95%>CI 1.1-3.8) $p<0.05$) were the only tumor characteristics independently associated with worse OS. In particular, lymph node positivity decreased median OS in ThySCC patients from 36.8 to 9.8 months ($p<0.05$). Patients with ThySCC less frequently received external beam radiation (49.0% vs 56.5%, $p<0.05$) or chemotherapy (37.9% vs 44.8% $p<0.05$) compared to ATC, but both had similar rates of surgical management. Among patients who underwent surgery, the majority achieved macroscopic resection (82.4% in ThySCC vs 73.3% ATC, $p<0.05$). However, in contrast to ATC, patients with ThySCC who had at least an R1 tumor resection did not benefit from adjuvant chemotherapy or external beam radiation.
Image:

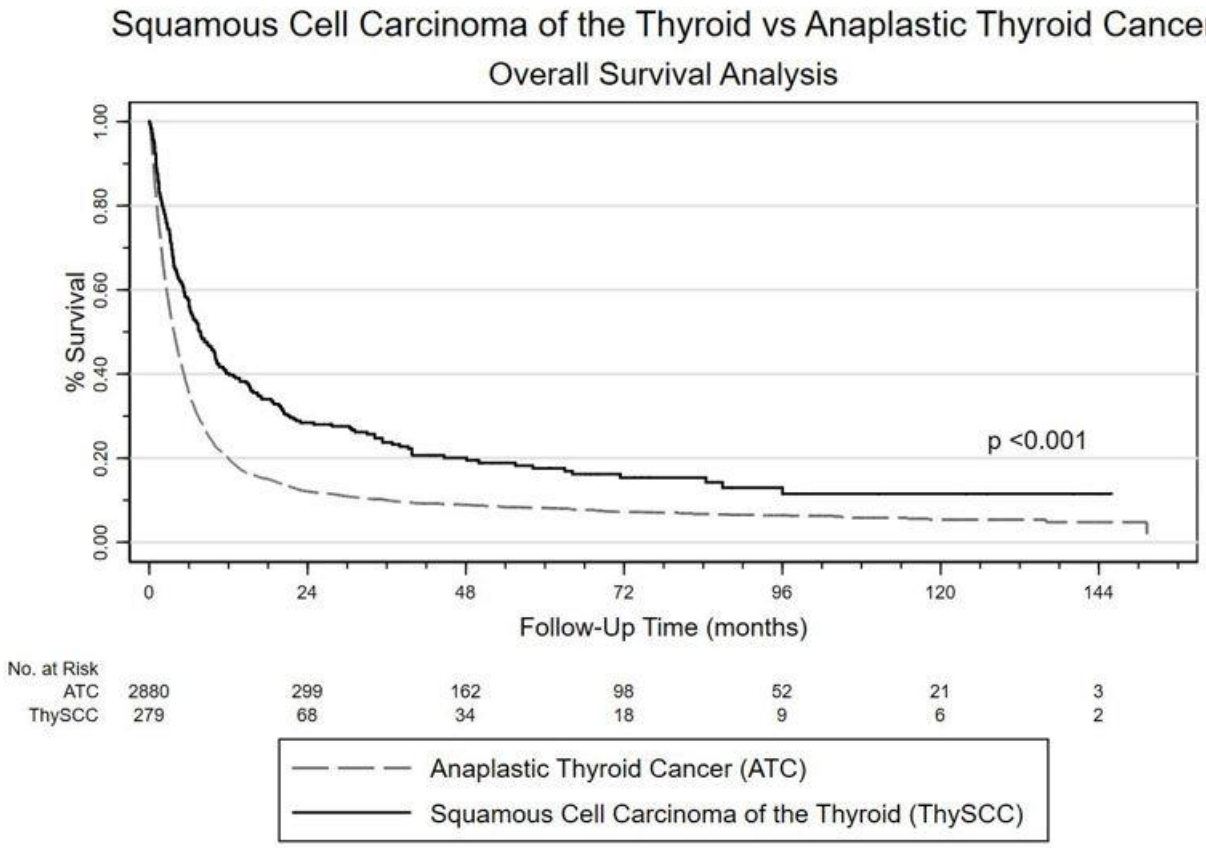

Figure 1. Kaplan-Meier survival estimates of primary squamous cell carcinoma of the thyroid (ThySCC) compared to anaplastic thyroid cancer (ATC).

Conclusion: ThySCC is associated with a poor prognosis, similar to ATC. However, ThySCC appears to be a distinct entity, characterized by less aggressive histologic features than ATC, but no survival benefit with adjuvant therapy when macroscopic resection is achieved.

Disclosure of Interest: None declared

34.01

AN ANALYSIS OF THE ACQUISITION OF SURGICAL SKILLS BY FINAL YEAR MEDICAL STUDENTS IN STATE-OWNED MEDICAL SCHOOLS OF CAMEROON.

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Introduction: Surgery plays an important role in provision and support of primary health care services. The World Health Organization recommends that basic surgical care be administered at the district level. Due to limited availability of qualified surgeons, general practitioners need to be competent in a number of practical surgical skills in order to reduce the number of referrals for emergency and selected elective surgical procedures. Curriculum of medical schools in low and middle-income countries must be designed accordingly. The aim of this study was to report the level of exposure of final year medical students to practical surgical skills.
Materials & Methods: This is a descriptive cross-sectional study carried out in the four state owned medical schools in Cameroon. The target population was final year medical students who have completed all clinical rotations. A structured self-administered questionnaire was used to assess their exposure to basic surgical skills and selected surgical procedures. Self-confidence in performing basic surgical skills (BSS) was assessed using a Likert scale. Adequate exposure for a given surgical procedure was pre-defined based on the role of the student (observer, assistant or performer). Data analysis was performed using EPI INFO version 7.2.
Results: Of the 347 final year medical students approached, 304 returned filled questionnaires giving a response rate of 87.6%. Their comfort in basic surgical skills ranged from 25% (manual surgical node tying) to 86% (surgical scrubbing). Adequate exposure to selected surgical procedures was 87% for perineal tear repair after vaginal delivery, 81% for caesarean section and incision and drainage of an abscess, 73% for cast immobilisation of a limb fracture, 55% for hernia repair and 53% for appendectomy. It was as low as 3% for bowel resection and anastomosis. The choice to perform extra-curricular activity for skills improvement was significantly associated with adequate exposure ($P < 0.05$).
Conclusion: The performance rate of practical surgical skills by final year medical students in medical schools in Cameroon is poor. However, the majority of students are likely to be able to perform a sizeable number of surgical procedures by the end of their training. Medical students who do not master basic clinical skills and are not adequately exposed to common procedures should be given an opportunity to be exposed before graduation.
Disclosure of Interest: None declared

34.02

ELECTIVE LAPAROSCOPIC SPLENECTOMY - HOW SAFE IS IT IN THE HANDS OF RESIDENTS OF GENERAL SURGERY?

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Introduction: The aim of the study was to assess safety of elective laparoscopic splenectomy (LS) performed by residents undergoing training in general surgery.
Materials & Methods: Prospectively collected database of patients who underwent elective LS between 2008 and 2018 in II Department of General Surgery UJ MC in Krakow was analyzed retrospectively. Differences in procedures conducted by residents and attending surgeons were assessed based on operative and clinical outcomes. Group 1 (31 patients) included patients operated by residents, group 2 (281 patients) - by specialists. Duration of operation, mean blood loss, number of intraoperative difficulties, intraoperative adverse events, perioperative complications, number of conversions to the open technique and conversions of the operator, reoperations and length of hospital stay were analyzed.
Results: Mean operative time was 112.1 min (55 - 240, SD ± 39.8) and 105 min (25-265, SD ± 46.5) in groups 1 and 2 respectively (p=0.3144). Mean blood loss in group 1 was 166.5 ± 285.4 ml and in group 2 – 142.1 ± 245.7 ml (p=0.1581). 31 perioperative complications were observed (9.9%) - 2 (6.5%) in group 1 and 29 (10.3%) in group 2 (p=0.7136). 8 cases (25.8%) of conversion of the operator due to intraoperative difficulties occurred in group 1, and 9 cases (3.2%) of conversion of the operator happened in group 2 (p<0.0001). Average LOS was 3.8 days in group 1 and 4.7 days in group 2 (p=0.03612). There was no difference in intraoperative adverse event rate, numbers of conversions to the open technique and reoperation rate between groups.
Conclusion: Elective LS performed by actively proctor resident is a safe procedure. Residents had more difficulties in performing LS and needed active help from senior surgeons more frequently then attending surgeons. Tactic of "conversion of operator" from trainee to mentor allowed to prevent complications.
Disclosure of Interest: None declared

34.03

THE USE OF E-LEARNING AND ELECTRONIC SURGICAL LOGBOOKS AMONGST COSECSA SURGICAL TRAINEES: AN EAST, CENTRAL AND SOUTHERN AFRICAN ANALYSIS

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Introduction: E-learning occupies a major role in the training of surgical residents worldwide. The College of Surgeons of East, Central and Southern Africa (COSECSA) delivers training to almost 600 trainees in over 120 hospitals across 17 countries. Since its foundation in 1999, the college has placed importance on the integral role of delivering e-learning resources to a heterogenous and vast training region. However, the face validity, learning value and accessibility of these e-resources remains to be described across our less economically developed countries.
Materials & Methods: A 29 point anonymous questionnaire was distributed to 625 surgical trainees and recent fellows of COSECSA in January 2019. Through multipoint Likert scales we surveyed internet accessibility, expenditure, quality feedback and usage trends for e-learning resources including operative videos, research databases, the e-logbook, clinical management and pharmaceutical references.
Results: Respondents were predominantly in general (49·6%) or orthopaedic (25·4%) surgery, with a median training duration of 3 years (IQR 2-5). The lion's share owned an internet accessible device (96·6%) and had internet access in the home (95·7%) or workplace (89·5%). However, only a slim majority felt their internet accessibility satisfied their learning needs. Participants reported a median annual expenditure of $300 USD (IQR 100-500) on additional e-learning resources. While the majority (55·6-60·8%) perceived that e-learning resources had not achieved their full potential, many accessed these regularly (daily-weekly) for clinical management (59·5%), research databases (53·0%) and operative videos (45·3%). Approximately 1 in 4 fully record their operative activity, with poor internet connectivity reported as the principle reason for underreporting. One third record their operations infrequently (>1 month duration) while almost 45% reported their supervisor as being engaged with the logbook and 12·8% ratifying the logbook monthly. Despite its underutilisation, the majority (67·4%) reported the e-logbook as convenient to use. The highest motivational factor for logbook usage was its mandatory component (38·8%), followed by the ability to self-assess ones operative exposure (24·7%).
Conclusion: Despite the provision of e-learning resources to surgical residents in low-middle income countries, connectivity may limit accessibility. Future focus on improving the quality of learning resources and offline access for low connectivity environments may motivate usage.
Disclosure of Interest: None declared

34.04

IMPROVING SUITABILITY OF REFERRALS AND APPROPRIATE UTILISATION OF A NEW SURGICAL ADMISSIONS UNIT: A CLOSED-LOOP QUALITY IMPROVEMENT CYCLE

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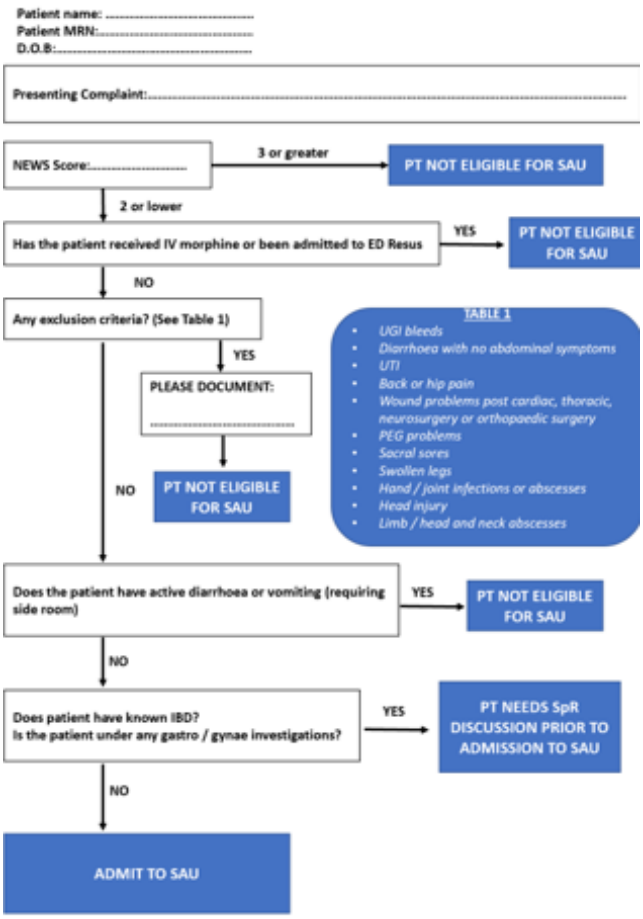
Introduction: The acute surgical admissions unit (SAU) is a novel model for the provision of emergency general surgery care. Systematic reviews suggest SAUs lead to reduced length of stay, time to assessment and improved training; leading to better outcomes for patients. In November 2018, a new SAU was introduced at our busy district general hospital. Key features included; nurse-to-nurse direct referrals from the emergency department (ED) guided by comprehensive inclusion and exclusion criteria, transfer of stable patients to SAU prior to medical review, freeing up time and space in ED, and facilities to bring patients back for day-case investigations, without need for admission. We aimed to assess suitability of referrals and appropriate utilisation of this service.
Materials & Methods: Prospective consecutive data was collected on all patients admitted to SAU in two weeks including NEWS score, reason for admission, final diagnosis, and patient outcome. Two independent surgical trainees assessed the clinical appropriateness of referrals and inter-observer agreement was checked. After initial data collection, analysis and presentation, changes were proposed to improve patient safety and efficiency including; additional exclusion criteria for direct admission to SAU, utilisation of a new admissions proforma and development of a pathway for direct referral of non-surgical patients to medical specialties (Figure 1). Following this, a further two-week data collection was completed to establish effects of these changes.
Results: In the first and second 2-week periods, 192 and 214 patients were admitted respectively, of which 52% (n=99) and 47.7% (n=102) were discharged the same day. 11% (n=21) and 14.5% (n=31) respectively were discharged to return for ongoing investigation that avoided overnight admission. Initially 8% (n=15) did not meet the SAU criteria for direct referral but following education and implementation of the proforma, this decreased to 5.6% (n=12). Initially, 5.7% of patients were not deemed clinically appropriate for review which reduced to 4.2% in the second cycle.
Image:



Conclusion: The SAU is seeing a large number of appropriate surgical patients. Avoidance of overnight admissions confers a significant benefit for patients and the hospital in terms of cost savings and relieving bed pressures. Education of ED and surgical teams about the SAU, and utilisation of a new surgical admissions proforma has been successful at reducing the number of inappropriate referrals to SAU to ensure patient safety.
Disclosure of Interest: None declared

34.05

STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS OF THE POSTGRADUATE SURGICAL TRAINING IN EAST, CENTRAL AND SOUTHERN AFRICAN REGION: A SURVEY CONDUCTED AMONG COSECSA SURGEONS AND TRAINEES

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Introduction: Sub-Saharan Africa still has the highest unmet need for surgery worldwide, and there is an urgent need to expand the surgical care delivery by training more surgeons from Africa. With the recent increased efforts of training surgeons by different programs, such as the College of Surgeons of East, Central and Southern Africa (COSECSA), there are new challenges to be addressed based on the standards of surgical training. We aimed to critic the current postgraduate surgical training in the East, central and southern African (ECSA) region
Materials & Methods: A mixed-methods study conducted among surgeons and surgical trainees from June to August 2018 from the ECSA region. Both quantitative and qualitative data were collected through a SWOT analysis approach in regards of the current surgical training perceived by the responders. Data were collected through an electronic questionnaire sent by email from COSECSA database. This research was approved by the COSECSA ethical committee.
Results: A total of 109 surgeons and surgical trainees from 13 ECSA countries responded. There were 59.6% surgeons and 40.4% trainees. The median age class was 31-35 years, and 15.6% were female; about 75% were working in public hospitals. Regarding their surgical specialities, 44% were from General surgery, 24 % Orthopaedics. Almost 92% of the responders recommended COSECSA program as a solution for surgical speciality trainings in their home countries. In the same idea, 64.4% found that it was relevant to train their own surgeons in their country, and 55.2% considered that there was high chance of Brain Drain if surgeons were trained oversees. In contrast, 84.3% stated that research experience was lacking in their surgical activities; 80.7 % declared that hospitals were poorly equipped for appropriate surgical trainings; 75.23 % stated that there were limited scholarship funds for trainees; 73.4% reported that supervisors were not well paid, thus less motivated for skills transfer; 71.1% stated that their home countries had very few practicing surgeons; 68.8 % mentioned that minimally invasive surgery was inexistent.
Conclusion: The COSECSA program is deemed to address the problem of lack of surgical specialities' training, as well as preventing the Brain Drain phenomenon. However, there are several weaknesses listed in the postgraduate surgical training in the ECSA region, such as training quality insurance, inexistence of scholarship, lack of research opportunities, and poorly equipped training hospitals.
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Disclosure of Interest: None declared

34.06

REMOTE TRANSMISSION OF LIVE SURGERY OUTSIDE OPERATING ROOM TO TEACH MEDICAL STUDENTS ON OPERATIVE GENERAL SURGERY IN UNDERGRADUATE SURGICAL EDUCATION

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Introduction: Teaching operative surgery in the operating room (OR) is increasingly challenging in undergraduate surgical curriculum due to the rising concerns on infection control, intraoperative disruptions to surgeons, and reducing exposure opportunity from expanding class size. With a global trend of falling number of medical graduates entering the surgical profession, better methods of teaching operative surgery to medical students (MS) are warranted to help arousing their interests on surgery. Live surgery transmission is a popular educational platform in professional meetings for knowledge exchange. This study aims to evaluate the applicability of live surgery transmission to teach MS on operative surgery.
Materials & Methods: This was a cross-sectional study on 3 consecutive classes of final year MS from a 6-year undergraduate program in Hong Kong. During the 5-week general surgical clerkship, 3 sessions of high definition transmission of real-time general surgical operations were conducted from the OR to a remote classroom of 25-30 MS. Without disturbing the operation, each 3-hour session was composed of case presentation, topic review by MS, and operation illustration by a senior surgeon teacher. A post-teaching questionnaire survey (using a 6-point Likert scale) was conducted on all MS to evaluate their opinions on 4 aspects - their learning experiences on live surgery transmission, their willingness for more similar sessions, the impact on arousing their interests on surgery, and their overall satisfaction.
Results: A total of 72 teaching sessions of live surgery transmission were conducted over the 3-year study period and 611 (93.2%) MS responded to the survey. None of the sessions had intraoperative disruptions to surgeons. Regarding the learning experiences towards live surgery transmission, 99.0% MS agreed that the sessions could enhance their understanding of the subject (27.3% strongly agree), 98.1% agreed that they could understand relevant surgical anatomy better (29.2% strongly agree), and 98.0% agreed that the topic review by MS was useful (26.3% strongly agree). Many MS (79.0%) wished for more similar sessions. An overwhelming majority (99.0%) of MS agreed that the sessions could deepen their interests on surgery. Up to 99.3% were satisfied with the sessions.
Conclusion: Remote transmission of live surgery were highly accepted by MS in learning operative surgery. It could enhance their learning experiences and arouse their interests on surgery while avoiding any intraoperative disruptions.
Disclosure of Interest: None declared

35.01

NEED FOR STRICTER INTRAOPERATIVE PARATHORMONE CRITERION TO NORMAL RANGE FOR SUCCESSFUL PARATHYROIDECTOMY IN STAGE III CHRONIC KIDNEY DISEASE PATIENTS WITH PRIMARY HYPERPARATHYROIDISM

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Introduction: A stricter >50% intraoperative parathormone (ioPTH) drop criterion to a final normal range rather than the classic >50% ioPTH drop criterion alone may be needed for optimal operative success in patients with chronic kidney disease (CKD). This study compares operative outcomes using a stricter >50% ioPTH drop criteria to the final ioPTH ranges <40 pg/dL, 40 to 65 pg/dL or >65 pg/dL in patients with mild or moderate renal insufficiency undergoing parathyroidectomy (PTX) guided by ioPTH monitoring for primary hyperparathyroidism (pHPT).
Materials & Methods: A retrospective review of prospectively collected data in 576 patients undergoing PTX guided by ioPTH monitoring for pHPT at a single institution was performed. All patients had elevated calcium and PTH levels with ≥6 months of follow up. CKD was stratified based on estimated GFR (eGFR): Stage I normal GFR (GFR>90 ml/min), Stage II Mild CKD (GFR= 60-89 ml/min), Stage III Moderate CKD (GFR = 45-59 ml/min). Patients with overt secondary hyperparathyroidism (CKD Stage IV and V) were excluded from the analysis. Operative success, failure, recurrence, bilateral neck exploration (BNE) and multiglandular disease (MGD) were compared across the three groups using the stricter >50% ioPTH drop criteria to the final ranges of <40 pg/dL, 40 to 65 pg/dL or >65 pg/dL.
Results: Of 576 patients, 220(38%) had normal renal function or stage I CKD, 251(44%) had Stage II, and 105(18%) had Stage III. For patients with Stage I and II CKD, there was no statistical differences in operative outcomes between patients with a stricter >50% ioPTH drop to all final ranges. However, in Stage III CKD patients, operative success was significantly higher in patients with a >50% ioPTH drop to final range of <40 pg/dL (100% vs. 96.6 vs. 87%, respectively, $p<0.05$); A higher risk for recurrence compared to the patients with more permissive criterion of 40 to 65 pg/dL or >65 pg/dL at 10 minutes was also noted (0% vs. 2%, $p<0.05$). Operative failure (10.6%) was highest in the group of patients with >50% ioPTH drop to >65 pg/dL.
Image:

Criterion	PTH < 40 (n=118, 53.6%)	40 ≥ PTH < 65 (n= 57, 25.9%)	PTH ≥ 65 (n=45, 20.5%)	p	PTH < 40 (n=128, 51%)	40 ≥ PTH < 65 (n=59, 23.5%)	PTH ≥ 65 (n=64, 35.5%)	p	PTH < 40 (n=45, 42.8%)	40 ≥ PTH < 65 (n=22, 21%)	PTH ≥ 65 (n=38, 36.2%)	P
Intraoperative Findings												
Bilateral Neck Exploration	12 (10.2) [a]	9 (15.8) [b]	3 (6.7) [c]	0.35	12 (9.4) [a]	7 (11.9) [b]	4 (6.2) [c]	0.57	2 (4.4) [a]	4 (18.2) [b]	1 (2.6) [c]	0.07
Multiglandular Disease	5 (4.2) [d]	6 (10.5) [e]	1 (2.2) [f]	0.19	9 (7.0) [d]	4 (6.8) [e]	7 (10.9) [f]	0.62	3 (6.7) [d]	2 (9.1) [e]	5 (13.1) [f]	0.69
Operative outcomes												
Success	118 (100) [g]	55 (96.6) [h]	44 (97.8) [i]	0.12	127 (99.2) [g]	57 (96.6) [h]	61 (95.3) [i]	0.17	45 (100) [g]	21 (95.5) [h]	33 (86.8) [i]	0.02
Failure	-	1 (1.7) [h]	1 (2.2) [i]		1 (0.8) [g]	1 (1.7) [h]	1 (1.6) [i]		-	-	4 (10.6) [i]	
Recurrence	-	1 (1.7) [h]	-		-	1 (1.7) [h]	2 (3.1) [i]		-	1 (4.5) [h]	1 (2.6) [i]	
Mean follow up (mo)	38.5 ± 38.1	48.5 ± 49.4	61.3 ± 48.9		41.3 ± 40.3	45.8 ± 48.3	55.8 ± 48.0		35.1 ± 26.7	49.6 ± 28.6	44.2 ± 42.8	

[a] p=0.50; [b] p=0.72; [c] p=0.67; [d] p=0.62; [e] p=0.77; [f] p=0.16; [g] p=1; [h] p=0.84; [i] p=0.13

Conclusion: Although >50% ioPTH drop criterion to any range results in the highest operative success in Stage I and Stage II CKD patients with pHPT, in patients with Stage III CKD and pHPT, implementing a stricter >50% ioPTH drop criterion to <40 pg/dL may lead to higher rates of operative success with lower risk of operative failure and recurrence.

Disclosure of Interest: None declared

35.02

HIGH ENDOTRACHEAL PRESSURE DURING THYROIDECTOMY IS ASSOCIATED WITH RECURRENT LARYNGEAL NERVE INJURY

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Introduction: The aetiology of recurrent laryngeal nerve (RLN) neuropraxia is unclear in most vocal cord palsies post thyroidectomy. We hypothesised that high intralaryngeal pressures impede RLN conductivity, which may in turn contribute to RLN palsy. Therefore, in this study we measured endotracheal tube (ETT) cuff pressure (as a surrogate for intralaryngeal pressure) and RLN conduction during a standardised series of 10 manoeuvres in thyroidectomy, to assess for any correlation between cuff pressure and RLN conductivity.
Materials & Methods: Prospective cohort study of thyroidectomy at The Alfred Hospital from March to December 2018. For each thyroid lobe, ETT cuff pressure was continuously measured *via* an air pressure transducer. RLN conduction (amplitude and latency) was measured using continuous neuromonitoring (Medtronic NIM Nerve Monitoring System). Change in ETT cuff pressure and nerve conduction from baseline measurements was analysed. A reduction of nerve signal amplitude of >50% or an increase in latency of >10% was defined as an increased risk of RLN nerve palsy. Values are presented as mean ± standard deviation. Mean comparison was conducted using a Student's t-test analysis.
Results: A total of 50 RLNs were analysed. The mean baseline ETT cuff pressure of 19.5 ± 8.9 mmHg, increased significantly to a mean of 22.0 mmHg during anteromedial rotation of the thyroid ($p < 0.05$). RLN conduction was slowed during manipulation of the superior thyroid pole with deviations of both the latency (- 1.37% from baseline, $p < 0.05$), and amplitude (-8.0 % from baseline, $p = 0.06$). The signal deviations did not correlate to the timing of increased ETT cuff pressure. In 3 cases of temporary RLN palsy, the mean case ETT cuff pressure was significantly higher (24.84 mmHg, $p < 0.01$).
Conclusion: The results demonstrate that both ETT cuff pressure and RLN conductivity can change significantly with manipulation of the thyroid, and that high ETT cuff pressures may be associated with RLN injuries. Further investigation into time under high pressure may help further clarify the underlying cause for the different types of RLN injury.
Disclosure of Interest: None declared

35.03

EFFECT OF SOCIAL DISPARITIES ON MANAGEMENT AND SURGICAL OUTCOMES FOR PATIENTS WITH SECONDARY HYPERPARATHYROIDISM

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Introduction: Nearly 80% of patients with chronic renal failure have elevated parathyroid hormone levels (PTH), leading to electrolyte imbalances, muscle pains and bone disease. Cinacalcet is used to lower PTH, however the drug is expensive and has side effects. When secondary hyperparathyroidism is resistant to medical therapy or if the drug is not available, parathyroidectomy is performed to decrease PTH. Race and socioeconomic status play a role in both access to care as well as surgical outcomes. We sought to evaluate the effect of race and socioeconomic status on parathyroidectomy rate as well as surgical outcomes of patients with secondary hyperparathyroidism.
Materials & Methods: We undertook a cross-sectional analysis of adults diagnosed with secondary hyperparathyroidism between 2012 and 2015, using the American National Inpatient Sample. Univariate and multivariate analysis were used to determine association between disparities and likelihood to undergo parathyroidectomy for secondary hyperparathyroidism. Further we determined if those having parathyroidectomy had worse outcomes associated with socioeconomic status or race.
Results: Over the 3 year analysis, 144,834 patients were identified as having secondary hyperparathyroidism representing 724,170 people in the US population. Of these, 979 representing 4895 patients underwent parathyroidectomy for an operative rate of 0.70%. By socioeconomic status, highest rates of surgery occurred in the poorest compared to richest patients (0.74% vs 0.55%). African-American patients had a higher rate of parathyroidectomy compared to whites (1.00% vs 0.74%) including adjusted multivariate analysis (OR 1.49, $p<0.0001$). African-American patients had a trend toward more complications and a greater length of stay after surgery than other races.
Conclusion: According to a large administrative dataset, parathyroidectomy for secondary hyperparathyroidism is seldomly used in the US population. This is likely due to widespread use of cinacalcet. African-American patients and poor patients have higher rates of surgical management suggesting variable access to cinacalcet. Further, surgical outcomes may also be affected by race. Clinicians treating secondary hyperparathyroidism should be aware of existing disparities within their health system.
Disclosure of Interest: None declared

36.01

BODY COMPOSITION IN MORBIDLY OBESE PATIENTS AFTER SLEEVE GASTRECTOMY VERSUS ROUX-EN-Y GASTRIC BYPASS - A SECONDARY ANALYSIS OF A RANDOMIZED CLINICAL TRIAL.

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Introduction: The assessment of outcomes of bariatric surgery is based on weight loss but infrequently on the quality of weight loss. Segmental bioimpedance analysis (BIA) is a non-invasive procedure allowing to follow changes in body composition after bariatric surgery. The aim of this study was to compare body fat and lean mass loss in patients randomized to sleeve gastrectomy (SG) vs Roux-Y gastric bypass (RYGB) during early period of weight loss (EP, 0-12 months) and stabilization period (SP, 12-24 months) and their correlation with metabolic variables.
Materials & Methods: Morbidly obese patients randomized to SG (n=36) or gastric bypass (n=36) were included in the analysis. Body composition was measured at baseline and at 1, 6, 12, 18 and 24 months after surgery using 8-electrode impedance analyzer. Data for analysis included total body and segmental fat mass (FM) fat-free mass (FFM), total body water (TBW) and predicted muscle mass (PMM). Biochemical and clinical outcomes were recorded at each follow-up visit.
Results: Significant weight loss (WL) was observed during EP in RYGB and SG groups with no significant difference between groups (excess WL 64.2% vs 67.8%; ns) followed by weight stabilization and non-significant regain at 24 months. Similar patterns of whole body and segmental fat mass changes were observed. FFM loss during EP was higher in RYGB vs SG (-8.9kg vs -4.6kg, $p<0,05$) and during SP it further decreased after RYGB and increased after SG but without significance in time and between groups. In RYGB group in EP a decrease in FFM correlated with a decrease in fasting insulin ($r=0.47$; $p<0.05$) and in the SP it correlated with a decrease in HbA1c ($r=0.55$; $p<0.05$); in SG group in EP a decrease in FM correlated with a decrease in insulin ($r=0.59$; $p<0.05$). Changes in central adiposity did not correlate with any metabolic variables.
Conclusion: BIA shows a decrease in both FM and FFM after RYGB and SG with significant difference between procedures in FFM loss in EP and non-significant differences in SP. Benefits of profound early weight loss and improvement in metabolic comorbidities develop parallel to unfavorable loss of muscle mass. As expected, these changes are prominent in EP and become more moderate in SP. Correlations with metabolic variables are inconsistent suggesting that BIA may not allow to monitor metabolic status of bariatric patients. Despite similar weight loss and beneficial metabolic effects, RYGB leads to higher FFM loss in the first postoperative year.
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Disclosure of Interest: None declared

36.02

MINIINVASIVE BARIATRIC SURGERY AND BODY CONTOURING PROCEDURES IN MORBIDLY OBESE PATIENTS

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Introduction: Bariatric surgery is one of the most effective measures in medical strategy on counteracting obesity. The new concept in surgery of the 21-st century: operations should be mini-invasive, precise, save and simple. One of the most important post-bariatric surgery metabolic and cosmetic outcome is improvement of patient's health, appearance and quality of life after weight loss.
Materials & Methods: 2256 consecutive morbidly obese patients underwent Roux-en-Y Gastric Bypass (RYGB) operation through the mini-laparotomy incision, developed and modified in our center (1288 RYGB and 968 with laparoscopic approach). Female – 1834 (81.3%), Male – 422 (18.7%). Average age – 42.1 ±3.4 (16-69) years, average BMI – 46.1±4.1 kg/m2 (35-82), average length of mini-laparotomy incision for performing RYGB – 7.9±1.9 cm. Average operative time for mini-laparotomy RYGB – 57.1±3.7 min, for laparoscopic RYGB - 167±12.3 min. Body contouring surgical operations were performed after weight loss and stabilization: abdominoplasty, liposuction and hernia repair – 196, abdominoplasty, liposuction and breast surgery – 167, torsoplasty – 26, face lift (SMAS) – 57, brachioplasty – 78, thigh lift-46. In 62 patients abdominoplasty operations were done using our new "Tightening Jacket" technique.
Results: All 2256 patients after bariatric surgical procedures were analyzed for effectiveness, weight loss, metabolic and cosmetic outcome after body contouring surgery. Mortality after primary bariatric operations -3 (0.13%). Postoperative morbidity – 4.8%. Early postoperative complications (1.92%). Late postoperative complications – 3.4%. Average weight loss before the body contouring cosmetic surgery was – 64.1±5.9 kg. Average time from bariatric surgery to body contouring procedure was 18.1 (14-36) months. Patients satisfaction rate and quality of life improvement after bariatric and body contouring operations was 89-96%.
Conclusion: Mini-invasive bariatric operations, using mini-incisional open or laparoscopic approach, with individualized selection of patients for body contouring aesthetic surgical procedures after weight loss are the optimal, save and effective tools in the treatment of morbidly obese patients
Disclosure of Interest: None declared

36.03

ABDOMINAL HERNIA TODAY: OPEN VS LAPAROSCOPIC REPAIR / IPOM VS OTHER LAYERS

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Introduction: During the third meeting of the network International Endo-Hernia Society (IEHS) held in Stutgart, 2008, the ten surgeons from four continents made guidelines for standardization of operative technique, especially regarding teaching. In the 2009 European Guidelines, raw data were used to conclude that laparoscopic and open repair is comparable in long-term follow-up .

Purpose. To make some insights and review the recent surgical advances, during last 10 years, in the treatment of abdominal wall hernias repair. We need to reduce the rate of hernia recurrences.

Materials & Methods: The presentation given data from International/National Clinical Trails from WHO registry and were included Controlled Trails from Cochrane Central register till the ender of 2018 year.

The main objective of presentation is to determine solutions for surgeons at first and how to search answer on any case of more than 20 million patients annually.

Results: The major advances include more new practical cases in hernia surgery :

a) *not only the conception of tension-free hernia surgery, developing the LAP and open hernia repair by Shouldice and Lichtenstein , or Desarda operation and IPOM ;*

b) *what is new generation prosthetic materials, produced with 3D technology – did it need fixation and which new possibilities are on it ;*

c) *how to develop into usual clinical practice, this surgical techniques with mesh, as the trans-abdominal pre-peritoneal repair (TAPP), the intra-peritoneal on-lay mesh repair (IPOM), and the totally extra-peritoneal repair (TEP) – the idea of training and competition centers with experts.*

Conclusion: The goals of future research should be to reduce mesh discomfort and complications, to improve bio-tolerance and maintain surgical results and to found primary risk factors of abdominal wall hernias. According to the national possibilities, the level of hernia repair technique must become more higher.

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Disclosure of Interest: None declared

36.04

WEIGHT LOSS PATTERNS FOLLOWING LAPAROSCOPIC BARIATRIC SURGERY FOR ADOLESCENTS: COMPARISON OF COMMON PROCEDURES WITH A THREE-YEAR FOLLOW-UP

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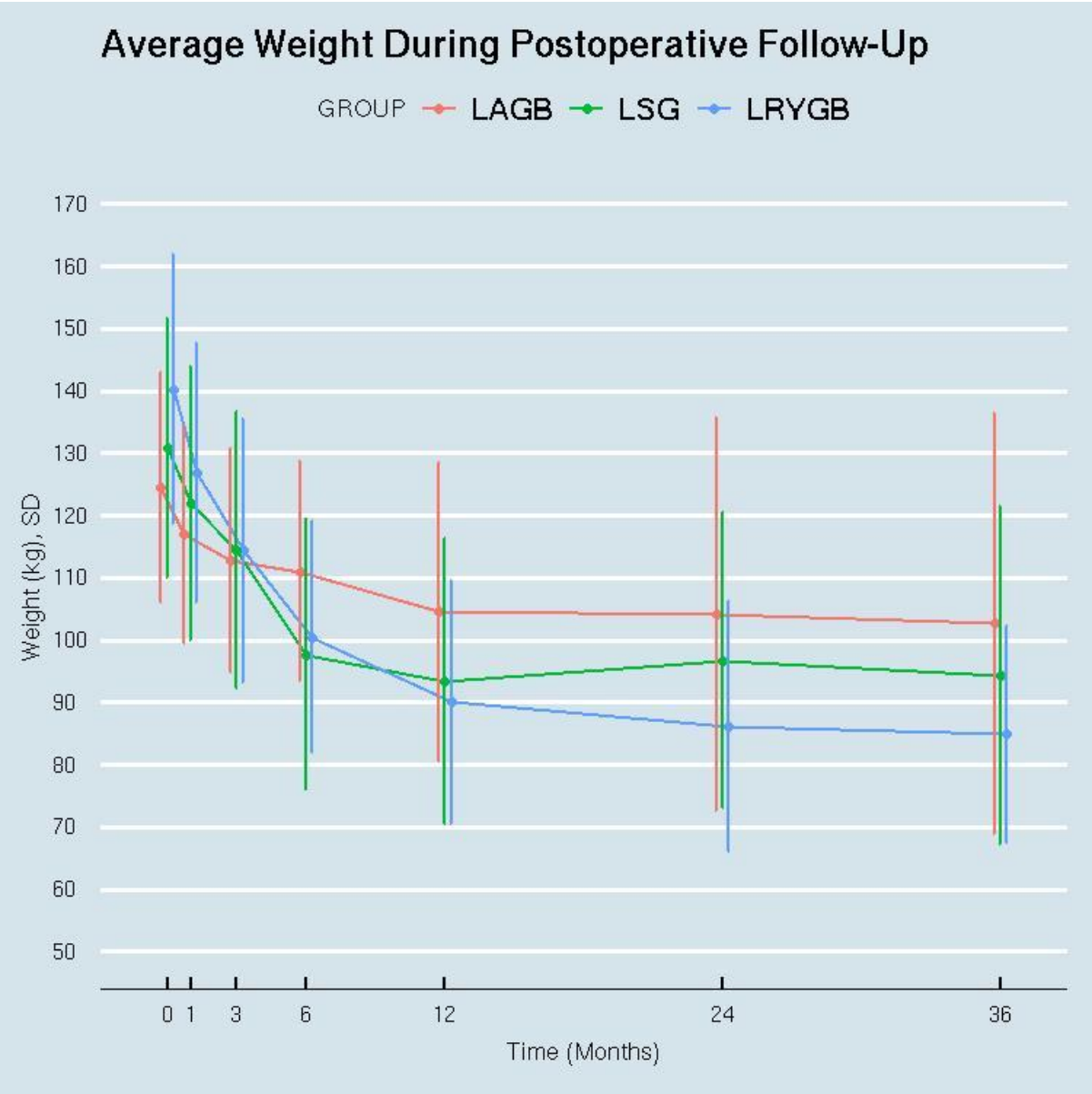
Introduction: Morbid obesity, particularly in the adolescent population, is becoming a health crisis in most developed countries. Bariatric surgery remains the most effective treatment for morbid obesity. Controversy and limited data exist regarding outcomes and selection of optimal bariatric procedure for the adolescent population.
Materials & Methods: This is a retrospective analysis of a prospectively collected database of 153 patients between 16 and 24 who underwent primary bariatric procedures between 2001 and 2018. The three laparoscopic operations examined include: Roux-en-Y gastric bypass (LRYGB – 71 patients), sleeve gastrectomy (LSG – 61 patients) and adjustable gastric band (LAGB – 22 patients). A comparison of weight loss patterns between the procedures was conducted as a primary outcome measure to evaluate the dynamics of weight loss. Three-year follow-up was established. Two-factor mixed-design analysis of variance (ANOVA) was used to calculate between-group and within-subject differences.
Results: All operations were performed by a single surgeon (PG) at a single institution utilizing the same clinical pathways. All operations were completed laparoscopically and there were no mortalities. The mean age of participants was 21.4 ± 2.1 years and 83% of patients were female. Mean initial BMI of participants was 48.12 ± 6.2 kg/m^2 (range 38.4-64.7 kg/m^2), and mean initial weight was 134.2 ± 21.6 kg (range 88.7-196.0 kg). At three years, LRYGB, LSG, and LAGB produced an average weight loss of 55.4 kg, 36.5 kg, and 21.8 kg from baseline respectively ($p < 0.001$). Similarly, LRYGB, LSG, and LAGB produced significant net BMI reduction at 3 years – 17.2 kg/m^2, 10.3 kg/m^2, and 8.0 kg/m^2 from baseline respectively ($p < 0.001$). Mixed ANOVA showed significant variation in weight and BMI between groups over time ($p < 0.001$). Weight loss curves measured at 1, 3, 6, 12, 24 and 36 months are presented in Graph A.
Image:



Conclusion: All procedures provided significant and sustained weight loss. Different patterns and significant variability of weight loss existed between the three procedures. LRYGB provided the best and most sustained weight loss results for up to 3 years. LSG patients experienced best weight loss at 1 year. LAGB weight loss curves were more gradual. Additional factors including presence of comorbidities, potential for short and long-term adverse effects, and patient preference should be considered when selecting the optimal procedure for a given patient. More studies with long-term follow-up are needed.

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36.05

USEFULNESS OF ABDOMINAL DRAINAGE IN LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS: A RANDOMIZED TRIAL

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Introduction: Laparoscopic Roux-en-Y gastric bypass (LRYGP) is one of the most common procedures to treat morbid obesity. An abdominal drainage has been traditionally placed during this operation to detect anastomotic leaks or bleeding earlier. The aim of this study was to assess the benefit of routine drainage placement during LRYGP in an urban teaching hospital.
Materials & Methods: A randomized trial was designed including a consecutive series of patients undergoing a primary LRYGP between 2017 and 2018. The sample was randomized before the operation into two groups: with abdominal drainage (G1) and without abdominal drainage placement (G2). Postoperative (POP) complications were analyzed according to the Clavien-Dindo classification. Pain at the first and second POP day was registered using a visual analogue scale (range: 1-10).
Results: A total of 84 patients were included, 45 in the G1 group and 39 in the G2 group. Most patients were females (G1: 80%, G2: 67%, p=0.17) with a mean age of 44 and 48 years in G1 and G2, respectively (p= 0.06). The average body mass index before surgery was 43 (26-69) kg/m2 in G1 and 44 (26-66) kg/m2 in G2 (p=0.56), with a preoperative weight loss of 7% and 8% in G1 and G2, respectively (p=0.49). There were no significant differences between groups in preoperative comorbidities. The mean operative time was 92 minutes in both groups (p=1). No intraoperative complications were detected in either groups. Mean pain score at POP day 1 was similar in both groups (G1: 3.2, G2: 3.5, p=0.58), but it was higher in G1 at 2nd POP day (G1: 3.1, G2: 1.1, p=0.02). All patients were discharged at POP day 2, after drain removal in G1. A higher proportion of Clavien I-II complications were detected in G1, although it was not statistically significant (G1: 4 (9%), G2: 1 (1%), p=0.37). No major complications, reoperations or 30-day mortality were detected in the series.
Conclusion: Drainage placement in LRYGP did not show benefits in early detection of POP complications, but rather was associated with greater POP pain and a trend towards higher minor complications. In urban teaching centers, routine placement of abdominal drainage in LRYGP might be not recommended.
Disclosure of Interest: None declared

36.06

ENDOLUMINAL VACUUM THERAPY AS A TREATMENT OF ANASTOMOTIC LEAKAGE AFTER GASTROINTESTINAL SURGERY: A SYSTEMATIC REVIEW OF CURRENT LITERATURE

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Introduction: Anastomotic leakage continues being one of the most feared complications in patients undergoing gastrointestinal surgery, with an increased morbidity and mortality rates. In the last few years, the use of endoluminal vacuum systems has been proposed as an alternative therapy for this complication. It seems to facilitate dehiscence defect closure by promoting tissue granulation. The purpose of this systematic review is to assess current evidence around management of anastomotic leakage with endoluminal vacuum therapy.
Materials & Methods: A systematic review was performed in accordance with the PRISMA guidelines. PubMed, Scopus, Web of Science and Cochrane Library were searched up to January 2019. No search limits were applied, and all languages were included. Articles reporting the use of endoluminal vacuum therapy as a treatment of anastomotic leakage in patients who underwent gastrointestinal surgery, were included. The primary outcome measure was the reduction of dehiscence defect. From each study, data were extracted on study characteristics, sample size, surgical procedure performed, surgical indication, duration in days of endoluminal vacuum therapy, sponge exchanges, therapy results and adverse events associated with the procedure.
Results: 34 articles were included in this review, corresponding to 552 patients. Most of them corresponded to retrospective case series dedicated to upper gastrointestinal surgery (16 studies) and colorectal surgery (14 studies), specially for leakage presented after esophagectomies and after low rectal anastomosis. In addition, 2 recent papers of its use in bariatric surgery leak were found.
Almost all the included studies found a leak reduction or complete closure of the defect when endoluminal vacuum therapy was used. Globally, a rate of 81.5% success was found, with a mean sponge change of 5 times and a mean treatment duration of 25 days.
As complications, the more frequently reported are stenosis, recurrent abscesses, pain and bleeding.
Conclusion: Further research is needed to clarify the benefit of this novel therapy. There is no published randomised controlled trial and the available current data is of poor quality. However, endoluminal vacuum therapy could help as an option for the management of specific cases presenting anastomotic leakage after gastrointestinal surgery.
Disclosure of Interest: None declared

36.07

EFFECT OF ADDITION OF PREOPERATIVE ORAL PREGABALIN TO PERIOPERATIVE INTRAVENOUS LIDOCAINE INFUSION ON POSTOPERATIVE PAIN AND PERIOPERATIVE STRESS RESPONSE IN PATIENTS UNDERGOING ELECTIVE LAPAROTOMY: A DOUBLE BLIND RANDOMISED CONTROLLED TRIAL

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Introduction: Postoperative pain remains a significant problem in patients undergoing abdominal surgeries, and has a profound effect on patient recovery. High dose opioids hamper bowel motility and increase nausea and vomiting. Intravenous lidocaine has been used as part of a multimodal analgesia protocol for providing effective pain relief and attenuating surgery-associated inflammatory response. Preoperative pregabalin also has a beneficial effect in reducing pain.
This study was carried out to assess the efficacy of combining these drugs in reducing pain, paralytic ileus and stress response.
Materials & Methods: All patients undergoing elective laparotomy and satisfying the study criteria were randomised into two groups. Group A patients received preoperative placebo and intraoperative lidocaine infusion. Group B patients received preoperative pregabalin and lidocaine. Pain was assessed using visual analogue scale at 2, 6, 18 and 24 hours postoperatively. Morphine consumption on a patient controlled analgesia pump was noted. Time to first passage of stools and flatus, and incidence of nausea and vomiting were noted. Surgical stress response was assessed by measuring perioperative total leucocyte count, interleukin-6 and C-reactive protein.
Results: Postoperative pain scores at 6, 18 and 24 hours were significantly lower in Group B patients who had received pregabalin. These patients also had lower morphine consumption and earlier bowel recovery as measured by first passage of stools. Perioperative inflammatory markers were similar in both groups.
Conclusion: Preoperative pregabalin when used with intravenous lidocaine has a synergistic effect on reducing postoperative pain and opioid consumption. This also has beneficial effect on return of bowel function. However, it did not have a significant additional effect on attenuation of the inflammatory component of surgical stress response.
Disclosure of Interest: None declared

36.08

PREVALENCE AND INDICATIONS FOR CYTOREDUCTIVE SURGERY (CRS) AND HYPERTHERMIC INTRAPERITONEAL CHEMOTHERAPY (HIPEC) IN THE TREATMENT OF PERITONEAL CARCINOMATOSIS - LOWER SILESIAN ONCOLOGY CENTER'S 5 YEARS EXPERIENCE

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Introduction: Peritoneal dissemination of gastrointestinal (gastric and colorectal cancer) and female reproductive tract neoplasms (ovarian cancer) as well as primary peritoneal carcinomatosis may require cytoreductive surgery (CRS) in combination with hyperthermic intraperitoneal chemotherapy (HIPEC). In Poland only a few centers regularly perform CRS + HIPEC while the demand is at least 2000 procedures per year (http://www.chirurgia-onkologiczna.pl/images/files/hipec.pdf).
Aim of this study was an analysis of prevalence, indications and selected surgical aspects of CRS + HIPEC procedures performed in the Department of Surgical Oncology in Lower Silesian Oncology Center (LSOC) between 01.2014 – 12.2018.
Materials & Methods: A retrospective analysis of all LSOC patients subjected to the CRS + HIPEC procedure was performed containing clinical data of the patients and selected surgical and technical parameters of the procedures.
Results: In the period from 01.2014 to 12.2018 a total number of 124 patients underwent CRS + HIPEC at the LSOC; in subsequent years there were 21, 27, 19, 21 and 36 patients. All HIPEC procedures were performed in a closed technique using PerformerHT, RanD, Modena. Indications were mainly ovarian cancer- 50 (40.3%) and colorectal cancer- 48 patients (38.7%) and, less frequently peritoneal mesothelioma (7.3%), peritoneal pseudomyxoma (5.7%), gastric cancer (3.2%) and others (4.8%). The range of surgical cytoreduction (CRS) was wide: from single peritoneal nodules to extensive multiorgan resections; most of them were radical resections (CC-0) or almost radical (residuals up to 2.5 mm, CC-1). No perioperative deaths were recorded.
Conclusion: CRS + HIPEC procedure is a safe and promising treatment option for selected patients with different primary and metastatic peritoneal carcinomatosis.
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Disclosure of Interest: None declared

36.09

LAPAROSCOPIC LIVER RESECTION VERSUS PERCUTANOUES RADIOFREQUENCY ABLATION IN PATIENTS WITH HCC AND LIVER CIRRHOSIS- AN ANLYSIS OF 217 PATIENTS

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Introduction: Hepatitis B related liver cirrhosis and HCC was a serious problem in China. Radiofrequency ablation had been considered a good option because of its minimally invasiveness. The aim of this study was to analyze the perioperative outcomes of LLR in HCC patients, with a comparison to percutaneous RFA.
Materials & Methods: A retrospective analysis of a prospective database for liver tumors identified a total of 217 who underwent laparoscopic treatment of HCC with liver cirrhosis in the University of Hong Kong, Queen Mary Hospital, Hong Kong China between 2000 and 2015. 112 patients had undergone percutaneous RFA and 105 patients who had undergone lap liver resection with similar were selected for comparison. The complications and long term outcome after the operations were compared.
Results: There was no different between the patient baseline parameters including age, sex, comorbidity, tumour size, number and stage of HCC. Patients in the RFA group had median tumour number of one (range 1 to 3). In the LLR group the tumour number was one (range1 to 3, P=0.517). The hospital stay (2 vs. 4 days, p <0.001) for the RFA versus LLR group, morbidity (4.5% vs. 9.5%, P=0.142) and mortality (0% vs. 0%) were similar. Intrahepatic recurrence in the RFA versus LLR group were (70.5% vs. 28.6%, respectively, p<0.001). There was statistical difference in overall and disease-free survival between two groups (90.8 vs. >146.4 months and 16.9 vs. 74.9, p<0.001 and p<0.001, respectively).
Conclusion: This study showed that LLR and RFA are well tolerated in patients with liver cirrhosis. A better survival outcome has been observed in the LLR group. We suggest LLR to be considered as an option in selected patients who are deemed poor candidates for open hepatectomy.
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Disclosure of Interest: None declared

36.10

A META-ANALYSIS OF THE USE OF INTRAOPERATIVE CHOLANGIOGRAPHY; TIME TO REVISIT OUR APPROACH TO CHOLECYSTECTOMY?

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Introduction: Despite some evidence of improved survival with intraoperative cholangiography (IOC) during cholecystectomy, debate has raged about its benefit. This meta-analysis evaluated the use and impact of IOC during cholecystectomy.
Materials & Methods: An ethically approved PROSPERO-registered (ID CRD42018102154) meta-analysis following PRISMA guidelines using PubMed, Scopus, Web of Science and Cochrane library from January 2003 to June 2018 was undertaken including search strategy “intraoperative AND cholangiogra* AND cholecystectomy”. Articles scoring ≥ 16 for comparative and ≥ 10 for non-comparative using the Methodological Index for Non-Randomised Studies (MINORS) criteria were included. A dichotomous random-effect meta-analysis using the Mantel-Haenszel method performed on Review Manager (RevMan) Version 5.3 was carried out.
Results: Of 2,059 articles reviewed, 62 met criteria for final analysis. The mean rate of IOC was 38.8% (CI=38.8-38.9, range 1.6-96.4%). There was greater detection of bile duct stones during cholecystectomy with routine IOC (mean 12.1%, range 2.8% - 18.9%) compared with selective IOC (mean 4.0%, range 0.7% - 12.8%) (OR= 3.34, CI= 2.84-3.92). Routine IOC revealed a higher success rate (95.2%) compared with selective IOC (90.6%)(OR=2.09, CI=1.73-2.51, p-value <0.001). While bile duct injury (BDI) during cholecystectomy was less with IOC (0.39%) than without IOC (0.43%), it was not statistically significant (OR=0.91, CI=0.66-1.24, P = 0.54, I^2 =98%) across 9 studies (n= 3,121,167 patients). Readmission following cholecystectomy occurred following IOC use in 3.0% compared to 3.5% without IOC (OR= 0.91, CI= 0.78-1.06, P = 0.15, I^2 =88%).
Conclusion: This meta-analysis, the first to review IOC use, identified a marked variation in cholangiography use. Retrospective studies limit the ability to critically define association between IOC use and bile duct injury. Surgeons need to revisit IOC use and its implications for the future of biliary surgery.
Disclosure of Interest: None declared

36.11

IMPLICATION OF DISEASE PROGRESSION AFTER PORTAL VEIN EMBLIZATION FOR LONG-TERM OUTCOME FOLLOWING HEPATECTOMY FOR HEPATOCELLULAR CARCINOMA

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Introduction: Portal vein embolization (PVE) has been used worldwide to induce hypertrophy of the future liver remnant and to reduce the risk of hepatic insufficiency and death after major hepatectomy. However, whether disease progression after PVE can affect long-term oncological outcomes in patients with hepatocellular carcinoma (HCC) is uncertain.
Materials & Methods: From a total cohort of 145 patients who were scheduled for PVE followed by hepatectomy between June 2000 and February 2016, 90 patients had HCC. Among these, 57 patients could undergo a planned hepatectomy after PVE and were enrolled in this study. We evaluated their long-term oncological outcomes and investigated whether the disease progression between PVE and subsequent hepatectomy affected survival.
Results: There were 49 males and 8 females, with a median age of 65 (range, 31-83). Tumor number and size before PVE and hepatectomy were 2 (range, 1-6), 2 (range, 1-8) and 51 mm (range, 17-130), 60 mm (range, 20-160), respectively, and 12 patients (21.1%) had bilobar tumor distribution. Estimated resection rates before PVE and hepatectomy were 58.4% (range, 24.2-79.0) and 38.3% (16.0-67.8%), respectively. In survival analyses, 5-year overall survival (OS) and disease-free survival (DFS) after hepatectomy were 74.5% and 31.7%, respectively. Multivariate analyses revealed that tumor number before hepatectomy ≥3 (hazard ratio [HR] 3.59, *P*=0.019), des-g-carboxy prothrombin (DCP) >200 mAU/ml (HR 3.36, *P*=0.045), and red blood cell transfusion (HR 11.03, *P*=0.0008) were independent prognostic factors for OS, and male gender (HR 3.74, *P*=0.029), bilobar tumor distribution (HR 3.65, *P*=0.004), and red blood cell transfusion (HR 6.22, *P*=0.0026) were independent prognostic factors for DFS. Disease progressions after PVE, including increases in tumor size (>20%), tumor number, a-fetoprotein (AFP) (>20%), lens culinaris agglutinin-reactive fraction of AFP (>20%), and DCP (>20%), were observed in 22.8%, 14.0%, 29.8%, 19.3%, and 47.4% of patients. Only an increase of tumor number significantly decreased the DFS rate after hepatectomy in a univariate analysis, while none of the variables affected OS.
Conclusion: Disease progression after PVE did not affect long-term survival in patients with HCC, if the planned subsequent hepatectomy could be completed. On the other hand, an increase of tumor number after PVE may be associated with tumor relapse after subsequent hepatectomy.
Disclosure of Interest: None declared

43.01

FLEXIBLE ROBOT-ASSISTED TRANS-ANAL RESECTION OF BENIGN RECTAL POLYPS: A CASE SERIES.

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Introduction: Transanal minimally invasive surgery (TAMIS) is a hybrid approach combining pre-existing endoluminal techniques with those of single-port laparoscopy. Further advancements have led to the development of robotic transanal surgery (RTA). Flexible robotic systems have been proposed as a solution to the challenges posed by current techniques in TAMIS. RTA was performed with the Medrobotics Flex® Robotics System to determine its safety and feasibility in the excision of benign rectal polyps.
Materials & Methods: Medrobotics Flex® Robotics System was used to perform trans-anal resection of benign rectal polyps in five patients. One patient had two polyps resected in the same procedure. A retrospective review of the cases was performed.
Results: Five male patients with an average age of 67 underwent flexible RTA for a rectal polyp. The average operating time was 143 minutes. The polyps were located at various positions between 5-12 o'clock at an average distance of 8.3cm from the anal verge. Submucosal resection was performed in all cases except in one patient who required full thickness resection. The average maximal diameter of the specimen was 32mm (range 15-60mm). The mucosal defect was closed in all cases. There was no peri-operative or 30-day morbidity and mortality. The average length of stay was 0.6 days.
Conclusion: This is the largest series to utilise the Medrobotics Flex® Robotics System for RTA. Flexible RTA is both safe and feasible for the resection of rectal polyps.
Disclosure of Interest: None declared

43.02

FREE FAT GRAFTING FOR THE TREATMENT OF ANAL FISTULAE

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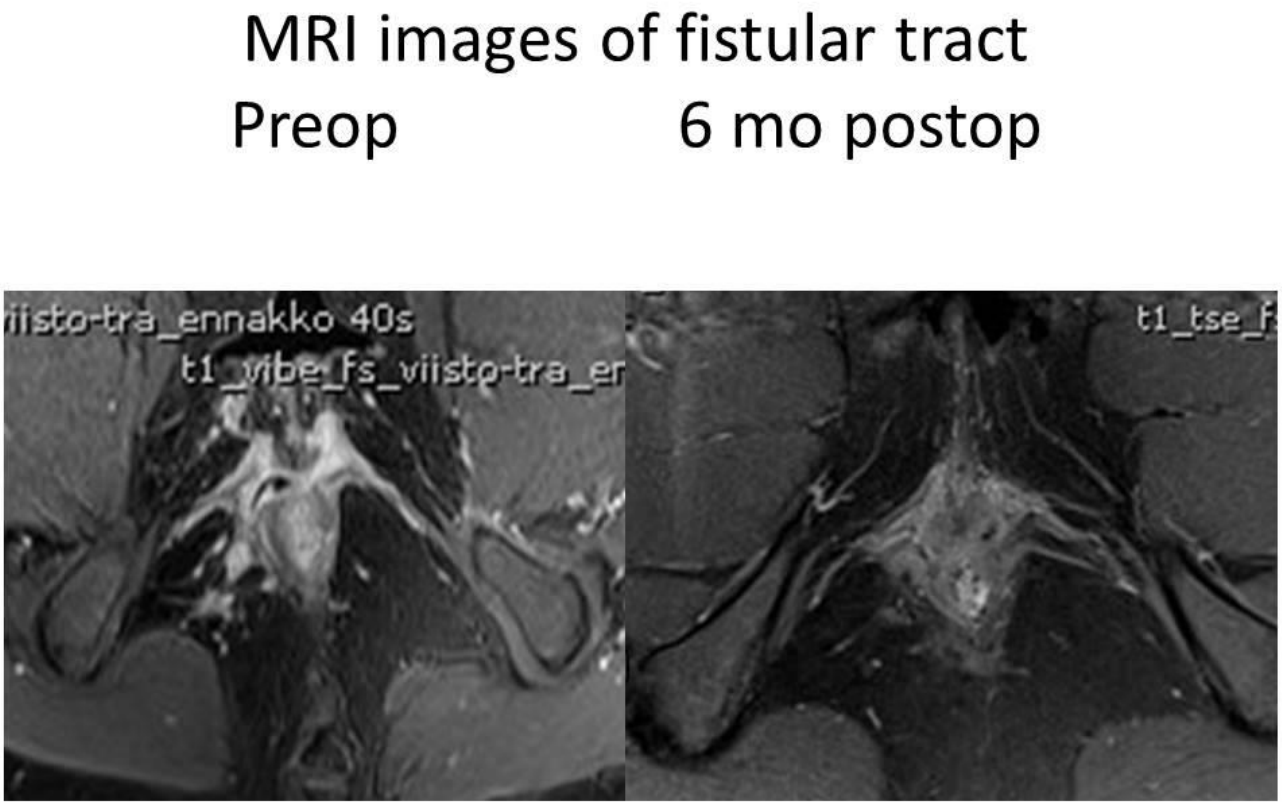
Introduction: Perianal Crohn´s disease with complex fistulas leads to a permanent stoma in 20 % of patients even in the era of biological drugs. Lately adipose-derived stem cells (ASC) have been advocated in treating complex fistulas. In world-wide public health care, however, isolation of SVF with subsequent cell culturing is not available for every patient. Therefore we conducted a pilot study, using simple, ordinary, yet high quality, free fat transfer as a treatment for persistent fistulae in Mb Crohn patients.
Materials & Methods: Two patients with severe long-standing fistulizing Crohn´s disease refractory to anti-TNF and temporary stoma were treated. In general anesthesia, lipoaspirate was harvested with a water assisted closed system from the abdominal region or the thigh. The aspirate was decanted on the table for a few minutes. Then fat was re-injected around the fistular tracts penetrating the crypts from several different directions in a three-dimensional manner and also performing curettage of the surface of cavities and covering the surfaces with lipoaspirate. The mean volume of fat injected was 30 ml (range 24-40 ml). Closure of the inner opening of fistulae was performed. Patients were followed with MRI scans 3 and 6 months postoperatively and clinically while continuing the anti TNF-therapy.
Results: In both cases, 6 months after two autologous fat transfers 4 months apart full clinical response was achieved. After the first procedure fistulae diminished in size and secretion and after the second spontaneous closure of fistular tracts could be seen. Temporary stomas were reversed. Follow-up comprised 1 year and 3 months after the second session of fat grafting. There has not been a relapse. No costly devises, products or drugs were needed for the procedures.
Image:



Conclusion: Persisting fistulae prevent closure of stoma and thus a need for optional treatment is eminent. The fistulae biologically behave like chronic wounds stuck in an inflammatory phase. Transfer of high quality autologous free fat into the area, containing adipose derived stromal cells, macrophages etc, offers a versatile but simple tool to mechanically remove biofilm, soften the scars tissue, cushioning and filling tissue defects, improving blood supply and eventually shifting the inflammatory phase of the tissue in a regenerative direction moderating immune responses and repair.
Disclosure of Interest: None declared

43.03

DEVELOPMENT AND VALIDATION OF HEMORRHOID SYMPTOM SCORE (HSS)

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Introduction: Hemorrhoids are common and affect approximately four percent of the population worldwide. The cardinal symptoms of hemorrhoidal disease include rectal bleeding, pruritus, prolapse and pain. One obstacle in assessing the efficacy of treatment options is the lack of a standardized symptom severity score evaluating both frequency and severity of symptoms. The aim of this study was to develop and validate symptom-based Hemorrhoid Symptom Score (HSS).
Materials & Methods: This is an ongoing prospective study, currently in phase two, of the development of a new validated HSS. The HSS development is composed of three phases: questionnaire creation, test-retest reliability with internal validation, and score correlation with external validation. Phase two involves the administration of a symptom-based questionnaire to 65 patients with confirmed hemorrhoid disease. It was administered to selected patients at the colon and rectal surgery clinic between June 2016 and January 2019, ensuring questionnaire readability and interpretability. Next, the questionnaire was re-administered at a two week interval to test reliability. The questions assessed the frequency and severity of hemorrhoid symptoms including rectal bleeding, pruritus, prolapse, soiling and pain.
Results: 49 patients (29 females) completed the initial and follow-up questionnaires. Forty-two (86%) of patients reported more than one symptom. The most common symptom was prolapse (n=38; 78%), followed by rectal bleeding (n=35; 71%). The mean Hemorrhoid Symptom Score (HSS) was calculated to be 17.9±7.9 on the initial visit and 15.9 ±8.4 on the follow-up visit. *Cronbach's alpha* for HHS at initial presentation and after two weeks was 0.72 and 0.68, respectively. The highest test-retest correlation was observed with reporting severity and frequency of pruritus (Table 1). Total HHS test-retest coefficient was 0.73.

Test-Retest Correlation Co-efficient			
Hemorrhoid symptoms		Frequency	Severity
Bleeding	35 (71%)	0.70	0.68
Pain	36 (69%)	0.54	0.64
Prolapse	38 (78%)	0.58	0.72
Pruritus	32 (65%)	0.76	0.80
Fecal seepage	27 (55%)	0.70	0.57
Quality of life (Median)	3	0.66	
Initial HSS	17.9 ± 7.9	0.72	
2 week follow-up HSS	15.9 ± 8.4	0.68	

Conclusion: The development of a reliable, validated symptom score evaluating severity and frequency of hemorrhoid symptoms may have additional value in future assessment and management of hemorrhoids. Further external validation will be necessary to allow this tool to be scientifically and clinically applicable.
Disclosure of Interest: None declared

43.04

THE COMPARISON OF QUALITY OF LIFE IN PATIENTS WITH PILONIDAL SINUS DISEASE. NEGATIVE PRESSURE WOUND THERAPY VERSUS STANDARD WOUND DRESSINGS – A RANDOMIZED PILOT STUDY.

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Introduction: The aim of the study was to compare the quality of life among patients with a pilonidal sinus (PS) treated with negative pressure wound therapy (NPWT) or standard dressings after surgical excision.
Materials & Methods: 31 patients were randomly assigned to NPWT dressings (17 patients) or standard dressings (14 patients) after surgical excision of PS. Demographic data were recorded. In each individual we assessed: longitudinal as well as transversal dimension of the primary wound, number of dressings exchanges, number of visits in the Out-patient Clinic, number of days from the excision to restoration of daily activities, presence of postoperative complications, necessity of re-operation and depilation of the wound area. Quality of life was evaluated using the Dermatology Life Quality Index (DLQI).
Results: There were significant differences between: return to work duties (17.5 vs 12.0 days, p=0.000002), number of dressings changes (12.0 vs 5.0, p=0.000003), number of visits in the Out-patient Clinic (13.0 vs 6.0, p=0.000001). Group II had lower rate of postoperative problems in comparison to group I (35.71% vs 11.76%, p=0.02). In both groups, DLQI improved significantly after 12-months follow-up, but in group II DLQI was significantly lower than in group I (3.0 vs 0.0 points, p=0.002).
Conclusion: The time of return to normal daily activity was shorter in patients with PS treated with NPWT. The use of NPWT allowed to reduce the time of healing, and postoperative complications. Patients treated with NPWT dressings had a significantly lower DQLI score and higher quality of life, in comparison to patients treated with standard wound dressings.
Disclosure of Interest: None declared

43.05

PREDICTORS OF UNPLANNED READMISSION FOLLOWING EXCISIONAL HAEMORRHOIDECTOMY

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Introduction: Excisional haemorrhoidectomy is the gold standard for management of advanced symptomatic haemorrhoids. Although efficacious in reducing recurrence, it is associated with significant post-operative morbidity with pain and bleeding. Readmissions following the operation pose a challenge to an otherwise effective intervention. This study seeks to investigate potential risk factors that may predict unplanned 30-day readmissions following excisional haemorrhoidectomy.
Materials & Methods: A retrospective cohort review of all haemorrhoidectomies performed at Counties Manukau District Health Board, Auckland, New Zealand between January 2012 to December 2017 was performed. Baseline demographic data, readmission data and potential variables for readmission were recorded. Univariate and multivariate logistic regression analysis was performed to determine significant variables for readmission within 30-days.
Results: A total of 485 cases of excisional haemorrhoidectomy was included in the final analysis with 62 (12.8%) cases of unplanned readmission. The demographics between no readmission and unplanned readmission were similar. Multivariate logistic regression analysis demonstrated male gender ($p = 0.018$), use of non-diathermy devices ($p = 0.017$) were significant for increased risk of readmission. Initial dispensing of opioid analgesia was not significant for increased risk of readmission.
Conclusion: This study suggests that male gender, surgical technique and patients requiring additional dispensing of rescue opioids, regardless of initial supply of discharge opioids, is associated with increased risk of admission.
Disclosure of Interest: None declared

43.06

THE PROGNOSTIC VALUE OF PERINEURAL INVASION IN COLORECTAL CANCER AND THE CONSTRUCTION OF A PREDICTIVE MODEL

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Introduction: Perineural invasion (PNI) have shown to be promising prognostic factor for improving the predictive accuracy in various cancer. The aim of this study was to investigate the prognostic significance of PNI after curative resection of a colon and rectal cancer
Materials & Methods: Three hundred and thirteen patients who underwent curative resection for colon and rectal cancer at Shanghai East Hospital affiliated with Tongji University were enrolled in this study. The diagnosis of CRC was confirmed depended on histological evaluation of surgical specimen. The retrospective data between February 2011 to June 2015 were recruited in the study
Results: Among the 313 patients,191 males and 122 females. The median follow-up period was 46 months ranging from 2months to 60 months. The patients with all stages were included in the study, Stage-I;53(16.9%), Stage-II;104(33.2%), Stage-III;143(45.7%) and Stage-IV;13(4.2%), respectively. Positive nervous invasion was detected in 126 patients. Total number 160 patients received an adjuvant chemotherapy. NI is significantly associated with worse overall survival, however, multivariate analysis revealed that neural invasion was not an independent factor for worse OS (HR [95% CI] = 1.247[0.693-2.231] P-value= 0.456).
Conclusion: PNI is a better predictor but not an independent prognostic factor in CRC patients.
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Disclosure of Interest: None declared

43.07

IMAGINE: ILEUS MANAGEMENT INTERNATIONAL, A PROSPECTIVE MULTI-CENTRE COHORT STUDY

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Introduction: Ileus is common after elective colorectal surgery and is associated with increased adverse events. The aim of this study was to assess the role of non-steroidal anti-inflammatory drugs (NSAIDs) when used as postoperative analgesia for expediting gastrointestinal recovery.
Materials & Methods: A prospective, multi-centre, cohort study was delivered across an international, student- and trainee-led collaborative group involving more than 20 countries. Adult patients undergoing elective colorectal resection between January and April 2018 were included. The primary outcome was time to gastrointestinal recovery, measured using a composite measure of bowel function and oral tolerance (GI-2). The impact of NSAIDs was explored using Cox regression analysis, including the results of a centre-specific enhanced recovery questionnaire. The secondary outcome was safety, including anastomotic leak and acute kidney injury.
Results: 4164 patients were included with median age 68 (IQR: 57-75) and 54.9% male sex. A total of 1153 (27.7%) received NSAIDs after surgery. There was no difference between NSAID and no NSAID groups in rates of anastomotic leak (5.4 % versus 4.6%; *P*=0.653) or acute kidney injury (14.3% versus 13.8%; *P*=0.817), respectively. The mean time to gastrointestinal recovery was 4.7 and 4.8 days respectively, which was non-significant on multivariable analysis (HR: 1.04, 95% CI: 0.96-1.13; *P*=0.327). Fewer patients receiving NSAIDs required strong opioid analgesia (35.3% versus 56.7%; *P*<0.001).
Conclusion: Whilst NSAIDs did not reduce the time for gastrointestinal recovery after colorectal surgery, they were used safely and reduced patients' post-operative opioid requirement.
Disclosure of Interest: None declared

43.08

SHOULD SURGICAL SITE INFECTION WOUND BUNDLES BECOME MANDATORY IN COLORECTAL SURGERY? A META-ANALYSIS.

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Introduction: The global impact of surgical site infection (SSI) is increasingly recognized, both in terms of post-operative complications and oncological outcomes. Reducing SSIs is multifactorial, with a cumulative additive benefit of each bundle element. While other meta-analyses have been performed looking at surgical wound bundles most relate to interventions before 2016. This study therefore undertook an up to date meta-analysis looking at existing bundle impact on SSI.
Materials & Methods: An ethically approved PROSPERO-registered (ID:CRD42018104923) meta-analysis following PRISMA guidelines and using databases PubMed, Scopus and Web of Science, from January 2008 to July 2018, was undertaken. Articles scoring ≥ 17 using MINORS criteria were included.
Results: 5,104 articles were reviewed and 27 studies met inclusion criteria. There was a significant decrease in SSI rates with implementation of a wound bundle (17.5% vs 9.7%). Sub-analysis showed a significant reduction in superficial SSIs by 54% ($p<0.00001$) and in organ-space SSIs by 42% ($p=0.0006$). The use of a wound bundle also significantly reduced hospital lengths of stay ($MD = -0.79$; $p<0.00001$).
Conclusion: This meta-analysis shows that use of an evidence-based, surgical care wound bundle in patients undergoing colorectal surgery significantly reduces the risk of SSI and length of hospital stay. They should become mandatory.
Disclosure of Interest: None declared

48.01

RESOURCE ALLOCATION FOLLOWING TRAUMA: DOES HEART RATE ALONE PREDICT NEED FOR IMMEDIATE ACCESS TO HIGHEST LEVEL CARE

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Introduction: Current standard resource allocation requirements for the highest-level trauma team activations are minimal. With these nominal requirements, American College of Surgeons (ACS) accepts a 50% over-triage rate, ensuring fewer under-triage scenarios. Minimum standards are defined through the ACS Committee on Trauma's *Resources for Optimal Care of the Injured Patient*, and are designed to encompass key anatomical and physiologic components that predict the need for acute care by trauma surgeons and staff. At a single institution, additional activation criteria of a heart rate (HR) greater than 120 bpm was incorporated in 2015. We aimed to determine efficacy of heart rate greater than 120 bpm as a lone predictor of those who need early and direct intervention after trauma.
Materials & Methods: An IRB-approved retrospective review of highest-level trauma activations at a single institution using the Trauma Registry from 2015 to 2017 was conducted. Six patient cohorts were studied: SBP<90, HR>120, respiratory rate < 10 or > 29, GCS<9, blood products en route, and provider discretion. Patient populations were then compared based on age, Injury Severity Score (ISS), emergency department (ED) disposition, and hospital disposition using chi square and ANOVA analysis. Primary endpoints included ED disposition and hospital disposition. Additional endpoints included ISS, and length of stay.
Results: 1830 highest-level trauma activations were identified. 1244 patients suffered blunt mechanism injury, and 953 met inclusion criteria. Isolated tachycardia was seen in 156 (16.4%), SBP <90 mmHG was the sole criterion in 83 (8.7%), 288 (30.2%) had an isolated GCS <9, 6 (0.6%) met no other criteria than receiving blood en route, and 51 (5.4%) met respiratory requirements only. 369 (38.7%) patients met none of the minimum requirements for the highest-level activation. A statistically significant difference in admission ISS between isolated cohorts was identified (p=<0.0001). Mean ISS was lowest in the heart rate alone population (14.5±9.2), and highest in the GCS<9 population (19.7±6.8). Three of the activation criteria fell within the Cribari matrix standards for over triage of less than <50%, with only heart rate being over triaged at 60.4%. We saw a statistically significant difference in disposition from the ED among the criteria (p=<0.0001). GCS criteria had the highest percentage of admission to the ICU (84%, OR 8.31). Hypotension was most associated with immediate need for operation (21.7%, OR 1.9), followed by those requiring en route blood transfusion (16.7%, OR 1.3), and tachycardic patients (14.7%, OR 1.1). Patients meeting only GCS criteria rarely required immediate operative intervention (8.3%). Most tachycardic patients (44.9%) were admitted to the ward, as were patients meeting most other criteria. The isolated activation criteria differed significantly regarding hospital disposition (p=<0.0001). Patients meeting no activation criteria (55.6%, OR 1.5) and those with isolated tachycardia (57.1%, OR 1.47) were most likely to be discharged home. Those meeting isolated GCS criteria were most likely to die (20.5%, OR 4.8). There was no statistical difference in length of stay between cohorts overall (p=0.477), however those admitted to the ICU had a significantly different length of stay with HR>120 patients having the shortest stay (1.35±1.02), and GCS<9 having the longest length of stay (6.14±0.43).
Conclusion: Isolated tachycardia criteria identifies a clinically significant number of patients who require highest level of care. Over one-third of them will have an ISS > 15. Our data supports the concept of additive risk, when more than one criteria is met, and highlights the importance of resource allocation based upon minimum and expanded trauma activation criteria.
Disclosure of Interest: None declared

48.02

A DESCRIPTIVE ANALYSIS OF LARGE INTESTINAL INJURIES; ITS INCIDENCE AND MANAGEMENT

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Introduction: large intestinal injuries are common in war-torn countries like Afghanistan. As Herat Regional Hospital is the only tertiary hospital which accepts trauma patients from 5 cities around it, on the other hand due to long ways, lack of transportation and lack of infection prevention (IP) programs there are lots of challenges with these patients. Iatrogenic large intestinal injury is also common especially in pelvic operations. In this research we focused on incidence, complications and treatment method of large intestinal injuries in Herat Regional Hospital in 2017.
Materials & Methods: this research was in descriptive method with case series and universal sampling. 58 patients came from 1 January to 31 December 2014 to the emergency department of Herat Regional Hospital with diagnosis of large intestinal injury. The data was collected using questionnaire and patients discharge certificates. The data was analyzed by Epi info 7
Results: The oldest age was 72 years and the youngest was 4 years old. According to the causes in this research 53% was gunshot wounds, 23% stab wounds and 21% blunt large intestinal injury mainly due to road traffic accidents. The transverse colon was most commonly affected 33.93%, followed by sigmoid colon 28.57% and the least common was rectum 1.79%. 37.5% patients had grade 2 injuries, 33.93% had grade 3 injuries and 28.57% patients had grade 1 injuries. According to surgical procedure the common procedure was primary repair 37.5% and the least procedure was DCL 1.79%. In this research only 5.36% patients received primary care before arriving to emergency department.
Conclusion: primary anastomosis is perfect for grades 1 and 2 large intestinal injuries. General condition of patients has direct relation to anastomosis and diverting colostomy. According to this research as much the patients received the primary care as have better outcomes. In order to reduce the rate of complications and mortality better educational program is needed.
Disclosure of Interest: None declared

48.03

FRAILTY IN POLYTRAUMA: A POWERFUL PREDICTOR OF MORTALITY AND COMPLICATIONS

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Introduction: The modified frailty index (mFI) can stratify mortality and morbidity risk in many surgical specialties, particularly in geriatric patients. There is limited data demonstrating the predictive utility of mFI in younger patients, including severely injured trauma patients . The purpose of this study was to evaluate the role of mFI in predicting 30-day morbidity and mortality in patients with multiple traumatic injuries.
Materials & Methods: The 2014 NTDB database identified patients aged 18-89 who presented with an injury severity score (ISS) >15. For each patient, a previously validated mFI score was calculated using 11 NTDB variables. The relationship between mFI and 30-day morbidity and mortality was examined.
Results: 110,459 patients were included. Of these, 69.9% were men and mean age was 51.2 years (SD 20.9). mFI ranged from 0 to 0.64. Mortality (10.3% to 20.6%), unplanned intubation (1.8% to 11.2%), and both planned (67.5% to 84.0%) and unplanned (1.5% to 3.4%) ICU admission increased with increasing mFI score ($p<0.001$). The rate of any complications increased from 36.4% to 38.8%, and the rate of Clavien-Dindo grade IV complications increased from 7.5% to 17.8% ($p<0.001$). mFI remained a statistically significant predictor of mortality in the multivariate model (aOR for mFI 0.36+: 2.9, 95% CI: 1.6-5.0) compared to age (aOR 1.03, 95% CI: 1.03-1.04) and ISS (aOR 1.05, 05% CI: 1.05-1.06) ($p<0.001$).
Conclusion: mFI is a significant predictor of morbidity and mortality in the polytraumatized population. These findings can communicate risk, and help direct structured, interdisciplinary care pathways following trauma.
Disclosure of Interest: None declared

48.04

CONSIDERATIONS FOR IMPROVING SPLENIC TRAUMA MANAGEMENT IN SOUTH AFRICA

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Introduction: We aimed to expand on the global surgical discussion in order understand local and clinically relevant factors for operative (OP) and non-operative management (NOM) of splenic trauma in South Africa.
Materials & Methods: A retrospective cohort study was performed using data from the Pietermartizburg Metropolitan Complex during 2013-2017. Adult patients (≥16 years) were included. Management was categorized as either OP or NOM. Risk factors for OP management were assessed using logistic regression and quantified using odds ratios (OR) and 95% confidence intervals (CI).
Results: Splenic injury was sustained in 127 patients. Median age was 29 [19-35] years with 42 women and 85 men. The majority were blunt injuries (81, 64%). Organ injury scale (OIS) included grades I (25, 20%), II (43, 34%), III (36, 28%), IV (15, 11%) and V (8, 6%). Nine patients expired. Increasing OIS was associated with OP management, need for intensive care (ICU) admission, hospital and ICU duration of stay, but not patient mortality, **Table**. Delay to care (>24 hours) was associated with increased ICU utilization (62% vs 36%, p=0.008) and mortality (14% vs 4%, p=0.03). After adjusting for age, sex, ISS, presence of shock, and splenic OIS, penetrating mechanism (adjusted odds ratio, 5.7; 95%CI, 1.7-9.8) and admission lactate concentration (adjusted odds ratio, 1.4; 95%CI, 1.1-1.9) were significantly associated with OP compared to NOM (p=0.002; area under the curve 0.81).
Image:

	AAST Organ Injury Grade for Spleen					
Variable	AAST I N=25	AAST II N=43	AAST III N=36	AAST IV N=15	AAST V N=8	P
Mortality	1, 4	3, 7	2, 6	3, 20	0,0	.4
Length of Stay	2 [1-3]	3 [2-6]	4 [2-7]	5 [4-8]	10 [4-13]	.03
ICU Length of Stay	1 [0-2]	2 [1-11]	4 [3-8]	4 [2-7]	8 [5-15]	.01
ICU Admission	8, 36	14, 39	11, 32	9, 60	3, 38	.04
Laparotomy	10, 40	23, 53	20, 56	10, 66	6, 75	.002
ISS	13 [10-21]	16 [9-21]	16 [9-22]	18 [13-24]	22 [16-34]	.03
Hemoglobin concentration	11.5 [9.9-13.5]	11.1 [8.3-12.7]	10.9 [7-13.2]	10.5 [8.1-11.7]	9.3 [7.1-10.7]	.01
Penetrating trauma?	6, 24	21, 48	14, 38	3, 20	2, 25	.3
Lactate concentration	1.6 [0.9-2.1]	1.9 [1.2-3.2]	3 [1.7-4.2]	3.2 [1.9-4.3]	3.8 [2.3-5.1]	.001

Conclusion: Penetrating mechanism and elevated admission lactate predict the need for operative management after splenic trauma in a cohort of South African patients. Delayed presentation to definitive care adversely affects ICU duration of stay and mortality. Current global surgical efforts might focus on expanding non-operative management and improving prehospital care - notably reducing delays to definitive care - in patients with splenic trauma.
Disclosure of Interest: None declared

48.05

SOCIAL DETERMINANTS OF HEALTH IN ORTHOPAEDIC TRAUMA PATIENTS AND THEIR INFLUENCE ON COMPLICATIONS, FUNCTIONAL OUTCOMES, AND HEALTHCARE UTILIZATION: A ONE YEAR PROSPECTIVE STUDY

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Introduction: Social determinants of health are being studied through many patient populations, including general surgical and trauma patients. Psychiatric and substance use co-morbidities along with income and low education level were all associated with traumatic injuries of all types. Centers for Medicare and Medicaid Services (CMS) will reimburse for more complicated patient care secondary to social risk factors based on the IMPACT Act of 2014. The data behind the new reimbursement schema is based on how these social risk factors affect care, complication rates, comorbidities and quality. However, there is limited data on the effects of these social risk factors in the field of orthopaedics.The aim of the study is to analyze both retrospectively and prospectively the effects that social risk factors have in the field of orthopaedics including peri-operative complications, readmission rates, narcotic usage, improper healing and mortality rates.

Materials & Methods: All patients aged 18-89 presenting with a new orthopaedic traumatic injury to a large, level 1 urban trauma center were enrolled. Vulnerable populations were excluded, as well as those unable to provide informed consent or make medical decisions. Orthopaedic trauma injuries included all those who required operative fixation of bony injuries or multi-ligamentous knee injuries. Questions pertaining to healthcare utilization, social history, DSM V criteria for substance use disorders including heroin and alcohol, SOAPP and prescription drug use questionnaire, NIH alcohol use questionnaire and WHO tobacco use surveillance were included in the questionnaire. SPSS was used to conduct all statistical analysis.

Results: 258 patients were enrolled in a five month period and 104 had additional data from the trauma registry at one month post discharge. 94 (36.4%) do not have any health insurance and 62 (24.2%) have government insurance, Medicare, Medicaid or dual enrolled. 129 (50.5%) do not have a primary care provider. 164 (63.6%) describe themselves as African American. 211 (81.8%) consider themselves to be religious and 91 of those let religion influence medical decision making. 162 (62.8%) have a high school degree or less. 39 (19%) of the 116 queried have lived in their current residence less than a year with 12 (30.8%) not sleeping in a bed. 4% do not have running water or a stove. 7-8% do not have support from family and up to 20% of patients do not have support from friends. 7-15% do not feel safe in their neighborhood, do not feel accepted or can walk in their community. Almost 20% of patients have an anxiety disorder, including PTSD. 54.7% of patients live in a zip code categorized as the most distressed by a research organization, EIG.

Conclusion: In the preliminary data collection, many trauma patients do not have health insurance, higher education, stable housing with sufficient utilities and resources, or social support systems. They live in communities of high distress that are not suitable to exercise due to lack of sidewalks, safety, lighting. Patients have extensive mental health histories but do not utilize primary care or mental health services. Understanding the social risk factors that increase the likelihood of trauma would provide an avenue for intervention and prevention for future trauma centers while also contributing to the data gap discovered by CMS analysis.

Disclosure of Interest: None declared

54.01

PREVENTION OF PROSTHETIC INFECTION AFTER OPEN POLYPROPYLENE MESH REPAIR OF ABDOMINAL WALL HERNIA

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Introduction: Mesh infection is devastating complication with a challenging treatment which often resulted in hernia repair failure. For that reason, the prevention of the mesh infection is pivotal. The aim of the study was to analyse the efficiency of actions for the prevention of the mesh infection through modification of the surgery protocol.
Materials & Methods: The unacceptably high frequency of mesh infection in personally operated patients makes to found new solutions. There was modified the surgery protocol. First, two pair of sterile surgical gloves were started to use. The exchange of the sterile gloves was performed just before the mesh implantation by all members of the surgical team. Second, the meshes fixation was replaced from nonabsorbable to absorbable sutures in all hernias. In a retrospective study, the frequency of superficial wound infection and prosthetic infection was analysed before and after the modified surgery protocol in patients that had been personally operated for the abdominal wall hernia by an open approach with a heavyweight polypropylene mesh.
Results: Patients with 1217 epigastric, umbilical, inguinal, femoral and incisional hernia repairs were enrolled in the study with the observation time at least one year after the surgery. The rate of mesh infection was found to be significantly less in patients operated on by modified surgery protocol. Mesh infection was not occurred at all in that group with 433 implanted meshes opposite to the total frequency 1.28% (10/784) of mesh infection in hernia repairs before modified surgery protocol (Fisher`s exact test 0.017). The frequency of mesh infection was 2/524 (0.38%) before versus 0/230 after the modified surgery protocol in inguinal hernia repair group, 2/122 (2.45%) versus 0/106 in epigastric and umbilical hernia repair group and 6/138 (3.62%) versus 0/97 in incisional hernia repair group retrospectively. There was not found statistically significant difference of the superficial wound infection frequency in patients before and after the modified surgery protocol.
Conclusion: The frequency of mesh infection is possible to decrease significantly in a simple and cost-effective manner.
Disclosure of Interest: None declared

54.02

SURGICAL ASPECTS OF COMORBIDITY: SIMULTANEOUS OPERATIONS DURING LAPAROSCOPIC HERNIOPLASTY

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Introduction: The purpose of the study is to study the frequency of concomitant surgical pathology and simultaneous operations in the laparoscopic treatment of different localization hernias.
Materials & Methods: Material and methods. The frequency and structure of simultaneous operations during laparoscopic hernioplasty in 222 patients operated during 2016-2018 are analyzed. All patients were divided into two groups: the main one was 120 patients with hernias, which, in addition to videopalaroscopic hernioplasty, performed concurrent operations, and the comparison group - 122 patients, who had only video-laparoscopic hernioplasty. The research sample of patients analyzed the frequency and structure of the simulant operations performed on the combined pathology that required surgical treatment, the frequency and structure of the surgical and early postoperative complications. Patients of both groups were comparable by age, sex, general condition, nature of the main and concomitant pathology ($p<0.05$ according to criterion $\chi 2$ for all indicators).
Results: Results. It was established that one-way operations were performed in 54.2% of patients. In the structure of single-ended operations, LHE and adhesiolisis. Operations on combined gynecological and urological pathology accounted for 21% of the total number of simultaneous operations. There was no significant effect of simultaneous operations on the frequency of complications and duration of staying in patients in the hospital.
Conclusion: Conclusions. In patients who plan hernioplasty, a thorough pre-operative examination with the involvement of adjacent specialists is required. In the presence of a combined surgical pathology, the surgical team should have the appropriate experience and is ready to perform simultaneous operations.
Disclosure of Interest: None declared

54.03

INCISIONAL HERNIA. OUR EXPERIENCE AT A UNIVERSITARY CENTER

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Introduction: Incisional hernia (IH) is the most common sequel after abdominal surgery, and may represent serious risk to develop late morbidity. Mesh repair is at present the gold standard with less recurrence than primary repair. Open, laparoscopic and robotic techniques has been described. Mesh position may be onlay, inlay, sublay or IPOM. Literature recomend open sublay mesh, but in our experience open onlay mesh according our protocols have demostrated excellent results. The purpose of the present study is to report the experience in the treatment of incisional Hernia (IH), at our universitary center.

Materials & Methods: 672 patients, with IH, were attended at the Clinic Hospital, University of Chile, between 2012 and 2016. Computarized data base give prospectively records of: demography, comorbidities, type of surgery and herniorraphy performed. Kind of mesh employed, and post operatory morbidity. (30 days). Elective surgery was restricted to patients with BMI below 32. morbimortality were analized. Stadistic analysis: Chi square.

Results: : Demography: 72% female and 28% male. 57% below 65 years. BMI mean 27 kg/m2.
Comorbidities: Hypertension 43%, Diabetes 15%, Hypothyroidism 6%, CPO 2.3%.
Primary surgery: Biliary 33%, Gynecologic 15%, Coloproctological 17%, gastric 15%, Exploratory laparotomy 7%.
Emergency surgery 5%, Elective 95%
Repair: without mesh 3%, with mesh: 86% Onlay, 7% Sublay, 2% Inlay and 2% Intraperitoneal. Laparoscopic 8%
Polypropylene mesh in 85%.
Postoperative morbidities: wall hematoma 1%, enterotomy 2%, (recognized and repaired at the same surgery), and enterocutaneous fistulae 0.1%.
97% of the patients did not present any morbidity; the present series did NOT presented mortality.
Routine use of subcutaneous drain and abdominal elastic belt 100% patients.
Mean hospital stay: 3 days.

Conclusion: : Elective surgery, limited to BMI below 32, drastically reduced post operatory morbidity.
Onlay technic, showed excellent results

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Disclosure of Interest: None declared

54.04

OUTCOME PREDICTORS OF COMPLEX ABDOMINAL WALL RECONSTRUCTION WITH BIOLOGIC MESH IN THE ELDERLY

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Introduction: Complex abdominal wall reconstruction (CAWR) with biologic mesh (BM) in the elderly is a common procedure. The anatomy of the defect, clinical presentation, comorbidities/physiologic status, surgical setting and type of reconstruction are very important factors. However, there is a lack of evidence of outcome predictors of CAWR with biologic mesh among individuals aged 65 years and older.
Materials & Methods: This retrospective cohort study was conducted at two academic medical centers. We included all patients aged ≥65 years who underwent open CAWR over a six-year period. Univariable (UV) and multivariable (MV) linear and logistic regression analyses were performed.
Results: Fifty-eight patients from two centers (center A - 33 patients), (center W - 25) were studied. Females comprised 56.9%. CAWR was done electively in 48.3% and urgently or emergently in 51.7% of cases. Underlay mesh placement was used in 77.6%, bridge in 13.8% and onlay in 8.6%. Of 10 outcomes studied, 6 showed statistically significant results (Table). Analysis of data produced a MV model only for reoperation; 5 other outcomes had only significant UV predictors. Concomitant bowel resection was a UV predictor of intraoperative complications (OR 20.00, 95% CI 1.53-261.44, p=0.022), while age was a UV factor significantly associated with increased odds of need for mechanical ventilation (OR 1.16, 95% CI 1.03-1.32, p=0.018). Cardiac disease increased odds of death (OR 7.09, 95% CI 1.14-43.96, p=0.035) and increased length of hospital stay (β 19.63, 95% CI 2.72-36.55, p=0.024). Lysis of adhesions, on the other hand, was associated with decreased odds of death (OR 0.16, 95% CI 0.03-0.97, p=0.047). Significant UV factors related to higher odds of reoperation included presence of fistula (OR 8.47, 95% CI 1.21-58.76) and contaminated wound class (OR 7.39, 95% CI 1.77-30.79, p=0.006). COPD (OR 8.02, 95% CI 1.0-53.50, p=0.032) and intraoperative contamination (OR 11.98, 95% CI 2.16-66.41, p=0.005) were significant independent MV predictors of increased odds of reoperation. Urgent/emergent setting was a significant UV predictor of raised odds of wound complications (OR 4.83, 95% CI 1.18-19.74, p=0.029).
Image:

	UV		MV	
Outcome/*Predictor*	β*/OR	p	β*/OR	p
Intraoperative complications				
Bowel resection	20.00	0.022		
Mechanical ventilation required				
Age	1.16	0.018		
Death				
Cardiac disease	7.09	0.035		
Lysis of adhesions	0.16	0.047		
Reoperation				
Fistula	8.44	0.031		
COPD	3.90	0.075	8.02	0.032
Contaminated wound	7.39	0.006	11.98	0.005
Wound complication				
Elective vs urgent/emergent	4.82	0.029		
Hospital length of stay				
Cardiac disease	19.63	0.024		

Conclusion: Cardiac disease, COPD, age, concomitant bowel resection, lysis of adhesions, wound classification and urgent/emergent surgery are significant predictors of post-operative outcomes in elderly patients undergoing CAWR with biologic mesh.

Disclosure of Interest: None declared

54.05

RECONSTRUCTION OF THE ABDOMINAL WALL DURING ACUTE PHASE OR IMMEDIATELY POST DAMAGE CONTROL SURGERY

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Introduction: Timing of reconstruction of the abdominal wall in patients undergoing damage control surgery (DCS) for trauma or abdominal catastrophe is controversial. The aim of this study is analyze the outcomes of patients who have undergone complex abdominal wall reconstruction (CAWR) with biologic mesh in the acute phase post-DCS of the index hospitalization.

Materials & Methods: This study with both retrospective and prospective components was conducted at a tertiary/quaternary academic medical center. We included all patients who underwent open CAWR in the acute phase of trauma/illness over a four-year period. Univariable (UV) and multivariable (MV) linear and logistic regression analyses were performed.

Results: Forty-eight post DCS patients underwent CAWR with biologic mesh. Females were 64.6%, 43.8% were 65 years or older; mean age was 61.2±17.7 years. One quarter of patients had a Modified Frailty Index (mFI) score ≥3. Five outcomes produced MV models while 3 yielded only UV predictors (Table) The mFI score was a significant UV predictor of death, total complications and hospital length of stay. Intestinal resection (OR 8.07, 95% CI 1.12-58.03, p=0.038), number of drains (OR 3.42, 95% CI 1.16-10.09, p=0.026) and history of kidney transplant (OR 35.56, 95% CI 1.18-718.86, p=0.02) were significant MV predictors of reoperation. On MV analysis open abdomen management (OR 16.46, 95% CI 2.59-104.53, p=0.003) and emergent colonic surgery not due to cancer or diverticulitis (OR 18.02, 95% CI 1.23-264.88, p=0.035) were significant factors raising the odds of wound complications. Primary wound closure (OR 0.09, 95% CI 0.01-0.58, p=0.011) and obesity (OR 0.12, 95% CI 0.02-0.68, p=0.017) on MV were associated with lowered odds of wound complication. The presence of congestive heart failure (β 52.13, 95% CI 26.65-75.61, p=0.007), symptoms/procedures related to cardiac ischemia (β 27.16, 95% CI 6.72-47.59, p=0.01) on MV model were associated with longer hospital length of stay, while elective intraabdominal surgery was a significant MV predictor of short stay (β -16.44, 95% CI -28.09 - -4.80, p<0.001).

Image:

	UV		MV	
Outcome/*Predictor*	β*/OR	p	β*/OR	p
Intraoperative complications				
Ascites	42.00	0.009		
Immunodeficiency	20.50	0.023		
Excision of redundant skin	28.00	0.014		
Need for wound VAC				
Hernia	0.22	0.017	0.15	0.013
Open abdomen management	6.94	0.006	9.97	0.005
Lysis of adhesions	0.23	0.026		
Mechanical ventilation required				
Age	1.10	0.007	1.08	0.020
Hernia	0.12	0.012		
Obesity	0.06	0.013	0.08	0.027
Altered sensorium	6.60	0.017		
Peripheral vascular disease	7.71	0.041		
Death				
Modified Frailty Index	2.08	0.033		
Intraoperative approach: midline	0.05	0.025		
Reoperation				
Fistula	10.00	0.016		
Urgent/emergent	0.21	0.033		
Intestinal resection	5.36	0.034	8.07	0.038
Number of drains	2.37	0.020	3.42	0.026
Contaminated wound	10.56	0.032		
PSH: kidney transplant	8.00	0.104	35.56	0.020
Total complications				
Modified Frailty Index	1.76	0.049		
Wound complications				
Open abdomen management	6.72	0.010	16.46	0.003
Lysis of adhesions	0.27	0.046		
Primary wound closure	0.25	0.043	0.09	0.011
PSH: emergency surgery other colonic	5.05	0.162	18.02	0.035
Obesity	0.36	0.088	0.12	0.017
Hospital length of stay*				
Modified Frailty Index	5.06	0.028		
Congestive heart failure	55.05	<0.001	52.13	0.007
Dialysis	67.36	<0.001		
PCI, major cardiac surgery, angina	36.35	0.005	27.16	0.010
PSH: elective intraabdominal surgery	-12.36	0.112	-16.44	<0.001

Conclusion: To our knowledge, this is the first study to identify regression-based predictors of outcomes in patients undergoing CAWR with biologic mesh in the acute phase or post DCS. Frailty as a predictor deserves further study.
Disclosure of Interest: None declared

54.06

SINGLE CENTER EXPERIENCE WITH LARGE MIDLINE INCISIONAL HERNIA REPAIR AND COMPONENT SEPARATION TECHNIQUES.

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Introduction: Postoperative hernias are still a real problem which general surgeons have to deal with. So far in Poland, there is no algorithm for closing the fascia after primary laparotomy and during postoperative hernia repair.
Materials & Methods: We present the results of treatment of 15 consecutive patients with midline incisional hernias with a defect width exceeding 50 mm (mean 99,1 mm). In general, the technique involved separation of the posterior and anterior sheath of the rectus muscles, relative tension free closure of the posterior one, sublay mesh implantation, and then tension free reconstruction of the white line. Fascia was closed with small bites technique and PDS 2.0 running suture. Hernia truss was placed in the operating room and maintained for 3 months after surgery. Suction drains were left in each layer and kept until daily discharge was less than 50 ml.
Results: In 12 patients closure of the defect was possible only after release of the muscle compartments: among 10/12 an anterior component separation (ACS) and 2/12 a posterior component separation (PCS) was performed. Despite the compartments release in 3 patients from ACS group, it was not possible to perform tension-free repair. In these cases an inlay mesh was placed into the posterior sheath and then the anterior layer was closed. Only in 3 cases there was no need for compartments release. Mean operation time was 258 min. Hospital stay after surgery was 4.7 days. Drains were removed on average after 3.7 days. Superficial surgical site infection (SSI), successfully treated with negative pressure therapy occurred in 33.3%. No fatal complications were reported. During 24-month follow-up no recurrence was seen.
Conclusion: Appropriate preparation of muscle sheath, in majority of cases involving release of fascial compartments, sublay mesh implantation and tension free fascia reconstruction with small bites technique is effective in reconstructive abdominal wall surgery. Despite large number of SSIs, sublay mesh placement prevents deep infection and reduces the risk of its removal.
Disclosure of Interest: None declared

55.01

COMPARATIVE PERFORMANCE OF THE 7TH AND 8TH EDITIONS OF THE AMERICAN JOINT COMMITTEE ON CANCER STAGING MANUAL FOR ADRENOCORTICAL CARCINOMA

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Introduction: The American Joint Committee on Cancer (AJCC) 8th edition staging manual for adrenocortical carcinoma (ACC) redefines T stage to account for large vessel invasion (T4, previously not specified) and restricts stage IV, which previously included patients with T4 tumors and/or nodal (N1) disease, to only those with distant metastases. We evaluated the prognostic power of the 8th edition as compared to the 7th edition.
Materials & Methods: Patients with ACC treated at a single institution between 2000 and 2015 were identified retrospectively. Overall survival (OS) was compared using Kaplan-Meier and Cox proportional hazard models.
Results: Two hundred ninety four patients were identified with a median follow up of 29.5 months. The change in T stage nomenclature impacted 6 patients (2%) who were previously categorized as T3; 10 additional patients had renal vein or vena cava involvement but were already considered T4 based on invasion of other adjacent organs. The restriction of stage IV to patients with distant metastases downstaged 40 patients (14%; $T_4N_0M_0$ or $T_{3\text{-}4}N_1M_0$) to stage III. In the 7th edition, the hazard ratio (HR) for death was similar between patients with stage II and III disease, with 5-year OS for stage I 66.7%, stage II 54.1%, stage III 56.7%, and stage IV 13.6% (Table and Figure). In the 8th edition stages I and II remain unchanged by definition, and the HR for death increased sequentially by stage, with 5-year OS for stage III and IV 43.6% and 9.1%, respectively (Table). Patients with nodal disease ($T_{any}N_1M_0$) had outcomes more consistent with patients in stage III (5-year OS 35.2% vs Table). The c-index for the 7th and 8th editions were similar (83.2 vs. 82.8, respectively).

Table: Cox proportional hazards model for risk of death stratified by stage according to the AJCC 7th and 8th edition staging manual for adrenocortical carcinoma

	Stage	n	Hazard Ratio for Death	95% CI	5-year Overall Survival (%)
AJCC 7th Edition	I	7	reference		66.7
	II	92	1.3	0.4 – 4.2	54.1
	III	60	1.2	0.4 – 3.9	56.8
	IV	135	4.1	1.3 – 13.0	13.6
AJCC 8th Edition	I	7	reference		66.7
	II	92	1.3	0.4 – 4.2	54.1
	III	100	1.6	0.5 – 5.0	43.6
	IV	95	5.8	1.8 – 18.4	9.1

Image:

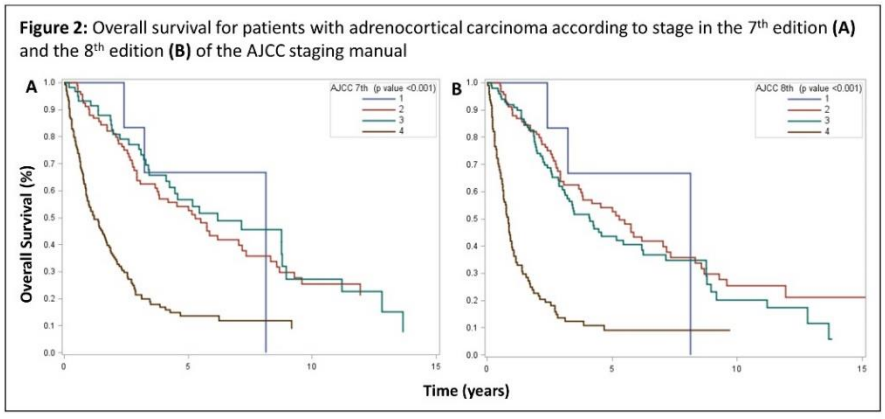

Figure 2: Overall survival for patients with adrenocortical carcinoma according to stage in the 7th edition **(A)** and the 8th edition **(B)** of the AJCC staging manual

Conclusion: While 8th edition changes impact a relatively small proportion of ACC patients, they represent progress towards a common staging system that more accurately reflects prognosis. In the 8th edition the inclusion of patients with T4 tumors or nodal disease as stage III rather than IV results in improved stratification with enhanced separation between stages II and III.

Disclosure of Interest: None declared

55.02

RECIPROCAL INTERPLAY OF MIR-497 AND MALAT1 PROMOTES TUMOURIGENESIS OF ADRENOCORTICAL CANCER

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Introduction: Adrenocortical carcinoma (ACC) has high recurrence rates and poor prognosis with limited response to conventional cancer therapy. Noncoding RNA are a part of a broader paradigm of gene regulation consisting of interacting microRNAs (miRNA) and long noncoding RNAs (lncRNAs) which are implicated in several cancers. Recent contributions of high throughput transcriptomic profiling identified microRNA-497 (miR-497) as significantly underexpressed; and long noncoding RNA (lncRNA) MALAT1 (metastasis-associated lung adenocarcinoma transcript 1) as overexpressed in ACC. miR-497 is located in the chromosomal region 17p13.1, where a loss of heterozygosity is frequently associated with malignancy in ACC. This study investigates the interaction between miR-497 and MALAT1 in ACC and its functional role in tumourigenesis.
Materials & Methods: Restoration of miR-497 was achieved by transfecting ACC NCI-H295R cells with miRNA 497 mimics (Ambion) at a concentration of 50nM. MALAT1 was silenced by transfecting ACC NCI-H295R cells with LNA™ MALAT1 GapmeRs (Exiqon) at a concentration of 40nM.
Cellular proliferation was assessed by Cell Titer 96® Aqueous One Solution Cell Proliferation Assay (Promega). Cell cycle and apoptosis were evaluated by fluorescence-activated cell sorting analysis; cell cycle was assessed using PI staining, and early apoptosis was detected using Annexin V kit (BD Biosciences). Cell migration and invasion were tested using Cytoselect™ cell migration and invasion transwells (Cell Biolabs). Gene and protein expression were evaluated by quantitative reverse transcriptase-PCR (RT-qPCR) and western blot respectively. Luciferase assay was performed to confirm the direct interaction of miRNA and its target genes. RNA immunoprecipitation confirmed key MALAT1 target interactions.
Results: miR-497 post-transcriptionally represses MALAT1, while MALAT1 competes for miR-497 binding to its molecular target, eIF4E (eukaryotic translation initiation factor 4E). Overexpression of miR-497 and silencing of MALAT1 suppress cellular proliferation and induce cell cycle arrest through downregulation of eIF4E expression. Furthermore, MALAT1 directly binds to SFPQ (Splicing Factor Proline and Glutamine Rich) protein, indicating its multifaceted roles in ACC pathophysiology.
Conclusion: This is the first study to identify the feedback axis of miR-497-MALAT1/eIF4E in ACC tumourigenesis, providing novel insights into the molecular functions of noncoding RNAs in ACC.
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55.03

SURGERY IMPROVES HIGH CHOLESTEROL IN PATIENTS WITH PHEOCHROMOCYTOMAS AND PARAGANGLIOMAS

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Introduction: Catecholamine excess in patients with pheochromocytomas or paragangliomas (PPGLs) leads to hypertension, diabetes, and hyperlipidemia. The prevalence of hyperlipidemia and whether surgery improves hyperlipidemia is unknown. The aim was to investigate the prevalence of hyperlipidemia, the association of elevated catecholamines and serum cholesterol levels, and the effect of surgical resection.
Materials & Methods: One hundred thirty-two patients with PPGLs underwent an operation at the National Institutes of Health from 2009 to 2016, of which 54 patients had serial lipid panels drawn. Clinical demographics, BMI, genetic mutations, tumor size, and pre- and postoperative catecholamine l and lipid levels were retrospectively reviewed. Spearman correlation between catecholamines and lipid levels was evaluated. Paired Wilcoxon and paired t-test were used to analyze differences in pre- and postoperative lipid levels.
Results: Preoperatively, 51 patients (94.4%) had elevated catecholamines, 13 patients (24.1%) had elevated total cholesterol (>200 mg/dL, TC), nine patients (16.6%) had elevated LDL (>130 mg/dL) and 10 patients (18.5%) had elevated triglycerides (>150 mg/dL, TG). Elevated serum and 24-hour urinary metanephrine levels were positively associated with TC (r=0.2792, p=0.0372 and r=0.4146, p=0.0031, respectively) and LDL levels (r=0.2977, p=0.0259 and r=0.4434, p=0.0014, respectively). Preoperative mean TC levels decreased from 176.4 to 166.3 mg/dL (p=0.0064) and preoperative mean HDL levels decreased from 56.7 to 53.2 mg/dL (p=0.0253) after PPGL resection (median 3.1 months (range 1.3-50.2) between lipid panels). Most patients with elevated preoperative TC (76.9%) had improvement, and mean TC decreased from 225 to 200.2 mg/dL (p=0.0230). Of patients with elevated preoperative LDL, 60% had improvement, and mean LDL decreased from 149 to 131.1 mg/dL (p=0.0313). Preoperatively, six patients were on lipid lowering medications, which were continued. Postoperatively, except for one patient who was started on omega-3 fatty acids, no new lipid lowering medications were started. Elevated BMI was positively associated with LDL (r=0.2668, p=0.0469) and TG levels (r=0.3527, p=0.0077), and negatively associated with HDL levels (r= -0.4136, p=0.0015).
Conclusion: The prevalence of hypercholesterolemia in patients with PPGLs is 24% and multifactorial. Elevated total cholesterol and/or LDL levels are positively associated with metanephrine levels, and surgical resection of PPGLs improves cholesterol levels.
Disclosure of Interest: None declared

55.04

ANTI-THYROID ANTIBODIES AND TSH AS POTENTIAL MARKERS OF THYROID CARCINOMA AND AGGRESSIVE BEHAVIOUR IN PATIENTS WITH INDETERMINATE FINE NEEDLE ASPIRATION CYTOLOGY

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Introduction: Indeterminate fine needle aspiration cytology (FNAC) imposes challenges in the management of patients with thyroid nodules. This study aimed to examine whether preoperative anti-thyroid antibodies (Abs) and thyroid stimulating hormone (TSH) are indicators of thyroid malignancy and aggressive behaviour in the setting of indeterminate FNAC.
Materials & Methods: This was a retrospective study of patients undergoing thyroidectomy from 2008 to 2016. We analysed demographic data, Abs and TSH levels, FNAC results and histopathology. Serum marker levels were categorised as *Undetectable*, *In-range* if detectable but within normal range, and *Elevated* if above upper limit of normal. *Detectable* levels referred to *In-range* and *Elevated* combined.
Results: There were 531 patients included. Of the 402 patients with preoperative FNAC, 104 (25.9%) had indeterminate cytology (Bethesda III-V) with 39 (37.5%) malignant and 65 (62.5%) benign cases in the final histopathology. There was a strong association between *Elevated* Abs (thyroglobulin antibodies (TgAb) and/or thyroid peroxidase antibodies (TPOAb)) and thyroiditis on histology (OR 17.44, 95% CI 7.86-41.21, P<0.0001). Additionally, in patients with indeterminate FNAC, an increased risk of malignancy was associated with *Elevated* TgAb (OR 7.25, 95% CI 1.13-77.15, P=0.01) and *Elevated* TPOAb (OR 6.79, 95% CI 1.23-45.88, P=0.008). Similarly, while still *In-range*, TSH > 1 mIU/L was associated with an increased risk of malignancy in patients with indeterminate cytology (OR 3.23, 95% CI 1.14-9.33, P=0.01). The risk of malignancy increased as the number of markers increased from none, to one (*Elevated* Abs or TSH>1), to two (*Elevated* Abs and TSH>1), with the risk of 21%, 33%, 75% respectively (P=0.03). In all patients with malignancy, the mean tumour size was 26 ± 20 mm if TSH > 1, 7.79 ± SD mm larger than those with TSH < 1 (P=0.03); furthermore, in patients with papillary thyroid carcinoma (N = 119), *Detectable* TgAb was associated with a 4x risk of lymph node metastasis (95% CI 1.03-13.77, P=0.02).
Conclusion: In this cohort, in patients with indeterminate FNAC, Abs and TSH were independently and synergistically associated with an increased risk of malignancy. Additionally, TgAb and TSH were potential markers of aggressive biology. As such, they may be diagnostic and prognostic adjuncts in patients with indeterminate FNAC, aiding decision-making for the extent of thyroid surgery.
Disclosure of Interest: None declared

55.05

INVASIVENESS AND METASTATIC AGGRESSIVENESS IN SMALL DIFFERENTIATED THYROID CANCERS. DEMOGRAPHY OF SMALL PAPILLARY THYROID CARCINOMA IN THE SWEDISH POPULATION

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Introduction: A rising incidence of thyroid cancer is prevalent in the western world. Improved diagnostic methods are not a sufficient explanation for the rise. Papillary thyroid carcinoma (PTC) is the most common subtype of thyroid cancer. Small PTC (<20 mm) is a low-risk tumour but some cases are considerably more aggressive. Sufficient understanding of these mechanisms is a long-term goal for more efficient and safe treatment of these tumours.
Materials & Methods: 994 cases of small PTCs were identified in the validated Scandinavian Quality Register for Thyroid, Parathyroid and Adrenal Surgery (SQRTPA) and grouped according to lymph node metastasis. These were analysed with respect to age, sex, tumour size and geographical region.
Results: Tumour size correlated to metastases in the central lymph nodes, but not to lateral nodes. Male sex was associated with lateral lymph node metastases. Women with lymph node metastases were younger than those with negative nodes. The incidence of small PTCs and of lymph node engagement differed between geographical regions in Sweden.
Conclusion: Small PTCs show different patterns of aggressiveness regarding lymph node metastases. More understanding of predicting factors, mechanisms for metastatic disease and tumour biology and causes of regional differences is needed.

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Disclosure of Interest: None declared

55.06

AN ACCURATE AND BIOLOGICALLY SIGNIFICANT PROGNOSTIC MOLECULAR CLASSIFICATION FOR PAPILLARY THYROID CANCER DERIVED FROM A MACHINE LEARNING APPROACH

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Introduction: Clinical management of papillary thyroid cancer (PTC) is dependent on clinicopathologic tumor features, which fail to completely predict disease outcome and therefore may not adequately guide treatment. Our objective was to identify prognostic subgroups based on the transcriptional features of PTC, and to define their biological characteristics.
Materials & Methods: A novel, machine-learning algorithm (*HighLifeR*) was designed to identify the most prognostically significant molecular features of a tumor. The *HighLifeR* algorithm involves the iterative testing of small groups of genes for their association with progression-free survival (PFS) in multiple virtual cohorts. The algorithm was applied to The Cancer Genome Atlas (TCGA) project RNASeq dataset, consisting of >25,000 genes in 502 PTCs. The model was trained on 2/3 of the TCGA cohort (N=352), then validated in the remaining 150 samples. In total, >5.7 million combinations of genes and cohorts were tested. Gene set enrichment analysis, mutational analysis, and immune phenotyping were performed to explore the biological features of each prognostic category.
Results: We identified the 44 genes that were most closely associated with PFS. Hierarchical clustering of these 44 genes identified 5 discrete subgroups. These subgroups had markedly different PFS (Cox PH $p < 0.0001$). The molecular prognostic classification (concordance = 0.755, $p = 0.019$) outperformed the ATA risk stratification system (concordance = 0.637, $p = 0.023$) and AJCC stage (concordance =0.63, $p = 0.004$) for predicting PFS. Interestingly, these prognostic subgroups also had discrete biological characteristics, including an immunologically quiescent subgroup with metabolic gene expression and a RAS-like mutational pattern, and a pro-inflammatory and proliferative subgroup with upregulation of immune checkpoint inhibitors.
Conclusion: Our 44-gene signature may improve risk stratification in patients with PTC, and hence offer clinicians a tool to deliver personalised and appropriate treatment protocols for their patients. Accurately predicting prognosis would enable clinicians to direct more aggressive treatment regimens to those with poor prognosis PTC, and to avoid extensive surgery, adjuvant therapies and prolonged follow-up in good prognosis PTC.
Disclosure of Interest: None declared

64.01
IMMEDIATE RESULTS OF INTEGRATED TREATMENT OF PATIENTS WITH RESECTABLE GASTRIC CANCER

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Introduction: Introduction: In order to improve the results of radical surgical treatment of patients with gastric cancer (GC), a method of integrated treatment using neoadjuvant chemotherapy (NCT) was proposed, aimed at reducing the risk of developing the loco-regional recurrence and distant metastases.
Materials & Methods: Material and methods. In 2017-2018, 85 patients underwent neoadjuvant chemotherapy for GC (T3N1M0) according to the regimen (DC5FU) Docetaxel 75mg/m^2 for the 1^{st} day, Cisplatin 75mg/m^2 for the 1^{st} day, 5 Fluorouracil 750 mg/m^2 per day for 5 days , 3-4 courses at intervals of 21 days. After which the radical operation was performed with lymphadenectomy D2 with a further duration of adjuvant chemotherapy for 2-3 courses according to the regimen (DC5FU).
Results: Results. All patients were conducted (NCT) in full in the scheduled time; the side effects of the III-VI degree treatment during this period were reported in 22 patients (25.8%). The most frequent complications of the III-IV degree treatment were the dyspeptic disorders (anorexia, nausea) in 12 (14.1%) patients. The hematological complications (neutropenia, thrombocytopenia) were observed in 10 (8.5%) patients. There were no fatal outcomes associated with the treatment. The 3-year survival rate was 72.9%.
Conclusion: Conclusion. The proposed method of treatment of patients with resectable GC is characterized by satisfactory tolerance and tendency to improve the individual outcomes of treatment.
Disclosure of Interest: None declared

64.02

SIGNIFICANT CANCER DETECTION RATES WITH OFFICE-BASED COGNITIVE MRI GUIDED TRANSRECTAL ULTRASOUND PROSTATE BIOPSY - A SINGLE SURGEON EXPERIENCE

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Introduction: The use of magnetic resonance imaging-guided biopsy (MRGB) has created a new paradigm for a more accurate diagnosis of clinically significant prostate cancer. Cognitive MRGB is an office-based technique that allows transrectal targeted biopsy of the suspected lesion under local anaesthesia. This study aimed to evaluate significant cancer detection on cognitively directed cores (CB) compared to standard systemic biopsy cores (SB).
Materials & Methods: All patients with MRI lesions with Prostate Imaging Reporting and Data System (PIRAD) scores ≥3 who underwent CB with concurrent SB by an experienced urologist from January 2015 to October 2018 were analysed. The diagnostic accuracy of SB and CB was compared by the greatest core positivity for a tumour, maximum tumour volume and grade identified on individual biopsy cores.
Results: Of the 107 patients with PIRAD ≥3 who underwent CB with concurrent systemic biopsy, overall prostate cancer was detected in 87 (81%) patients, 20 patients had benign pathology on biopsy. Patients with PIRAD 4-5 had significantly higher rates of cancer detection (91% vs 50%, p <0.001). The sensitivity was greater in SB (0.95 vs 0.83). Majority of missed cases by CB were insignificant cancer (73%) whereas 75% of missed cases by SB had Gleason ≥ 3+4. CB had significantly higher mean core positivity (67.2% vs 31.7%, p<0.001) and had higher maximum tumour volume in positive cores (54.3% vs 39.3%, p=0.02). A total of 14 (16%) patients had upstaging Gleason score by CB but there was no significant difference in the detection of Gleason ≥ 3+4 disease between CB and SB (63% vs 67%, p=0.63).
Table 1 Biopsy Characteristics

	CB	**SB**	**P value**
Number of cores, mean (range)	2.6 (2-3)	17.2 (16-17)	-
Core positivity, %	67.2	31.7	**<0.001**
Maximum tumour volume, %	54.3	39.3	**0.02**
Gleason Score ≥3+4, %	63	67	0.63

Conclusion: In patients with PIRAD ≥3 on MRI, CB is able to successfully detect significant prostate cancer as demonstrated by the higher mean core positivity, maximum tumour volume in positive cores compared to standard SB with an upgrade of disease in 16%. CB used in conjunction with SB has improved the diagnostic accuracy of office-based TRUS biopsy under local anaesthetic in the era of multiparametric MRI.
Disclosure of Interest: None declared

64.03

UNDERSTANDING COST VARIATIONS OF THROIDECTOMY AMONG NCI-DESIGNATED CANCER CENTERS

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Introduction: A value-based structure for healthcare requires a thorough understanding of both cost and outcome of patient care. Costs of procedure vary, but our understanding of the sources of variation is limited. To better understand how and why costs vary, we performed a retrospective study on inpatient thyroidectomies in the U.S., utilizing data through the Vizient Clinical Data Base.

Materials & Methods: We reviewed inpatient discharges from 52 of 70 National Cancer Institute (NCI)-Designated Cancer Centers with thyroidectomy primary or secondary procedure codes for the period January 1 to September 30, 2017. Peer hospitals are grouped by regions in accordance with the NCI guideline. Regions with fewer than five hospitals were combined to protect the identity of the individual hospitals.

All comparisons used average and standard deviation of observed costs and number of hospital encounters. Hospitals were compared both between regions and within regions based on five variables:

- § Patient Age (years): 0-18, 19-45, 46-65, 65+
- § Gender: Male, Female
- § Length of Stay (LOS, days): ≤ 4, >4
- § Primary Insurance: Private, Public, Other
- § Complications: Yes, No

While options for statistical comparison were limited because of the protected nature of the data source, one-way ANOVA and *t*-tests were performed to determine statistical significance of each difference at a 95% confidence level.

Results: A subset of our full data summary can be seen in the attached table.

Within Regions

Four of the six regions showed statistically significant variation in age groups. Five of the six regions showed significant variation in primary insurance. All six regions showed significant variation in gender, LOS, and complications.

Between Regions

Three of the four age groups varied significantly among regions. Complications, gender, and LOS varied significantly in all categories. Variations in primary insurance were significant for two of the three categories.

Image:

	Region	Category	Cases	Observed Direct Cost	SD Observed Direct Cost	p-value
Age group	East North Central, East South Central	1:(0,18)	58	12,683	23,886	
	MD Anderson	1:(0,18)	10	19,657	16,285	
	Mid-Atlantic & New England	1:(0,18)	51	6,280	6,955	
	Mountain & Pacific	1:(0,18)	45	10,720	8,833	
	South Atlantic	1:(0,18)	29	16,422	33,009	
	West North Central & West South Central*	1:(0,18)	10	8,238	7,089	0.1541
	East North Central, East South Central	2:(19,45)	251	13,219	24,239	
	MD Anderson	2:(19,45)	71	12,170	8,311	
	Mid-Atlantic & New England	2:(19,45)	542	7,948	20,618	
	Mountain & Pacific	2:(19,45)	332	10,492	8,511	
	South Atlantic	2:(19,45)	222	12,203	20,073	
	West North Central & West South Central*	2:(19,45)	192	15,004	32,217	0.0004
Complications	East North Central, East South Central	0:No	1,079	14,050	15,848	
	MD Anderson	0:No	263	14,149	9,768	
	Mid-Atlantic & New England	0:No	1,568	9,486	19,119	
	Mountain & Pacific	0:No	1,128	10,549	16,540	
	South Atlantic	0:No	945	15,280	19,970	
	West North Central & West South Central*	0:No	781	13,093	16,997	0.0000
	East North Central, East South Central	1:Yes**	89	45,114	47,593	
	MD Anderson	1:Yes**	17	28,461	12,685	
	Mid-Atlantic & New England	1:Yes**	66	35,785	44,837	
	Mountain & Pacific	1:Yes**	74	65,668	71,862	
	South Atlantic	1:Yes**	81	41,204	40,715	
	West North Central & West South Central*	1:Yes**	51	44,059	52,736	0.0069
Primary Insurance	East North Central, East South Central	1:Private	451	15,181	23,196	
	MD Anderson	1:Private	161	14,257	9,366	
	Mid-Atlantic & New England	1:Private	947	6,950	10,041	
	Mountain & Pacific	1:Private	501	12,943	18,359	
	South Atlantic	1:Private	347	14,814	20,441	
	West North Central & West South Central*	1:Private	344	11,613	14,328	0.0000
	East North Central, East South Central	2:Public	686	17,101	20,579	
	MD Anderson	2:Public	115	15,577	11,532	
	Mid-Atlantic & New England	2:Public	642	15,782	30,306	
	Mountain & Pacific	2:Public	665	21,115	31,964	
	South Atlantic	2:Public	616	19,034	25,279	
	West North Central & West South Central*	2:Public	462	17,726	26,709	0.0071
	East North Central, East South Central	5:Other	31	19,260	23,037	
	MD Anderson	5:Other	4	29,582	14,925	
	Mid-Atlantic & New England	5:Other	45	11,254	26,970	
	Mountain & Pacific	5:Other	36	10,914	6,255	
	South Atlantic	5:Other	63	14,462	16,634	
	West North Central & West South Central*	5:Other	26	11,094	11,363	0.1778

* West South Central includes MD Anderson Cancer Center

** Complications include AHRQ's PSI, PDI, HAC or any Vizient-defined complication.

Note: Peer hospitals are grouped by regions in US that are in accordance with the guideline of NCI; regions are combined with others if there are less than five hospitals to protect the identification of the particular hospitals.

Conclusion: Thyroidectomy costs vary widely both between regions and within regions in the U.S. Some variations, such as those in complications and LOS, are intuitive. The reasons for other variations, such as gender, are less clear. All hospitals need to understand and highlight drivers of cost, especially variation in cost, to minimize these factors within their institutions. Armed with this knowledge, they can partner with other institutions to strengthen the sharing of knowledge toward fiscal responsibility and accountability related to controlling rising health care expenditures.

Disclosure of Interest: None declared

64.04

CLINICAL STAGES OF COLORECTAL CANCER DIAGNOSED IN OBESE AND OVERWEIGHT INDIVIDUALS IN POLISH COLONOSCOPY SCREENING PROGRAM.

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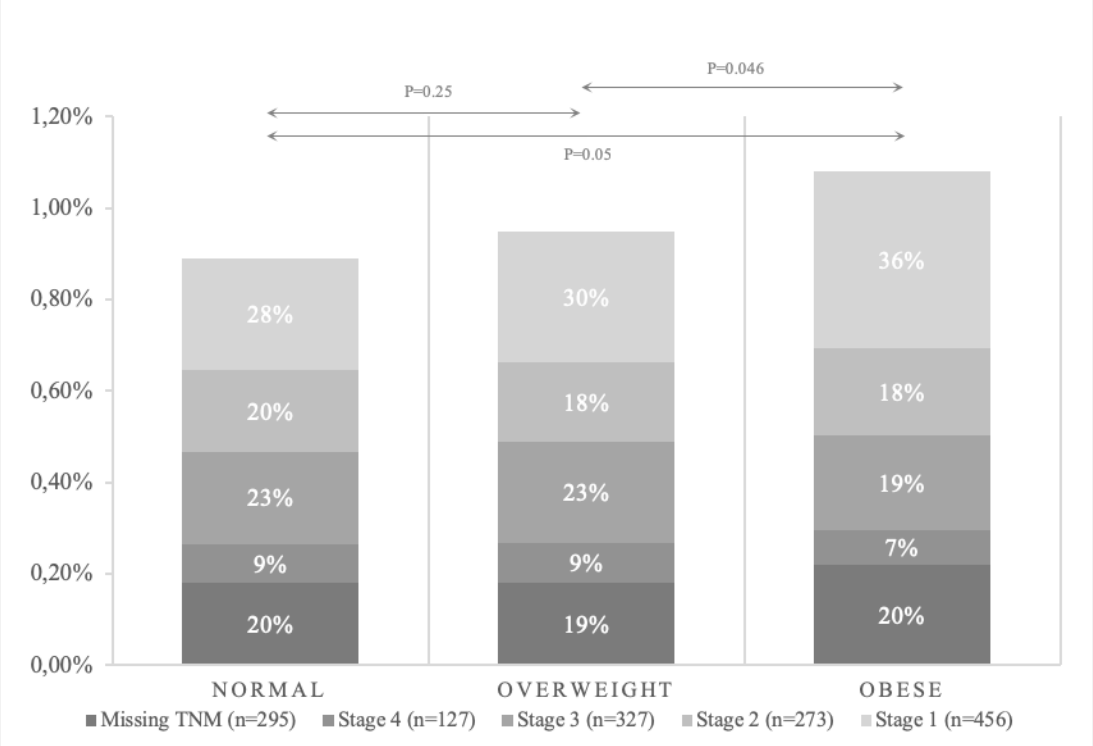
Introduction: Obesity is a known risk factor of CRC. However, precise interconnections between excessive body fat and CRC are still vague. Therefore, **the aim of this study is** to assess whether stage of CRC detected in overweight and obese individuals differs from individuals with normal BMI. Secondary aim of this study is to elucidate whether overweight and obesity influence the overall survival in CRC.
Materials & Methods: This study was a cross-sectional analysis of 163 129 individuals who underwent screening colonoscopy performed on data from prospectively maintained database of Polish Colonoscopy Screening Program.
Results: Overweight and obese individuals present with a less advanced CRC in screening setting (*p=0.014).* This trend is the most pronounced in males (*p=0.001)*. Univariable and multivariable analyses revealed, that obesity was a negative predictor of detection of advanced CRC with OR (odds ratio) 0.72 (95% CI 0.52-1.00; *p=0.047*). Furthermore, overweight and obesity were not statistically significant predictors of risk of death (*p=0.614; p=0.446*, respectively).
Table *Odds ratio (OR) for diagnosis of advanced CRC: univariable and multivariable model.*

	Univariable models		**Multivariable model**	
Variable	OR (95% CI)	P	OR (95% CI)	P
Normal				
Overweight	0.99 (0.75-1.30)	0.916	0.99 (0.75-1.30)	0.916
Obese	**0.72 (0.52-1.00)**	**0.047**	**0.72 (0.52-1.00)**	**0.047**
Male gender	1.04 (0.82-1.31)	0.767	#	#
Age*	1.00 (0.98-1.03)	0.996	#	#
Family history	1.08 (0.77-1.51)	0.671	#	#
#these variables were not found statistically significant in forward stepwise regression *conitonouus variable				

Image:



Conclusion: Obese screenees present with a less advanced disease in comparison to non-obese. Moreover, survival stratified by clinical stage seems to not be influenced by BMI category. Therefore, higher proportion of early diagnosed cancers can potentially create a survival benefit in this group.

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Disclosure of Interest: None declared

64.05

EXPRESSION OF P16 AND P53 IN TOBACCO AND HUMAN PAPILLOMA VIRUS RELATED ORAL CANCER – A STUDY FROM AN ENDEMIC REGION OF A DEVELOPING COUNTRY

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Introduction: Despite the fact that the oral cavity is accessible for visual examination, and that oral cancers (OC) and premalignant lesions have well-defined clinical diagnostic features, OC are typically detected in their advanced stages. In fact, in India, 60–80% of patients present with advanced disease as compared to 30-40% in developed countries. Tobacco and Human Papilloma Virus (HPV) have been proved to be involved in the etio-pathogenesis of majority of head and neck cancer (HNC). In view of limited data regarding the expression of mutated p53 and p16 in HNC in Northern India, the present study was planned to relate their expression in malignant (OCG) and premalignant lesions (PMLG). An attempt was also made to find a correlation if any between expression of p16 and p53 with tobacco related and HPV related oral carcinoma.
Materials & Methods: N=30 patients each of OC and PMLG were enrolled after ethical clearance and written and informed consent from September 2017 to June 2018. PMLG constituted patients with clinical evidence of oral leukoplakia, erythroplakia and submucosal fibrosis that did not show invasive tumor histologically
Results: p16 and p53 expressions showed significantly higher intensity (grade 1+, 2+ and 3+) in OCG as compared to PMLG ($p<0.001$). In OGP, p16 and p53 expression showed increasing trend with history of oral sex, carcinogen exposure and TNM staging. P53 was significantly associated with severity of trismus and poor response to chemotherapy. In PMLG, p53 was significantly associated with poor histology findings where as both markers were associated with carcinogen exposure.
Conclusion: p53 immunohistochemistry staining may be used to predict response to treatment and individualize doses. Trismus needs further evaluation to find out the missing links between trismus and severity of disease and prognostication.

Disclosure of Interest: None declared

64.06

ELECTIVE LAPAROSCOPIC SPLENECTOMY IN OBESE PATIENTS IS NOT ASSOCIATED WITH WORSE SHORT-TERM OUTCOMES

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Introduction: The study was conducted to evaluate the impact of obesity on short-term outcomes after elective laparoscopic splenectomy and to assess safety of the procedure in obese population.
Materials & Methods: The study included 198 consecutive patients undergoing elective laparoscopic splenectomy between 2011 and 2018 in tertiary referral center for general surgery. The entire study group was divided depending on the body mass index: group 1 (normal weight), <25 kg/m2 ; group 2 (overweight), 25-30 kg/m2 ; and group 3 (obese) >30 kg/m2. Study end-points were: operative time, intraoperative blood loss, intraoperative complications, morbidity rate, reoperation rate, total length of hospital stay and 30-day readmission rate.
Results: The mean operative times were 112.7, 112.3, 117.6, and 103.2 min overall and in groups 1, 2 and 3, respectively (p = 0.1828). The mean intraoperative blood loss for whole population was equal 170.0 ml. Mean blood loss in groups 1, 2 and 3 were 136.0 ml, 203.7 ml, 170.8 ml, respectively (p = 0.2967). Intraoperative complication rates were comparable among groups (7.8% vs 12.2% vs 10.3%, overall 10.1%, p = 0.6500). Morbidity rates were also comparable among groups (6.5% vs 13.4% vs 12.8%, overall 10.6%, p = 0.3234). There were no differences in conversion rate, reoperation rate, length of hospital stay and 30-day readmission rate among groups.
Conclusion: Obesity has no influence on short-term outcomes of elective laparoscopic splenectomy. This procedure is safe regardless of the patient's body mass index. Therefore, it can be offered to all patients, including those overweight and obese individuals. Preoperative weight loss seems unnecessary before elective laparoscopic splenectomy.
Disclosure of Interest: None declared

66.01

TREATMENT OF PROSTHETIC INFECTION WITH NO MESH REMOVAL IN PATIENTS AFTER OPEN POLYPROPYLENE MESH REPAIR OF ABDOMINAL WALL HERNIA

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Introduction: Mesh removal is a corn stone in the treatment of mesh infection in patients after prosthetic mesh hernia repair in most cases. The aim of the presentation is to share with experience of successful elimination of prosthesis infection with no mesh removal.
Materials & Methods: There were demonstrated patients with mesh infection after an open umbilical and incisional hernia repair performed by placing the mesh in the onlay position. In all patients infection manifested as an abscess of the anterior abdominal wall and systemic inflammatory response syndrome (SIRS) was present. All patients were treated by the same protocol which includes 1. The blind puncture and aspiration of the abscess with 18 gauge syringe needle, 2. The cavity rinsed with the saline and antiseptic's solutions repeatedly, 3. The cavity refilled with the highly concentrated antiseptic solution until the next puncture.
Results: Three patients were treated. In the first patient mesh infection manifested 2.5 months after incisional hernia repair. In the second patient on the sixth postoperative day after incisional hernia repair and in the third one on the fourth postoperative day after umbilical hernia repair respectively. Bacterial growths were confirmed in all patients. Above mentioned procedure was repeated twice a day during the first day, once a day during the second day and repeated two-three times during the next 5 - 7 days. A total of 5 - 6 procedures had been performed. An effective, rapid response to the treatment was observed. SIRS disappeared during a day and a complete recovery from infection was achieved in 7 – 9 days.
Conclusion: A mesh preserving treatment is possible when infection manifests itself as an abscess and signs of necrotizing infection are not present. Providing of sufficient amount of the highly concentrated antiseptic solution at the infection site is crucial for a successful outcome.
Disclosure of Interest: None declared

66.02

EVALUATION OF SURGICAL SITE INFECTIONS IN PATIENTS OPERATED FOR INGUINAL HERNIA AT BEIRA CENTRAL HOSPITAL

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Introduction: Abdominal wall hernia is the most common pathology in patients operated as elective surgery. It is estimated that at Beira Central Hospital about 600 hernia surgeries occur every year as elective surgery, accounting for 35% of the total surgeries performed, the most prevalent being inguinal hernias. The infection rate of the surgical site at Mozambique Hospitals, is underestimated; the real situation can't be evaluated because of lacking data. The main objective is to determine surgical site infection rate of inguinal herniarrhaphy during two consecutives week.
Materials & Methods: This is an observational and descriptive study; about 38 patients were evaluated during control period, 2 weeks after surgery; a survey was used to record patient information. Microsoft Excel 2013 was used for data analysis.
Results: From 166 patients operated, 38 returned to control in 2 weeks (22.89%). The remaining 128 patients did not appear to control. All patients evaluated within 2 weeks were male. 32% of the patients were between 17 to 31 years old. The largest number of patients, 55% came from other Provinces, far from Beira Central Hospital ; Bassini repair was the most used , around 78%. Antibiotic prophylaxis was performed in 82% of the patients. We found a prevalence of 21% for HIV infection.
Conclusion: Of the 38 patients who came for control within 2 week after surgery, 3 presented surgical site infection, which corresponds to 8% of the patients observed. This result is in accordance to other previous studies, which presented surgical wound infection ranging from 2.2% to 27.6%. There wasn't any implication of HIV co-morbidity in the affected patients.
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Dunja Kokotovic , Thue Bisgaard, Frederik Helg , Long-term Recurrence and Complications Associated With Elec tive Incisional Hernia Repair, *JAMA* 2016;316(15):1575-1582
Disclosure of Interest: None declared

66.03

THE USE OF MICROWAVE RADIOMETRY IN THE EVALUATION AND MANAGEMENT OF PATIENTS WITH ACUTE APPENDICITIS

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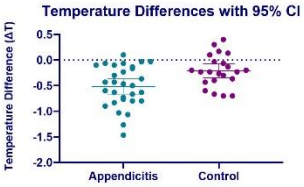
Introduction: Acute appendicitis has always been one of the surgical conditions which have challenged clinical judgement and decision making regarding operative or conservative management. In this pilot study, we present the use of temperature related changes as measured by microwave radiometry as an accessible and quantifiable adjunct to assessment of patients with right iliac fossa pain.
Materials & Methods: In this case-control study the temperature (T) of the right iliac fossa, in patients presenting with right iliac fossa pain and diagnosis of acute appendicitis, was measured within 1 hour of admission with the use of microwave radiometry (RTM-01-RES). The temperature of the contralateral site was also measured to account for individual variability, and the difference (ΔT) between the two sites was calculated. The group of patients who underwent surgery and had histologic confirmation of acute appendicitis were subsequently compared with clinically asymptomatic controls, and the mean of the differences (ΔT) for each group was assessed using a Student's t-test.

Results: The group of patients with appendicitis consisting of thirty patients (N=30) showed mean difference of temperature (ΔT) of -0.5 degrees [95% confidence interval (CI): -0.67 to - 0.37], while the control group (N = 22) had a ΔT of -0.21 degrees [95% CI: -0.35 to -0.07]. There was a statistically significant difference between the temperature differences of the two groups [t=2.98, p = 0.004]. There was no statistically significant difference of the temperatures of the right iliac fossa between the two groups [t=0.39, p= 0.69].
Image:



Conclusion: Microwave radiometry may be used readily, as a helpful adjunct in clinical practise, to evaluate patients with right iliac fossa pain. The presence of a temperature difference of more than 0.5 degrees, along with the clinical presentation and the biochemical evidence of inflammation warranties admission to hospital and appropriate treatment. This is particularly significant in the context of operative treatment, since most of the pathology reports of the current cohort showed features of intramural abscesses of the appendix, along with serosal breaches and contained signs of peritonitis. Finally, microwave radiometry may expedite the decision making process for operative management of patients with right iliac fossa pain, especially in cases of inconclusive ultrasound imaging studies, or in populations where the use of radiation imaging is undesirable or contraindicated.
Disclosure of Interest: None declared

66.04

UTILITY OF NEGATIVE PRESSURE WOUND THERAPY (NPWT) FOR ATYPICAL, RARE AND COMPLICATED SURGICAL CASES.

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Introduction: Negative pressure therapy is recommended for treatment of different clinical indications varying from soft tissue infection to laparostomy. Hopes are high regarding implementation of negative pressure treatment in most complicated cases of uncertain prognosis. The aim of this study was to present single center experience in a number of selected cases.
Materials & Methods: Presentation of three cases.
Case 1: 51-year old female with soft tissue infection of the right thigh due to rectal fistula. Fasciotomy and drainage and Hartman procedure was performed.
Case 2: 70-year old male patient with recto-cutaneous fistula and infection of soft tissue of the gluteal region. Rectal stump resection and drainage of the infected soft tissue with use of postop NPWT.
Case 3: 51 year-old male with intestinal fistula as complication of surgical treatment of chronic pancreatitis.
Results: All patients mentioned above were successfully cured with NPWT.
Image:

Conclusion: Negative pressure therapy has its place in treating atypical, rare and complicated surgical cases such as fistulas and widespread infections of abdomen, small pelvis and soft tissue.
Disclosure of Interest: D. Karkocha Other Financial/Material Support from: 15-16.11.2018 ABThera/Prevena workshop Amsterdam, M. Nowak: None declared, M. Wojtasik: None declared, M. Wroński: None declared, M. Mąka: None declared, M. Słodkowski: None declared, M. Radoch: None declared

66.05

BCGOSIS: A CASE REPORT OF DELAYED RENAL TUBERCULOSIS FROM INTRAVESICAL BACILLUS CALMETTE-GUERIN

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Introduction: Intravesical Bacillus Calmette-Guerin (BCG) is a live attenuated vaccine produced from Mycobacterium bovis that is effectively used for the treatment of high-grade non-invasive urothelial carcinoma (UCC). A very rare complication of BCG instillation includes disseminated disease. We report a case of delayed “BCGosis” in a form of renal tuberculosis.

Materials & Methods: .
Results: A 75-year-old man presented with recurrent fevers up to 39.7°C after maintenance BCG therapy 2 years ago for recurrent high-grade stage T1 UCC. His blood showed acute on chronic renal failure, elevated inflammatory markers with a high C-reactive protein of 140-150, leukocyturia without isolated pathogen and negative blood cultures. Initial CT intravenous pyelogram showed subtle hypoperfusion of left renal cortex suggestive of pyelonephritis. However, despite multiple antibiotic agents, his fevers continued and further investigations were organised to exclude occult infection. A gallium scan was performed that showed intense focal activity in left renal parenchyma with positive cultures for acid-fast bacilli confirmed renal BCGosis. He was commenced on triple therapy and was discharged home on day 50 of admission. He is being planned for nephroureterectomy as a definitive treatment.
Conclusion: Renal tuberculosis is a rare complication of BCG therapy. This case highlights rare but potential systemic complication of BCG in a patient presenting with pyrexia of unknown origin. A low index of suspicion is required in patients with prior exposure to intravesical BCG to prevent delayed diagnosis and to initiate prompt treatment.
Disclosure of Interest: None declared

66.06

THE ROLE OF TRANSABDOMINAL SONOGRAPHY IN THE DIAGNOSTICS OF CHOLEDOCHOLITHIASIS: COMPARED TO ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY

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Introduction: Introduction: Common bile duct stone (CBDS) or choledocholithiasis (ChL) is one of the major pathologies that lead serious complications and accurate, early detection is very important. Instrumental examinations differ from the others because of complexity and invasion.

None of this methods solitarily provide for comprehensive detection of ChL ERCP, being both diagnostic and curative intervention, is currently accepted as a “gold standard” in many medical facilities. TAUS in detection of ChL, although used for many years as a “from easy to complicated” as a non-invasive, radiation free, “easy” accessible and relatively cheap screening method, is still well used method.

Materials & Methods: Materials and methods: We performed a retrospective analysis of 97 patients that have passed examination and treatment in our clinic over the period of 2016-2018 years with 43 of them have been excluded as they passed TAUS and MRCP in other clinic; out of remaining 54 patients were women of 25-86 years of age and men of 34-86 years of age.

Ultrasound was performed by 3.5-5.5MHz frequency, convex transducer with B-mode with tissue harmonics optimization.

Results: Results of the research: Sonography showed choledochus dilatation in 48 patients, 46 of them were confirmed by ERCP. According to our studies, the TAUS sensitivity of choledochus dilation was 95,83%; specificity 66,67%; positive predictive values (PPV) 95,83%; negative predictive values (NPV) 66,67%. Choledocholithiasis was found in 48 out of 54 patients by TAUS, 42 out of them were confirmed by ERCP with no choledocholithiasis in 6 patients. According to our studies TAUS sensitivity was 97,67%; specificity 45,45%; PPV 87,5% and NPV 83,33%. In 30 patients TAUS showed one stone in CBD and in 18 patients - two or more stones. ERCP detected one stone in 28 patients, in 14- several stones located one after the other.

Conclusion: Conclusions: TAUS plays an important role as a screening method for CBDS detection because of no ionizing radiation and no requirement of contrast injection. In this articles represents about more informative value of TAUS with big size of bile stone and choledochus diameter.

We think that during ChL, TAUS, along with being a primary screening method, while is detected sonographically, substitutes “from simple to complicated” principle based screening with “simple and complicated” and prevents referring patients to ERCP without using other non-invasive examination methods.

Disclosure of Interest: None declared

66.07

LAPAROSCOPIC RETROGRADE APPENDICECTOMY FOR COMPLEX APPENDICITIS – A NEW TECHNIQUE: FORGET ABOUT THE TROUBLE, IT'S ALL ABOUT THE BASE.

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Introduction: The laparoscopic retrograde appendicectomy (LRA) approach can be a safe and feasible alternative when the appendix tip is inaccessible or friable. The appendix has variable anatomy and the port sites are not always ergonomic. The key aims are to secure the base, obtain hemostasis and to minimize contamination.
We have developed a simple new retrograde technique and created an example video that we have uploaded online. A review of a single-surgeon institutional experience for this technique was conducted and an analysis of online LRA video techniques was performed.
Materials & Methods: The following technique was developed:

· Massage the base
· Divide through the base 1cm from caecum, using hook diathermy
· Sterilize luminal content
· Endoloop the base of appendix
· Endoloop placed over both appendix and mesoappendix
· Cut mesoappendix between loop and appendix.

Data were collected for 23 consecutive patients at Middlemore Hospital who had had LRA for complicated appendicitis from January 2017 to the end of October 2018.

YouTube search was conducted for similar techniques using the term "***Laparoscopic*** OR ***Lap Retrograde Appendicectomy*** OR ***Appendectomy***".

A YouTube video was posted on of a typical case from our institution.[1]

Results: Twenty-three cases of LRA had a mean operating time of 37.8 (24-61) minutes, a median post-operative LOS of 1 day and no reoperations. Of two readmissions, one was fora pelvic collection.

Of 302 YouTube appendicectomy videos, only 13 were LRA. In these videos the base was secured with intracorporeal sutures (ten), clips (two), and stapler (one). Hemostasis was usually achieved with piecemeal coagulation of the mesoappendix, often with an expensive energy source.

Conclusion: · A simple, safe and cost-effective technique has been developed for laparoscopic retrograde appendicectomy.
· Current online techniques are complex and often expensive.
· An online video has been posted with the link below.
References: [1] https://youtu.be/8DXrTSn4mmE
Disclosure of Interest: None declared

66.08

INGUINAL HERNIA REPAIR WITH MESH AND PLATELET RICH FIBRIN IN DECOMPENSATED CIRRHOSIS.

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Introduction: The objective of this study is to provide inguinal hernia repair with mesh and platelet rich fibrin in decompensated cirrhosis.
Materials & Methods: Was performed an study on 23 patients with inghiunal hernia combined with liver cirrhosis and massive ascites-peritonitis. To all pacients was applied combined surgical treatment in a scheduled way, depends on preens of spontaneous bacterial peritinitis. I group: in 18 patients with ascites and spontaneous bacterial peritonitis was performed hernia repairs method - "tension-free no mesh" combined with laparoscopic abdominal cavity lavage with antibacterials and drainage. II group : 5 cirrhotic patients and ascites was performed mesh hernioplasty with platelet rich fibrin and laparoscopic drainage. To all pacients was performed postoperative drainage with lavage and, also, examination of ascitic fluid.
Results: Mortality consist of 2 (8.69%) patients, which developed hepatic failure after 2 months of hospitalization, in I group. Recidivism of hernia at 1 year observed in 1 (4,34%) pacient in I group, but in second group recidivism were not observed. Suppuration of postoperative wound was not observed.
Conclusion: In pacients with hernia and liver cirrhosis and ascites-peritonitis treatment is "tension-free no mesh" hernioplasty with laparoscopic abdominal drainage and lavage with antibacterials reduces the risk of ascites-peritonitis and improves wound healing. At pacients without spontaneous bacterial peritonitis can be performed mesh hernioplasty with laparoscopic drainage. Cirrhotic patients with hernia and ascites preferable operated planned.
Disclosure of Interest: None declared

66.09

EARLY CANNULATION GRAFT INSTEAD OF CATHETER PLACEMENT FOR PATIENTS WITH END-STAGE RENAL DISEASE

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Introduction: Catheters for hemodialysis are related with systemic infections, central venous pathology and high mortality rate. Native fistula should be a priority access. Despite of world-wide education campaigns more then 80% patients in USA and 70% in EU start dialysis on central lines. Early cannulation grafts could be solution for patients who need urgent hemodialysis and have no functional vascular access. Graft implantation could be performed instead of tunnelled catheter placement. The three-layer graft wall allows for cannulation after 24 hours from surgery.

Materials & Methods: From April 2014 to October 2018 patients without vascular access who need urgent hemodialysis were selected for the early cannulation graft placement instead of catheter. 60 patients were qualified for surgery - 31 males and 29 females. Indication for operation was dysfunctional or clotted access without chances for repair or thrombectomy procedure.

Results: 60 early cannulation grafts were implanted. Typical anesthesia was brachial plexus block and typical location was upper arm. In all cases early cannulation graft was implanted instead of catheter placement and patient could start dialysis after 24 hours. In observation period 40 thrombectomies were performed in 18 patients. 11 grafts needed angioplasty, typical location of stenosis was venous anastomosis. There were 4 graft infections and 1 steal syndrome. 8 grafts needed surgical reconstruction, 4 were ligated and 2 was abandoned. There was no significant complication related to early puncture.

Conclusion: Early cannulation grafts are reasonable option for patients who lost their vascular access and have to continue hemodialysis therapy. Patency and infection rate was similar to regular single-layer polytetrafluoroethylene grafts. Early cannulation grafts allow to avoid central catheter placement.

Disclosure of Interest: None declared

66.10

PREPERITONEAL APPROACH IN INCARCERATED INGUINAL HERNIA

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Introduction: Approximately 10% of inguinal hernia and 20% of femoral hernia present acutely with incarceration.The optimal technique for managment of inguinal hernia remains controverseal.The traditional approach for managment of incarcerated inguinal hernia is the inguinal approach.Lichtenstin tension free repair has revolutionised inguinal hernia repair .There are many limitations of inguinal approach in incarcerated inguinal hernia including;difficult dissection of the cord ,and difficult or impossible repair of the large defect in the presence of tissue edema and potential sepsis
Materials & Methods: Our study included 16 patient who presented to ER with incarcerated inguinal hernia with recent history of irreducibilty. patients were fully evaluated with full history taking with clinical examination and radiological evaluation using plain abdomen X ray ,US ,and in selected cases ,CT was done . after full resuscitation with fluids ,patients were sent to OR where they were operated via a transverse incision 4 fingers above the symphysis pubis .all layers of the abdominal wall were opend including the peritoneum after creation of a space infront of the peritoneum . loops of intestine were examined and evaluated with only 4 cases showing frank ischemia and needed resection anastmosis of the intestine , after managment of the intestinal lesions peritoneum was closed and a polyprolene mesh was inserted in the periperitoneal space . 2 drains were put,one inside the peritoneum while the other one in the PP space .
Results: The mean age of our patients was 45±6 years .14 patients had a right inguinal hernia while in 2 patient hernia was on the left side.in all patients,there was a history of recent irreducibility with abdominal pain and vomiting with constipation . all patients were operated via a transverse incision. 4 patients were in need for resection anastmosis while the rest of them needed only reduction of the sac contents. postoperatively ,2 patients had superfacial wound infection while longterm follow up showed that only one patient had a recurrence of hernia
Conclusion: preiperitoneal approach for managment of incarcerated inguinal hernia offers many advantages for surgeon ;its exploratory to allow surgeon to evaluate the condition of intestinal loops and in addition it allows surgeon to use a mesh for definitive repair of large sized inguinal hernia
References: Orguzhane Paratepe et al;the comparison of periperitoneal and lichtenstien in hernia repair for incarcerated inguinal hernia:a randomised controlled trial .international journal of surgery 6 (2008)189-192
Disclosure of Interest: None declared

66.11

FEASIBILITY OF DEXMEDETOMIDINE AS AN INTRAVENOUS SEDATIVE AGENT WITH LOCAL ANESTHESIA IN INGUINAL HERNIA REPAIR

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Introduction: We started to use dexmedetomidine (DEX) because the use of DEX during surgery under local anesthesia has become to be covered by health insurance in Japan since 2014. The aim of this study is to clarify the feasibility of DEX as an intravenous sedative agent with local anesthesia in inguinal hernia repair.
Materials & Methods: From October 2017 to December 2018, a consecutive group of 114 patients with inguinal hernia was included. We used 0.5% lidocaine with epinephrine as local anesthesia. Patients were infused with DEX at a loading dose of 3 μg/kg/hr over 15 min, followed by a maintenance infusion of 0.4 μg/kg/hr until the end of surgery. In most cases, unilateral hernia was repaired by Lichtenstein technique and bilateral hernia by laparoscopic totally extraperitoneal (TEP) approach. In both procedure, we used self-fixating mesh without tackers.
Results: 88 patients (77%) were treated with Lichtenstein (L) and the others were with TEP (T). Mean operation time of group L and T were 109 min and 173, respectively. Adverse events requiring treatment occurred in 12 patients (10.5%): 10 bradycardias and 2 nauseas. Respiratory depression was not observed. Ramsay score was between 2 and 4 except for 2 patients who need to increase the DEX dose upto 0.6 μg/kg/hr.
Conclusion: DEX was safe and feasible sedative agent in this study. This sedation would reduce the patients' discomfort during surgery under local anesthesia. The feasibility should be confirmed by multi-institutional study.
Disclosure of Interest: None declared

66.12

TO EVALUATE METABOLITES IN SERUM SAMPLES AND VENOUS WALL TISSUE SAMPLES OF PATIENTS HAVING CHRONIC VENOUS DISORDER AND TO COMPARE IT WITH PATIENTS NOT HAVING CHRONIC VENOUS DISORDER BY NMR SPECTROSCOPY

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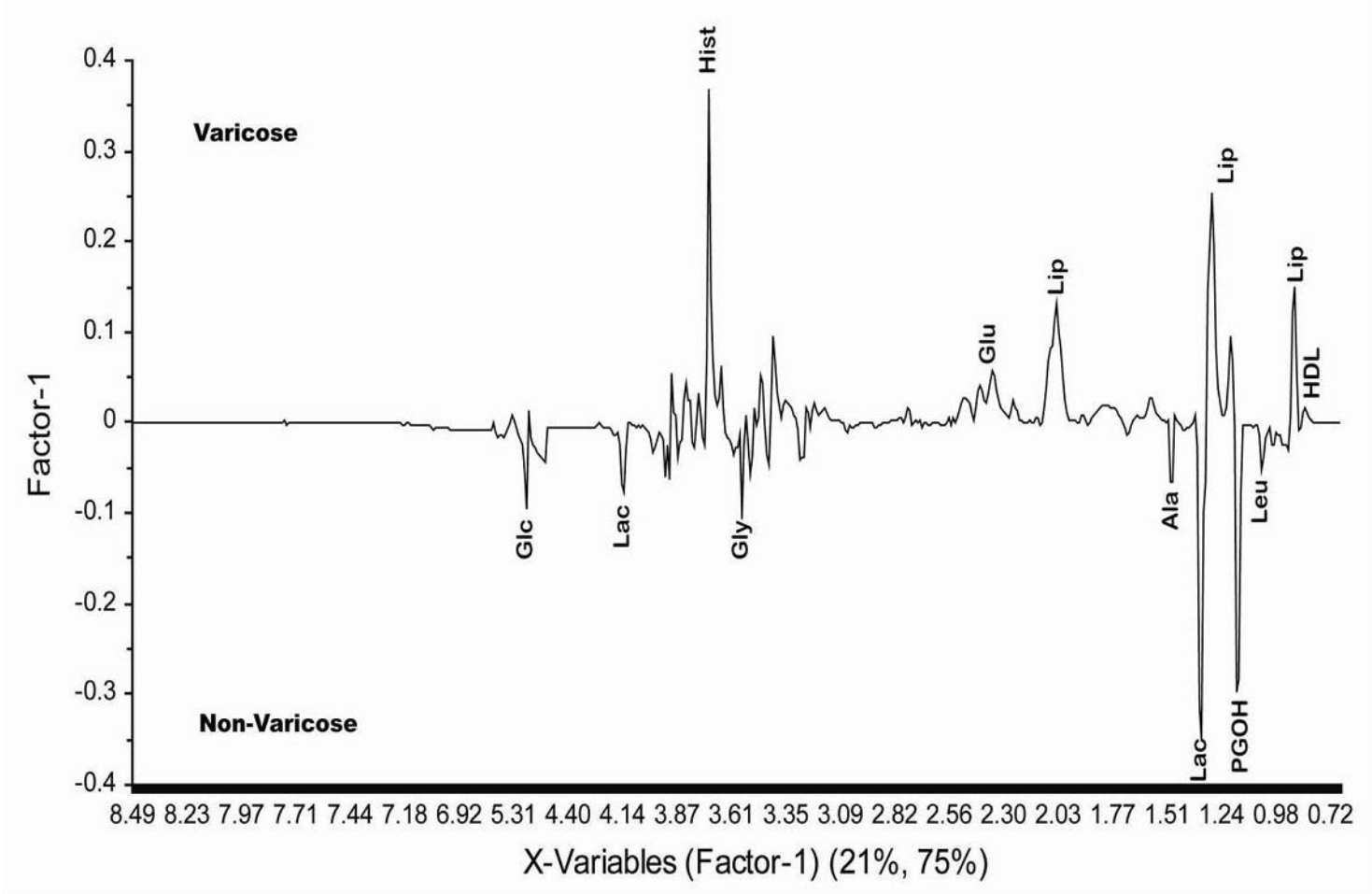
Introduction: Varicose vein is a disease associated with significant morbidity. The gold standard investigation to diagnose varicose vein is duplex doppler USG. In obese patients or patients having filariasis leg , it become difficult to diagnose by duplex doppler USG. Other investigations like plethysmography, CT/MR venography and invasive venography are time taking and not available in each hospitals.
The objective of this study was to know the metabolic environment of serum samples and tissue specimen of varicose vein patients using NMR Spectroscopy, to identify any diagnostic marker for early diagnosis of patients having chronic venous disorder(CVD) and to reveal new pathogenic pathways.
Materials & Methods: Serum samples(n=37) and vein tissue samples (n=30) were taken from varicose vein patients and kept at-80 ^{o}C freezer in the appendobe vial. Vein tissue samples processed by 1H HR MAS NMR Spectroscopy at 400MHz and spectra were required using the standard one dimensional (NOESYPR) pulse program and Carr-purcell-meiboom-gill(CPMG) pulse sequence and principal component analysis were applied. Serum samples underwent NMR acquisition at 800MHz and spectra were acquired using 1D single pulse and CPMG pulse sequence and compared with standard NMR spectra of metabolites and analysed with orthogonal partial least sequence(OPLS)DA with full cross validation statistical analysis. Results were compared with serum samples(n=79) and vein tissue samples (n=14) of non-varicose patients.
Results: In this translational study, higher concentrations of lipoproteins in serum and higher concentrations of small molecule metabolites which are glutamate, alanine, creatine and myoinositol in vein tissue samples of CVD patients were found to be significant when compared with non varicose vein subjects.
figure Showing 1D OPLS-DA X loading plot of serum spectra of varicose and non-varicose vein patients
Image:



Conclusion: Higher concentrations of lipoproteins in serum and glutamate , alanine, creatine, myoinositol in the vein wall by NMR spectroscopy may be established for the diagnosis of patients having chronic venous disorder. In future, study at

larger sample size may provide effective treatment for chronic venous disorder and serum analysis may utilized as alternative method or as an indicator for response to this treatment.

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2. Anwar MA, et al. In-vitro identification of distinctive metabolic signatures of intact varicose vein tissue via magic angle spinning nuclear magnetic resonance spectroscopy. Eur J Vasc Endovasc Surg**. 2012 Oct;44(4):442-50**

Disclosure of Interest: None declared

66.13

MULTI-DISCIPLINARY APPROACH BETWEEN INTERVENTIONAL RADIOLOGY AND PLASTIC SURGERY FOR A LARGE RECURRENT ARTERIOVENOUS MALFORMATION INVOLVING THE BUTTOCKS AND PELVIS. A CASE REPORT.

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Introduction: Vascular malformations are congenital mainly arising from veins, both veins and lymphatic vessels or both arteries and veins. Surgery is useful, but in many areas it is difficult to excise completely. High recurrence rates are recorded. A non surgical method of treatment is via embolization by intervention radiologist. The problem occurs depending on service availability and size of the lesion. This is a case that highlights the benefits of a combined multidisiplinary method for a large pelvic/buttock malformation.

Materials & Methods:

Case: A 19 year lady old presented with an ulceration of a large skin lesion involving the entire left gluteal area. She had a previous excision and skin graft of a congenital naevus in her home country 7 years prior to presentation, No embolization due to inavailability was done at that time. The patient's quality of life has deteriorated due to the failure of the previous surgery with a large localized recurrence. An Ultrasound and CT angiogram of the left buttock revealed a 23 cm x 21 cm x 18 cm arterio venous malformation arising from the left gluteal region. The malformation is fed from the anterior and posterior left internal iliac artery and some branches from the right internal iliac artery. Multi disciplinary team approach between General , Vascular, Plastic surgery and interventional radiology favoured angioembolization of the malformation as the primary modality of treatment followed by excision and reconstruction of the buttocks by plastic surgery.

Results: Selective angio embolization were administered which resulted in occlusion of the malformation and as a consequence shrinking of the mass and necrosis of the surrounding skin, muscles and connective tissue of the buttocks. The buttock underwent several sessions of debridement to prepare for plastic reconstruction. 9 months after discharge the patient showed good results with no signs of recurrence.

Conclusion: This case shows the superior role of multidisciplinary approach to deal with large arteriovenous malformation over one speciality alone . The advances in imaging, interventional radiology technology as well as collaboration with plastic surgical speciality improves patient outcomes.

Disclosure of Interest: None declared

66.14

ONE STAGE PROLAPSING TRANSANAL ENDORECTAL PULL THROUGH (OPTEPT) FOR HIRSCHSPRUNG'S DISEASE: OUR EXPERIENCE

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Introduction: One Stage Prolapsing Trans anal Endorectal Pull Through (OPTEPT) is one of the easy modification of Trans anal Endorectal Pull Through (TEPT) in the treatment of Hirschsprung's disease to avoid perianal excoriation and anal incontinence .The sigmoid colon was prolapsed by gradual traction of the anorectal mucosa and sub mucosa transanally. This is a prospective study done in the Department of Paediatric Surgery, Bangabandhu Sheikh Mujib Medical University (BSMMU) and in different Private Hospital in Dhaka City since January 2010 to December 2018.
Materials & Methods: One hundred and seventy six (176) children (104 male and 72 female) age range from 1 month to 15 years underwent OPTEPT over the last 10 years. Median follow up was 9 years (range 3 months to 9 years). Each patient were evaluated with regards to age, sex, radiological diagnosis, operating time, per operative bleeding, tearing of the colonic wall, length of the excised segment, postoperative anastomoic leakage, retraction, perianal infection, perianal excoriation, soiling and incontinence, anastomotic stricture and constipation in details.
Results: Mean operating time was 60 minutes (range 45 to 90 minutes), average length of the resected bowel segment was 30 cm (range 20 to 50 cm). Two patient required laparotomy, of which one had morbid adhesion due to pervious colostomy and other had colonic tear and preoperative uncontrolled bleeding. Prolapsing of the rectosigmoid is very easy and easiest in children below three years. Peroperative bleeding, retraction and tearing of the dissecting colon is not a significant problem. No anastomotic leakage, disruption, retraction, perianal infection and excoriation on discharge. On subsequent follow up four female patients (2.27%) developed fecal leakage through the vagina, five patients (2.84%) developed constipation, two patients (1.13%) developed anal stricture, 2 patients (1.13%) noticed perineal soiling and six patients (3.6%) developed recurrent enterocolitis. All these patients were managed by regular anal dilatation, dietary manipulation, oral purgatives and hipbath.
Conclusion: One stage prolapsing transanal endorectal pull through (OPTEPT) is technically easy, time saving, safe and effective procedure for recto-sigmoid Hirschsprung's disease. This procedure can easily be learned and practiced by the junior surgeons with less chance of peroperative bleeding and sphincter injury. This procedure offers the excellent clinical results in our practice.
Disclosure of Interest: None declared

66.15

A 10-YEAR CLINICAL AUDIT ON VARIOUS METHODS OF CIRCUMCISION IN OLDER CHILDREN

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Introduction: Summer plan is a multidisciplinary programme led by the Department of Surgery of New Territories West Cluster in Hong Kong to provide circumcision for children during summer vacation every year since 2008.
Our study aims to evaluate and compare the results of various methods of circumcision performed at our centre over 10 years. With a total of 1,074 children, this is one of the largest studies comparing different methods of circumcision on older children.
Materials & Methods: This is a retrospective analysis of the aggregated outcomes of circumcision carried out in paediatric patients with phimosis in July and August from 2008 to 2017.
Every year, a clinical audit was performed with prospective data collection at various points of service. Data were collected with pre-designed templates from Pre-anaesthetic Assessment Service, clinical notes, operative records, ward attendance, phone enquiries to post-operative follow-up. These prospective data were consolidated and pooled.
Comparisons between excision-suture technique, Plastibell and preputioplasty were made in terms of operative time, analgesics requirement, pain score, early post-operative medical attention and complications.
Results: A total of 445 children received excision-suture, 562 children received Plastibell and 67 children received preputioplasty.
The age of patients receiving excision-suture (mean 10.9 years) was significantly older than Plastibell (mean 7.93 years) in every single year from 2008 to 2017 (p<0.05). Operating time was significantly shorter for Plastibell (mean 11.9 minutes) than excision-suture (mean 24.2 minutes) in every single year (p<0.05).
There was a trend of higher pain score and longer duration of analgesics use in Plastibell group. Plastibell group had significantly more patients seeking early medical advice (36.4%) than excision-suture (19.0%, p<0.001) and preputioplasty (23.0%, p=0.043).
Complications were significantly less in excision-suture (6.15%) than Plastibell group (16.0%, p<0.001). There was significantly less reoperation in excision-suture (0.35%) than Plastibell group (2.22%, p=0.043). There was significantly less infection in excision-suture (2.99%) than Plastibell group (10.4%, p<0.001).
Image:

Conclusion: PlastiBell required shorter operating time, but resulted in more pain and complications.

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Disclosure of Interest: None declared

67.01

UTILITY OF TAKING ADDITIONAL MARGINS WHEN PERFORMING BREAST CONSERVING SURGERY WITH INTRAOPERATIVE RADIATION THERAPY FOR EARLY BREAST CANCER

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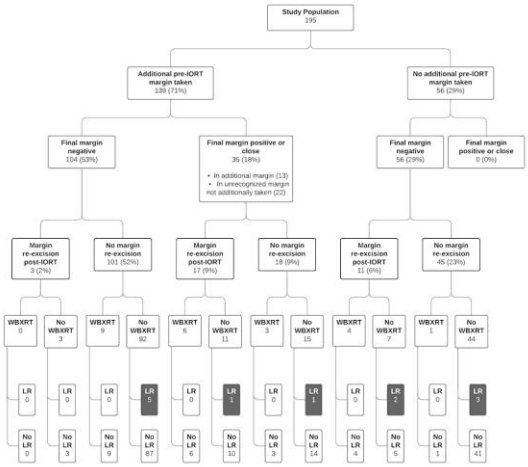
Introduction: Intraoperative radiation therapy (IORT) is an alternative to whole breast radiation therapy (WBXRT) following breast conserving surgery (BCS) for early breast cancer. With IORT, radiation is delivered before final histologic margin analysis is performed. Practices vary with respect to excision of additional close or positive margins prior to initiation of IORT and after final pathology. We aimed to evaluate the impact of these practices on local recurrence (LR).
Materials & Methods: We performed a single-institution retrospective cohort study of women with hormone-receptor positive, clinically node-negative breast cancer who underwent BCS + IORT with selective WBXRT (adverse features on final pathology) from 2011-2015. Intraoperatively, gross margin assessment was performed on oriented primary tumor specimens with additional margins taken at the discretion of the surgical team. Re-excisions after IORT were performed for margin <2mm or <3mm per treating providers. We evaluated the impact of additional margins excised prior to and after IORT on LR using chi-squared tests.
Results: The cohort included 195 cases in 193 women (2 bilateral breast cancer). Mean age was 70.1±7.6 years. Most had invasive ductal carcinoma (94%). Prior to IORT, ≥1 additional margin was obtained in 139 cases (71%), for which final pathology on the initial lumpectomy margin was positive (13, 9%), close (<=2mm) (72, 52%), negative (46, 33%), or not reported (8, 6%). Additional margins contained in-situ or invasive cancer in 16/139 (12%). Final histologic margins on specimens taken prior to IORT (including additional margins) were positive or close in 35/195 (18%). Thirty-one pts (16%) underwent re-excision after IORT (9 had invasive or in-situ malignancy in the re-excised specimen). Twenty-three patients (12%) received WBXRT. In mean follow-up of 45.6 months, LR occurred in 12/195 (6%). No difference in LR was seen based on taking additional margins before IORT (p=0.306) or margin re-excision after IORT (p=0.373). No patient who received WBXRT had LR.
Image:



Conclusion: Given the relatively high rate of invasive and in-situ malignancy in additional intraoperative margins and post-IORT re-excision specimens, these practices appear to improve margin clearance rates. It is unclear whether return to surgery to re-excise positive or close margins after IORT reduces local recurrence, particularly when WBXRT is also performed.
Disclosure of Interest: None declared

67.02

TARGETED AXILLARY DISSECTION OF CARBON-TATTOOED ULTRASOUND-GUIDED BIOPSY PROVEN METASTATIC LYMPH NODES DURING POST-NEOADJUVANT SENTINEL LYMPH NODE BIOPSY USING 1% METHYLENE BLUE IN BREAST CANCER PATIENTS.

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Introduction: Targeted axillary dissection (TAD) is applied to post-neoadjuvant chemotherapy (NACT) breast cancer patients who show complete response (cCR&cRR) in axillary lymp nodes (ALNs). It includes performing sentinel lymph node biopsy (SLNB) in conjunction with a targeted excision biopsy of previously percutaneously sampled and marked lymph nodes that have been shown to be metastatic (1). The cost of SLNB does have a significant impact in the developing countries where there are budgetary funding constraints and patients are poor. We are using methylene blue (MB)1% routinely for early stage breast cancer with 94.2% identification rate at very low cost(2). However SLNB results are not encouraging in the post-NACT setting, however, when it is combined with excision of previously marked positive LN the identification rate (IR) and false negative rate (FNR) improves. We are using suspended carbon particles for preoperative LN marking as a cheap alternative to clips, guide wires, radioactive or magnetic seeds (3) .

Materials & Methods: The Patients includes T3,4 N1-3 M0 who are planned to receive NACT. in Group A ultrasound (US) guided injection of US/ FNA cytological node positive ALN with Black Eye ink marker (0.1-0.2 ml) to mark the LN before starting NACT. For patients who respond & convert to N0 after finishing NACT, TAD is performed by identification of the carbon tattooed LN intraoperative, besides, performing sentinel lymph node biopsy (SLNB) using 1% MB , then Back up axillary LN dissection (ALND) is performed. Group B Patients will also receive NACT, then after finishing NACT , if convert to N0 , they are operated upon for SLNB using 1% MB. Back up ALND is performed. We compair IR and FNR in both groups.

Results: Group A: 18/30 patients converted to N0 post NACT. during TAD, Black eye Ink was detected in 83% of patients. MB was detected in 73 % of patients. When combined, IR was 94%. In 33% of patients the inked node was not identified as the SLN. No false negative cases, FNR is zero%. Group B: 20/ 30 converted to N0 post NACT. 1% MB post NACT-SLNB shows IR of 75% and FNR was 15% .

Conclusion: TAD using black eye ink and 1% MB has high identification rate and low false negative rate. It improves the accuracy of post NACT axillary staging at a very low cost.

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Disclosure of Interest: None declared

67.03

EXPLORING THE ROLE OF GENOMICS IN POSTMENOPAUSAL BREAST CANCER PATIENTS TREATED WITH AROMATASE INHIBITORS: ONE-YEAR FOLLOW-UP.

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Introduction: Significant individual variation in bone loss associated with aromatase inhibitors (AIs) emphasizes the importance of identifying postmenopausal breast cancer patients at high risk for this adverse effect. The study explores the clinical relevance of genetic variation in the Cytochrome P450 19A1 (*CYP19A1)* gene in a subset of South African patients during the first year of taking AIs for estrogen receptor (ER)-positive breast cancer.
Materials & Methods: The study population consisted of ER-positive breast cancer patients on AIs, followed in real-life clinical practice. Body mass index (BMI) was measured and bone mineral density (BMD) determined at baseline and at month 12. *CYP19A1* genotyping was performed using real-time polymerase chain reaction analysis of rs10046, extended to Sanger sequencing and whole exome sequencing (WES) in 10 patients with more than 5% bone loss at month 12 at the lumbar spine.
Results: After 12 months of AI treatment, 72 patients had completed BMD and were successfully genotyped. Ten patients (14%) experienced more than 5% bone loss at the lumbar spine over the study period. Genotyping for *CYP19A1* rs10046 revealed that patients with two copies of the A-allele were 10.79 times more likely to have an ordinal category change of having an increased percentage of bone loss or no increase at the lumbar spine, compared to patients with the GA or GG genotypes (CI of 1.771- 65.830, p=0.01). None of the 34 patients without lumbar spine bone loss at month 12 were homozygous for the functional *CYP19A1* polymorphism. At the total hip region, patients with the AA genotype were 7. 37 times more likely to have an ordinal category change of having an increased percentage of bone loss or no increase (CI of 1.101- 49.336, p=0.04).
Conclusion: Homozygosity for the *CYP19A1* rs10046 A-allele may provide information, in addition to clinical and biochemical factors that may be considered in risk stratification to optimize bone health in postmenopausal breast cancer women on AIs.
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Disclosure of Interest: K. Baatjes: None declared, M. Conradie: None declared, A. Peeters: None declared, M. McCaul: None declared, M. Conradie: None declared, J. Apffelstaedt: None declared, M. Kotze Other Financial/Material Support from: director and shareholder of Gknowmix (Pty) Ltd.

67.04

10 YEAR FOLLOW UP OF ONCOPLASTIC BREAST CONSERVING SURGERY FOR BREAST CANCER

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Introduction: Our previous study showed the applicability of oncoplastic breast conserving surgery (OBCS) in Chinese breast cancer patients, allowing wide excision in small breast sized Chinese women and at the same time achieve good cosmetic outcome and high patient satisfaction. This study aims to evaluate the long term oncological outcome of our patients having OBCS for breast cancer.

Materials & Methods: 208patients performed breast conserving surgery in United Christian Hospital (UCH) and Hong Kong Sanatorium Hospital (HKSH) from Nov 2007 to Jan 2009. 203 patients with breast conserving surgery applying the oncoplastic technique were prospectively recruited for study. Patient were followed up regularly with clinical examinations and imaging. Data was recorded in a prospective database.
Results: The median age was 52 (20-96). The median tumor size was 2.8cm (0.6-5cm). The median excised tumor weight was 94g. 19 patients with positive or close margins that need re-excision (9%). 24 patients (12%) developed mild postoperative complications, but there is no delay from adjuvant treatment. The cumulative 10-year incidence for local, regional and distant recurrences were 2%, 1% and 10% respectively.
Conclusion: This study showed low recurrence rate on long term follow up of patients with oncoplastic breast conserving surgery. Oncoplastic breast conserving surgery allows wide excision of tumor with good cosmetic outcome; it is also oncologically safe as an alternative to mastectomy.
Disclosure of Interest: None declared

67.05

IS IT WISE TO OMIT SENTINEL NODE BIOPSY IN ELDERLY PATIENTS WITH BREAST CANCER?

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Introduction: The Society of Surgical Oncology Choosing Wisely® guidelines discourage sentinel node biopsy (SLNB) in clinically node-negative (cN0) women with hormone receptor-positive (HR+) invasive breast cancer (BC) ≥70 years of age. As SLNB does not improve BC survival, we examined whether SLNB affected treatment in these pts.
Materials & Methods: This IRB-approved retrospective review of 371 consecutive cN0 women ≥70 years with unilateral, HR+ BC diagnosed 1998-2016 collected clinicopathologic characteristics and treatment data after resection of primary cancer and SLNB. Statistical analyses evaluated differences in treatment based on results of SLNB. Association between continuous variables used Kruskal-Wallis test; categorical variables were evaluated using Chi-squared or Fisher's exact tests. Log-rank test and Kaplan Meier curves estimated survival and recurrence.
Results: Median age was 74 (range 70-96 yrs), median BMI 27.6 kg/m2 (16.6-57.4 kg/m2). 113 pts (30.5%) had mastectomy. The majority of BC was T1 (72%), IDC type (74.1%) without lymphovascular invasion (89.4%). Median SLN was 2 (range 0-12), median positive SLN was 0 (range 0-8). Overall, 120 (32.3%) pts were SLN+, who had higher-risk features compared to SLN- pts: median tumor size was larger (2 cm [range 1.45-2.5 cm] vs 1.2 cm [0.7 -1.9 cm; p<0.0009], higher grade (p=0.0009), higher T stage (p=0.0005) and worse 5- and 10-year survival (HR 1.7, p=0.02) compared to SLN- pts.
SLN status significantly affected initiation of chemotherapy (p<0.0001) and radiation therapy (RT; p=0.03); of 251 pts that initiated RT, 227/251 (90.4%) received RT after breast conservation irrespective of SLN status (37/227 or 16.3% partial breast; 3/227 or 1.3% whole breast+regional nodes). Use of postmastectomy RT (PMRT) was affected by SLN status (p=0.0005). There were also significant differences in survival: SLN- patients had better 5- and 10-year survival (p=0.02; Figure). Initiation of adjuvant therapy (p=0.00002) and completion of hormone therapy (p<0.00001) both improved survival at both time points.
Image:

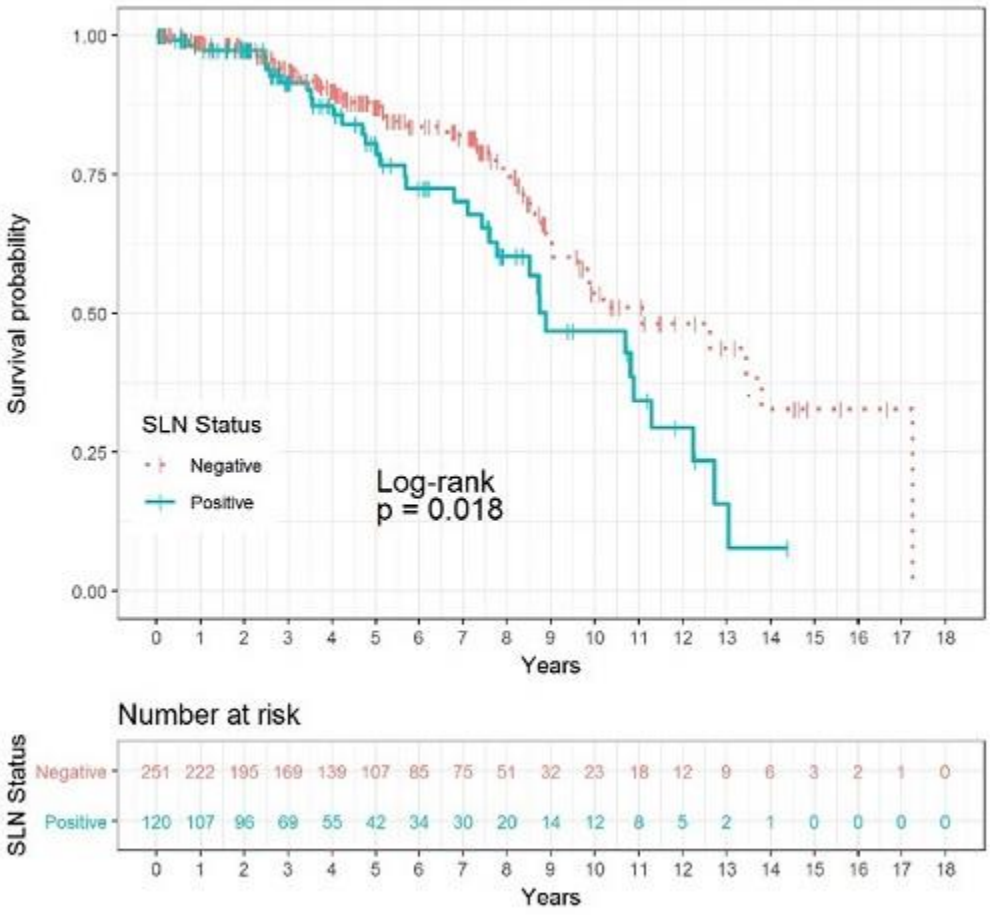

Figure 1: Overall Survival KM Curves by SLN Status

Conclusion: SLNB results significantly impact use of adjuvant chemotherapy and RT in HR+ pts ≥70. Furthermore, significant survival differences are still detected in these pts based on SLN status. SLNB should not be routinely omitted in HR+ pts ≥ 70 yrs who are candidates for chemotherapy.
Disclosure of Interest: None declared

67.06

CORRELATION OF PREOPERATIVE AXILLARY ULTRASOUND TO FINAL HISTOLOGY AFTER AXILLARY SURGERY FOR BREAST CANCER

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Introduction: Axillary lymph node(ALN) status is an important prognostic factor for breast cancer. 60-70% of early breast cancer patients have no axillary lymph node metastases [1,2,3]. The sensitivity of preoperative axillary ultrasound in picking up truly negative ALN metastases ranges from 65% to 86% [4,5]. Sensitivity rates for picking up ALN metastases on ultrasound guided core biopsy was 79.6%, with a specificity of 98.3%.
Traditionally, a biopsy proven ALN metastasis would lead to an axillary clearance. With advancement in breast cancer treatment, the role of the sentinel lymph node biopsy is being challenged. Several ongoing trials (eg. SOUND, INSEMA) propose sparing sentinel lymph node biopsy should ALNs appear negative for metastases on preoperative ultrasound in early breast cancer [2,6].
Preoperative evaluation is thus important both in preoperative counseling of patients, as well as to guide our next step of management. This project aims to correlate the accuracy of preoperative assessment of axillary lymph nodes to final histology after breast cancer surgery.
Materials & Methods: An 11 year retrospective review of all breast cancer patients who underwent surgery in a tertiary institution in Singapore was performed from 2006 to 2016. Ultrasound ALN characteristics, preoperative biopsy findings and final postoperative histology were evaluated.
Results: 2891 breast cancer patients were evaluated. 1894 patients underwent a sentinel lymph node biopsy(SLNB) of whom 556(29.4%) proceeded to undergo an axillary clearance for positive SLNB. 997 patients proceeded straight to an axillary clearance. 328 patients had abnormal ALN noted on preoperative ultrasound. The odds of a patient with an abnormal ALN on preoperative ultrasound having metastatic ALN on final histology was 3.19 that of those with normal ALN ($P<0.0001$). Sensitivity was 18.7%(95% CI 0.16-0.21), and specificity was 93.3% (95%CI 0.92-0.94). The negative predictive value of a normal ALN on preoperative ultrasound was 64.5% (95% CI 0.63 to 0.66).
Conclusion: While an abnormal ALN on preoperative ultrasound increases the odds of having metastatic axillary lymph node involvement, it is unable to replace the sentinel lymph node biopsy in view of its low sensitivity and negative predictive value. At present, sentinel lymph node biopsy is still necessary for accurate staging and treatment of breast cancer.
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Disclosure of Interest: None declared

73.01

HOW DOES THE NUMBER OF LYMPH NODE HARVESTED AFFECT THE SURVIVAL OUTCOME IN PATIENTS WITH CANCER OF THE COLON?

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Introduction: According to the American Joint Committee on Cancer staging for cancer of the colon, a minimum of 12 lymph nodes (LN) has to be sampled for accurate staging. This has bearing on the long-term prognosis and the need for adjuvant chemotherapy. The aim of this study is to revisit the impact of inadequate, as well as supernumerary LN sampling on the long-term survival outcome in patients with stage 2 cancer of the colon.
Materials & Methods: Consecutive patients who underwent elective or emergency curative resections for cancer of colon from the year 2003 to 2012 were retrospectively reviewed. Only patients with stage 1 or 2 disease (AJCC 7th edition) were included. The stage of the disease, number of LN harvested & follow-up status were reviewed. The overall survival (OS) were plotted with the Kaplan-Meier curve and compared with the log-rank test.
Results: There were a total of 662 patients included in the analysis. 83.8% were elective resections. 12 or more LN were found in 65.6% of the specimens. The median follow-up duration was 81 months (interquartile range 44 to 119 months). The 5-year & 10-year OS was 71.0% & 50.0% respectively. Those with 12 or more LN had a significant better OS compared to those with less than 12 LN, 5-yr 73.5% vs 67.9% and 10-yr 53.4% vs 44.6%, p=0.018. For those with 12 or more LN, a yield of 20 or more LN had a significant better OS compared to those with 12 to 19 LN, 5-yr 78.9% vs 68.6% and 10-yr 57.5% vs 50.6%, p=0.027. In fact, those with 12 to 19 LN harvested had OS comparable to those with less than 12, p=0.205.
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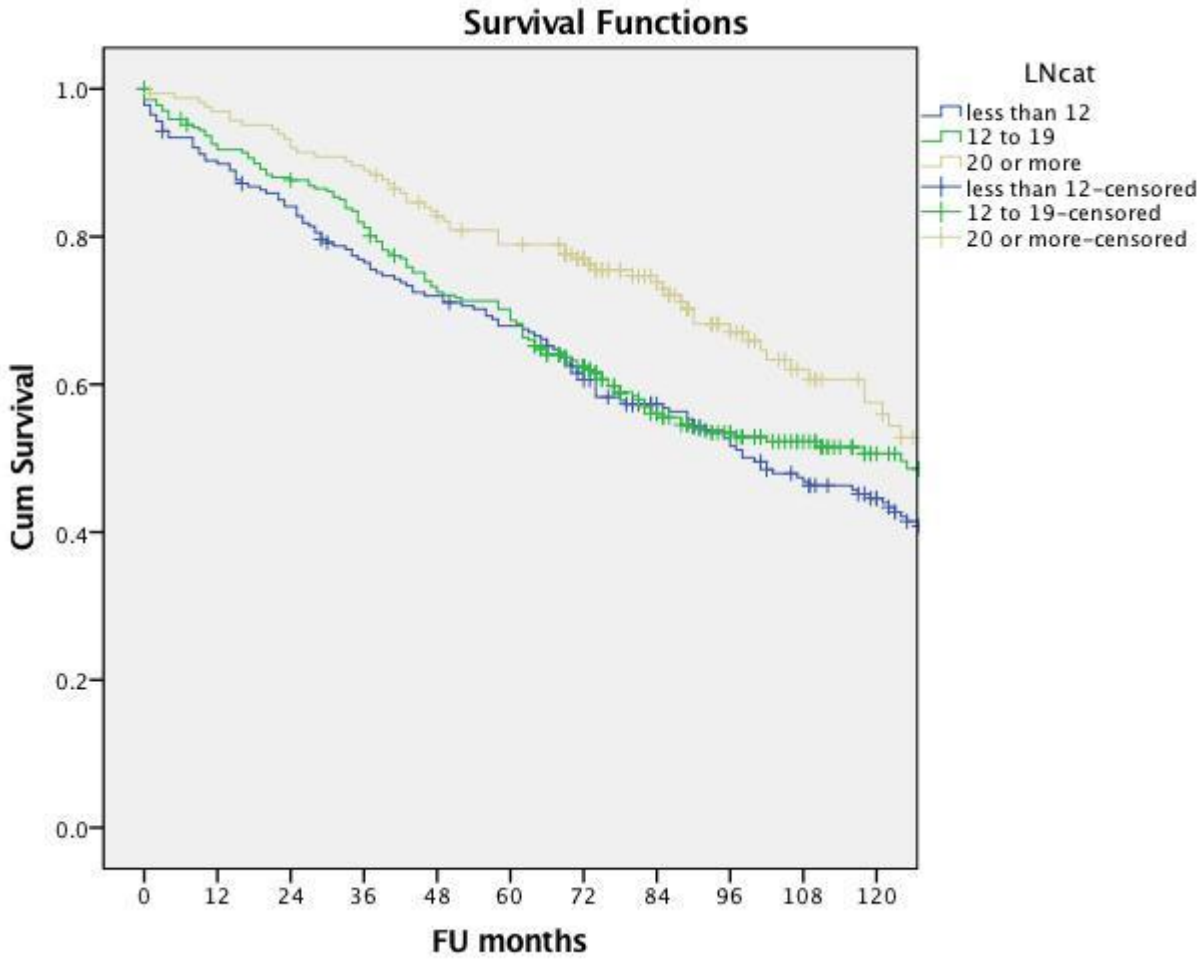

Conclusion: The number of LN sampled had a significant impact on the survival outcome of patients. This study showed that supernumerary LN sampling of more than 20 might have a better OS.
Disclosure of Interest: None declared

73.02

INDICATION FOR USING HIGH LIGATION OF THE INFERIOR MESENTERIC ARTERY IN RECTAL CANCER SURGERY: EXAMINATION OF NODAL METASTASES BY THE CLEARING METHOD.

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Introduction: In surgery for rectal cancer, it is unclear whether the inferior mesenteric artery (IMA) should be ligated at a high or low position. The study contained herein was undertaken to clarify the indications for high ligation of the IMA.
Materials & Methods: Subjects included 198 patients with rectal cancer who underwent resection with high ligation of the IMA. Nodal metastases were examined by the clearing method.
Results: The incidence of metastases to the lymph nodes surrounding the origin of the IMA (root nodes) was 8.6%. IMA root nodal metastases occurred more frequently with pT3 and pT4 cancer. The 5-year survival rate in patients with IMA root nodal metastases was 38.5%; this rate was significantly lower than in those without IMA root nodal metastases (73.4%).
Conclusion: Although the 5-year survival rate in patients with IMA root nodal metastases was lower than in those without metastases, IMA root nodal dissection should be performed after high ligation of the IMA for patients with pT3 and pT4 cancers.
Disclosure of Interest: None declared

73.03

SHORT-TERM RESULTS FOLLOWING FIRST 54 CASES PERFORMED BY TATME (TRANSANAL TOTAL MESORECTAL EXCISION) FOR LOW RECTAL CANCER

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Introduction: Surgical treatment of low-rectal cancer may involve many technical difficulties. This applies in particular to men, obese patients and those with a narrow pelvis. Presented in 2010 by Lacy et al. TaTME technique significantly improved the insight into the surgical field and facilitated the operation of low-located tumors.
Materials & Methods: The aim of the study was to evaluate the early treatment results obtained in patients operated at the Lower Silesian Oncology Center in Wrocław using the TaTME technique. Additionally, the qualities of obtained postoperative specimens were analyzed based on histopathological results. For this purpose, patients aged 31 to 86 years who were diagnosed with rectal tumors located up to 6 cm from the upper border of the external anal sphincter were qualified for surgery using the TaTME method. The local level of advancement ranged from cT1N0 to cT4N2. In the period from May 2016 to the end of January 2019, a total of 54 operations using the TaTME technique were carried out at our center. Among the operated patients, 40 received pre-operative treatment in the form of short radiotherapy 5x5 Gy (25 patients), radio-chemotherapy (14 patients) or independent chemotherapy (1 patient). The remaining 14 patients did not receive pre-operative treatment
Results: Among the operated patients, in the follow-up, no features of local recurrence or neoplastic dissemination have been found. In the histopathological analysis of the postoperative specimens, all 54 patients had a clear proximal and distal resection margins. In the evaluation of circumferential resection margin (CRM), only one patient had a positive CRM . In the remaining patients, the CRM's were clear. Postoperative staging described by TNM classification ranged from pT1N0 to ypT3N2. All patients operated in our center using the TaTME technique had a protective defunctioning ileostomy. Of the patients who underwent reversal of ileostomy within 3 to 12 months following the primary operation, we observed four cases of the low anterior resection syndrome Tha anastamosis leak rate was 5,5%.
Conclusion: The TaTME method, although it is a difficult and very demanding technique, seems to be promising in terms of oncological outcomes and remaining functionality of anal sphincters as well as good quality of life. Nevertheless, it requires further researches and improvement of the competence of the surgical team
Disclosure of Interest: None declared

73.04

LOCAL CORRECTION OF A STOMA PROLAPSE

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Introduction: Stoma prolapse is one of the frequent complications after stoma construction and often disturb quality of life in patients with stoma. We have performed local correction of a stoma prolapse by using stapler device. Technique and results are presented.
Materials & Methods: When a decompression of distal colon of loop stoma prolapse is required, excision of the prolapsed stoma is performed by using stapler device under sedation or lumber anesthesia. Initially vertical division of prolapsed stoma is performed down to 1 cm from the skin level and then circumferential division of the prolapsed stoma is done by using the staplers（Surgery A）. The same procedure is performed in the end stoma prolapse. When a decompression of distal colon is not needed in loop stoma prolapse, excision with closure of .the distal limb of the stoma is performed by the stapler device (Surgery B).
Results: This procedure was done in 7 patients (1 end stoma and 6 loop stoma). Median operative time and blood loss were 45 minute and zero gr. Respectively in Surgery A. Median operative time and blood loss of Surgery B were 20 minutes and zero gr. in two cases. No recurrence was confirmed during a median follow up of 10 months.
Conclusion: These local correction for stoma prolapse with stapler devices allows for shorter operative time with less blood loss. These treatments can be a minimally invasive modality for stoma prolapse.
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Disclosure of Interest: None declared

73.05

METASTATIC LYMPH NODE RATIO IN COLORECTAL CANCER PROGNOSIS

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Introduction: Colorectal cancer (CRC) is the third leading cause of cancer death in the world.Lymph node metastasis is an important prognostic factor; however, the minimum number that should be evaluated for adequately categorizing lymph node status is still controversial. The TNM staging system has limitations in defining the p N category. Thelymph node ratio (LNR) may be a better prognostic indicator.

Materials & Methods: We studied 1065 patients treated at the General Surgery Department in theHospital of Braga from 01/01/2000 to 08/31/2012. The LNR was separated into 5 categoriesbased on three previously calculated cut-off values: LNR0 (0), LNR1 (0.01-0.17), LNR2 (0.18-0.41), LNR3 (0.42-0.69) and LNR4 (≥0.70).
Results: The results of the univariate analysis indicated significant differences in survivalaccording to age (p <0.001), tumour size (p <0.001), serosal invasion (p <0.001), histologicaltype (p = 0.002), differentiation p <0.001), p T (p <0.001), p N (p <0.001), LNR (p <0.001), M (p =0.001), TNM stage (p <0.001), venous invasion (p <0.001). Multivariate analysis confirmed theLRN, p N, age, venous invasion and p T as independent prognostic factors. The survival analysisshowed significant differences between the categories of p N (p <.001) and LNR (p <.001).Spearman correlation analysis showed a significant correlation between the total number ofdissected lymph nodes and the number of metastatic lymph nodes (r s = 0.167, p <0.001). The total number of dissected lymph nodes is not significantly correlated with LNR (r s = -0.019, p =0.550).

Conclusion: In this study LNR seems to demonstrate a superior prognostic valuewhen compared to the p N categories, in part due to its greater independence regarding theextent of lymphadenectomy.
Disclosure of Interest: None declared

73.06

PHYSICAL ACTIVITY AND OUTCOMES IN COLORECTAL SURGERY: A PROSPECTIVE COHORT STUDY USING CONNECTED BRACELETS

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Introduction: Physical activity is an essential element of postoperative recovery. The aim of this prospective study was to examine the associations between perioperative physical activity and postoperative outcomes in colorectal surgery.
Materials & Methods: Daily number of footsteps was recorded from preoperative day 5 to postoperative day 3 in a prospective cohort of colorectal patients using connected wrist bracelets. Timed Up and Go Test (TUGT), 6 Minutes Walking Test (6MWT) and peak expiratory flow (PEF) were assessed preoperatively. Postoperative outcomes were collected until 30 days of surgery. Patients with and without complications were compared in terms of demographics, surgical details and physical activity. Receiver operating characteristic curves were used to assess the performance of physical activity as a diagnostic test in the detection of complications and prolonged length of stay (LOS) of more than 5 days.
Results: A total of 50 patients was included. Patient groups with (n=18, 36%) and without (n=32, 64%) complications were comparable in terms of demographics and surgery, except that patients with complications were significantly older (mean age 67.1 vs 53.3 years, p=0.020). There was no difference in the mean number of preoperative footsteps, but patients with complications walked significantly less postoperatively (mean daily footsteps 1101 vs 1243, p=0.018). PEF was significantly lower in the group with complications (mean flow 294.3 vs 363.6 l/min, p=0.038) while there was no difference between groups for the other two tests (TUGT and 6MWT). Overall, the tests had no capacity to discriminate the occurrence of complications and prolonged LOS, except the 6MWT for LOS (AUC=0.746, p=0.004, CI 95%: 0.604-0.889).
Conclusion: Colorectal surgery patients with complications were elderly, had decreased PEF and walked less postoperatively. No physical tests allowed to discriminate patients with complications, however, the 6MWT could be used preoperatively to discriminate patients with potentially increased LOS in order to establish a prehabilitation strategy and foster postoperative mobilisation strategies.
Disclosure of Interest: None declared

73.07

PERCEPTIONS IN THE MANAGEMENT OF COLORECTAL PERITONEAL METASTASES AMONG COLORECTAL SURGEONS IN AUSTRALIA AND NEW ZEALAND: A BI-NATIONAL SURVEY

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Introduction: Colorectal cancer (CRC) is the second leading cause of cancer related mortality in Australasia and across the rest of the world. The peritoneum is the third most common site of metastases, however peritoneal metastases carry the worst prognosis among all sites of CRC metastases. In recent years, the advent of cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) has greatly improved survival for selected patients with low volume colorectal peritoneal metastases (CRPM. With limited randomised data supporting CRS and HIPEC, the universal uptake and acceptance of the role of CRS and HIPEC for CRPM remains very variable among surgeons across different countries, including in Australia and New Zealand. As colorectal surgeons are the main surgeons involved with the care of patients with CRPM, we aimed to evaluate the variable perceptions in the management of CRPM among all colorectal surgeons

Materials & Methods: An ethically approved, online case scenario based structured survey was sent to all colorectal surgeons affiliated with the Colorectal Society of Australia and New Zealand (CSSANZ)

Results: There were eighty-one responses to the survey. Fifty-six (69%) respondents felt CRS and HIPEC significantly improved survival for CRPM compared to systemic chemotherapy. The finding of unexpected low volume peritoneal disease at time of elective surgery would lead to more than half (56%) not proceeding with elective surgery and referring to a peritoneal centre for CRS and HIPEC. Almost all respondents (98%) were in agreement that a perforated cancer or ovarian metastases (98%) led to very high rates of peritoneal recurrence, with most feeling a T4a cancer (77%) and intra-operative tumour spillage (82%) also led to high rates of peritoneal recurrence.

Fifty-nine (73%) respondents would refer an isolated metachronous peritoneal metastasis to a peritoneal centre for CRS and HIPEC rather than treat with chemotherapy. Most respondents (73%) were not in favour of a proactive “second look” laparoscopy/laparotomy six months after resecting a high risk T4a cancer. Despite krukenberg tumours being well established as peritoneal disease, 21 (26%) would still refer them to gynaecology over a peritoneal centre.

Conclusion: There is great variability in the management strategies of colorectal surgeons in patients with CRPM. There is a need to improve awareness of the role and the favourable outcomes offered by CRS and HIPEC throughout the surgical oncology community.

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Disclosure of Interest: None declared

73.08

THE IMPACT OF DEFUNCTIONING LOOP ILEOSTOMY FIRST ON THE NUTRITIONAL STATUS OF PATIENTS WITH COMPLEX CROHN'S DISEASE WITH MASS
A SINGLE-CENTRE EXPERIENCE

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Introduction: Operative management of Crohn's Disease (CD) plays a role in the management of patients failing medical treatment. The two-stage approach with defunctioning stoma after resection and anastomosis is well-described.
We are presenting our experience with a modified two-stage approach where the first stage is the creation of a defunctioning ileostomy followed by intensive medical treatment of CD to prepare for the second stage, which is resection of the Crohn's mass with primary re-anastomosis and reversal of ileostomy.
The most common predicting factors of complications after surgery are malnutrition, weight loss, medical treatment with steroids or immunosuppression and intraabdominal collections. Anastomotic leak rates of 7% and above have been reported in literature.
Materials & Methods: All ileostomies were fashioned laparoscopically by two experienced consultant surgeons. During the follow up period the nutritional status was assessed by measuring the patient's weight and serum albumin levels. C-reactive Protein (CRP) levels were measured as surrogate marker for the changes in inflammatory disease activity.
Paired Student's t Test was used for comparing the statistical means for before and after intervention results.
Results: From 01/01/2016 to 31/08/2018, 17 ileostomies were formed in 7 male 10 female patients with a median age of 34.64
No intraoperative complications were encountered.
Post-operatively 3 patients had high output stoma, one ileus, one 30-day readmission and 4 cases of para-stomal hernias.
The median length of stay was 8 days.
The median time to definitive Crohn's resection / reversal was 188 days (approx. 6 Months).
Median baseline Serum Albumin was 38 rising to 46 at 6 Months Follow-up (p-Value 0.0003).
Median body weight has increased from 55.3 kg at baseline to 68 kg at 6 Months Follow-up (p-Value 0.014).
Median CRP in the same period has decreased from 23.5 to 2 (p-Value 0.027)
From 2016-18, 8 patients of the cohort had resections with no anastomotic leaks.
Image:

Conclusion: Our practice suggests that defunctioning ileostomy first showed better outcomes for patients with complicated CD. It improved nutritional status and made complication-free limited resection possible.

Disclosure of Interest: None declared

73.09

LONGER INTERVAL BETWEEN TOTAL MESORECTAL EXCISION AND DEFUNCTIONING ILEOSTOMY REVERSAL INCREASES THE RISK OF PERIOPERATIVE COMPLICATIONS AND PROLONGED LENGTH OF HOSPITAL STAY.

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Introduction: The optimal interval between the primary procedure and ileostomy reversal has not been clearly established. The biggest drawback of defunctioning ileostomy and the greatest concern is that as every surgical procedure it may be associated with perioperative complications and compromised recovery leading to prolonged length of hospital stay (LOS) and to delay in adjuvant treatment. For this reason, identification of factors contributing to postoperative morbidity and prolonged LOS seem to be of great clinical importance.
Materials & Methods: A retrospective review of 132 consecutive rectal cancer patients who underwent Total Mesorectal Excision followed by primary anastomosis was done. Primary endpoint of the study was risk factors identification for postoperative morbidity and length hospitalisation after defunctioning ileostomy reversal. Secondary endpoint was risk factors identification for prolonged hospitalisation after ileostomy reversal.
Results: Median interval from primary procedure to defunctioning ileostomy reversal was 134 (IQR 53-230, range 17-754) days. Median LOS calculated in the study group was 5 days (4-6).
Multivariate analysis identified that the interval between primary surgery (TME) and ileostomy reversal (OR 7,17; 95%CI:1,79-28,73, p=0,005) and complications after primary procedure (TME) (OR 5,00; 95%CI : 1,21-20,77, p=0,024) as independent risk factors for complications after ileostomy reversal.
Next, the multivariate logistic regression identified that only interval between primary surgery and stoma closure (OR 18,39; 3,57-94,70, p=0,001) as independent risk factors for prolonged LOS after ileostomy reversal.
Conclusion: Risk of perioperative complications following ileostomy reversal is strongly associated with interval between closure and primary procedure. Morbidity after primary procedure is a risk factor of postoperative complications after ileostomy reversal. The effort should be uptaken to minimalize the interval to ileostomy reversal. Patients with perioperative complications after primary procedure may be candidates for deleyed ileostomy reversal.
Disclosure of Interest: None declared

73.10

OUTCOMES OF LAPAROSCOPIC COLECTOMY WITH PRIMARY ANASTOMOSIS WITHOUT DIVERTING ILEOSTOMY IN ACUTE COMPLICATED DIVERTICULAR DISEASE

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Introduction: Primary anastomosis with proximal small bowel diversion has recently shown acceptable postoperative results in acute complicated diverticular disease. However, the outcomes of primary anastomosis without ostomy diversion in this setting remains elusive. We aimed to evaluate the outcomes after laparoscopic colectomy with primary anastomosis without proximal ostomy diversion perforated diverticulitis.
Materials & Methods: We included a consecutive series of patients undergoing laparoscopic colectomy for diverticular disease between 2002 and 2018. A retrospective comparative analysis was performed dividing the sample into two groups: G1: elective colectomy and G2: emergent colectomy (Hinchey 3-4). Patients who underwent Hartmann´s procedure or with proximal ostomy diversion were excluded. Demographics, operative variables, and 30-day postoperative morbidity were analyzed.
Results: A total of 344 patients underwent sigmoid colectomy for diverticular disease; loop ileostomy was performed in 6 patients (1 elective and 5 emergent cases). Primary anastomosis was performed in 100% of patients with elective surgery and 98% in emergency surgery (2 Hartmann's procedure). For the analysis, 230 (69%) elective sigmoid colectomies (G1) and 106 (31%) emergent sigmoid colectomies (G2) were included. Median age, gender, previous abdominal surgery, ASA score, and BMI were similar in both groups. Conversion rate was significantly higher in emergent colectomies (G1: 3.9% vs 13%, p= 0.02). Operative time was significantly longer in G2 (G1: 158 min vs G2: 181 min, p< 0.01). Median length of hospital stay did not show difference between groups (G1: 4,1 days vs. G2: 4.8 days, p= 0.8). Overall 30-day morbidity was similar in both groups (G1: 22% (51 patients) vs G2: 22% (25 patients); p= 0.9). There were no differences regarding anastomotic leak rate G1: 4.4% G1 vs. G2: 3.7%, p= 0.7. Mortality occurred in none patients in G1 and in 1 (0.9) patients in G2 secondary to septic shock in G2 (p=0.2).
Conclusion: Laparoscopic sigmoid colectomy with primary anastomosis without ostomy diversion in patients with acute complicated diverticular disease is safe. Patients undergoing emergent colectomies showed similar morbidity and mortality as compared to elective colectomy. Hence, primary anastomosis without ostomy diversion should be encouraged in this setting.
Disclosure of Interest: None declared

79.01

EVALUATION OF A TENTATIVE TREATMENT ALGORITHM FOR NEGLECTED CLUBFOOT IN SOUTH-EAST ASIA

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Introduction: Idiopathic clubfoot is the most common musculoskeletal congenital malformation needing intensive orthopedic treatment. It affects 1/1000 alive born infants, of whom 80% are born in low or middle income countries and face difficulty accessing treatment. Ponseti casting remains the preferred treatment, however rigid or recurrent clubfeet will need surgical treatment. Access to surgical care is limited throughout the developing world, with little research on long-term outcomes of surgical treatment for neglected clubfoot in resource-poor settings.
Materials & Methods: A treatment algorithm was created by a Belgian senior orthopaedic surgeon based on local and international surgical experience and expertise in neglected clubfoot treatment. In November 2017, 17 children with a total of 22 clubfeet, 16 males (2 months-10 years) and 1 female of 16 years old, with unilateral or bilateral clubfoot received surgical treatment from an Impact Foundation international outreach team at 2 different locations throughout Bangladesh. Algorithm evaluation is ongoing using a modified version, of the "International Clubfoot Study Group (ICFSG)" clubfoot treatment outcome evaluation tool, adapted to low-resource settings. Patient evaluation is planned twice annually for a duration of 5 years post-surgery. 1-year follow-up is currently ongoing.
Results: 13 children with 18 clubfeet (76% of patients and 82% of all feet) were evaluated 3 and 9 months post-operatively for pain and foot morphology, and scored on a total of 15 points. A higher score correlates with a worse outcome. Average scores were 3,4/15 (5 patients with 7 feet, score range: 2-4) after Ponseti castings with Achilles tendon tenotomy, 4,3/15 (5 patients with 6 feet, score range 3-6) after isolated posteromedial soft tissue releases (PMR), 5,5/15 after PMR combined with a cuboid osteotomy (2 patients, 4 feet, score range 4-7) and 6/15 after PMR combined with a tibialis anterior tendon transfer (1 patient, 1 foot). 2 patient's score deteriorated during follow-up all other remained stable.
Conclusion: Algorithm evaluation is currently ongoing. At 9 month none of the patients presented with a full plantigrade foot. In the children beyond walking age, 2 were pain-free, 4 had pain with activities. Access to surgical care, including short and long-term post-operative follow-up and after-care in Bangladesh may be influenced by several factors including gender and socio-cultural status.
Disclosure of Interest: None declared

79.02

INTRAVENOUS LIDOCAINE IN PAIN MANAGEMENT AND PATIENT REHABILITATION IN GYNAECOLOGICAL SURGERY

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Introduction: Systemic Lidocaine has been proposed as an adjuvant in general anaesthesia, with advantages in pain management and reduced anaesthetic drug consumption. We set out to show the efficiency of IV Lidocaine in pain management in gynecological surgery under general anaesthesia, with associated rapid postoperative rehabilitation.
Materials & Methods: Our study was a randomised single blinded clinical trial for 4 months at the Yaoundé Gynaeco-Obstetric and Paediatric Hospital, enrolling consenting ASA 1 or 2 patients scheduled for elective Myomectomy, Hysterectomy, and Debulking. Patients were randomly assigned to two groups: one received Lidocaine 1.5mg/kg bolus, and 1mg/kg per hour till the 6th hour postop. The other (placebo) received equivalent volumes of normal saline. Visual analogue scale pain scores after surgery were noted every 3 hours for 24 hours. Rapid rehabilitation was applied through early oral feeding and hourly mobilisation. Lidocaine side effects were checked during and after surgery. Difficulty mobilising and adaptation to feeding were noted. Patient satisfaction with pain management and rehabilitation was evaluated, each on a four point score. P was set at <0.05.
Results: We enrolled 17 patients per group, with a mean age of 46.3years. Pain reduction at rest or on mobilisation was more in Lidocaine group patients, (Mean VAS: Lidocaine 2.58, Placebo 4.44, p=0.007 at the 3rd hour). The only side effect during surgery was bradycardia (<60bpm) in 6 placebo group patients (35.3%). There was a clear reduction in fentanyl use for lidocaine, with a mean reinjection dose of 14µg against 129µg for placebo. Mobilisation was easier in patients on lidocaine, 12 patients (70.6%) able to move easily by the 2nd hour postop, against 2 (11.8%) in the placebo group (p=0.0285). Patients on lidocaine sat up earlier, with faster gastrointestinal recovery. Patients tolerated early oral feeding. Patients on lidocaine were more satisfied with pain management and rehabilitation.
Lidocaine is a good adjuvant in general anaesthesia for gynecological surgery, with better postoperative pain care, reduced opioid use, and minimal side effects. Associating rapid rehabilitation is equally beneficial.
Conclusion: Lidocaine is a good adjuvant in general anaesthesia for gynecological surgery, with better postoperative pain care, reduced opioid use, and minimal side effects. Associating rapid rehabilitation is equally beneficial.
Disclosure of Interest: None declared

79.03

INTRAPERITONEAL TRAMADOL IN ABDOMINAL SURGERY: A SYSTEMATIC REVIEW

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Introduction: Multimodal analgesic regimes are required to treat pain. Intraperitoneal (IP) agents, such as local anaesthetics (LA), have been shown to reduce pain after abdominal surgery. Other IP analgesics have been tested in several randomized control trials (RCT), but no reviews or guidelines have evaluated their use. Tramadol is an effective oral and intravenous analgesic with recent evidence supporting the use of IP Tramadol. We aimed to review the efficacy of IP Tramadol as an adjunct to intraperitoneal local anaesthetic (IPLA) for pain relief after abdominal surgery.
Materials & Methods: Relevant articles were identified by two independent reviewers from MEDLINE, EMBASE and Pubmed using PRISMA guidelines up to January 2019. Only RCT comparing IP Tramadol+IPLA with IPLA alone were included. Outcomes recorded were post-operative opioid requirement, pain scores at 4/24 hours and adverse events. Data were analysed with Review Manager Ver5.3.
Results: A total of six RCT (4x laparoscopic cholecystectomy and 2x abdominal hysterectomy) were included in this review from 419 studies screened. All doses were given as a single bolus. Opioid requirement over the first 24 hours was less in the IP Tramadol+IPLA groups when compared to IPLA alone (SMD=0.92, 95%CI 0.27-1.57). Pain scores were less for IP Tramadol+IPLA groups at 4 hours (SMD=0.83, 95%CI 0.41-1.26) and 24 hours (SMD=0.45, 95%CI 0.11-0.80). There were no significant differences in adverse events between groups.
Conclusion: IP Tramadol, when added to IPLA, reduces post-operative pain and opioid requirement without any increase in adverse effects. Further studies are required to explore the ideal dosing and if IP Tramadol can reduce the systemic negative effects of other routes of Tramadol administration.
Disclosure of Interest: None declared

79.04

SURVEILLANCE OF SURGICAL SITE INFECTIONS AND NON-SURGICAL INFECTIONS OF NEUROSURGICAL PATIENT. A 15-YEAR PROSPECTIVE BEFORE-AFTER COHORT STUDY AT A TERTIARY CARE HOSPITAL IN POLAND

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Introduction: The incidence of healthcare-associated infections (HAI) in neurosurgical departments is determined by the specificity of the patients' underlying disease, increased use of invasive devices and nervous system disorders.
Materials & Methods: Continuous surveillance in 2003–2017 allowed to detect HAIs in patients staying in a 42-bed neurosurgery in St. Luke Provincial Hospital in Tarnów, Poland. 10,332 surgical patients were qualified for the study. The study was carried out in the framework of a national surveillance of HAI programme following methodology recommended by European Centre for Disease Prevention and Control (HAI-Net). Intervention in this before-after study (2003–2017) comprised standardised surveillance of HAI with regular analysis and feedback.
Results: The HAIs incidence was 4.6%. Surgical site infections (SSI) accounted for 33% of all HAIs, incidence 1.5%. The remaining infections were pneumonia: 1.1% and bloodstream infections 0.9%. The highest SSI incidence concerned spinal fusion (FUSN, 2.2%), craniotomy (CRAN, 1.9%), ventricular shunt (VSHN, 5.1%), while total HAIs incidence was respectively: 4.1%, 8.0% and VSHN 18.6%.
A significant reduction was found in HAI incidence before and after surveillance implementation as regards the most common types of treatments, i.e., LAM: 4.5% vs 0.8% (RR 5.6, p=0.004), FUSN: 11.8% vs 0.8% (RR 14.7, p<0.001); CRAN: 10.1% vs 0.4% (RR 25.3, p<0.001). As a result of the activities conducted, a significant change was achieved as regards selected elements of the unit's work for most types of procedures: there was a decrease in duration of hospitalization before surgery (~50%), hospital stay (~40%), surgery length (~5-15%) and urgent operations were limited. Simultaneously, the demographics of the patients: there was an increase in patients' age and general condition expressed in ASA scale (ASA 1-2 pts vs ASA 3-4 pts).
The most common etiologic agent of HAIs was *Staphylococcus aureus*, which was also predominant in SSIs (49.7%), while *Acinetobacter baumannii* (22.0%) was dominant in PN.
Conclusion: Among the main HAIs types, SSIs were slightly predominant. The greatest SSI incidence was present in CRAN and VSHN, the same as the total HAI incidence. The implementation of active surveillance based on regular analysis and feedback led to a significant reduction in HAI incidence. Further intervention is required for high VAP morbidity and improvement regarding microbiological diagnostics.
Disclosure of Interest: None declared

79.05

WHAT ABOUT COST? MODERN TECHNIQUES IN ENDOCRINE SURGERY IN LMICS

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Introduction: Newer technologies can lead to increases in costs, either because they are simply more expensive or because their introduction leads to an expansion in the types of patients treated.[1] Costly gadgets are being increasingly used in developed countries. To date, there have been no large-scale randomized trials of robot-assisted surgery, and the limited evidence fails to show that the long-term outcomes are superior to those of conventional procedures. [2]. Energy devices(ED), Intra-operative neuromonitoring (IONM) and Intra-operative parathyroid (IOPTH) monitoring are being widely used increasingly in developed countries and being propagated in LMICs with great enthusiasm. The objective of the present study was to evaluate costs for thyroidectomy and parathyroidectomy performed with the aid of ED, IONM and IOPTH.

Materials & Methods: A retrospective study between Jan 2016 and December 2018 was done. Direct basic costs (staff time, consumables, equipment, drugs, operating room, and general expenses) for each surgery is fixed at our institute. Cost of ED, IONM and IOPTH is added to the bill only if they are used in any patient. To assess the impact of these modern technologies , six macro-scenarios were considered: (1) traditional thyroidectomy; (2) thyroidectomy with energy devices; (3) thyroidectomy with IONM; (4) thyroidectomy with both ED and IONM; (5) traditional parathyroidectomy ; (6) parathyroidectomy with IOPTH .

Results: Hospitalization costs using modern technique varied from 406.99 USD to 631.53 USD (scenarios 2,3,4 and 6): 15–17% to 23.11% higher than for the traditional procedure (350.85 USD to 336.82 USD, scenario 1and 5, respectively). Surgery costs for a traditional surgery account for 68 to 79 % of hospitalization costs; if ED, IONM or IOPTH is used, this percentage increases to about 80 to 92%.

Scenario/cost per procedure	Total hospitalization cost	ED	IONM	ED + IONM	IOPTH	Modern technique cost/ hospitalization cost
Traditional thyroidectomy	350.85 USD	-	-	-	-	-
Thyroidectomy with ED	406.99 USD	61.75	-	-	-	15.17 %
Thyroidectomy with IONM	421.00 USD	-	84.20	-	-	20.00 %
Thyroidectomy with both ED and IONM	631.53 USD	-	-	145.95	-	23.11%
Traditional parathyroidectomy	336.82 USD	-	-	-	-	
Parathyroidectomy with IOPTH	398.57 USD	-	-	-	61.75	15.49 %

Conclusion: LMICs do not have resources to support surgical care for their entire population. Further evaluation is needed to establish the precise the indications for these costly gadgets in LMICs

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Disclosure of Interest: None declared

79.06

LOCAL ANAESTHETIC VERSUS REGIONAL OR GENERAL ANAESTHETIC IN EXCISIONAL HAEMORRHOIDECTOMY – A SYSTEMATIC REVIEW AND META-ANALYSIS

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Introduction: Excisional haemorrhoidectomy (EH) has been traditionally performed under general or regional anaesthesia. However, these are associated with complications such as nausea, urinary retention and motor blockade. Local anaesthetic (LA) alone has been proposed to reduce side effects as well as to expedite ambulatory surgery. This systematic review aims to assess LA versus regional or general anaesthetic in EH.
Materials & Methods: A systematic review of the literature was conducted according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Two authors independently assessed MEDLINE, EMBASE and CENTRAL databases from database inception to 14 January 2019. Meta-analysis was performed using Review Manager v5.3 using a random effects model.
Results: A total of 1447 records were initially identified. Nine randomised controlled trials, consisting of six studies comparing LA versus regional anaesthetic and three comparing LA versus general anaesthetic were included. Meta-analysis of the six studies showed a significantly lower relative risk of intra-operative hypotension (RR 0.17 [95%CI 0.04 – 0.76], $p = 0.02$), headache (RR 0.13 [0.02 – 0.67], $p = 0.02$), and urinary retention (RR 0.17 [95CI% 0.09 – 0.29], $p < 0.00001$) for LA when compared with regional anaesthetic. There was also no significant difference in immediate post-operative pain ($p > 0.05$). One trial performed a cost analysis which demonstrated reduced costs for LA versus general anaesthetic.
Conclusion: Local anaesthetic results in reduced complication rates and demonstrates no significant difference in post-operative pain. Further higher quality randomised controlled trials, with cost-benefit analyses, are indicated.
Disclosure of Interest: None declared

79.07

ASSESSMENT OF THE PROGRESS OF SURGICAL DEPARTMENTS AND CHALLENGES IN SOMALILAND

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Introduction: As Somaliland emerged from conflict that lead to most of its skilled surgeons fled to the neighboring countries. It shares similar characteristics with any other post conflict settings that suffering from inadequate infrastructure, shortage of the health workforce, insufficient equipment and facilities and also a health system that regulates the service delivery.
Nevertheless, for the last 27 years, Operations in Somaliland were without specialized surgeons. The only available surgeons are practitioners that is why we can call the neglected stepchild of global public health, and this term applies it very well in this context. Therefore, the operating rooms, equipment and specialized surgeons are challenge that Somaliland is facing. With the growing population, growing needs and development of diagnostic imaging, as well the establishment of hospitals and operating rooms. The first graduates of medical doctors from medical schools in Somaliland was in 2007 up until now still is less than (300 in number). A numerous trained Operation Theater (OT) nurses and the first batch of anesthetists graduated in 2013.
Materials & Methods: Quantitave Method.
Results: the estimated population of Somaliland is million people. the ratio of patient and surgeon or practitioner is 1: 225,000 - 45000 respectively. Somaliland Nurse Anesthetists are less than 50 in number and still there is a huge gap. The junior doctors are working without senior supervision is another challenge because this can lead malpractice and the consequence can lead to death.
Most common operations done in Somaliland are general surgeries like emergency obstetric operations, Laparotomy, acute abdomen, orthopedic surgery and the undone operations are include cardiac-thoracic, brain and vascular operations which force patients who can afford to go outside the countries where they can get the needed health services or they die on the way.
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References: Somaliland Medical Association 2017
Capacity of Somaliland Anesthesia Departments 2018 - Incision Somaliland

Disclosure of Interest: None declared

84.01

THE USE OF MICROVASCULAR FREE FLAPS IN CHILDREN AFTER EXTENDED TUMOR RESECTION IN HEAD AND NECK REGION .

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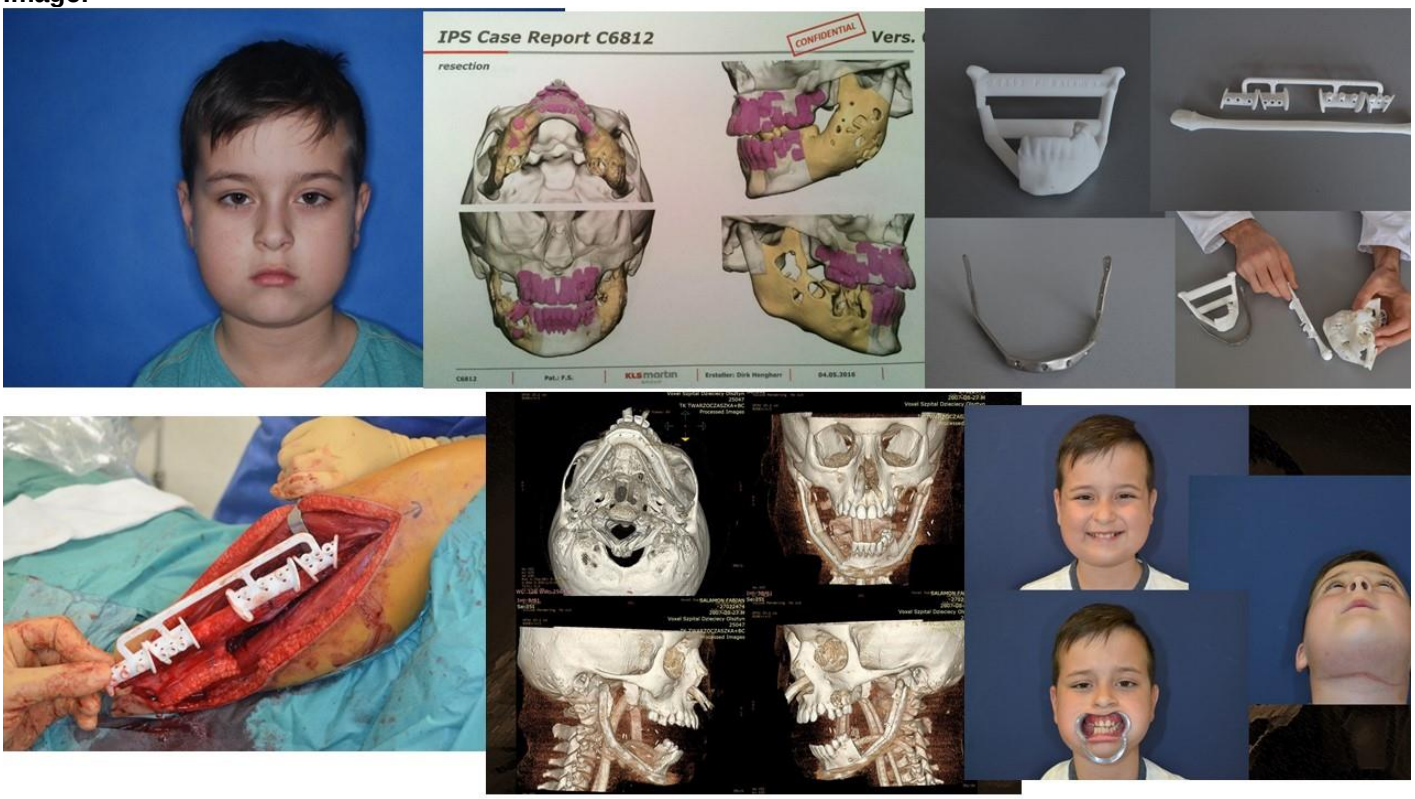
Introduction: Reconstructions with the use of free flaps remains the "gold standard" of reconstructive surgery of the head and neck cancer in adults. Because the pediatric craniofacial skeleton continues to grow, reconstruction is more challenging, and the long-term results can be different from those of adult patients. The aim of the study is present our own experience and the possibility of using microvascular free flaps in children.
Materials & Methods: In 2012-2017 we operated 32 children's due to: osteosarcoma, Ewing's sarcoma, ameloblastoma, squamous cell carcinoma and fibrous dysplasia. After radical tumor resection we used: in 21 cases fibula free flap, 7 iliac free flap and 4 radial forearm free flap.
Results: In the presented patients we reported 1 cases of complete necrosis of free flaps, which required revision surgery. In the remaining patients we obtained very good functional and aesthetic effect. During the five-year follow-up there were no local recurrence of cancer.
Image:



Conclusion: Based on our experience, microsurgical reconstruction in children is safe and effective, and should be considered a first-line treatment option for cancer in children.
Disclosure of Interest: None declared

84.02

USING ACCELEROMETERS TO OBJECTIVELY MEASURE THE RELATIONSHIP BETWEEN PAIN AND SLEEP PATTERNS AFTER PEDIATRIC SURGERY

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Introduction: Accelerometer data have been validated as objective measures of both activity and sleep patterns in children after surgery[1]. Quality of sleep is an often overlooked, but critical component of postoperative recovery, and is influenced by pain control. Pain is often at its worst immediately after surgery, during the inpatient stay[2]. We report data from a pilot study utilizing accelerometers to objectively quantify the association between patient-reported pain scores and accelerometer-derived sleep patterns in pediatric patients following surgery.
Materials & Methods: Five patients, ≤17 years of age, were recruited and followed postoperatively as in-patients. Patients wore a commercially available accelerometer (Actigraph wGT3x-BT) on their wrist for at least 24 hours. Raw activity data were translated into sleep minutes, using the Cole-Kripke algorithm, which can differentiate non-wear and sleep time. Patient charts were used to obtain patient reported pain scores. Bivariate correlation and linear regression analyses adjusting for within-subject random effects were conducted to estimate the association between pain scores and sleep minutes.
Results: Procedures included bladder neck closure, distraction osteotomy, spinal fusion and two laparoscopic appendectomies. A total of 28 sleep hours with a pain score ≥ 1 were reported in the five patients. Among sleep hours with pain score ≥1, higher pain scores were significantly correlated with fewer sleep minutes (correlation coefficient=-0. 54; p=0. 003). Regression analyses showed that a 1-point increase in pain score was significantly associated with 3 minutes per hour shorter sleep (p=0. 003). Therefore, a patient with a pain score of 10/10 is predicted to sleep 27 less minutes per hour, based on this model.
Conclusion: This study objectively quantifes the relationship between sleep minutes lost per hour and patient reported pain scores in children immediately after surgery. To optimize the inpatient experience and patient outcomes, attention should be paid to adequacy of pain relief and subsequent quality of sleep. Providers may find sleep quality a useful adjunct to their typical array of physiologic data in the inpatient setting.
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Disclosure of Interest: None declared

84.03

PEDIATRIC APPENDECTOMIES: CAN WE DO BETTER? AN ANALYSIS OF 22,334 CASES FROM THE AMERICAN COLLEGE OF SURGEONS NATIONAL SURGICAL QUALITY IMPROVEMENT PROGRAM DATA

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Introduction: The most common emergent pediatric surgery performed in the United States is an appendectomy. We evaluated short-term outcomes after appendectomy for uncomplicated (UA) and complicated (CA) appendicitis using the American College of Surgeons National Surgical Quality Improvement Program Pediatric (NSQIP-P) data set.
Materials & Methods: The NSQIP-P data set was used to identify patients who underwent appendectomy between 2015 and 2016. Patient-, disease-, and treatment-related factors affecting 30-day outcomes in UA and CA were analyzed using univariate and multivariate analysis.
Results: A total of 22,334 appendectomies were performed, and the majority were performed by pediatric surgeons (95%) for UA (71%). Overall complication rates were 8.8% and 27% for UA and CA, respectively. CA was more common in younger patients, associated with higher overall complications (OR: 2.2, p<0.001), infectious complications (OR: 3.3, p<0.001), and emergency department visit/readmissions (OR: 1.5, p<0.001) when compared to UA after adjusting for available confounders. The hospital length of stay was longer for patients with CA when compared to UA (4 days versus 1 day, p<0.001). Children with CA had higher rates of sepsis (0.9 vs 0.2% in patients with UA, p<0.001), pneumonia (0.4 vs 0.1% in patients with UA, p<0.001), and C difficile colitis (0.7 vs 0.2% in patients with UA).
An open approach was utilized in 7% of all cases (4% in UA and 14% in CA). Open appendectomy was independently associated with a higher likelihood of overall and infectious complications (OR: 1.5, p<0.001 and OR: 1.5, p<0.001, respectively). Increasing age was associated with a decreasing likelihood of complications (OR: 0.97, p<0.001) and readmissions (OR: 0.97, p<0.001).

Variable	All complications		Infectious complications		Emergency department visits/Admission	
	Odds Ratio	p-value	Odds Ratio	p-value	Odds Ratio	p-value
Age (years)	0.97	0.000	0.98	0.013	0.97	0.000
Male sex	0.99	0.786	1.2	0.013	0.97	0.539
ASA<=2	0.57	0.000	0.50	0.000	0.74	0.003
Preoperative sepsis	1.3	0.000	1.6	0.000	1.2	0.006
Preoperative WBC	0.99	0.018	1.0	0.193	0.99	0.015
Transfer	0.93	0.297	0.94	0.542	0.88	0.155
Pediatric surgeon	0.99	0.926	1.6	0.013	0.93	0.574
Open appendectomy	1.5	0.000	1.5	0.000	1.0	0.808
Complicated	2.2	0.000	3.3	0.000	1.5	0.000

Conclusion: Younger patients and those with complicated appendicitis have a higher rate of complications. This study provides further confirmation that these children represent a high-risk group who needs close postoperative observation to promptly detect complications.
Disclosure of Interest: None declared

84.04

NECROTIZING PANCREATITIS IN CHILDREN: A LARGE COHORT EVALUATION

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Introduction: Necrotizing pancreatitis (NP) is a rare progression of acute pancreatitis (AP) in children. Limited data on NP are available and most information comes from case reports or small single site cohort evaluations[1]. Due to the morbidity and dearth of knowledge of NP we aimed to complete a more comprehensive analysis to inform future research efforts.
Materials & Methods: Encounters in the Pediatric Health Information System (PHIS) database from 2015-2018 were queried for the diagnosis of AP and NP using ICD-10 codes. Epidemiologic factors, associated diagnoses, and outcome measures were obtained. A descriptive analysis was performed.
Results: Of 11,850 patients with AP, 158 (1.3%) patients developed NP. Patient ages ranged from 0-17 years with a median of 12. A strong positive correlation between age and incidence was found ($R^2 = .75$, $p<.001$). Gender was equally distributed. The most common race was Caucasian (race specific incidence 1.3%, OR = .87 ($p=.38$)). The case-fatality rate was 4/158 (2.5%). The average length of stay was 22 days with a range of 1-138. 50.6% of patients required ICU admission with a median ICU stay of 16 days, 18.4% required intubation, 53% received total parenteral nutrition, 22.7% were in shock requiring vasopressor support, 23.4% had acute kidney failure, 22.7% became hyperglycemic, and 2 patients required ECMO. 69% received antibiotics. The most common etiologies were idiopathic (118/158, 74.6%), an adverse reaction to an antineoplastic drug (26/158, 16.4%), and then biliary (20/158, 12.6%). 63.9% of patients with NP were covered by a government source for health insurance (OR 1.39, P=0.046) and 29.1% had private insurance.
Conclusion: We have described patient and disease characteristics in the largest cohort of pediatric necrotizing pancreatitis reported to date. We conclude increasing age is the most correlating risk factor. Surprisingly, the most common etiology among childeren who develop NP was an antineoplastic drug reaction, as opposed to a biliary source for adults[2]. NP is a disease resulting in an elevated level of hospital resource utilization.
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Disclosure of Interest: None declared

84.05

MINIMALLY INVASIVE REPAIR OF PECTUS EXCAVATUM IN ADULTS IS MORE TECHNICALLY DEMANDING THAN IN CHILDREN

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Introduction: Pectus excavatum is typically repaired in adolescents and teenagers by placing a presternal Nuss bar under thoracoscopic visualization. As this procedure has become standard practice in children, more older patients are also undergoing thoracoscopic Nuss bar placement. This technique has not been well studied in adult patients, and there are concerns of increased complications and a more prolonged recovery. We report our experience utilizing thoracoscopic Nuss bar placement in the adult population compared to pediatric patients.
Materials & Methods: A retrospective data analysis including all consecutive patients undergoing Nuss bar placement for correction of pectus excavatum was performed over a ten year period. Children were defined as 18 years old or younger, and adults as over 18 years of age.
Results: In total 139 patients (22 adults and 117 children) were included. Both groups were operated at one single institution by the same team of surgeons. Mean age of respective groups was 22 (adults) and 14.9 (children) years, respectively. Despite a higher body mass index in adults (mean 22.7 vs. 18.2 kg/m^2; $p<0.0001$), groups were similar in respect to preoperative symptoms, Haller index, and gender. Significantly more patients in the adult group needed multiple bars (45 vs. 8%; $p<0.0001$), and the bar remained in place longer in adults (mean 2.8 vs. 2.3 years; $p=0.0009$). Operation time was not significantly longer in adults then in children (mean 125 vs. 111 min; $p>0.05$), and length of hospital stay was similar in both groups (mean 6 (adults) vs. 5.8 days (children); $p>0.05$). Most patients (91% of children and 97% of adults) received an epidural postoperatively. 73% (adults) vs. 55% (children) ($p>0.05$) of patients were still on narcotics during the first postoperative visit 2-3 weeks after the procedure. 9% (adults) vs. 3% (children) ($p>0.05\%$) had to be re-admitted within 30 days from surgery, and more adults (23 vs. 9%; $p=0.07$) required reoperation, but this did not reach significance.
Conclusion: Nuss bar placement in adults is a safe and effective procedure for correction of pectus excavatum. However, it is technically more demanding compared to the same procedure in children. More adults require the placement of two bars for optimal and stable correction, and the bar stays in place longer. Adult patients require different preoperative counseling prior to Nuss bar placement in order to fully understand the associated risks and benefits, and to have appropriate expectations of their recovery.
Disclosure of Interest: None declared

85.01

OUTCOMES OF RESECTED GASTROENTEROPANCREATIC NEUROENDOCRINE TUMORS (GEP-NETS) – A 12 YEAR EPIDEMIOLOGICAL STUDY OF LATVIAN POPULATION.

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Introduction: Recent epidemiological studies show an increasing trend in the incidence of GEP-NETs. However, the site of origin, pathological features, distribution of stage as well as outcomes may vary in different populations. The aim of this study was to analyse data of patients with surgically resected GEP-NETs from two tertiary referral hospitals, treating more than 80% of all oncological patients in Latvia.
Materials & Methods: Patients with histologically confirmed diagnosis of GEP-NETs treated between 2006 and 2018 were included in EUROCRINE, an open-label international Endocrine Surgical registry with a special focus on rare tumors. Pathological features as well as overall survival (OS) rate were analyzed among patients who have undergone surgery of primary or metastatic GEP-NETs. The OS rate was assessed using Kaplan-Meier method and compared by Log-rank test.
Results: Among the 205 GEP-NETs, 168 (82%) underwent surgical resection and were included in the study. The median age at diagnosis was 60 (IQR 51-70) years, 70.8% (n=156) were females. The most common primary tumor site was stomach (n=46, 27.4%) followed by pancreas (n=44, 26.2%), small intestine (n=35, 20.8%), colon (n=18, 10.7%), appendix (n=15, 8.9%), rectum (n=7, 4.2%) and Ca of unknown primary site (n=3, 1.8%). A total of 35.1% (n=59) patients had localized disease. Compared to that, at the time of diagnosis 37.1% (n=13) of small intestinal and 38.9% (n=7) of colonic tumors were diagnosed as locally advanced and disseminated disease. According to pathological reports, G1 and G2 NETs were the most prevalent in all sites, accounting for 37.5% (n=63) and 34.5% (n=58) of all resected cases. For the overall cohort the median follow-up period was 25 (IQR 11.0-57.5) months. OS rate at 1- and 3-years for patients with pancreas, stomach, small intestine, appendix, colon tumors were 97.7% vs. 94.1%, 88.9% vs. 84.0%, 97.1% vs. 90.7%, 93.3% vs. 93.3%, 72.7% vs. 48.7 %. Across all localizations, increasing tumor grade and stage were associated with worse OS (log-rank, $p<0.0005$).
Conclusion: Almost all GEP-NETs patients in our study have excellent survival outcomes at 1- and 3-years. Comparing to other localization NETs colon NET patients has poor overall survival. Further analysis of factors influencing outcomes is necessary to clarify negative effect on survival.
Disclosure of Interest: None declared

85.02

GENOMIC PREDICTORS OF SOMATOSTATIN RECEPTOR TYPE 2 EXPRESSION IN WELL-DIFFERENTIATED PANCREATIC NEUROENDOCRINE TUMORS

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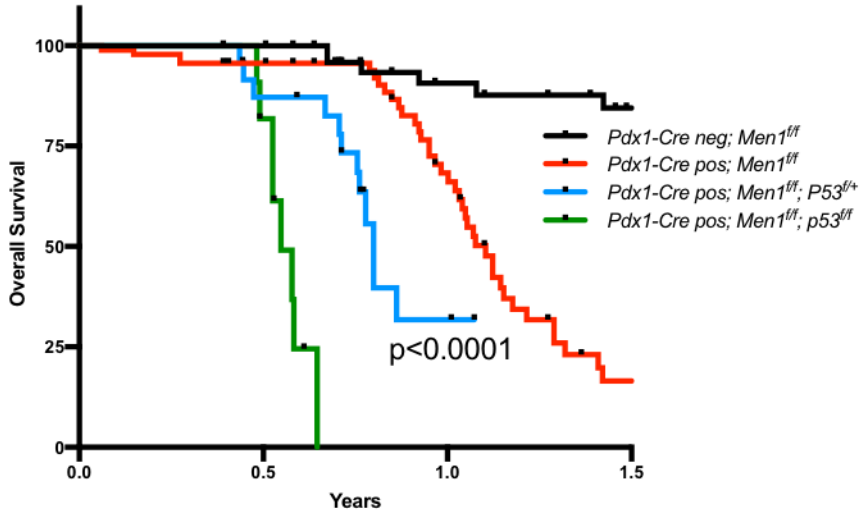
Introduction: Lu177 dotatate targets somatostatin receptor (SSTR2) positive tumor cells and was recently approved by the FDA for neuroendocrine tumors. We performed targeted exome sequencing, RNASeq and SSTR2 immunohistochemistry on a cohort of human primary and metastatic pancreatic neuroendocrine tumors (pNETs) to identify predictors of SSTR2 expression. We then modeled these findings in a novel line of pNET transgenic mice and sought their responses to Lu177 dotatate treatment.
Materials & Methods: All patient samples underwent pathology review. Immunohistochemistry (IHC) and immunoflouresence were quantified with color threshold analysis. Alternative lengthening of telomeres (ALT) was identified by FISH.
Results: Human pNETs with robust membranous SSTR2 expression (by IHC) were enriched for mutations in *MEN1, ATRX*, and *DAXX* and were more likely to be ALT positive. In this cohort of mostly G1 and G2 pNETs, there was no relationship between tumor proliferation (as measured by Ki67) and SSTR2 expression. In SSTR2 positive tumors, interrogation of RNASeq data demonstrated increased PI3K and MTOR output and increased expression of p53 and its transcriptional targets. To study the effect of p53 loss on SSTR2 expression in pNETs, we bred a floxed *p53* allele into the previously characterized *Pdx1-Cre, Men1*$^{flox/flox}$ pNET mouse model. While *Pdx1-Cre, Men1*$^{flox/flox}$*, p53*$^{flox/flox}$ mice died from aggressive pancreatic ductal adenocarcinomas, *Pdx1-Cre, Men1*$^{flox/flox}$*, p53*$^{flox/+}$ mice had earlier onset pNETs (by 2-3 months) and mortality as compared to those with only MEN1 loss (Figure 1). In pNETs from the latter two models, Ki67 positivity and SSTR2 expression were inversely correlated ($p<0.05$). Furthermore, pNETs from *MEN1*$^{flox/flox}$*;p53*$^{flox/+}$ mice were more likely to have SSTR2 negative tumors than those with MEN1 loss alone (73% vs 33%, respectively, $p=0.02$). We treated SSTR2 positive pNET-bearing mice from both models with 800 uCi of Lu177 dotatate and found that *MEN1*$^{flox/flox}$*;p53*$^{flox/+}$ mice had greater numbers of double stranded DNA breaks at 72 hours (as measured by gamma-H2AX immunofluorescence, $p=0.007$).
Image:



Conclusion: In humans, SSTR2 positive pNETs were more likely *MEN1, DAXX*, and *ATRX* mutant and had robust expression of downstream p53 target genes. Heterozygous loss of *p53* in *Men1* deficient murine pNETs yielded a more aggressive phenotype and, when SSTR2 positive, were more susceptible to DNA damage after Lu177 dotatate. These results could help guide the selection of patients for PRRT.
Disclosure of Interest: None declared

85.03

BIOCHEMICAL PROFILE AFFECTS IOPTH KINETICS AND CURE RATE IN PRIMARY HYPERPARATHYROIDISM

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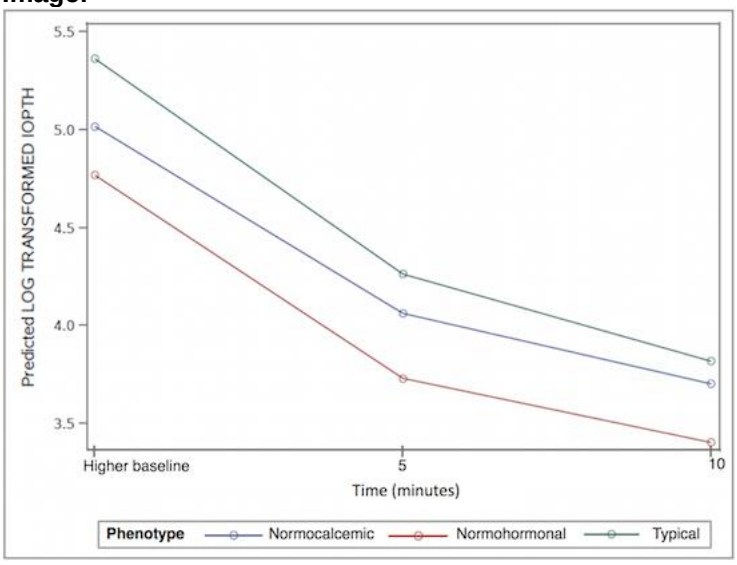
Introduction: Primary hyperparathyroidism (pHPT) is typically diagnosed with high serum calcium and parathyroid hormone (PTH) levels. Recently, two additional biochemical profiles have been described with distinct phenotypes: normocalcemic (NC) and normohormonal (NH) pHPT. In this study, we investigate whether biochemical profile affects intraoperative PTH (ioPTH) monitoring, a commonly used adjunct to help guide surgical resection.
Materials & Methods: This was a single, tertiary referral center, retrospective study of pHPT patients undergoing parathyroidectomy. Patients were stratified based on pre-op calcium and PTH levels into typical, NC (normal calcium, elevated PTH, no evidence of secondary hyperparathyroidism), and NH (elevated calcium, unsuppressed PTH) biochemical profiles. All patients had ioPTH monitoring and >/= 6-month post-op serum studies to confirm surgical cure. Patient variables were analyzed with Kruskal-Wallis and chi-square analysis. IoPTH kinetic curves were analyzed using a linear mixed model with fixed effects parameter.
Results: From 6/2006 to 10/2014, 821 patients underwent parathyroidectomy; 630 met inclusion criteria for the study. Most patients were women (79%), with median age of 61years (IQR 52-70). Biochemical profile was typical in 452 patients (72%), NC in 95 (15%), and NH in 83 (13%). There was no significant difference in demographics, renal failure, kidney stones, or osteoporosis. NC patients were more likely to have multi-gland disease (47%), compared to typical (8%) or NH patients (11%), p<0.001. IOPTH levels were higher at all time points in typical patients, p<0.001. In a multivariable linear mixed model of only those with surgical cure, atypical profiles had significantly slower decline in IOPTH over time, p=0.002 (Figure 1), with greater odds of meeting Miami criterion after 10 minutes, p=0.024. Surgical cure rates were significantly lower for NC patients (91.5%) than for typical (98.5%) or NH patients (96.6%), p<0.001.
Image:



Conclusion: Patients with NC have a lower surgical cure rate than typical or NH profiles in pHPT. The IOPTH curve is affected by biochemical profile, with both NC and NH patients having lower peaks in ioPTH, as well as slower declines. Patients with atypical profiles were more likely to require longer than 10 minutes to meet Miami criterion. Our data ultimately suggest that the Miami criterion alone may be a less accurate predictor of cure in patients with atypical profiles.
Disclosure of Interest: None declared

89.01

THE 1ST VERIFICATION FOR EFFICACY OF OUR NEW NUTRITIONAL STRATEGY PREVENTING FROM THE ADVANCING SARCOPENIA OF PREOPERATIVE CANCER PATIENTS

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Introduction: Preventing preoperative patients from advancing sarcopenia might be one of the most important factors for decreasing various complications and shortening their hospital stay periods. Rapid loss of skeletal muscle has been shown to be an independent predictor of severe advanced cancer sarcopenia. To our knowledge, we have had no standard nutritional therapy for preoperative cancer patients as for now.
Materials & Methods: A total of 50 preoperative cancer patients in Fujita Health University Hospital between December 2017 and November 2018 were recruited. The feature of our method was to use a kind of oral supplement, COBL, including branched chain amino acid (BCAA), L-carnitin, CoQ10, zinc, citric acid, and so on. Furthermore, total energy expenditure (TEE) was decided, added to the calory consumption for rehabilitation, calculated with metabolic equivalents (METs). Every patient was scheduled to take one pack of COBL after meal and to perform 2-5 METs exercise, for example squat (5METs), depending on their ability. Dose of skeletal muscle and Body Cell Mass (BCM), and ECW/TBWBIA data was measured by Bioelectrical Impedance Analysis(BIA) at the beginning and one day prior of the day of operation. Those data were compared between COBL group (n=50) and control group (n=14), analysed with Cox hazard ratio. Furthermore, multivariate regression analysis was performed to investigate the influenced factors of the rich effective group.
Results: (COBL group, control group) was shown as below: skeletal muscle; (＋1.1±0.3, ＋0.4±0.1) (kg) $p<0.01$, BCM; (0.6±0.3, 0.2±0.1) (kg) $p<0.01$, ECW/TBW; (-1.53±0.211, ＋0.011±0.013) $p=0.87$ NS. Multivariate analysis showed skeltal muscle index(OR 7.23, CI 1.86-67.21, $p<0.001$), BCM(OR 6.89, CI 2.11-58.43, $p<0.001$), ECW/TBW (OR 7.55, CI 1.79-72.08, $p<0.001$) and phase angle(PA) of left legs (OR 3.55, CI 1.89-22.21, $p<0.05$)
Conclusion: Our new preoperative nutritional strategy using COBL might increase skeletal muscle for 4 weeks before operation significantly.
Disclosure of Interest: None declared

89.02

ENHANCED RECOVERY AFTER SURGERY VERSUS CONVENTIONAL APPROACH IN GASTRIC CANCER - A RANDOMIZED CLINICAL TRIAL

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Introduction: Enhanced recovery after surgery (ERAS) protocol implements various interventions to minimize complications and hasten the recovery of patients undergoing major surgeries. It has been widely accepted in colorectal surgeries but the evidence for similar benefits in upper gastrointestinal surgeries has been limited. ERAS for gastric cancer is still under implemented probably due to the fear of anastomotic leak and aspiration. This study was planned to assess the efficacy of ERAS as compared to conventional protocol in patients with gastric cancer undergoing open total or distal gastrectomy.

Materials & Methods: A single center, open label randomized clinical trial was started from September 2017. The primary endpoint was the duration of postoperative hospital stay while secondary endpoints were white blood cell count, quality of life, onset of oral intake, walk, flatus and defecation. A planned interim analysis was done in December 2018 to assess treatment efficacy and safety.

Results: A total of 105 patients were assessed for eligibility of which 35 met the inclusion criteria. Two patients had non resectable tumor while one withdrew consent. Patients in ERAS group (n=14) had significantly shorter duration of postoperative hospital stay (6 d vs 9 d, p= 0.002), onset of oral intake (p= 0.000), walk (p= 0.000) and flatus (p= 0.026) as compared to the conventional group (n=18). Early quality of life (postoperative day 3) was also better in ERAS group (p= 0.016). No differences were found in the white blood cell count and onset of defecation. Incidence of Clavien-Dindo grade II complications were similar in both groups (9.4% vs 12.5%, p= 1.000). There were no anastomotic leaks or mortality in a 30 day follow up period.

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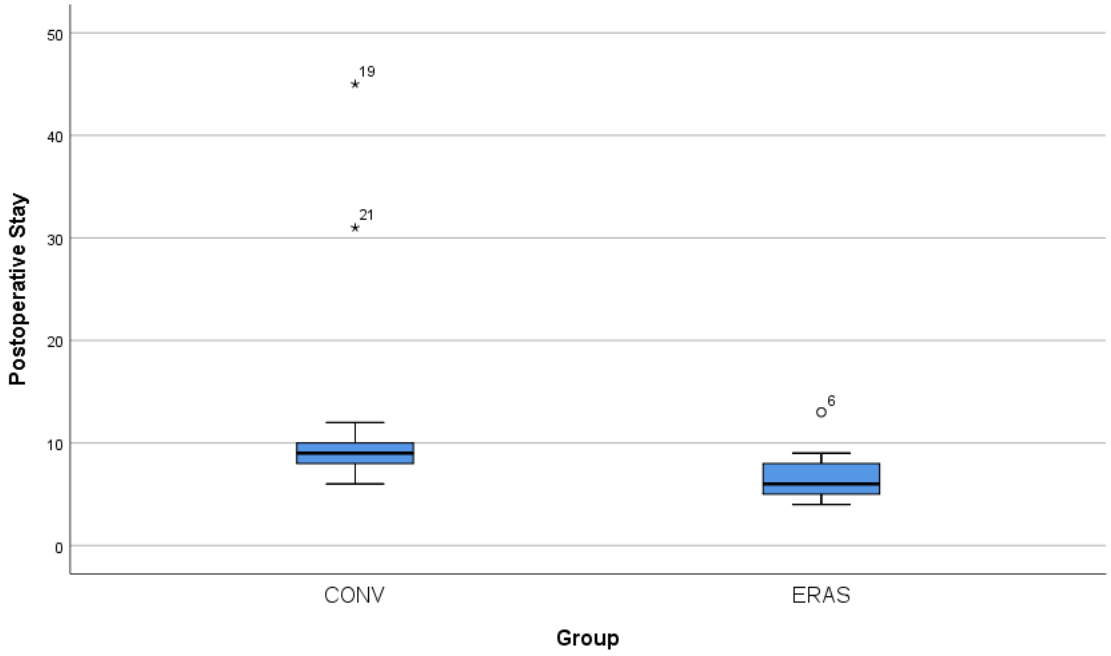

Conclusion: ERAS protocol significantly reduces the postoperative stay and improves early quality of life in gastric cancer patients without increasing morbidity.

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Disclosure of Interest: None declared

89.03

ERAS AFTER OPEN ESOPHAGECTOMY FOR CANCER: AIMING AT IMPROVING PATIENT CONDITION WITH OUTCOME-ORIENTATION

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Introduction: Even in minimally invasive esophagectomy, many patients are out of the standard course due to high risk and postoperative complications. For early recovery after esophagectomy, we should prevent postoperative complications with appropriate individualized care, and minimize it even if it occurs. We report on our ERAS for esophagectomy via open thoraco-abdominal approach, in accordance with the basic policy of the "ESsential Strategy for Early Normalization after Surgery with patient's Excellent satisfaction (ESSENSE)" project [advocated by the Japanese Society for Surgical Metabolism and Nutrition (JSSMN)].
Materials & Methods: [Surgery and perioperative care] (1)2009~ Enteral nutrition (EN) from POD1 via jejunostomy, epidural anesthesia, and perioperative steroid administration was introduced. (2)2012~ Shortened thoracotomy with thoracoscopic assistance and subcutaneous washing before closing, NST intervention before surgery, and perioperative oral care was routinely started. (3)June 2014~ Introduction of "individualized postoperative food" management (by NST) based on swallowing evaluation on POD7. 2015~ Introduction of preoperative oral rehydration. (4)September 2015~ a PT joined NST, and 1w prehabilitation in hospital was started. (5)2017~ Introduction of lightweight Thopaz® system was introduced for care of chest drainage. [Methods] 195 patients who received esophagectomy and reconstruction for cancer between 2009 and 2017 were enrolled. 79 pts (~2011)/ 51 pts (2012 to June 2014/ 21 pts (~August 2015)/ 44 pts (~2017) were assigned to A/B/C/D groups, and postoperative outcomes including the rate of complications (Clavien-Dindo II or higher) were compared.
Results: (1)Surgical site infection occured in 11/4/1/0 cases in the A/B/C/D group, of which the anastomotic leakage occured in 7/2/0/0 cases. Its rate significantly decreased from 8.9 (A) to 1.7% (B~D, P=0.03). (2)The rate of respiratory complications decreased a little from 33 (A~C) to 25% (D, P=0.36), but without significance. In D group, 3 pts received tracheostomy due to bilateral recurrent nerve palsy. (3)In 2017, 22 pts (79%) walked in the corridor on POD1. (4)There was no significant change among the groups in the BW loss at 1month after surgery (7~8%).
Conclusion: Even in OE, we have achieved the ESSENSE basic strategy, and good postoperative results can be obtained with ERAS protocol, aiming at improvement of patient condition with outcome orientation, while further avoidance of complications such as recurrent nerve palsy is a problem.
Disclosure of Interest: None declared

94.01

THE SYSTEMATIC DISCRIMINATION OF FEMALE APPLICANTS BY JAPANESE MEDICAL SCHOOLS: A REVIEW ANALYSIS

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Introduction: In 2015, women accounted for only 20.4% of all doctors in Japan despite the Japanese government's efforts to boost women in the workforce. Female doctors in Japan are expected to commit to domestic responsibilities, and changes to the male-dominated work environment occur very slowly. Furthermore, it was recently reported that the medical faculties of 10 universities had deliberately altered entrance exam scores to restrict the number of female students and ensure a higher proportion of men. This gender discrimination sparked nationwide debate. This study aimed to investigate this issue through a review analysis.
Materials & Methods: A search and review of relevant information across various media outlets (e.g., web-based and TV news, magazines, and newspapers) was performed. These included featured issues, institutional surveys, and interviews. We also examined the internal and external inspection reports of the universities, reports from the Ministry of Education, Culture, Sports, Science and Technology, articles from the Japan Joint Association of Medical Professional Women, and reports from several other interest and lawyer groups.
Results: This study showed that the prejudicial treatment of women has been tacitly accepted by people for decades. According to reports, the systematic discrimination against female medical school applicants was well known, even by high school students. The main rationalization was that many female doctors end up leaving clinical practice to give birth and raise children. Therefore, proponents claim that a higher percentage of female doctors can detrimentally affect the running of medical departments, especially surgical departments that require long work hours. As the numbers of surgeons decrease, some people assert the need for more male doctors to prevent the collapse of the surgical workforce. A university argued that women tend to have better communication skills, and there was a need to compensate for this “gender gap”. Even featured issues in magazines for medical professionals opined that female doctors should not be given privileged treatment for pregnancy and childcare. Some media outlets have made statements supporting these universities, and surveys have shown that over 65% of people “understand” this unfair treatment.
Conclusion: There is systemic discrimination against female applicants to Japan’s medical schools, indicating a need to improve organizational and social attitudes to this issue.
Disclosure of Interest: None declared

94.02

ENDOCRINE SURGERY IS AT THE FOREFRONT OF GENDER DIVERSITY

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Introduction: Diversification of the physician workforce, and surgical specialties in particular, remains an objective of medical schools and professional organizations across the country. Despite these efforts, women remain underrepresented among many surgical subspecialties. The purpose of this study is to assess gender diversity across the field of surgery, including Endocrine Surgery.

Materials & Methods: We analyzed publicly reported data from the Association of American Medical Colleges (AAMC) and the American Association of Endocrine Surgeons (AAES) to assess differences in the representation of women among surgical subspecialties. We compared active surgeons across the United States (US) during the 2016-2017 data period. Using the Student's t-test and Analysis of Variance (ANOVA), we compared the percentage of active female physicians between Endocrine Surgery and General Surgery, as well as other surgical specialties. We analyzed the percentage of active female surgeons by geographical region, defining these regions as Northeast, Midwest, West, and South according to the US Census Bureau guidelines. We excluded states where data was unreported or unavailable.

Results: From 2016-2017, there were 25,185 total active general surgeons across the US. Of these, 5013 (19.9%) were female. During this same period, there were 513 total active endocrine surgeons, with 179 (34.9%) of these being female ($p<0.001$). When comparing geographical regions, the Northeast (22.8%) and the West (22.8%) represented the greatest overall diversity for female general surgeons, versus the Midwest (19.0%) and the South (17.0%). However, with endocrine surgery, the South comprises the greatest proportion of active female surgeons (38.7%) compared to the West (34.6%), Northeast (34.5%), and Midwest (30.3%). Across the US, endocrine surgery has a higher percentage of active female surgeons (34.9%) than plastic surgery (28.1%), cardiothoracic surgery (12.8%), vascular surgery (11.8%), urology (9.3%), neurological surgery (8.8%), and orthopedic surgery (5.6%) ($p<0.001$).

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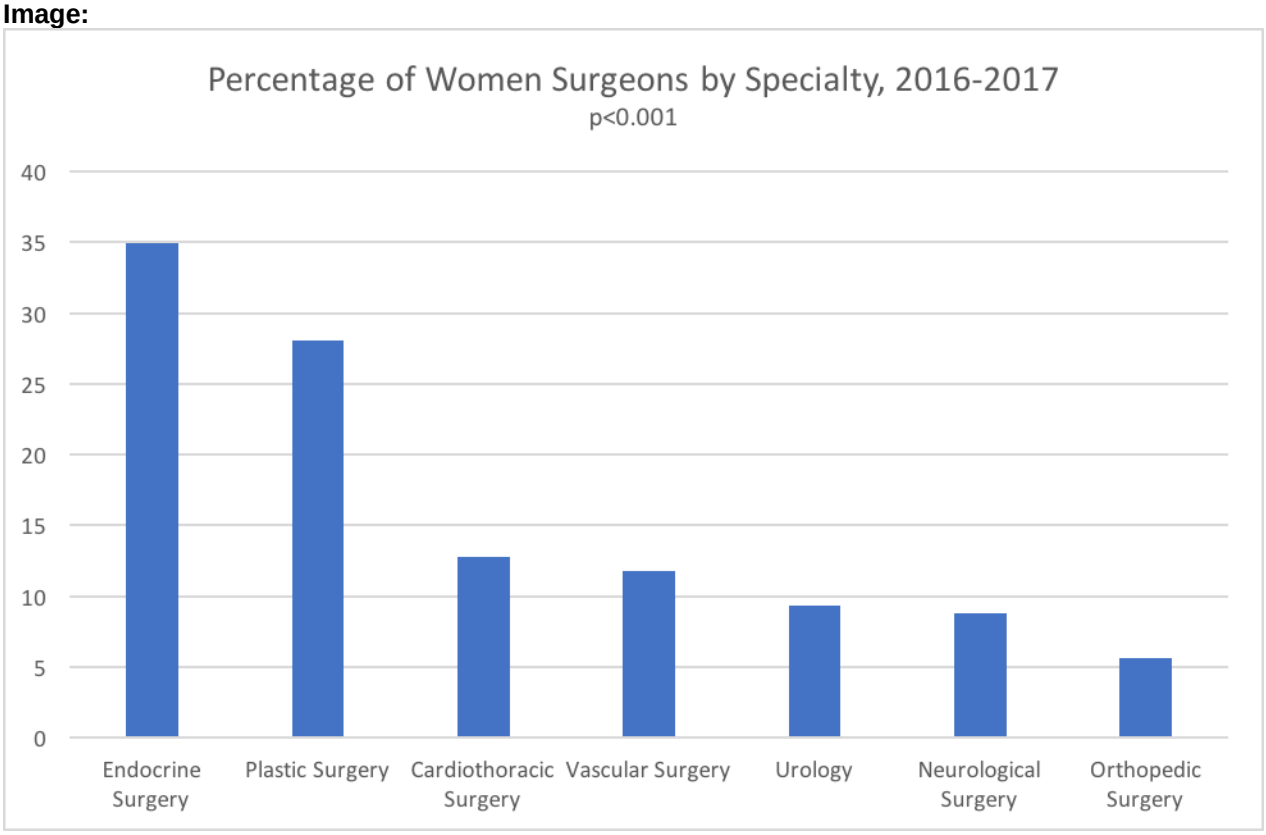

Conclusion: The field of endocrine surgery has the most gender diversity of all studied surgical subspecialties. The Southern region of the United States has the greatest percentage of active female endocrine surgeons, while the Northeast and West contain the greatest percentage of female general surgeons.

Disclosure of Interest: None declared

94.03

IDENTIFYING GENDER DISPARITY AS MEANS TO ADDRESS SURGICAL WORKFORCE SHORTAGE

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Introduction: It is estimated that 11% of the world's health issues could be treated by surgeons and that 17 million people die annually for lack of surgical care. Continued population growth and an aging population are anticipated to further increase the need for surgical care. Women represent 50% of the world's population and 50% of students at most medical schools; however surgery remains a male dominated field. Increasing the number of women surgeons is one way to increase access to safe surgical care worldwide. We sought to ascertain the number of surgeons per 100,000 population internationally and determine the percentage of surgeons who are women.

Materials & Methods: International surgical organizations, individual surgeons and databases were queried by members of the Association of Women Surgeons to determine the number of surgeons and women surgeons in 195 sovereign states. World population was taken from the United Nations 2015 World Population guide[1].

Results: Data was obtained from 47 countries and the number of surgeons per 100,000 population was calculated (Table 1). Overall, the number of surgeons per country evaluated was 10.5 per 100K populations. Countries with the highest ratios of surgeons per 100K of the population included Lebanon, Sweden, and Ireland. Countries with less than 1 surgeon per 100 K included Southern and East African countries, and Nigeria. Women compromised 16% of surgeons overall. Countries with the highest proportion of women surgeons included Qatar, Spain and Estonia. Lowest proportions of women surgeons included Lebanon, Ecuador and Nigeria.

	Surgeons per 100K Population	**Number of Women Surgeons**	**Women Surgeons (%)**
Brazil	22.65	7622	16.3%
COSECSA[2]	0.52		10.5%
Ecuador	33.04	15	0.3%
Estonia	45.57	200	33.4%
Germany	44.24	7125	19.7%
Ireland	171.30	482	6.0%
Japan	16.25	1334	6.4%
Lebanon	>1000	4	0.2%
Nigeria	0.28	5	1.0%
Pakistan	2.86	515	9.5%
Qatar	12.08	152	50.7%
South Africa	4.48	145	5.9%
Spain	10.87	1984	39.3%
Sweden	189.01	543	29.8%
United Kingdom	12.26	882	11.0%
United States of America	5.63	3780	21.0%
Total	**10.51**		**15.8%**

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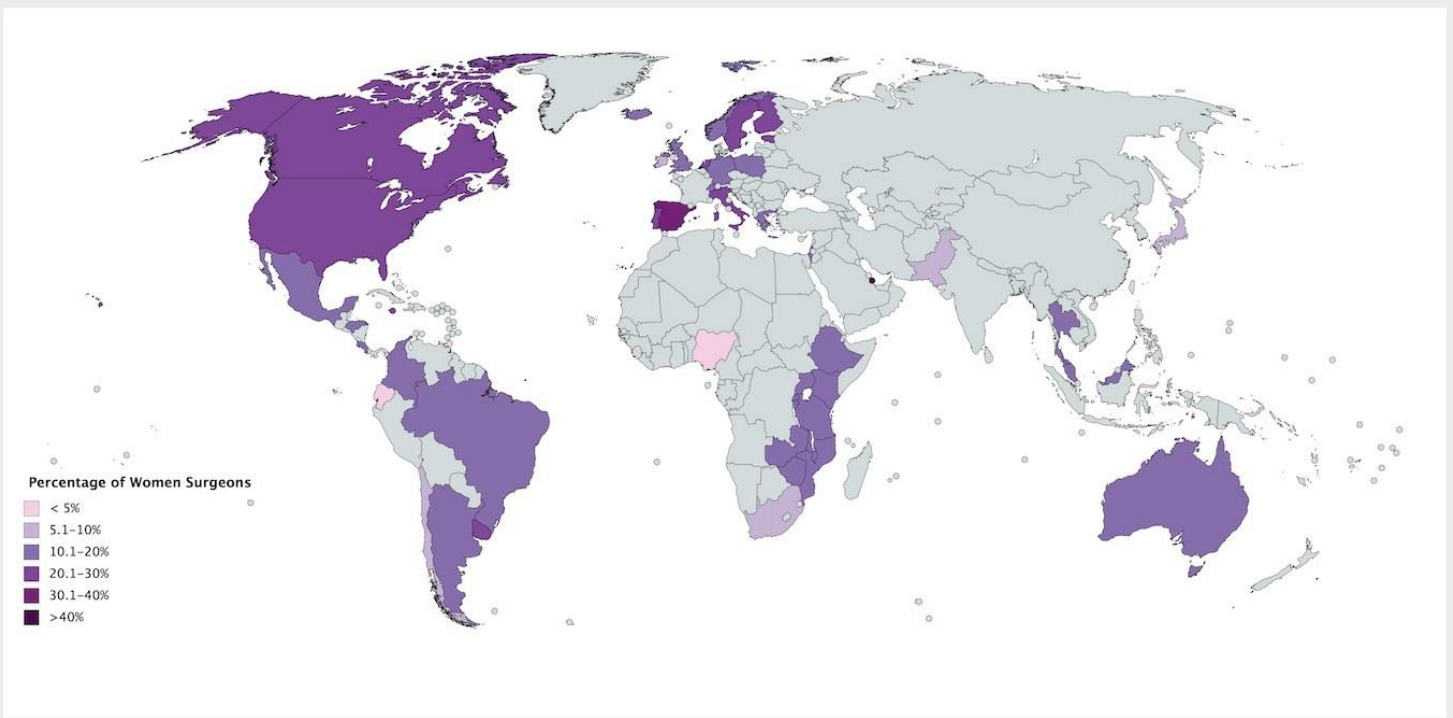

Conclusion: Despite shortages of surgeons in many countries, women surgeons represent only 16% of all surgeons on average, with a range of 1-50%. As the need for surgical care increases, taking positive steps to increase the proportion of women surgeons may increase the surgical workforce, improve access to surgical care and promote an underutilized segment of the population.

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2. Data from Burundi, Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda, Zambia and Zimbabwe were reported jointly from The College of Surgeons of East, Central and Southern Africa (COSECSA)

Disclosure of Interest: None declared

94.04

UNIVERSITY HOSPITAL FINANCIAL STATUS DOES NOT INFLUENCE SUBJECTIVE PERCEPTION OF GENERAL SURGERY RESIDENTS ON TRAINING

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Introduction: Surgical residency training is a complex and costly task. University hospital financial status may interfere with the number of cases, procedures, technology availability. Hospital economic health is dependent on different variables but it is especially linked to the country macroeconomics that may be extremely fluctuating, especially in underdeveloped countries. This study aims to correlate a single center university hospital financial status and the subjective perception of general surgery residents on program support and adequacy.

Materials & Methods: We surveyed former residents that started general surgery residency program in a tertiary university hospital between 2000 and 2015. Individuals were queried in regards to satisfaction towards residency training; need to complete specialty training; maintenance in surgical practice; practice in academic or private environment; preparedness for independent practice; perception of hospital´s financial status; and perception of the influence of hospital financial status on training. Hospital´s financial status was estimated yearly by the current liquidity ratio that measures whether or not a firm has enough resources to meet its short-term obligations.

Results: 111 (69% males, mean age 35 years) out of 160 (38%) individuals answered the survey. Overall results show that: 94 (59%) complemented training beyond general surgery; 140 (87%) were satisfied with the program; 106 (66%) believed they were trained adequately; 40 (25%) believed hospital financial status was adequate; 127 (79%) believed training was affected by financial status; 151 (94%) still act as surgeons; and 109 (68%) act in academic hospitals. The rate of positive or negative answer did not correlate with current liquidity ratio.
Conclusion: University Hospital financial status did not influence subjective perception of general surgery residents on training, program support and adequacy.
Disclosure of Interest: None declared

94.05

THE SENHANCE ROBOTIC SURGERY OPERATING ROOM – BENEFITS AND DEMANDS WITH THE NEW SYSTEM.

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Introduction: Robotic systems brings surgical benefits but also technical demands. The Senhance system was introduced in hope to reduce previously seen difficulties with the setup, instrumentation and surgeons experience. Specifically, surgical flow disruptions are critical for maintaining operating room (OR) teamwork and patient safety. The aim of this study is to identify flow disruptions and address the solutions towards perioperative team training and preparations. This is the first study to evaluate the Senhance system.
Materials & Methods: The survey and structured expert-observations were used to identify different disruption types during the first 20 robotic-assisted general surgery, urology and gynecology procedures. Additionally, all postoperative reports on mental workload (mental demands, situational stress, and distractions) and performance of all OR professionals were collected.
Results: An average of 21 flow disruptions per procedure were observed. Disruptions due to equipment showed the highest severity. This included robotic arm setup and angulations, limited motion range, coagulation setup and communication between the console and robotic arms. Highest rate of disruptions was after abdominal insufflation and before console time. Extensive and regular training of the personnel including surgeon-nurse team significantly improved coordination and communication.
Conclusion: Robotic surgery disruptions occur frequently and are associated with specific challenges with the equipment and personnel workload. Strategies are needed to manage disruptions to maintain OR teamwork and safety during robotic-assisted surgery.
Disclosure of Interest: None declared

94.06

THE WORLD'S FIRST MULTIDISCIPLINARY SENHANCE ROBOTIC SURGERY CENTER AT THE JAGIELLONIAN UNIVERSITY KRAKOW.

T. Rogula[1,2,*], P. Chlosta[3], M. Sierzega[4], K. Pitynski[5], P. Basta[5], P. Dudek[3], M. Jedrychowski[6], P. Richter[4]
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Introduction: The Senhance® platform (TransEnterix Surgical Inc., Morrisville, NC, USA) has been utilized in a variety of cases. Lower costs, introducing robotic instruments, force-feedback and eye tracking are features distinguishing this system from the existing robots. We present our initial experience with this system in patients requiring a variety of procedures. Detailed team training and an integration program were utilized to introduce the new system.
Materials & Methods: Patients' demographics, procedure type, diagnosis, intra-op complications, short term complication <30 days, length of stay (LOS), reoperation, conversion to open or laparoscopy, percentage of robotic component, console time, docking time were recorded and analyzed.
Results: Within the first 3 months, 43 cases were performed (18 general surgery, 17 urology, and 8 gynecology). No intraoperative and short term (<30 days) complications were noted. Length of stay varied depending on procedures but did not exceed typical hospital stay for the procedure. The integration program intended to start with simple and well-standardized clinical cases: inguinal hernia, nephrectomy, prostatectomy and hysterectomy.
Conclusion: Initial experience with the Senhance system as the first installation in Poland shows that it is suitable for general surgery, urology and gynecology. The application is safe due to easy change to normal laparoscopy and fast learning curve, including docking times. Future studies are needed to analyze clinical and economic benefits of this robotic-assisted systems.
Disclosure of Interest: None declared

94.07

PARTICIPATING TO SURGICAL TRAINING SEMINAR ACCOMPANIED BY CHILDREN -STRUGGLING TO BALANCE SURGICAL TRAINING AND PARENTING-

K. Okoshi[1,*], E. Kono[2], A. Umezawa[3], S. Nomura[4] on behalf of Association for Empowerment of Women Gastrointestinal Surgeons (AEGIS-Women)
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Introduction: In Japan, female gastrointestinal surgeons remain vastly outnumbered by their male counterparts. Women currently constitute only 2.2% of all board-certified surgeons in the Japanese Society of Gastroenterological Surgery. This disparity may be due to women's anxieties in planning for the future or the perceived need to eventually give up on their career due to heavy demands for household chores and childcare. Our deep concern for this issue led to the launching of the Association for Empowerment of Women Gastrointestinal Surgeons (AEGIS-Women) to help increase the proportion of female gastrointestinal surgeons in Japan. AEGIS-Women has held several events for career development, such as a surgical training seminar aimed at young laparoscopic surgeons. This seminar provided childcare services to encourage participation by female surgeons. Here, we report on a seminar provided to the children of surgeons participating in this surgical training seminar.
Materials & Methods: The participants were children aged 6–10 years (girls: 7, boys: 2). They first listened to a short lecture on laparoscopic surgery and automatic anastomotic devices, followed by a basic device handling session. The children were initially instructed to manipulate forceps under direct vision before attempting to do so through a monitor. We then asked the children to use the forceps to transfer eight beads of different shapes and sizes in a training box twice in one minute, and had them compete by scoring the number of beads transferred. Finally, the children answered a questionnaire.
Results: The highest and lowest scores for the game were 48 points (8-y/o child) and 4 points (6-y/o child), respectively, out of a possible 50 points. All children answered "The game was enjoyable." and "I want to know more about laparoscopic surgery." Seven children (77.8%) stated "I want to become a surgeon."
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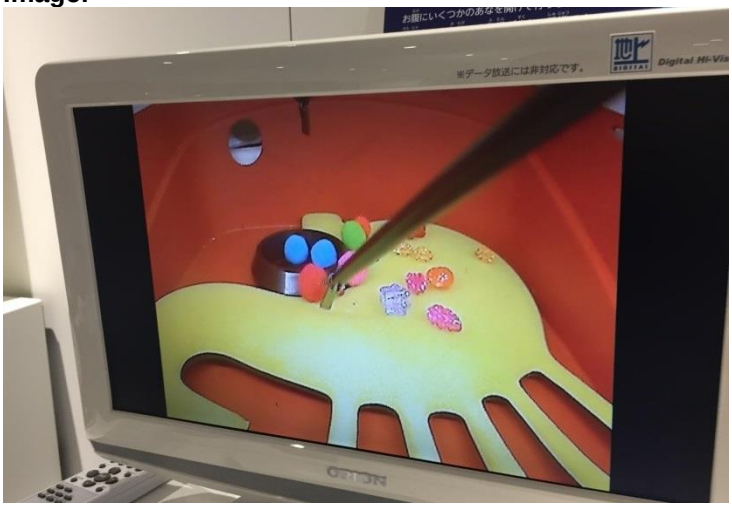

Conclusion: This seminar allowed children accompanying their parents to enjoy basic laparoscopic training as a game while giving them a deeper understanding of their mother's or father's work. In this way, the parents could undergo their own training at a seminar that provided childcare services with meaningful activities. The struggle to balance surgical training and parenting is an important issue for young surgeons, especially women. These and other activities by AEGIS-Women help to support women in the field of gastrointestinal surgery to facilitate long-term careers and develop leaders.
Disclosure of Interest: K. Okoshi Other Financial/Material Support from: Covidien Japan, E. Kono Other Financial/Material Support from: Covidien Japan, A. Umezawa: None declared, S. Nomura Receipt of Intellectual Property Rights of: Chugai Pharmaceutical

95.01

PERIADRENAL FAT VOLUME AND WAIST MEASUREMENTS ARE BETTER PREDICTORS OF PROLONGED OPERATIVE TIME IN LAPAROSCOPIC RETROPERITONEAL ADRENALECTOMY THAN BMI

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Introduction: Retroperitoneal laparoscopic adrenalectomy is gaining traction as a minimally invasive technique. One of the purported relative contraindications is BMI given the smaller working space. We hypothesize that other anthropometric measurements may be better predictors of operative time.
Materials & Methods: An IRB approved, single institution, retrospective study of 83 patients who underwent laparoscopic retroperitoneal adrenalectomy evaluated the association of anthropometric measurements taken from cross-sectional imaging and the primary outcome of operative time. Descriptive statistics were performed with Wilcoxon rank sum for continuous variables (median; IQR) and chi square (n;%) for categorical variables. A linear random effects model, clustered on surgeon and their specific operative experience, was used to model operative time.
Results: The majority of the patients were white (40; 48.2%) women (46; 55.4%) with a median age of 54 (43-63) and a median BMI of 27.8 (21.2-38.6). The most common diagnosis was primary hyperaldosteronism (27;34.6%) and slightly more right-sided operations were performed (43;51.8%). On univariable analysis, factors that increased operative time included right side ($p=0.04$), male gender ($p<0.01$), metastases to adrenal gland ($p<0.01$), waist area ($p<0.01$), waist/hip ratio ($p<0.01$), and periadrenal volume ($p<0.01$), but not BMI ($p=0.18$). Only side and periadrenal fat volume ($p=0.01$ and $p=0.03$) remained independent predictors of increased operative time on multivariable analysis.
Conclusion: This study demonstrates that anthropometric measurements, specifically waist measurements and periadrenal fat volume, are better predictors for increased operative time in laparoscopic retroperitoneal adrenalectomies than BMI. This information can help facilitate appropriate patient selection for this operative approach.
Disclosure of Interest: None declared

95.02

CLINICAL AND BIOCHEMICAL FEATURES OF PHEOCHROMOCYTOMA CHARACTERISTIC OF VON-HIPPEL LINDAU SYNDROME

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Introduction: Approximately 30% of patients with seemingly sporadic pheochromocytoma (Pheo) can have an associated inherited predisposition syndrome, most commonly Von Hippel-Lindau (VHL) disease. Diagnosis of VHL can facilitate effective genetic testing and subsequent screening for associated manifestations and 1st-degree relatives. Our aim was to compare the clinical and biochemical features of Pheo in VHL with sporadic Pheo.
Materials & Methods: We retrospectively reviewed the data of patients who had adrenalectomy for Pheo from 2000-2018 (QIIRB1749). VHL patients were diagnosed by standard clinical criteria and/or genetic testing. Pheos relating to familial paraganglioma/Pheo, MEN2A, and NF syndromes were excluded (n=22). Patients were coded to have seemingly sporadic Pheo if they had no family or personal history consistent with an underlying genetic disorder without confirmatory genetic testing, and were coded to have confirmed sporadic Pheo if they had no VHL, MAX, MEN1, NF1, RET, and SDHAF2/B/C/D/A mutations.
Results: Of patients who met inclusion criteria, 39 (22%) had VHL, 29 (16%) had confirmed sporadic Pheo and 113 (62%) had seemingly sporadic Pheo. Mean age of diagnosis was lower in VHL Pheo compared to sporadic Pheo (25.6, range 3-79 v. 50.8 years, range 15-78, $p<0.001$). VHL Pheo patients were less frequently either symptomatic (54% v. sporadic Pheo 73%, $p=0.03$) or hypertensive at presentation (45% v. sporadic 64%, $p=0.03$). Biochemically, VHL Pheo patients were more likely to have normal urine metanephrine levels (63% v. sporadic 26%, $p<0.001$) but urine normetanephrine levels were equivalently elevated compared to sporadic Pheo patients (5.8 times ULN v. 7.5 times ULN, $p=0.128$). VHL-related Pheos were smaller (mean size, 2.9 cm v. 4.9 cm, $p<0.001$), and more likely to be multifocal (>1 adrenal Pheo) (18% v. 0.7%, $p<0.001$) and to present with synchronous bilaterality (28% v. 0.7%, $p<0.001$) or extra-adrenal paraganglioma (21% v. 1.4%, $p<0.001$). Recurrence >6 months from initial adrenalectomy was more frequent in VHL (42% v. sporadic 0%, $p<0.001$) with a mean time to recurrence of 15 years (range 1-38 years).
Conclusion: VHL should be strongly considered in patients with multifocal and/or bilateral Pheo, and in patients with paraganglioma. Patients with predominantly normetanephrine-secreting Pheo should also be further screened for VHL. VHL patients with Pheo should have continued surveillance for recurrence which can occur >30 years after initial adrenalectomy.
Disclosure of Interest: None declared

95.03

LONGITUDINAL TRIAL OF A SMART-PHONE APPLICATION FOR TELE-FOLLOW UP OF PATIENTS WITH ENDOCRINE DISORDERS IN CONTEXT OF A LMIC: COMPLIANCE, SATISFACTION AND COST-BENEFIT ANALYSIS

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Introduction: Over the next decades, cancer burden is expected to reach 20 million new cases annually in low and middle income countries (LMICs) by 2025. Health care services therefore need to gear up to provide close clinical follow-up care for people both in primary and specialist care. Information and communication technologies may enable more integrated treatment and care pathways across geographical boundaries. Though, hospital based telemedicine system has been proved to be effective in carrying out continuity of care after primary treatment is over, current usage of social media in such situations are not studied well. The social media based remote monitoring can be done at leisure, convenient to both patients and treating surgeons and does not require costly hospital infrastructure.
Materials & Methods: This was a prospective study conducted between January 2017 to May 2018, at Department of Endocrine surgery, SGPGIMS, Lucknow, India. Total 107 thyroid cancer patients were offered to choose follow up care remotely through social media (Whatsapp/Skype®). Patients opted for tele-follow up were examined at home by the concerned doctor and data was exchanged in the form of medical reports and written follow up advice.
Results: A total of 107 postoperative patients were followed up using social media tools. A total of 396 tele-sessions were held. The average number of tele-consultation per patient was 3.7 (range 2-6). The reasons for tele-follow up were: confirmation of histology report (n = 92), medication dosage adjustments (n = 148), wound evaluation(n=102), reporting of S. TSH and S. Calcium levels(n=296) and medical fitness certificate(n=13). Wound evaluation through tele-follow up was on par with OPD follow up as no patient had to report to OPD for wound infection. Satisfaction level was excellent in 55% of patients and very good in 25%. 20% of the patients said that satisfaction level was average. If all of these 107 patients would have come to our OPD follow-up, they would have travelled 908 KMs per patient on an average, apart from losing work hours. Average cost and work days saving per visit was $78 & 5.4 days respectively.
Conclusion: Follow up of surgical patients in developed countries is not a problem- better communication system, transport system and educated patients. Low and middle income countries need an eHealth revolution using this type of technology to achieve the goal of health for all.
Disclosure of Interest: None declared

95.04

SURVIVAL WITH FOLLICULAR AND HURTHLE CELL MICROCARCINOMA COMPARED TO PAPILLARY THYROID MICROCARCINOMA: A POPULATION STUDY OF 84,532 PATIENTS

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Introduction: This is the largest multi-institutional study evaluating survival in patients with rare follicular (mFTC) and Hurthle cell (mHCC) microcarcinoma compared to papillary thyroid (mPTC) microcarcinoma.
Materials & Methods: Patients with mFTC and mHCC were selected from the National Cancer Database 2004-2015 and compared with mPTC. Patient characteristics included clinical and pathological variables, and outcomes included overall survival. Multivariable logistic and Cox regression analysis evaluated binary outcomes and predictors of survival. A propensity score matched analysis using age, gender, race, extrathyroidal extension (ETE), nodal status, distant metastasis, radiation, and operation was done to evaluate difference in survival with mFTC, mHCC, and mPTC.
Results: We identified 858 mFTC, 476 mHCC, and 82,056 mPTC. Median follow up was 4.4 years. Patients with mPTC and mFTC were younger compared to mHCC (49±14 vs 50±15 vs 54±14, p<0.01). More patients with mFTC were Black compared to mPTC and mHCC (11.7% vs 6.7%, 6.9%, p<0.01). mFTC was less likely to have ETE compared to mPTC (4.2% vs 6.3%, p=0.02), but there was no difference with mHCC and mPTC. mFTC and mHCC were less likely to have nodal metastasis (2.7%, 2.5% vs 10.9%, p<0.01). mFTC was more likely to have distant metastasis (2.3% vs 0.2%, p<0.01) compared to mPTC, but there was no difference with mHCC and mPTC. mFTC and mHCC were more likely to have radioactive iodine (RAI) (33.8%, 38.7% vs 26.1%, p<0.01) and lobectomy (25.5%, 26.3% vs 20.6%, p<0.01) compared to mPTC. Overall 10-year survival was decreased in patients with mFTC (91.4%, p=0.04) and mHCC (89.8%, p<0.01) compared to mPTC (93.5%). On multivariable analysis, histology was not associated with overall survival. In the matched analysis, there was no difference in 10-year overall survival with mFTC and mPTC (91.4% vs 93.7%, p=0.54), but mHCC had decreased survival compared to mPTC (89.8% vs 94.3%, p=0.04). Among patients with mFTC, older age (OR 1.10, p<0.01) and positive nodes (OR 5.53, p=0.02) were associated with decreased survival. Among patients with mHCC, older age (OR 1.12, p<0.01) and male gender (OR 2.68, p=0.03) were associated with decreased survival. Type of surgery and radiation were not associated with decreased survival.
Conclusion: Patients with mFTC have comparable overall survival to those with mPTC, but mHCC has decreased survival. Further studies are needed to determine if mHCC may benefit from more aggressive treatment especially in older, male patients.
Disclosure of Interest: None declared

95.05

DOES THE ATA RISK STRATIFICATION APPLY TO PATIENTS WITH PAPILLARY THYROID MICROCARCINOMA?

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Introduction: The incidence of papillary microcarcinoma (PTMC) has increased over the past decade, but these are predominantly indolent tumors. The American Thyroid Association (ATA) suggests that these patients can either undergo thyroid lobectomy or active surveillance, however it remains unclear whether there exists a subgroup of PTMC patients who may benefit from more aggressive treatment due to increased risk of recurrence.

Materials & Methods: We retrospectively reviewed 359 patients with PTMC treated at a single institution from 2004 to 2016. Patients were classified according to 2015 ATA risk stratification. Tall cell, diffuse sclerosing, solid, oncocytic, clear cell, and columnar variants were considered aggressive histology. Demographic, oncologic, and clinicopathologic data was compared between groups.

Results: Out of 359 patients, 258 were classified as low-risk PTMC, 83 were intermediate-risk and 18 were high-risk. Age, race, family history, and history of radiation exposure were similar between the groups. There were relatively more male patients in the high-risk group than the intermediate or low-risk groups (7[38.9%], 28[33.7%], 39[15.1%], respectively, $p<0.001$). Patients with low-risk microcarcinomas were more likely to have an incidental PTMC when compared to intermediate or high-risk groups (98[38.0%], 15[18.1%],1[5.56%], respectively, $p<0.001$). Intermediate and high-risk patients had larger tumors when compared to low-risk patients (7.0 mm vs. 5.4mm $p<0.001$, and 6.6mm vs. 5.4mm $p=0.0465$).

Median length of follow-up did not differ between the groups (15 months [IQR 3-51], 25 [IQR 6-80], 25.5 [IQR 12-58], $p = 0.1014$). However, patients with high-risk PTMCs, compared to those with intermediate and low-risk PTMCs were more likely to have rising post-therapy thyroglobulin levels (6[27.5%)], 2[2s.9%], 16[8.65%], respectively,$p=0.001$), imaging suggestive of recurrence (2[12.5%], 0[0%], 1[0.57%],respectively,$p=0.010$), and local recurrence (2[11.1%], 0[0%], 0[0%],respectively,$p=0.030$). The number of patients with distant metastases did not differ significantly between groups (1[5.56%], 0[0%], 0[0%], $p=0.178$).

Conclusion: Patients with high-risk PTMC have an increased risk of local recurrence when compared to low and intermediate-risk microcarcinomas. Patients with intermediate-risk PTMC may behave similarly to low-risk patients. ATA risk stratification can inform clinical decision making for patients with PTMC.

Disclosure of Interest: None declared

95.06

PATIENTS WITH DTC HAVE INCREASED INCIDENCE IN ATRIAL FIBRILLATION. A SWEDISH NATIONAL COHORT STUDY OF 6900 PATIENTS.

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Introduction: Patients with differentiated thyroid cancer (DTC) are usually administered lifelong TSH suppression treatment to reduce tumor recurrence risk. This treatment can however induce hyperthyroidism and consequently cardiovascular (CV) disease as an adverse effect. The objective of this study was to assess CV incidence in Swedish DTC patients compared to the general population.

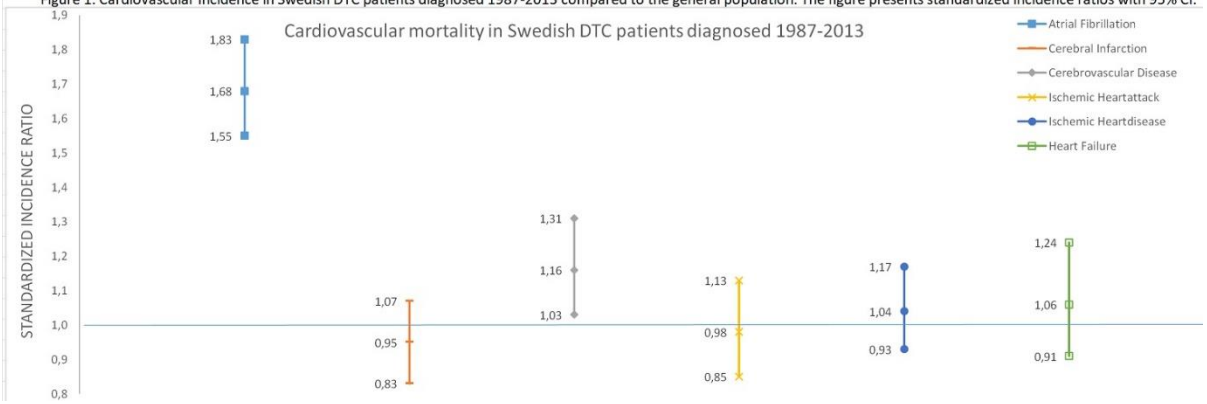
Materials & Methods: In this nationwide cohort-study, all Swedish DTC patients between 1987-2013 were included. The vast majority of patients were assumed to have received life-long TSH suppression treatment in compliance with prevalent national guidelines. Each patient was followed from one year post DTC diagnosis to death, migration or until 31 of December 2014. The event of interest was hospitalization due to CV disease, and multiple events per patient were allowed. CV incidence in DTC patients was compared to the general population through standardized incidence ratios (SIRs).

Results: At baseline 6900 patients were included. DTC patients ran an increased risk of atrial fibrillation (AF) (SIR 1,68 CI 95% 1,55-1,83), which pertained to both sexes and every age category except 75>= year olds. More, incidence increased with TNM classification and was consistent across calendar periods. We also noted increased incidence in cerebrovascular disease, which on a subgroup analysis pertained to women (SIR 1,21 CI 95% 1,05-1,40). Regarding ischemic heart disease, ischemic heart attack, heart failure and cerebral infarction, there was no consistent difference in incidence between the groups.

ICD Subgroup	# Incidental Events Atrial Fibrillation	SIR	95% CI	
All	550	1,68	1,55	1,83
Sex				
Male	191	1,85	1,37	2,49
Female	359	1,60	1,33	1,92
Age at inclusion				
<45	63	2,67	1,61	4,41
45-54	104	2,08	1,45	3,00
55-64	167	2,02	1,44	2,84
65-74	143	1,41	1,09	1,82
Follow Up (years)				
0-5	227	2,00	1,63	2,45
5-10	149	1,69	1,29	2,21
10-15	79	1,23	0,91	1,66
15-20	66	1,57	1,07	2,29

Image:

Figure 1. Cardiovascular Incidence in Swedish DTC patients diagnosed 1987-2013 compared to the general population. The figure presents standardized incidence ratios with 95% CI.



Conclusion: Overall, we did not find DTC patients to be hospitalized for cardiovascular disease more frequently than the general population. However, we saw DTC patients to receive inpatient care for AF to a clearly larger extent than the general public. This result holds across sex, age and calendar period. The SIR of AF was higher in patients with more advanced disease at diagnosis, whom according to national guidelines should have received a more aggressive suppression therapy.

Disclosure of Interest: None declared

97.01

IMMEDIATE PARTIAL BREAST RECONSTRUCTION WITH CHEST WALL PERFORATOR FLAPS FOR BREAST CANCER- RESULTS FROM AN EARLY AUSTRALIAN SERIES

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Introduction: We aim to describe the utility, safety and early outcomes of chest wall perforator flaps, either Lateral Intercostal Artery Perforator (LICAP) or Anterior Intercostal Artery Perforator (AICAP) in immediate partial breast reconstruction (IPBR) in the setting of breast conserving surgery for breast cancer.
Materials & Methods: We performed a retrospective audit of a consecutive series of patients underwent chest wall perforator flap IPBR from January 2017 to January 2019 by a single surgeon.
Results: Ten patients underwent LICAP and five patients underwent AICAP IPBR. Age of patients ranged from 46-73 years. Ten patients had Invasive ductal cancer +/- in situ ductal cancer (DCIS) component. Five patients had invasive lobular cancer. Two patients had DCIS only. The distribution of breast cup size were B=5, C=8 and D=2. Excised specimen weight ranged from 31-103g. Thirteen patients achieved clear surgical margins, one patient with focal positive margin for DCIS, underwent successful re-excision with preservation of flap after 2 weeks and one patient with extensive positive margins for radiologically occult DCIS underwent nipple skin sparing mastectomy and immediate reconstruction. There were no immediate complications. All the patients who achieved breast conservation underwent radiotherapy. Two patients had partial volume loss of the flap at one-year follow up. The patient reported outcome assessment is currently underway.
Conclusion: IPBR with chest wall perforator flap is a useful, safe and effective option for breast cancer patients who choose to have breast conserving surgery, have small to moderate size breasts and are required relatively large volume resection.
Disclosure of Interest: None declared

97.02

PHYLLODES TUMOR OF THE BREAST, (THE EGYPTIAN EXPERIENCE)

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Introduction: Phyllodes tumors (PT) are rare fibroepithelial lesions that comprise 0.3–0.5% of all breast tumors. The aim of study was to evaluate the clinicopathologic features, diagnostic tools, therapeutic options to the breast and axilla and their outcomes and risk factors associated with recurrence and distant metastasis in patients with Phyllodes tumor.
Materials & Methods: A total of 127 patients with pathologically proved phyllodes tumor, and treated in National Cancer Institute, Cairo University, Egypt, from January 2011 to January 2016 were reviewed and analyzed. Patient characteristics, clinicopathologic features, diagnostic findings, surgical options and outcomes, adjuvant therapies, and follow-up findings were retrospectively evaluated.
Results: The mean age of patients was 39 years with slightly older age presentation for malignant PT. Non-tender, sharply demarcated, mobile breast lump is the most common clinical finding. The most frequent site was the upper outer quadrant (45.6 %). excision with at least 1 cm macroscopic clear margins was the most frequently performed initial surgery (44.9%). Sixty patients presented with benign PTs (47.2%), 34 had borderline PTs (26.8%) and 33 had malignant PTs (26%). During the mean follow-up period of approximately 36 months, Local recurrence occurred in 34 patients, 9 benign cases (14.5%), 11 borderlines (32.4%) and 14 malignant PTs (42.4 %). Mastectomy was the most commonly used surgery in recurrent cases (61.4%). axillary staging was performed in 31 cases (24.4%) only 2 cases showed positive nodal metastasis (6.5%) and were of the malignant histotype. Distant metastasis occurred in 12 patients, 4 with borderline PTs and 8 with malignant PTs. Most common site for metastasis was the lungs. Adjuvant radiotherapy was applied in 9 patients, 2 in borderline phyllodes and 7 in malignant phyllodes, post radiotherapy recurrence occurred in 5 malignant phyllodes patients. Chemotherapy was given in 10 patients (4 with borderline and 6 with malignant phyllodes) all of them showed metastasis in lung and/or bone.
Conclusion: Phyllodes tumor has non-specific clinical and radiologic findings, and can easily be confused with other similar breast masses, particularly FA. Excision with adequate clear margins is importance to reduce the risk of local recurrence. However, local recurrence can develop even after appropriate surgery for all histologic subtypes of PT. Therefore, these patients should be closely followed up at regular intervals after surgery.
Disclosure of Interest: None declared

97.03

SURVIVORSHIP CARE FOR BREAST CANCER IN LIMITED RESOURCE SETTINGS: IDENTIFYING PRIORITY AREAS

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Introduction: Concept of survivorship care, as a distinct phase of cancer treatment is in its infancy in the developing world. Population of breast cancer survivors is growing, but resources to deal with their needs are very limited in low income economies. Hence it is important to identify priority areas, for effective utilization of limited resources. The present study was conducted with the objectives to (1) Identify most important survivorship issues causing limitation in quality of life (QOL) (2) define a plan of follow up and supportive care based on patient's perspective of their supportive care needs and available resources
Materials & Methods: This cross sectional study was conducted on 230 breast cancer survivors at an academic healthcare setting in Northern India. Survivorship issues having maximum impact on QOL were identified from a checklist of commonly reported survivorship issues, based on their correlation with FACT-B and Short Form-36 scores. A semi-structured interview was conducted to identify supportive care needs from patient's perspective. Main outcome measures were (1) frequencies of survivorship issues and QOL scores (2) Regression analysis to identify issues with maximum impact on QOL (3) Theme based analysis of survivor's interviews to identify supportive care needs.
Results: Survivorship issues which had maximum impact on QOL scores were emotional distress (r= -11.375), fatigue (r= -9.27) and premature menopause (r= -2.085) with symptoms of hot flushes and vaginal dryness. Analysis of interview showed maximum unmet needs in the area related to health care information, as there was generally lack of awareness amongst the treating physicians regarding supportive care needs of the patients, and among survivors about available measures for rehabilitation. Other important areas were need for psychosocial support to cope with diagnosis and treatment of breast cancer, relief of physical symptoms, financial problems and access to follow up and supportive care.
Conclusion: Enhancing awareness of treating physicians by integrating survivorship care in their training programs can be an important low cost measure. Providing information to women by setting up special clinics within the existing facilities for follow up care can also improve patient outcomes. Further supportive care needs identified in the context of socioeconomic and cultural beliefs can be addressed by arranging special counselling sessions or specialist referrals.
Disclosure of Interest: None declared

97.04

SURGICAL DRAINAGE OF LACTATIONAL BREAST ABSCESS WITH ULTRASOUND-GUIDED ENCOR® VACUUM-ASSISTED BREAST BIOPSY SYSTEM

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Introduction: The traditional drainage of breast abscess was often performed with the incisive technique which may result in prolonged healing time, regular dressings, dressing pain, interfering with breastfeeding and unsatisfactory cosmetic outcome. As minimal invasive alternatives to incisive drainage, needle aspiration or percutaneous catheter placement cannot completely replace incisive drainage for the inability to treat large, multiloculated or chronic abscess. Vacuum-assisted breast biopsy system (VABB) has been successfully applied in the treatment of benign breast diseases with satisfactory cosmetic outcomes. Among VABB devices, EnCor® system can get samples out continuously with adjustable vacuum level, and its vacuum canister provides large storage (about 1000 ml) for drainage liquid, which makes it suitable for the drainage of breast abscess. In this study, for the first time, we investigated the feasibility, efficacy and cosmetic results of surgical drainage of lactational breast abscess with US-guided Encor® VABB system.

Materials & Methods:

36 cases were performed by two skilled surgeons with experience of breast ultrasound by using the 7-gauge Encor® VABB system under local anesthesia. A Chison Q6 ultrasound system (KeeboMed Corporation) with high-resolution linear array transducers (7.5 MHz) was used to provide real-time ultrasound guidance.

Results:

The average operating time was 39.3 ± 10.4 minutes (range 23~56 minutes). The mean volume of drained pus was 81.7 ± 40.6 ml (range 35~220 ml). The average time of fever resolution and breast skin resolution were 1.8 ± 0.9 days for 33 patients with preoperative symptoms. Breastfeeding was continued in 69.4%, 61.1% and 50% patients at postoperative 3 days, 4 weeks and 8 weeks, relatively. None of the included patients experienced postoperative hemorrhaging, hematoma, wound infection, and no case of disease recurrence was observed within postoperative 2 months.

Image:

Conclusion:

Surgical drainage of breast abscess with US-guided Encor® VABB system is a feasible and safe procedure with excellent cosmetic outcomes. It could serve as a promising alternative for women with lactational breast abscess who need surgical intervention.

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Disclosure of Interest: None declared

97.05

PROSPECTIVE CLINICAL STUDY TO EVALUATE ROLE OF CENTCHROMAN IN REGRESSION OF MASTALGIA

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Introduction: Mastalgia is common among the women in reproductive age group. Treatment for these conditions is not yet standardised. Most of the drugs used for are expensive and have side effects. Premenstrual mastalgia has been reported to interfere remarkably with women's lives, relationships, work and sleep.
A new agent called ormeloxifene (Centchroman) is a weak oestrogen receptor (ER) agonist, a strong ER antagonist (SERA) and therefore a selective ER modulator (SERM). This study is conducted to find out the efficacy of centchroman, a Selective Estrogens Receptor Modulator (SERM) on regression of mastalgia in UPUMS Saifai, Etawah, U.P., INDIA.
Materials & Methods: It is a prospective randomized controlled trial study. Conducted in Department of Surgery, U. P.U.M.S. Saifai, Etawah (U.P.) during January 2016- June 2017. 140 female patients fulfilling the inclusion criteria were enrolled as study subjects in the study. 70 were randomized to first group (group A) and were treated with centchroman and rest 70 were included in control group (group B) which were treated with placebo.
The patients were evaluated after one week to assess tolerance to the drug. Subsequently patients were followed at 4 weeks, 8 weeks, 12 weeks and 24 weeks and response to therapy was assessed by VAS score. The drug treatment was continued for a total of 12 weeks and then the patients were followed up for another 12 weeks without medication to assess sustained response or recurrence of mastalgia. Any side-effects experienced by the patients were recorded at each visit.
Results: Pain score significantly reduces over 2-4 weeks period and out of 70 patients 64 had fully relief of symptoms. Delayed menstruation was noted in 5 (7.1%) patients, gastritis 2.9%, and headache 1.4% of patients. menstrual irregularities return to normal once patient stopped taking medication.
Conclusion: From this study, we infer that centchroman is a safe and cost effective drug with significant efficacy on regression of mastalgia in the women of reproductive age group with minimal side effect. Better compliance is due to daily dosage for 1 month then alternate day for next 2 months where patient psychologically feels using less quantity of drug therefore not unnecessarily worried about the adverse effects.
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Disclosure of Interest: None declared

97.06

RADIOTRACER VERSUS FLUORESCEIN IN SENTINEL LYMPH NODE BIOPSY IN BREAST CANCER-A COMPARISON AND VALIDATION STUDY

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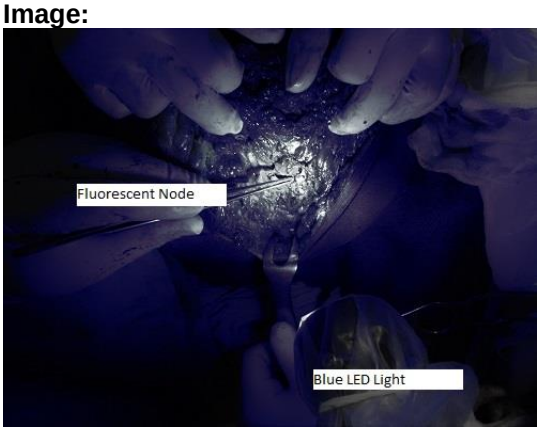
Introduction: The current gold standard technique for Sentinel lymph node biopsy (SLNB) for surgical staging of clinically N0 axilla in breast cancer(BC) patients utilizes a radiopharmaceutical(R) and a blue dye(B) in combination(RB). However, the limited availability and high costs of radiopharmaceutical and gamma probe are major barriers in performing SLNB in developing countries. In this study, we assessed the SLN identification rate(SLN-IR) & false negative rate(FNR) of SLNB using fluorescein and its combination with blue dye, and compared with those of the gold standard(RB). Fluorescein(F) is a lymph seeking dye, used commonly for retinal angiography, and fluoresces in blue light, and its use can obviate the need for radiopharmaceutical and gamma probe.

Materials & Methods: In this pilot prospective validation SLNB study, 31 cN0 early BC patients treated between March and December 2018 were recruited. Following EIC approval, SLNB was performed using ^{99m}Tc-Sulphur-colloid(and gamma probe), methylene blue & fluorescein(and blue LED light). Standard injection techniques and timings were used for radio-colloid and methylene blue. One ml each Inj Fluorescein 4% was injected peri-tumoral and sub-areolar just before axillary incision. ALND was performed irrespective of SLNB results, and SLN-IR and FNR of various methods compared.

Results: SLN were identified in 30(96.7%) patients. The SLN-IR using various dyes or their combinations were: radiotracer(R) alone-87%, blue dye alone-70.9%, RB combination- 93.5%, fluorescein(F) alone- 93.5%, and FB combination- 93.5%. SLN FNRs were 0% using R alone, RB combination, F alone and FB combination. The FNR using B alone was 50%.

Image:



Conclusion: This pilot validation SLNB study suggests that SLN identification rates and false negative rates using the novel fluorescein dye and an inexpensive LED blue light, used alone or in combination with methylene blue, are comparable to those achieved by using the current gold standard combination of radio-colloid and methylene blue. By replacing the radio-colloid with fluorescein, and gamma probe with LED blue light, we could perform SLNB with similar efficacy and accuracy, thus obviating the use of expensive radio-pharmaceutical and the gamma probe. Such innovation, if validated in larger studies can help in implementation of SLNB in many centres across developing world.

Disclosure of Interest: None declared

97.07

EVALUATION OF PATIENT REPORTED OUTCOMES AFTER ONCOPLASTIC BREAST CONSERVING SURGERY USING THE BREAST-Q

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Introduction: The demand for oncoplastic breast conserving surgery has accelerated in recent years. Since the development of BREAST-Q (1), it has been widely used by surgeons to capture information regarding to health-related quality of life and patient satisfaction who are undergone breast surgeries. We aimed to evaluate to assess patient-reported outcomes after oncoplastic breast surgery using BREAST-Q breast conserving surgery (BCS) module.
Materials & Methods: A cross-sectional study design was used. Stage I and II breast cancer patients who had undergone oncoplastic breast surgery were asked to complete the BREAST-Q (BCS Module) 6 months after the surgery. Impact of oncoplastic breast surgery post-operatively on health-related quality of life (HR-QOL; including physical, psychosocial, and sexual well-being) and patient satisfaction (including satisfaction with breasts, outcome, and care) were quantified. Linear regression was used to analyze risk factors causing poor patient satisfaction and Spearman rho coefficient was calculated to set correlation.

Results: A total of 116 women undergone oncoplastic BCS between 2012-2018 were asked to complete BREAST-Q (BCS module). The mean age of the patients was 43.7± 10.3. The score for satisfaction with cosmesis was 78 (IQR:67-86). The HR-QOL score for psycosocial satisfaction was found to be worst with a median value of 52 (IQR: 41-61). On multivariate analysis, postoperative radiation treatment, axillary dissection and surgical site infection were found to be independent risk factors for poor patient satisfaction (*p*: 0.001, *p*:012, *p*: 0.003, respectively). Satisfaction from cosmesis and sexual well-being was found to be strongly correlated (Spearman rho coefficient: 0.697).
Conclusion: BREAST-Q is a patient reported outcome measure which allows clinicians to answer important questions on patient satisfaction and HR-QOL. The results are encouraging regarding the use of oncoplastic BCS to improve cosmetic outcomes and patient satisfaction
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Disclosure of Interest: None declared

103.01

DETECTION OF HER2 RECEPTORS AND ITS ROLE IN PROGNOSIS OF GASTRIC ADENOCARCINOMAS IN ARDABIL PROVINCE, IRAN

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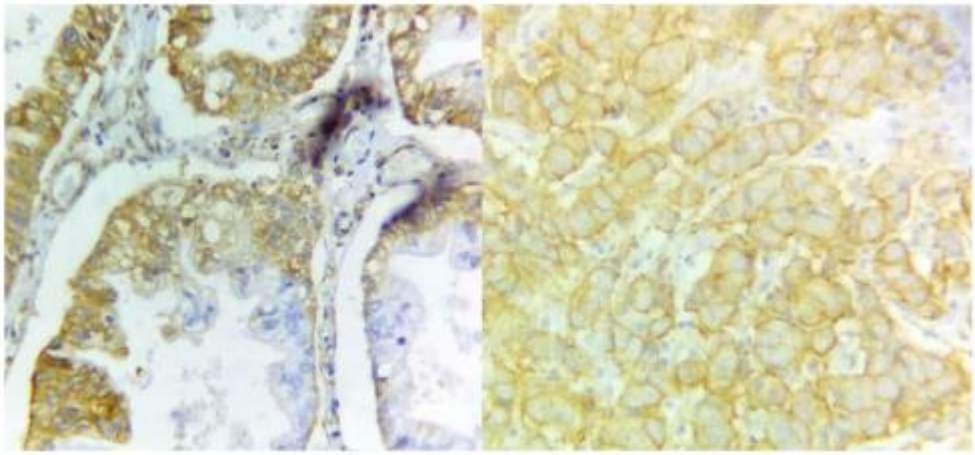
Introduction: Gastric carcinoma (GC) is the fourth most common malignancy worldwide and remains the second cause of death of all malignancies worldwide. Although the global incidence of gastric cancer has been decreased dramatically in recent decades, it is the most common cancer in north and northwest of Iran. The marked variation of gastric cancer risk in different geographical areas in one side and striking differences in frequency of possible environmental risk factors on the other side, make the country an opportunity for research on gastric cancer aspects. Human epidermal growth factor receptor 2 (HER2) overexpression is increasingly recognized as a frequent molecular abnormality in gastric and gastroesophageal cancer. With the recent introduction of Trastuzumab, the monoclonal antibody against HER2 receptors for the treatment of patients with advanced gastric cancer, the clinical demand for HER2 assessment is rapidly increasing.
Materials & Methods: We provide a cross-sectional study about human epidermal growth factor receptor 2 (HER2) expression on our patients suffering from gastric adenocarcinoma in Ardabil province, north west of Iran. For this purpose, HER2 status was assessed by immunohistochemistry (IHC) at tissue samples of fifty cases that the diagnoses had previously been proven by histopathological methods. In addition, the correlation between age, score of tumor, metastases and prognostic relevance of HER2 was studied.
Results: The mean age of patients was 64.7 ± 10.3 years old with a male to female ratio of 2.12:1. The overall HER2 expression was in 8 (16%) cases. Although the most common parts of involvement were the antrum and the pylorus (46%), the cardia showed the most HER2 positive ratio with 2 cases among 8. According to WHO classification, patients in grade I revealed the highest HER2 overexpression (18%) and in the cases of regional lymph node invasion (16%).
Image:



Score 2+: Moderate/weak complete or basolateral membranous staining in ≥ 10% of the cells in the left and
Score 3+: Strong complete or basolateral membranous staining in ≥ 10% of the neoplastic cells in the right

Conclusion: Finally, it come to conclusion that there is a meaningful correlation among HER2 gene expression, involvement of regional lymph node, and the tumor degree. Thus, it can demonstrate the diagnostic value of HER2 in prognosis of patients of north west Iran suffering from gastric cancer particularly whose tumor is in the lower grades and raise the hope of the targeted therapy with Trastuzumab.
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Disclosure of Interest: None declared

103.02

THE ADVANTAGE OF FULL COLOR, BRIGHT-FIELD OBSERVATION OF SENTINEL NODES IN EARLY GASTRIC CANCER USING HYPEREYE MEDICAL SYSTEM, PINPOINT AND VISIONSENCE

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Introduction: Using bright field, full color fluorescence camera systems, indocyanine green (ICG) fluorescence can be observed under room light. Existence of room light make faint fluorescence invisible. It may allow us to choose sentinel nodes easily. HyperEye Medical System (HEMS; Mizuho Corporation, Tokyo Japan) is the first developed bright field, full color fluorescence camera system. It was developed by Prof. Sato in Kochi University. We had assisted his development of HEMS before putting it on the market. PINPOINT is a bright field, full color fluorescence laparoscope (Stryker, Kalamazoo, MI, USA). Visionsense is the latest bright field, full color fluorescence laparoscope. The advantage of this scope is the adjustability of fluorescence image intensity.
Materials & Methods: 1) HEMS; Thirty-four cases were enrolled and the injection of the ICG (50 microgram/ml, 0.5ml x 4 points surrounding early gastric cancer) was performed endoscopically on the day before operation. 2)PINPOINT; Thirty-three cases were enrolled and the injection of the ICG (33.3 microgram/ml) was performed same way as HEMS.
Results: 1) HEMS; Sentinel lymph nodes were identified in all cases. The number of ICG fluorescence positive (sentinel) lymph nodes per patient was 4.7 $\pm$ 2.4. Metastasis was observed in 3 cases, and all of them had the metastasis positive sentinel lymph nodes. 2) PINPOINT; Sentinel lymph nodes were identified in all cases. The number of ICG fluorescence positive (sentinel) lymph nodes per patient was 6.9 $\pm$ 3.4. Metastasis was observed in 3 cases, and all of them had the metastasis positive sentinel lymph nodes. The adjustability of fluorescence image intensity of Visionsence make the choice of sentinel nodes easier.
Conclusion: Results of 67 cases in total was good enough to continue and accumulate more cases for the sentinel nodes mapping of early gastric cancer using the bright field, full color fluorescence camera systems. Observation in room light make faint fluorescence invisible and allows us to choose sentinel nodes easily.
Disclosure of Interest: None declared

103.03

MANAGEMENT AND OUTCOMES FOLLOWING SURGERY FOR GASTROINTESTINAL TYPHOID: AN INTERNATIONAL, PROSPECTIVE, MULTICENTRE COHORT STUDY

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Introduction: Gastrointestinal perforation is the most serious complication of typhoid fever, with a high disease burden in low-income countries. Reliable, prospective, contemporary surgical outcome data are scarce in these settings. This study aimed to investigate surgical outcomes following surgery for intestinal typhoid.
Materials & Methods: Two multicentre, international prospective cohort studies of consecutive patients undergoing surgery for gastrointestinal typhoid perforation were conducted. Outcomes were measured at 30 days and included mortality, surgical site infection, organ space infection and reintervention rate. Multilevel logistic regression models were used to adjust for clinically plausible explanatory variables. Effect estimates are expressed as odds ratios (ORs) alongside their corresponding 95% confidence intervals.
Results: A total of 88 patients across the GlobalSurg 1 and GlobalSurg 2 studies were included, from 11 countries. Children comprised 38.6% (34/88) of included patients. Most patients (87/88) had intestinal perforation. The 30-day mortality rate was 9.1% (8/88), which was higher in children (14.7 vs. 5.6%). Surgical site infection was common, at 67.0% (59/88). Organ site infection was common, with 10.2% of patients affected. An ASA grade of III and above was a strong predictor of 30-day post-operative mortality, at the univariable level and following adjustment for explanatory variables (OR 15.82, 95% CI 1.53–163.57, p = 0.021).
Image:

Table 1 Patient characteristics

		Child (<16 years) N = 34	Adult (≥16 years) N = 54	p value
Age (years)	Mean (SD)	8.2 (3.8)	31.5 (16.1)	< 0.001
Gender	Male	15 (44.1)	37 (68.5)	0.064
	Female	15 (44.1)	12 (22.2)	
	Missing	4 (11.8)	5 (9.3)	
ASA	I (Normal/healthy)	9 (26.5)	19 (35.2)	0.257
	II (Mild systemic disease)	8 (23.5)	18 (33.3)	
	III (Severe systemic disease)	12 (35.3)	11 (20.4)	
	IV (Severe systemic disease, constant threat to life)	2 (5.9)	5 (9.3)	
	V (Not expected to survive without the operation)	1 (2.9)	1 (1.9)	
	Unknown	2 (5.9)	0 (0.0)	
Smoking status	Non-smoker	34 (100.0)	40 (74.1)	0.005
	Current smoker	0 (0.0)	12 (22.2)	
	Missing	0 (0.0)	2 (3.7)	
Diabetes	No	34 (100.0)	51 (94.4)	0.162
	Yes	0 (0.0)	3 (5.6)	
Antibiotic Prophylaxis	No	3 (8.8)	5 (9.3)	0.945
	Yes	31 (91.2)	49 (90.7)	
Time to operation	<6 h	4 (11.8)	22 (40.7)	0.008
	>6 h	29 (85.3)	32 (59.3)	
	Missing	1 (2.9)	0 (0.0)	
Bowel resection	No	9 (26.5)	13 (24.1)	0.800
	Yes	25 (73.5)	41 (75.9)	
WHO safer surgery checklist used?	No, not available	12 (35.3)	10 (18.5)	0.205
	No, but available	5 (14.7)	9 (16.7)	
	Yes	17 (50.0)	35 (64.8)	

Numbers are *n* (%), unless otherwise indicated. All tests are Chi-square, where a Kruskal–Wallis test has been applied

Conclusion: With high mortality and complication rates, outcomes from surgery for intestinal typhoid remain poor. Future studies in this area should focus on sustainable interventions which can reduce perioperative morbidity. At a policy level, improving these outcomes will require both surgical and public health system advances.

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Disclosure of Interest: None declared

103.04

SURGEONS EXPERIENCE WITH XENOSCOPE, A NOVEL LAPAROSCOPE TECHNOLOGY

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Introduction: Approximately 15 million laparoscopic procedures are performed around the world, annually. There is an unmet need of 50 million laparoscopic procedures per year. The Xenoscope is a sterile, single use scope with 10mm diameter, 0 degree view, and fixed focal length of either 10, 7.5 or 6 cm. It is a novel laparoscope platform designed to address challenges of laparoscopy, such as capital expense, maintenance costs, and patient safety. This study was designed to assess different focal lengths as well as the surgeon's experience with this novel technology.
Materials & Methods: Between May 2017 and September 2018, surgeons at Intermountain Medical Center in Salt Lake City used the Xenoscope for elective laparoscopic cholecystectomies and inguinal hernia repairs. At the conclusion of each operation, the attending surgeon completed a questionnaire. This survey used a 5-point Likert scale for surgeons' opinion of scope characteristics with additional questions regarding usability.
Results: A total of 47 cases were performed. 26/47 (55.3%) of these operations were laparoscopic cholecystectomies, and 21/47 (44.7%) were laparoscopic inguinal hernia repairs. 10 (21.3%) operations used scopes with a fixed focal length of 6.0cm, 14 (29.8%) with a focal length of 7.5cm, and 23 (48.9%) with a focal length of 10.0cm. 38/47 (80.9%) of the operations were completed without changing to the surgeon's typical laparoscope. There is a significant increase in surgeon willingness to use the Xenoscope for future procedures when using a focal length of 6cm (5/5, 100.0%) and 7.5cm (9/9, 100.0%) compared to 10cm (6/12, 50.0%) during cholecystectomies with a Fisher-Freeman-Halton p-value of 0.015. When applied to all operations, this becomes a trend with a p-value of 0.060. The characteristics that surgeons most commented on were the absence of fogging and visualization through cautery smoke plume during the operation.
Conclusion: This survey of surgeons' experience with the Xenoscope suggests that it is an acceptable laparoscope for the use of elective laparoscopic cholecystectomies and laparoscopic inguinal hernia repairs. Focal lengths of 6cm and 7.5cm tend to be favored by the surgeons as noted in the increase in percentage willingness to use the Xenoscope for future operations. The study is limited by its single institution study with no control group. However, this study is valuable as a gateway for further evaluation of the Xenocsope, especially to address the unmet need for laparoscopy in high and low-resource settings.
Disclosure of Interest: J. Bagley: None declared, R. Price: None declared, A. Khandkar Receipt of Intellectual Property Rights of: CEO of company that holds patent for the Xenoscope, J. Langell Receipt of Intellectual Property Rights of: President of company that holds patent for the Xenoscope, J. Nunez: None declared, R. Price: None declared

103.05

A RETROSPECTIVE COMPARATIVE STUDY OF ROBOTIC DISTAL PANCREATECTOMY WITH OR WITHOUT SPLEEN AND SPLENIC VESSELS PRESERVATION

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Introduction: Spleen preserving distal pancreatectomy (SPDP) is a technically demanding operation, especially with splenic vessels preservation (SVP). On the other hand, distal pancreatectomy with splenectomy (DPWS) carries the risk of subsequent overwhelming sepsis. With the introduction of surgical robot, SPDP with SVP may be facilitated. Here we would like to compare the operative outcomes of SPDP and DPWS, both with robotic assistance.
Materials & Methods: Between 3/2011 and 12/2018, 22 SPDP with SVP and 21 DPWS were done in our institute. Data on patient demographics, disease histopathology and perioperative outcomes was prospectively collected and compared between the two groups.
Results: The patient demographics were comparable except the SPDP group was younger (55 years vs 62 years, p=0.018). The median lesion size was the same (2.5cm) in both groups. Except for 5 cases of carcinoma of pancreas which all appeared in the DPWS group, the distribution of histology types were similar in the remaining patients, predominantly cystic neoplasm and neuroendocrine tumor. Conversion to open was needed in 1 patient in SPDP and 2 patients in DPWS. There was no mortality and re-operation. Complication rate and Type B/C pancreatic fistula rate were similar (SPDP 27.3% vs DPWS 19.0% and SPDP 18.2% vs DPWS 14.3% respectively). The median operation time was shorter in SPDP group (245min vs 320 min, p=0.034), length of median hospital stay was also shorter in SPDP group (5 days vs 6 days, p=0.05), while the median blood loss (150ml vs 200ml), blood transfusion rate (13.6% vs 14.3%) was similar when SPDP was compared to DPWS.
Conclusion: Both SPDP and DPWS were feasible and safe by robotic approach. With the additional advantage of shorter operation time and post-operative hospital stay, spleen preservation should be considered giving the long term risk of overwhelming sepsis after splenectomy.
Disclosure of Interest: None declared

103.06

SINGLE-INCISION LAPAROSCOPIC CHOLECYSTECTOMY VERSUS CONVENTIONAL LAPAROSCOPIC CHOLECYSTECTOMY

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Introduction: Single Incision Laparoscopic Surgery (SILS) is a new technique of minimally invasive surgery using a single incision to minimize all ports to one site, hence a single scar that can be strategically placed in the umbilicus for a perceived scar less abdomen compared to convential laparoscopic surgery in terms of complications and patient satisfaction

Materials & Methods: We report our study evaluating the possible advantages of SILS versus conventional laparoscopic cholecystectomy through a randomized controlled trial. The study population includes patients diagnosed as cholelithiasis. A total of 50 patients underwent cholecystectomy, Patients were randomly assigned to either SILS cholecystectomy or conventional cholecystectomy in 1:1 ratio. Primary end points were operative time, complication rate, postoperative pain, post operative hospital stay and patient satisfaction.

Results: The pain scores measured at 48 hours were significantly lower in SILS group than conventional Lap cholecystectomy group. Patients had significant satisfaction score and lower paain score in SILS group than Lap cholecysytectomy group measured at 6 weeks after cholecystectomy. However the post operative stay was similar in both the groups. There was no conversion to open cholecystectomy in both the groups. Patient satisfaction score in SILC was found to be higher than CLC. Operating times were similar and post operative stay was apparently lower in SILC.

Conclusion: SIL cholecystectomy is as safe and effective as conventional lap cholecystectomy and was found better than convential laparoscopic cholecystectomy.

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Disclosure of Interest: None declared

103.07

THE WORLD'S FIRST ACADEMIC ROBOTIC TRAINING CENTER WITH THE SENHANCE SYSTEM - THE JAGIELLONIAN UNIVERSITY KRAKOW EXPERIENCE.

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Introduction: The Jagiellonian University Robotic Training Center is the first academic training site providing bias-free teaching on techniques and procedures. We developed an universal model robotic training to be included in surgical residency curriculum. Primary goals: 1. Establishing a standardized robotic training curriculum 2. Familiarizing with the robotic platform, its use, and applications. 3. Implementing a robotics curriculum at an academic general surgery training program

Materials & Methods: Training processes: 1. short didactic session to introduce features of the robotic, the technology, safety features, instruments 2. Verbal and hands-on instruction by an experienced instructor covering console setup, docking, draping, instrument exchange, proper port placement, and emergent undocking. 3. Trainees sitting at the surgeon console and performing various tasks. 4. Skills curriculum is based on fundamental skills of robotic surgery (FSRS), which incorporated four modules consisting of 16 tasks. (See Table A). 5. The participants complete the ball placement, suture pass, and fourth arm manipulation tasks 3 times each. 6. Participant performance on the ball placement, suture pass, and fourth arm manipulation tasks is measured by video assessment. Videos are analyzed in unedited form by 2 trained, blinded, and independent assessors. Reliability is evaluated for 6 videos. 7. Key assessment elements: 1. Errors for each task included the number of collisions. 2. Time to complete a task 3. The number of camera and clutch movements 4. The number of times a component of the task (ball, suture, or ring) was dropped is recorded. 5. The times a participant moved their instruments outside the field of view. 6. Metrics are tabulated for each of the 3 takes of each task and mean values were established for comparison. 8. Passing threshold will be provided.

Results: 9 residents underwent training: 4 general surgery, 2 urology and 3 gynecology. 8 out of 9 obtained significant reduction of time and accuracy of tasks. In addition, all trainees demonstrated improved docking time and planning trocar placement.

Conclusion: Our study confirmed necessity of extensive and carefully planned training to improve skills needed for safe and efficient robotic surgery.

Disclosure of Interest: None declared

103.08

DIAGNOSTIC ACCURACY OF INFLAMMATORY MARKERS AS EARLY PREDICTORS OF ANASTOMOTIC LEAK FOLLOWING ELECTIVE COLONIC SURGERY

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Introduction: Anastomotic leakage (AL) is associated with significant morbidity and mortality. It poses a diagnostic dilemma particularly in the early postoperative period. Early detection may diminish its clinical impact and allow early safe discharge.
Materials & Methods: A prospective observational study was conducted at 4 tertiary centres. Consecutive patients undergoing elective colonic surgery with anastomosis were recruited. Inflammatory markers such as C-reactive protein (CRP), platelets, leukocytes and inflammatory cytokines were measured daily until the 5th postoperative day (POD). Anastomotic leak was recorded. The areas under the receiver operating characteristic (AUROC) curve were analyzed.
Results: Four hundred and one patients were initially recruited. The anastomotic leak rate was 5.3%. Overall, AL patients had a longer hospital stay (5 vs 7.5 days), were older (70 vs 76.5 years of age); had higher ASA scores (2 vs 3) and longer operative times (170 vs 180min). For the detection of AL, CRP was diagnostic on postoperative day (POD) 3 and POD 5 with AUROC of 0.735 (P=0.009) and 0.69 (P= 0.02) respectively. A CRP cut-off value of 154 mg/L on POD 3 translates to a negative predictive value of 96.5%.
Conclusion: C-reactive protein provides an accurate detection of AL following elective colonic surgery and should be measured systematically from POD3 onwards. It may provide a useful tool for early safe discharge.
Disclosure of Interest: None declared

103.09

PROPHYLACTIC NEGATIVE-PRESSURE WOUND THERAPY AT ILEOSTOMY CLOSURE FOR THE PREVENTION OF WOUND RELATED COMPLICATIONS AND SURGICAL SITE INFECTION IN PATIENTS AFTER RECTAL CANCER OPERATION - RANDOMIZED CONTROLLED TRIAL

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Introduction: Although negative-pressure wound therapy (NPWT) is likely advantageous for wound healing, the efficacy and safety of its prophylactic use remain unclear. We performed a prospective randomized controlled study to evaluate the efficacy and safety of this procedure during loop ileostomy closure.
Materials & Methods: Prospective, randomized study between January 2016 and December 2018 was conducted. Patients with past history of low rectal cancer laparoscopic surgery with protective loop ileostomy scheduled to undergo ileostomy closure with primary wound closure were randomly divided into groups with or without NPWT. The primary endpoint was incidence of wound related complications (WRC) (wound healing complications witch required surgical intervention other than suture removal or dressing changing). The secondary endpoints were incidences of Surgical Site Infection (SSI) and lenght of hospital stay.
Results: A total of 30 patients with primary wound closure (single skin sutures (SSS)) alone and 30 patients with SSS + NPWT were enrolled. WRC was observed in 6 patients in the SSS-alone condition (2 hematomas, 1 superficial SSI, 2 deep SSI, 1 space SSI), and 1 patient in the SSS + NPWT (superficial SSI) condition ($p = 0.044$). Difference in SSI incidence (4 in SSS group and 1 in SSS + NPWT group) was not statistically significant ($p = 0.16$)
Conclusion: Prophylactic Negative-Pressure Wound Therapy after Ileostomy Closure reduces incidence of WRC in patients after low rectal cancer laparoscopic surgery with protective loop ileostomy.
Disclosure of Interest: None declared

108.01

THE IMPACT OF SARCOPENIA ON OUTCOMES FROM EMERGENCY LAPAROTOMY

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Introduction: Emergency laparotomy (EL) carries a high risk of mortality and morbidity Sarcopenia has recently been demonstrated to correlate with outcomes in a number of surgical conditions. The new National Emergency Laparotomy Audit (NELA) score is the most accurate for emergency laparotomy mortality prediction but does not include measures of sarcopenia or frailty. We aimed to analyse the relationship of sarcopenia to measures of frailty and to assess the utility of adding sarcopenia to the NELA score in patients undergoing EL.
Materials & Methods: We analysed elderly (65 and older) patients undergoing EL from 2012 to 2017 and followed up for mortality at 1 year. We calculated an 11-point modified frailty index (mFI) as well as NELA predicted score. Cut-offs for sarcopenia were based on previously published data. Skeletal Muscle Area and Psoas Muscle Area were calculated from CT Scans and height standardised to produce SMI (Skeletal Muscle Index) and PMI (Psoas Muscle Index). Receiver Operating Characteristic (ROC) Area Under the Curve (AUC) was used for test discrimination and Pearson's coefficient to calculate correlations.
Results: One hundred and sixty-seven patients were included in the cohort. There was no difference in mortality between sarcopenic and non-sarcopenic patients for 30-day ($p = 0.77$) and 1-year ($p = 0.52$). Both SMI and PMI showed poor discrimination for mortality at 30 days with AUC of 0.54 and 0.52 respectively. This was not significantly different at 1 year. The SMI and PMI correlated poorly with NELA risk prediction score, 0.0093 ($p=0.23$) and 0.0042 ($p=0.96$). SMI and PMI did not add to the discrimination power of NELA.
The mFI was applied to all patients and did not appear to correlate with sarcopenic measures of SMI nor PMI ($p = 0.17$ and 0.79 respectively).
Conclusion: In this cohort of elderly EL patients, sarcopenia did not appear to be a useful predictor of mortality. Interestingly, sarcopenia did not appear to correlate with frailty. Despite being an independent variable, sarcopenia did not significantly add to the predictive power of the NELA score.
Disclosure of Interest: None declared

108.02

FUTILE TREATMENT AMONG ADULT SURGICAL PATIENTS IN POLAND – PRELIMINARY RESULTS

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Introduction: Futile treatment is a widely recognized clinical problem. Since 1990's medical community came to agreement that universal definition of futility is unattainable. In most health care and legal systems the term futile treatment refers to withholding or discontinuing extraordinary measures of treatment, which will not benefit the patient whose underlying condition is incurable, thus causing suffering. In Poland futile treatment is not legally recognized. We decided to analyse the attitudes and preparation of polish doctors towards futile treatment of adult surgical patients and whether they seek change of current status.
Materials & Methods: The author's online questionnaire consisted of 35 questions with 160 variables analysed with medical sociologist, divided into topical sections. National consultants in the fields of general surgery and anaesthesiology and intensive care approved the research. The questionnaire was fully anonymous and put on a university based online system for questionnaire management. The notification was sent via Association of Polish Surgeons and leading medical scientific and news publishers to residents and specialists of surgery and anaesthesiology.
Results: A total of 322 replies was collected: 34 (10,56%) surgical residents, 42 (13,04%) anaesthesia residents, 61 (18,94%) surgeons, 149 (46,27%) anaesthetists and the remaining had multiple specialities. To the best of our knowledge, it is the first such large and comprehensive analysis of surgical community. Most participants had more than 20 years of clinical experience (n=156, 48,45%). Majority treated a patient, who in their understanding met futility criteria (97,52%, n=314) and felt legal regulations are needed (93,17%, n=300). Only 24,22% (n=78) stated they knew precise laws relating to treatment withdrawal in Poland. Most participants (72,05%, n=232) had not encountered the term 'futile treatment' during their medical school course, only 51,86% (n=167) did during their speciality training. Moreover 11,49% (n=37) see mechanical ventilation and 31,37% (n=101) parenteral nutrition as necessary. There is a tendency towards asking for multidisciplinary consult (66,46%, n=214) but with little (41,61%, n=134) or no (15,53%, n=50) adherence to its decisions.
Conclusion: The analysis proves polish doctors acknowledge the problem of futility and would like to see legal regulations about it. It seems necessary to improve education on every level of training.
Disclosure of Interest: None declared

108.03

CORRELATION BETWEEN MAXIMUM CLOT FIRMNESS IN FIBTEM AND SERUM FIBRINOGEN IN CRITICAL TRAUMA PATIENTS

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Introduction: Both serum fibrinogen and ROTEM are considered to be accurate tests to demonstrate bleeding tendency and they are predictive for massive transfusion. FIBTEM is a type of ROTEM test to study the function of fibrinogen, specifically for guidance in fibrinogen replacement. However, using FIBTEM to predict the level of fibrinogen is still unclear. This study aimed to demonstrate whether maximum clot firmness (MCF) in FIBTEM can predict the level of serum fibrinogen in critical trauma patients.
Materials & Methods: This was a retrospective study from a prospectively collected trauma registry. The study included all critical trauma patients who presented at the emergency department between May 2017 and April 2018. The patients had to meet the institutional trauma activated criteria. Blood was drawn at initial admission and sent for both ROTEM and serum fibrinogen tests.
Results: Sixty patients were eligible for the study. The patients consisted of 51 males (85%) with a median age of 40 years (IQR 27.5-55 years). The median Injury Severity Scale score was 22. The relationship between serum fibrinogen and FIBTEM MCF was demonstrated in the following equation: serum fibrinogen = 140 + (15.7 x FIBTEM MCF) (p-value <0.01; R-Square = 0.32). Hypofribinogenemia occurred in 7 patients (11%). FIBTEM MCF was well able to predict hypofibrogenemia (area under the ROC curve = 0.9003).
Conclusion: FIBTEM MCF could predict hypofibrinogenemia in trauma patients but failed to show good prediction to the actual fibrinogen level.
Disclosure of Interest: None declared

108.04

HEAD INJURY MANAGEMENT IN AUSTERE ENVIRONMENTS - A GENERAL SURGERY PERSPECTIVE

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Introduction: In most developing countries access to tertiary care neurosurgical setup is not very common. Majority cases of trauma including Neurotrauma present to a general surgeon. This study is an attempt to highlight the importance of head injury management as a skill amongst general surgeons & also focus on the challenges in managing such cases in austere environments.

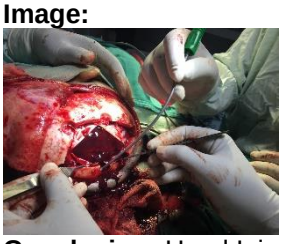
Materials & Methods: This study was a retrospective analysis of progressively collected data of trauma patients with a specific focus on head injuries in a level 2 trauma centre in a semi urban area over a period of two years from August 2016 to September 2018.

Results: A total of 710 patients of trauma were analysed out of which 392 were head injuries. Road traffic accidents accounted for nearly 77% of head injuries. Atypical trauma especially in rural setup e.g. train collision while crossing railway track, animal related causes of head trauma were also seen.

Male patients accounted for majority of cases (M:F = 2.6 :1) . Mean Age was 37 yrs.

104 patients had Imaging findings suggestive of severe head injury. Acute SDH was the commonest finding . 18 Patients underwent emergency neurosurgical intervention with a survival of 61%. Factors associated with poor outcome were delayed presentation ($p < 0.05$) , SDH with Diffuse axonal injury / Multiple haemorrhagic contusion in brain parenchyma. Alcohol consumption was a significant factor in road traffic trauma.

Image:



Conclusion: Head Injury management is an essential skill for general surgeons. Management of such cases in a low resource environment in absence of modern day facilities for Imaging , ICP monitoring & powered equipment presents a significant challenge in management of such cases. General surgeons should be able to perform operative interventions with basic handheld instruments. Operative management whenever indicated should be done & helps improve outcomes.

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Disclosure of Interest: None declared

108.05

TRAUMATIC BILE LEAKS: WHEN IS ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY (ERCP) EFFECTIVE?

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Introduction: Traumatic bile leaks result from blunt or penetrating liver trauma. This often requires continuation of surgical drains, placement of image guided drains, or endoscopic retrograde cholangiopancreatography (ERCP). We reviewed our experience with bile leaks after liver trauma and use of ERCP. Specifically, we set out to determine factors associated with the timing and use of ERCP.
Materials & Methods: The trauma registry at a Level 1 Trauma Center was reviewed 2010-2017 for patients aged ≥18 with liver injuries Grades I-V. Demographics, medical history, injury characteristics, operative, and hospital course were collected to evaluate the management and outcomes of patients with traumatic bile leaks. Wilcoxon rank-sum and Fisher's exact were used to run univariate analyses.
Results: A total of 1022 patient with liver injuries Grades I-V were found. 29% had penetrating injuries. 202 (20%) of patients had an abdominal operation. Of these, 22 (11%) had drains placed during the index admission. 12 out of the 22 (55%) underwent ERCP at 6.7 d (±5.6) after admission. Mean pre-ERCP daily drainage was significantly different in those who underwent ERCP vs those who did not (430.6 ml/d (± 197.2) vs 244.4mg/day (± 283.9), (p=0.007). Median abdominal AIS was 3.0 (IQR, 3.0 – 4.0) and median hepatic injury grade was 3.0 (IQR, 3.0 – 4.0) (p=0.076) with 11 (50%) being central injuries (p=0.107). ERCP significantly decreased the average drain output starting second (p=0.049) and third day (p=0.037) post ERCP. There was one patient (8%) who developed biochemical evidence of post-ERCP pancreatitis, but otherwise was asymptomatic.
Conclusion: All patients with high drain outputs (>400 ml/day) on post-injury day 7 benefited from ERCP independent of liver injury grade or anatomic location, requiring no further hepatobiliary operation.
Disclosure of Interest: None declared

114.01

PROGRAMMED DEATH-1 (PD-1) POLYMORPHISMS AND ITS CORRELATION WITH MORBIDITY, CLINICOPATHOLOGICAL FEATURES AND PROGNOSIS OF COLORECTAL CANCER IN POLISH POPULATION.

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Introduction: Colorectal cancer is the third most common cancer in men and the second among woman. According to the World Health Organization (WHO) there were 1.8 million new cases in 2018 worldwide. New immunologic therapy has been recently introduced beside traditional chemotherapy, with very promising results, addressing immune checkpoints. One of the them is the PD-1 receptor and its ligand PD-L1/2. There is a significant impairment of T lymphocytes function in the tumor microenvironment due to its escape from the immune surveillance. Tumor infiltrating lymphocytes (TILs) score, which is a well-known prognostic factor, may differ across populations and even patients. This could be explained by different functional polymorphisms. We have selected PD-1.1 (rs36084323), PD-1.3 (rs11568821), PD-1.5 (rs2227981) for further investigation in the Polish Population.
Materials & Methods: 206 colorectal cancer patients, operated in two oncological centers in the Lower Silesia were enrolled to the analysis. It was a cohort, prospective study, performed between November 2012 and January 2015. All patients had a least 3-years follow up. The qualitative evaluation of the PCR reaction products was performed electrophoretically in the presence of ethidium bromide to determine the PD-1.1, PD-1.3 and PD-1.5 polymorphisms.
Results: The PD-1.5 genotype [TT] increased 2.05 (p=0,001), and the [T] allele 1.42 (p=0,009) the risk of a colon cancer. The presence of one or two copies of the [T] allele (genotype [CT] and [TT]) significantly affected the risk of disease, increasing it by 1.61 compering to the control group. The presence of one or two copies of the PD-1.3 [G] was associated with increased morbidity among women (p=0,001). PD-1.5 [T] and [TT] were an independent risk factors in the men group (p=0,008). The PD-1.1, PD-1.3 nor PD-1.5 polymorphisms were not associated with the overall survival.
Conclusion: PD-1.5 [TT] polymorphism increased the overall risk of colorectal cancer in the Polish population. There are also statistically significant differences between men and women regarding morbidity. This may lead to necessity of establishing an independent genotypes profiles before implementation of a targeted immunotherapy as an adjuvant to a standard therapy.
Disclosure of Interest: None declared

114.02

CLINICAL SIGNIFICANCE OF CD73 AND IMMUNE MICROENVIRONMENT IN CHOLANGIOCARCINOMA

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Introduction: Cancer immunomodulation is important in the pathogenesis of cancer, but tumor infiltrating leukocytes (TILs) remains poorly understood in cholangiocarcinoma (CCA). Specifically, the role played by Forkhead Box Protein 3 (Foxp3)-expressing Tregs and CD73 are important to the anti-tumoral immune response in other cancers, but these are not investigated in CCA. Thus, it is important to investigate the role of FoxP3 positive Tregs and the expression of CD73 in the prognosis of cholangiocarcinoma.
Materials & Methods: Tissue samples were obtained from 48 patients with cholangiocarcinoma from Singapore General Hospital and analysed using immunohistochemistry. Multiplex immunofluorescence (mIF) was performed using an Opal Multiplex fIHC kit (PerkinElmer, Inc., Waltham, MA, USA) with primary antibodies against FoxP3, CD3, CD8, CD68, CD73 and CK, followed by appropriate secondary antibodies. Images were acquired using a Vectra 3 pathology imaging system microscope (PerkinElmer, Inc.) and analysed using inForm software (version 2.4.1; PerkinElmer, Inc.). Maximally selected rank statistics were applied using the maxstat R package to find optimal cut-off points for variables with good survival outcome prediction. Kaplan–Meier survival analysis is done to determine the overall survival (OS) of patients.
Results: According to Kaplan–Meier survival analysis, higher densities of Foxp3+ regulatory T cells are associated with better overall survival (Hazard Ratio: 0.37, 95% CI 0.18–0.79, p = 0.0097). However, higher densities of CD73 immune subsets are associated with worse overall survival (Hazard Ratio: 2.22, 95% CI 1.08-4.54, p = 0.0293), and further analysis on expression of CD73 expression showed worse prognosis in CD3 and CD68 subsets.
Conclusion: This study shows the effect of immunomodulation in cholangiocarinoma on prognosis, with FoxP3-activated Tregs associated with a better prognosis and CD73 associated with worse diagnosis. These data indicate new avenues for further investigation on the interaction between immune cell types within the tumour microenvironment and highlight the potential of targeting immunosuppressive pathways in cholangiocarcinoma. This may also be useful in predicting prognosis before surgery. Further studies are needed to extend this study to a larger patient cohort.
Disclosure of Interest: None declared

114.03

INFLUENCE OF PROTON PUMP INHIBITORS (PPIS) ON PATHOGENESIS AND EPIDEMIOLOGY OF COLORECTAL CANCER - A SYSTEMATIC REVIEW

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Introduction: Proton pump inhibitors (PPIs) are commonly prescribed medications which suppress the production of hydrochloric acid. One of the side effects is the elevation of serum. Hypergastrinemia increases colorectal mucosa proliferation and has been associated with risk of colorectal cancer. The aim of this systematic review was to investigate the association between the use of PPIs and the risk of colorectal cancer based on available literature.
Materials & Methods: This review was performed according to PRISMA guidelines and facilitated a PICO-styled research question. MEDLINE (PubMed) and Scopus databases were searched on 28 of December 2018. Inclusion criteria were: , exclusion criteria were: Following search query was used: "(proton pump inhibitors OR proton pump inhibitor OR ppi OR ppis OR omeprazole OR pantoprazole OR esmoperazole) and (CRC OR colorectal cancer OR colon cancer OR rectal cancer)".

Results: Database search identified 737 articles. Of those 6 case-control studies (Chubak, Boudreau, Rulyak, & Mandelson, 2009; Hwang, Chang, & Park, 2017; Robertson et al., 2007; Siersema et al., 2006; Soriano, Soriano-Gabarró, & García Rodríguez, 2018; Yang et al., 2007), 6 animal research studies (Han, Hahm, Park, Hong, & Kim, 2014; Jagan M.R. Patlolla Yuting Zhang Qian Li Vernon E. Steele Chinthalapall, 2011; Kim et al., 2010; Watson & Smith, 2001; Zeng et al., 2016; Zheng et al., 2017), 1 retrospective study (Graham et al., 2016) and one prospective cohort study (van Soest et al., 2008) matched the PICO criteria and were included in the final analyses. The overall use of PPI was not significantly associated with an increased risk of developing colorectal neoplasia. Moreover. a cancer-preventive role of PPIs has been noticed. In vitro and in vivo studies demonstrated an effective suppression of cancer growth via inhibition of TOPK pathway. However, hypergastrinemia may promote the progression of existing premalignant colonic lesions by increasing proliferation.

Conclusion: Our review suggest that PPIs do not increase a risk of CRC based on available epidemiological studies. However, study design of studies performed to date may be a limiting factor, as most are case-control studies. Furthermore, proton pump inhibitors suppress cancer cell proliferation and play a cancer-preventive role *in vitro*. As presented, existing evidence is contraindicating, therefore there is a need for new epidemiological studies facilitating a different methodological approach.

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Disclosure of Interest: None declared

114.04

THORACOSCOPY OR THORACOTOMY FOR OESOPHAGEAL ATRESIA: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Introduction: Oesophageal atresia is a rare congenital malformation that occurs in 1 in 3000 births (1). Conventional repair has usually entailed thoracotomy. However, minimally invasive surgery, thoracoscopy, has been suggested to have significant benefits over open surgical repair of oesophageal atresia (2). As thoracoscopic repair has become standard procedure in an increasing number of surgical centres, it is important to study the complications and outcomes of this practise. However, the currently diverse body of literature comparing the outcomes of thoracoscopy to thoracotomy is yet to be synthesised. This systematic review and meta-analysis aim to compare the outcomes of thoracoscopy and thoracotomy repair of oesophageal atresia.
Materials & Methods: A literature search was performed in Medline, EMBASE, Web of Science, and Cochrane Library. All studies that compared thoracoscopy to thoracotomy for children with oesophageal atresia were included in the review, given that they reported primary data. All study designs were included. Non-clinical research was excluded. Quality assessment of the included studies were performed using the Joanna Briggs Institute critical appraisal tool. The review protocol has been submitted to PROSPERO. Meta-analysis was performed in the R package 'metafor'.
Results: After screening, 17 studies with a total 925 patients were included. Our preliminary results showed that the duration of thoracotomy surgery was shorter than thoracoscopy, standardized mean difference 29.92 min (95% CI, 12-47.84). In contrast, there were both shorter time to extubation and length of hospital stay for the thoracoscopic group. There was no significant difference between the two methods regarding postoperative leaks (OR 1.96, 95% CI 1.00–3.84), strictures (OR 0.91, 95% CI 0.49–1.67), mortality (OR 0.89, 95% CI 0.20–3.99) or need for postoperative reflux surgery (OR 1.93, 95% CI 1.00–3.72). No study analysed costs nor need for surgical training associated with thoracoscopy.
Conclusion: We conclude from these preliminary results that thoracoscopy is an effective alternative to thoracotomy. Few significant outcome differences were observed, although thoracoscopy was associated with slightly longer operating times. The majority of studies were of poor quality. This review recognizes the need for more and better designed studies.
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Disclosure of Interest: None declared

114.05

OBESITY AS PROTECTIVE AGAINST, RATHER THAN A RISK FACTOR FOR, POSTOPERATIVE CLOSTRIDIUM DIFFICILE INFECTION: A NATIONWIDE RETROSPECTIVE ANALYSIS OF 1,426,807 SURGICAL PATIENTS

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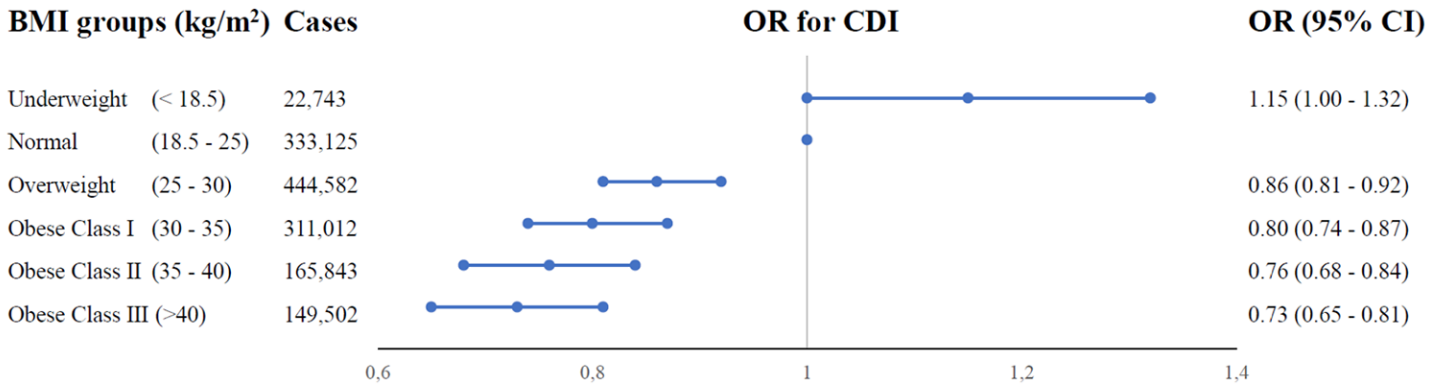
Introduction: Recent studies suggest that obesity is a risk factor for Clostridium Difficile infection, possibly due to disruptions in the intestinal microbiome composition seen in the obese (1-5). We sought to test the hypothesis that body mass index (BMI) is associated with increased incidence of Clostridium Difficile infection in surgical patients.
Materials & Methods: Using the 2015-2016 ACS-NSQIP database, we initially compared the postoperative occurrence of Clostridium Difficile infection across different BMI groups. Patients were classified as underweight, normal-weight, overweight, or obese class I-III if their BMI was <18.5, 18.5-25, 25-30, 30-35, 35-40 or >40, respectively. Univariate then multivariable logistic regression analyses, adjusting for patient demographics (e.g. age, gender), comorbidities (e.g. diabetes, systemic sepsis, immunosuppression), preoperative laboratory values (e.g. albumin, white blood cell count), procedure complexity (work relative unit as a proxy) and procedure characteristics [e.g. emergency, type of surgery (general, vascular, other)] were performed to study the independent relationship between BMI and the postoperative occurrence of Clostridium Difficile infection.
Results: A total of 1,426,807 patients were included; median age was 58 years, 43.4% were male and 82.9% were white. The postoperative incidence of Clostridium Difficile infection was 0.42% overall: 1.11%, 0.56%, 0.39%, 0.35%, 0.33% and 0.36% from the lowest to the highest BMI group, respectively ($p<0.001$ for trend). In univariate then multivariable logistic regression analyses, adjusting for patient demographics (e.g. age, gender), comorbidities (e.g. diabetes, systemic sepsis, immunosuppression), preoperative laboratory values (e.g. albumin, white blood cell count), procedure complexity (work relative unit as a proxy) and procedure characteristics [e.g. emergency, type of surgery (general, vascular, other)], compared to patients with normal BMI, high BMI was inversely and incrementally correlated with the postoperative occurrence of Clostridium Difficile infection: the underweight were at increased risk [Odds Ratio 1.15 (1.00-1.32)] while the class III obese were at the lowest risk [Odds Ratio 0.73 (0.65-0.81); Figure 1).
Image:



Conclusion: Obesity is independently and in a stepwise fashion associated with a decreased risk of postoperative Clostridium Difficile infection. Further studies are warranted to explore the potential and unexpected association.
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Disclosure of Interest: None declared

114.06

ADVANCING UNIVERSAL HEALTH COVERAGE THROUGH STRENGTHENING ESSENTIAL SURGICAL CARE PROVISION IN PRIMARY CARE: SHARING THE RESULTS FROM THE KENYA NATIONAL SURGICAL CAPACITY STUDY.

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Introduction: Every day, millions of people are dying or being disabled from injuries and treatable conditions that can be averted with simple, one-time procedures as a result of lack of access to care. Access to safe, affordable and quality surgical care is a critical but often neglected component. In Kenya, it is estimated that 70% of the population lack access to safe, affordable surgical and anesthesia services.To facilitate quality improvement initiatives, baseline knowledge of capacity for surgical, anesthetic, emergency, and obstetric care is critical. Before this study, no formal study had been conducted to ascertain the availability and readiness of surgical and anaesthesia services in all Level 4 government hospitals in the country.

Materials & Methods: The study was a census from May 2018 to June 2018 using the World Health Organization (WHO) Service Availability and Readiness Assessment (SARA) tool and the Situational Analysis Tool.

Results: The census involved 242/251 (96.4%) of all Level 4 government facilities in all the 47 counties (100% coverage). Of the surgical workforce surveyed (n=15,674), 99.4% were non-surgeons and 13.47% were clinical officers (COs). Of the 342 anesthesia providers, 85.96% were non-physician anesthesiologists (anesthesia COs). 80% of the facilities did not have full time surgeon, 91% of the facilities did not have a full time anaesthesiologist. 79.3% did not have a full time Obstetrician. 52.3% of all the hospitals surveyed did not have a designated major operating room. About 50% of theaters did not have running water. 64.5% of the surveyed hospitals reported a blood bank stock out in the last 3 months. Surgical safety checklist was not available in 54% of the facilities. The average bed density was 3.12, admission rate was 202.38 per 10,000 population and outpatient visits were 1,595 per 10,000 population. Surgical volume was 231.5 per 10,000 population. Physician density was 0.5 per 1,000 population. The average distance traveled from the community to the Level 4 hospital is 2.84 km.

Image:

Cadre	Number
Surgeons	88
Anesthesiologists	48
OB Gyn	62
Dental surgeons	45
Dental technologists	127
Orthodontist	4
Paedodontist	0
Dental Tech	114
Oral health	111
Maxillofacial surgeon	1
Medical Officer	1021
General practitioner	54
Clinical officer	2032
Ophthalmologic CO	80
Anesthesia CO	294
Ophthalmologist	13
Pediatric ophthalmologist	0
Optometrists	5
CRNA	43

Cadre	Number
HIO	517
Pharmacist	370
Pharmacy tech	523
Microbiologist	119
Hematologist	102
Immunologist	12
Molecular biologist	9
Cytotechnologist	86
RN	8310
OR RN	141
Peds RN	79
Ophtha RN	85
Pediatrician	43
Biomedical engineer	293
Radiographer	241
Radiologist	20
Community strategist	125
Counsellors	457

Conclusion: Overall, the successful study proved not only to provide baseline information on the service availability and readiness of Level 4 government hospitals as a component of the larger work on creating the National Surgical, Obstetric, Trauma, and Anesthesia Care (NSOTA) strategic plan but also to use the surgical plan to actively respond to eradicate Neglected Surgical Diseases and subsequently create sustainable and resilient infrastructure, from primary to tertiary levels.

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Disclosure of Interest: None declared

115.01

SUBCLASSIFICATIONS OF TUMOR EXTENSION AND NODE METASTASES IN PAPILLARY THYROID CANCER IMPROVE PROGNOSTIC ACCURACY OF THE EIGHTH EDITION OF THE TUMOR-NODE-METASTASIS CLASSIFICATION

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Introduction: The 8th edition of the tumor-node-metastasis classification (TNM-8th) was published by the American Joint Committee on Cancer in 2017. We have previously shown that TNM-8th reflects the prognosis of papillary thyroid cancer (PTC) better than the 7th edition. This study investigated methods to further improve TNM-8th, to predict prognoses more accurately.
Materials & Methods: We enrolled 5683 patients who underwent surgery for PTC at the Kuma Hospital between 1988 and 2005 (median follow-up period, 14.7 years). A total of 110 patients died of thyroid cancer. We subdivided tumor extension (T4a) into two categories: T4a1, extending to the tracheal adventitia and cartilage, esophageal muscle layer, recurrent laryngeal nerve, and cricothyroid and inferior constrictor muscles, and T4a2, extending to other organs such as the tracheal and esophageal mucosa, jugular and brachiocephalic veins, and sternocleidomastoid muscle. We subdivided N1 (N1a and N1b were analyzed as a single group) into two categories: N1, size ≤ 3 cm, and N2, size > 3 cm.
Results: The patient numbers with stages I, II, III, and IVB, based on TNM-8th, were 4846, 403, 406, and 28, respectively. Their 20-year cause-specific survival (CSS) rates were 99.3, 93.4, 82.6, and 11.3%, respectively. In patients < 55 years, not only M1 ($p = 0.0002$) but also N2 ($p < 0.0001$), and T4a2 ($p < 0.0001$) independently affected CSS on multivariate analysis. Owing to a similar CSS to Stage II patients, N2 or T4a2 patients < 55 years were upstaged to revised stage (re-stage) II. CSS of patients in Stage III with T4a2 was significantly poorer ($p < 0.0001$) than that of those with T4a1. CSS of T4a1 patients was similar to that of stage II. The T4a1 patients ≥ 55 years were then downstaged to re-stage II. On multivariate analysis, N2 was an independent predictor of cancer death in stage II ($p = 0.0115$). Owing to a similar CSS to T4a2 patients in stage III, N2 patients in Stage II were upstaged to re-stage III. The number of re-stage III patients decreased from 406 to 136 and 20-year CSS rate was poorer, compared with the original version, at 69.5%. In contrast, the number of re-stage II patients increased from 403 to 798, but the 20-year CSS rate was similar to that of the original version, at 91.8%.
Conclusion: These findings suggest that subdivision of clinical tumor extension and node metastasis further improves the TNM-8th for PTC and identifies poor risk patients more accurately.
Disclosure of Interest: None declared

115.02

CHARACTERIZATION OF CALCIUM HOMEOSTASIS IN LITHIUM-TREATED PATIENTS REVEALS BOTH HYPERCALCEMIA AND HYPOCALCEMIA.

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Introduction: Prevalence studies demonstrate that 3-30% of lithium patients develop hypercalcemia, significantly higher than in primary hyperparathyroidism (pHPT). Lithium-associated hyperparathyroidism (LHPT) is poorly defined and calcium homeostasis may be affected in a more complicated fashion than purely by elevated PTH secretion. The current study aims to examine in detail calcium homeostasis principally with regards lithium duration.
Materials & Methods: Medical records of 297 lithium-treated patients (193 women, 104 men; median age 57 years) were examined and information on gender, age, lithium treatment duration and calcium homeostasis were obtained. The median treatment duration was 16 (1.5-45) years.
Results: 8504 calcium values were retrieved. Before initiation of lithium treatment serum calcium was on average 2.33 mmol / l (2.02-2.60). During the treatment period 178 patients (60%) remained normocalcemic, 102 (34%) developed hypercalcemia or were strongly suspected of LHPT, 17 (6%) 3 or more intermittent episodes of hypocalcaemic. 41% of patients with suspected or confirmed LHPT had low (<4mmol) 24-hour urine calcium levels. The cure rate after 16 parathyroidectomies was 63% and histopathology revealed hyperplasia in 26.5 of 34.5 extirpated glands.

Variable	Median value (range)	Reference value	No. of available patients
Age	66 (29-92)	yrs	66
Lithium duration, yrs	24 (10.5-44)	yrs	66
Total-Ca	2.55 (2.32-3.1)	2.15-2.50 mmol/l	66
Ionized Ca	1.37 (1.18-1.85)	1.15-1.33 mmol/l	64
PTH	9.8 (3.3-39)	1.6-6.0 pmol/l	60
Phosphate	1.1 (0.68-1.91)	0.80-1.5 mmol/l*	49
Urinary calcium	2.9 (0.8-10.7)	1.3-6.5 mmol/24hr	29
Creatinine	96 (46-359)	45-90 µmol/l§	66
25-OH-D	64 (20-162)	nmol/l¥	59

Conclusion: The prevalence of hypercalcemia during lithium treatment is very high. In addition, hypocalcaemic episodes appear to occur frequently, possibly reflecting a more complicated parathyroid dysfunction than previously known. LHPT biochemical profile is different from that in pHPT and is in some ways similar to Familial Hypocalciuric Hypercalcemia (FHH).
Disclosure of Interest: None declared

115.03

LONG-TERM OUTCOME OF PARATHYROIDECTOMY IN HYPERPARATHYROIDISM-JAW TUMOR SYNDROME: ANALYSIS OF 5 FAMILIES WITH CDC73 MUTATIONS

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Introduction: Hyperparathyroidism-jaw tumor syndrome (HPT-JT) is a rare autosomal dominant disease caused by CDC73 germ-line mutations, with subsequent familial primary hyperparathyroidism (PHPT), ossifying jaw tumors, uterine and renal neoplasms. The present study was aimed to determine the long-term postoperative outcome of surgery for PHPT in HPT-JT.
Materials & Methods: A retrospective analysis of parathyroidectomy (PTX) in a single center series of five unrelated HPT-JT families including 167 subjects was performed.
Results: Five distinct germline CDC73 mutations were found in 36 cases. To-date, 16 patients are healthy mutation carriers. PTX was performed in 20 patients (mean age 35 years, range 11-58). Pathology revealed parathyroid carcinoma (PC) in 3 patients (who underwent en-bloc PTX and thyroid lobectomy) and parathyroid adenomas/hyperplasia (PAH) in 17.
Seven patients with PAH and absent or equivocal preoperative localization underwent a bilateral neck exploration, with a subtotal PTX because of evident multiglandular involvement (n=1) or selective PTX because of single-gland involvement (n=6).
Ten PAH patients with a preoperatively suspected single gland involvement (according to the availability of at least 2 concordant preoperative localizing studies) underwent a focused approach with selective PTX of the single affected gland. At a mean follow up of 17.5 years (range 7-41), patients with PC had a persistent/recurrent disease in 66%; patients with PAH undergoing subtotal PTX and patients with evident preoperative single gland localization undergoing selective PTX after focused exploration showed no recurrences and are disease-free. Conversely, 66% of patients undergoing selective PTX after bilateral exploration were cured, but developed metachronous recurrences needing reoperations ($p<0.01$).
Conclusion: PHPT in HPT-JT is generally characterized by a single and benign involvement, with a relatively increased risk of malignancy (15%); recurrent PHPT may occur also in benign involvement (23%). PC needs extensive surgery; in benign involvement, focused neck exploration with selective PTX may be effective in case of preoperative concordant and unequivocal single gland localization. Bilateral neck exploration with subtotal PTX might be preferred in cases of absent or equivocal preoperative localization, because of the increased long-term risk of recurrences.
Disclosure of Interest: None declared

115.04
UPDATE ON NEUROENDOCRINE PANCREATIC TUMORS –
A RETROSPECTIVE SINGLE CENTER ANALYSIS OF 134 CASES OVER A 27-YEAR PERIOD

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Introduction: Pancreatic neuroendocrine tumors (PNET) are rare tumors, but have been increasing in incidence. Compared to exocrine pancreatic carcinomas treatment and prognosis are significantly different.
Materials & Methods: In a retrospective single-centre study from 1990 to 2017 134 patients with PNETs were analyzed. Clinical data were collected in the MaDoc database of the university medical center Mainz.
Results: According to the NET classification by the WHO in 2010, 43% (n=58) of patients were grade-1, 37% (n=49) were grade-2, and 20% (n=27) were grade-3. In 65 patients hepatic metastasis were present, 59 patients had lymph node metastasis. An R0-resection was achieved in 77 cases, an R1 situation in 7 cases. 6 times a tumor debulking was carried out (R2) and 7 times the operation was aborted without any resection because of the advanced tumor stage. A relapse occurred in 9 patients. Different prognostic factors (stage, grade, tumor size, age) were analyzed. Grade-dependent 10-year survival rates were 93.7% (grade 1), 66.0% (grade 2) and 13.8% (grade 3).
Conclusion: PNETs have a good prognosis, if they are well-differentiated and resected completely. In case of hepatic metastasis and advanced tumor stage a tumor reduction can reduce the hormonal symptoms and improve the survival time, even so the prognosis remains very poorly.
References: -
Disclosure of Interest: None declared

115.05

SURGICAL TREATMENT OF CHILDHOOD, ADOLESCENT AND YOUNG ADULT THYROID CANCERS DETECTED BY THE ULTRASOUND SCREENING AFTER THE FUKUSHIMA' S NUCLEAR POWER PLANT ACCIDENT

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Introduction: After the Fukushima Daiichi Nuclear Power Plant accident that followed the Great East Japan Earthquake and tsunami on March 11, 2011, a large-scale thyroid ultrasound examination survey began for people aged 18 years or younger at the time of the disaster. We would like to report the surgery of the thyroid cancers screened from this survey.
Materials & Methods: In the first round survey, 300,476 subjects were screened by March 31, 2016. Among them, 116 subjects were diagnosed with malignancy or suspected malignancy by fine needle aspiration cytology (FNAC) A second and third round survey were completed with 270,511 and 120,596 subjects, among whom 71 and 4 were also diagnosed with malignancy by FNAC. Among the 191 subjects diagnosed with malignancy or suspected malignancy by FNAC, 153 underwent surgery, and one benign nodule and 152 thyroid cancers were confirmed. Of the 152 operated thyroid cancer cases, 145 underwent surgery at our department. We analyzed clinicopathological findings of our operated 145 thyroid cancer.
Results: Among these 145 subjects, 143 papillary thyroid carcinomas, one poorly differentiated thyroid carcinomas, and one other thyroid carcinoma were postoperatively confirmed. Mean age at surgery and disaster was 17.7 and 14.0 years, and mean tumor size was 15.0 mm. Only 7 cases (4.8%) was shown in pT1apN0M0. Even though the tumor smaller than 10mm, all cases were not encapsulated PTC. Extra thyroidal invasion and node positive were shown in 45% and 79%, postoperatively.Total thyroidectomy were performed in only 8%. All cases were done lymph node dissection with small incision using IONM and wound protector.
Conclusion: We are aware of the high prevalence of thyroid cancer detected by sophisticated and large-scale ultrasound screenings following the accident, and not due to a radiation effect.
However, there are no choice which don't carry out TUE in the current Fukushima residents who were exposed radiation after the accident. The present diagnostic criteria for ultrasound and FNAC as well as the guidelines for surgical treatment must be obeyed in order to avoid over-diagnosis or overtreatment.
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Disclosure of Interest: None declared

115.06

SELECTIVE USE OF MOLECULAR TESTING BASED ON SONOGRAPHIC FEATURES OF CYTOLOGICALLY-INDETERMINATE THYROID NODULES: A DECISION ANALYSIS

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Introduction: Molecular diagnostics can allow some patients with indeterminate thyroid nodule cytopathology to avoid diagnostic hemithyroidectomy, however the testing is costly. We hypothesized that molecular testing with the intention of preventing diagnostic hemithyroidectomy would be cost-effective if this test was applied selectively based on sonographic risk of malignancy.

Materials & Methods: A Markov model was constructed depicting a 40 year-old patient with an indeterminate (Bethesda class III or IV) thyroid nodule following a fine needle aspiration (FNA) biopsy. Molecular testing of the FNA material was compared to a strategy of immediate diagnostic hemithyroidectomy. Data from a single tertiary-referral health system were reviewed to calculate the outcomes of molecular testing of indeterminate nodules stratified by the American Thyroid Association (ATA) sonographic classification system. Other outcome probabilities and their utilities were derived from literature review. Costs were estimated with Medicare reimbursement data. A 3% annual discount rate was used. A $100,000/QALY threshold for cost-effectiveness was applied. Sensitivity analysis was employed to examine uncertainty in the model's assumptions.

Results: Of 123 patients who underwent molecular testing for indeterminate cytology, 12 (9.8%) were classified as high sonographic suspicion, 49 (40%) were intermediate suspicion, and 62 (50%) were low or very low suspicion. Observed molecular testing results and the corresponding modeled incremental cost-effectiveness ratios for each sonographic category are shown in the following table:

ATA classification of sonographic suspicion	Rate of negative molecular test	Incremental cost of molecular testing	Incremental effectiveness of molecular testing	Incremental cost-effectiveness ratio of molecular testing
High	1/12 (8.3%)	$3,200	0.0068 QALY	$490,000/QALY
Intermediate	17/49 (35%)	$2,400	0.03 QALY	$84,000/QALY
Low/Very low	27/62 (44%)	$2,100	0.04 QALY	$59,000/QALY

Molecular testing was only cost-effective when the pre-test probability of a negative test was greater than 31%. The model was most sensitive to the quality adjustment factors for hypothyroidism and surgical complication and the probability of hypothyroidism following hemithyroidectomy.

Conclusion: Molecular testing is cost-effective for cytologically-indeterminate thyroid nodules with sonographic features that are intermediate or low-suspicion for malignancy. In nodules with high sonographic suspicion, molecular testing is rarely negative and adds minimal value.

Disclosure of Interest: None declared

124.01

ERAS AND NON-ERAS PROTOCOLS IN COLORECTAL CANCER SURGERY COMPARISON OF COMPLICATIONS WITH CLAVIEN-DINDO CLASSIFICATION

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Introduction: 130 colon cancer patients were operated in the 2nd Department of General and Oncological Surgery of Wroclaw Medical University, Poland in years 2017-2018. As we introduced ERAS protocol in 2016. We divided patients into 2 groups of ERAS and non-ERAS patients in colorectal surgery to assess results of ERAS and non-ERAS protocols.
Materials & Methods: In group of 130 patients operated on colon cancer in our Department in years 2017-2018: 72 (55,4%) patients were operated in open surgery and 58 (44,6%) in laparoscopic surgery. ERAS protocol was introduced in 42 patients of laparoscopic surgery. The rest (88 patients) were in non-ERAS protocol with restricted fluid therapy. Complications during hospitalization in both groups were assigned to Clavien-Dindo classification. We compared grade of complications in both groups.
Results: In ERAS-group we had complications in 11 (26,2%) patients and 26 (29,5%) in non-ERAS group. In Clavien-Dindo classification for ERAS and non-ERAS group respectively it was: I – 3 (27,3%) and 4 (15,4%); II – 2 (18,2%) and 5 (19,2%); III – 3 (27,3%) and (19,2%); IV – 2 (18,2%) and 4 (15,4%); V – 1 (9,1%) and 8 (30,8%). In Clavien-Dindo I-grade we observed mainly postoperative nausea and vomits (PONV) and small surgical site infections. PONV occurred more often in ERAS-group. In II-grade we observed mainly postoperative prolonged ileus (PPOI) with similar frequency in both groups. In III-grade surgical interventions in ERAS group were more frequent because of PPOI with stricture in anastomosis. In IV-grade in ERAS-group all live-threatening complications were caused by anastomosis leakage and in non-ERAS by both cardio-pulmonary complications and anastomosis leakage with similar frequency. In V-grade death rate was higher in non-ERAS group mainly because of complications after anastomosis leakage and cardio-pulmonary complications.
Conclusion: Higher rate of complications in Clavien-Dindo I-group of ERAS patients is difficult to understand. We observe more PONV in ERAS patients. Higher rate of laparotomy in III-grade in ERAS-group is caused by inexperience in laparoscopy – that may be a cause of anastomosis strictures. Higher rate of death in non-ERAS group may be cause by selection of patients. In more morbidit and eldery patients we usually choosed non-ERAS protocol. In our opinion there is no significant difference of complications in ERAS and non-ERAS protocols. As ERAS protocol is more acceptable to patients it should be standard in colorectal surgery.
Disclosure of Interest: None declared

124.02

ERAS COMPLICATIONS MAY BE FALSIFIED BY TECHNICAL ERRORS CAUSED BY INSUFFICIENT EXPERIENCE OF SURGEONS IN LAPAROSCOPY

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Introduction: In 42 patients operated because of colon cancer in the 2nd Department of General and Oncological Surgery of Wroclaw Medical University, Poland we introduced ERAS protocol in years 2017-2018. In the same period of time we operated 88 colon cancer patients in non-ERAS protocol. We observed more III-grade complications in Clavien-Dindo classification in ERAS group than in non-ERAS (27,3% and 19,2% respectively of all complications). We tried to find a reason of that difference.
Materials & Methods: In group of 130 patients operated on colon cancer in our Department in years 2017-2018: 72 (55,4%) patients were operated in open surgery and 58 (44,6%) in laparoscopic surgery. ERAS protocol was introduced in 42 patients of laparoscopic surgery. The rest (88 patients) were in non-ERAS protocol with restricted fluid therapy. Complications during hospitalization in both groups were assigned to Clavien-Dindo classification. In III-group of Clavien-Dindo classification we found more patients in ERAS-group. We analyzed patients' documentation to find a reason of higher rate of reoperations in ERAS-group in III-grade Clavien-Dindo classification.
Results: All reoperations in ERAS-group, not caused by anastomosis leakage (III-grade of Clavien-Dindo) were caused by postoperative prolonged ileus (PPOI). In average 8th postoperative day we decided to perform laparotomy because of evident mechanical cause of ileus. In those cases (3 patients) the problem was stricture in anastomosis. In non-ERAS group there where 5 patients (19,2%) reoperated because of minor complications – 1 because of anastomosis stricture and 4 because of wound dehiscence. All ERAS patients where operated laparoscopically. We started regular laparoscopy in colorectal surgery in 2015. The cause of complications – strictures in anastomosis may be insufficient experience of operators in laparoscopic techniques.
Conclusion: The higher rate of reoperations caused by technical errors in ERAS laparoscopic colorectal patients may be caused by insufficient experience of operators. All operators should monitor their rate of complications to make sure of progress of their skills. In case of no progress surgeons should introduce additional training. All new operators should be audited on the rate of technical complications.
Disclosure of Interest: None declared

124.03

IMPROVED OUTCOME WITH SHAM-FEEDING BY CHEWING GUM AFTER ABDOMINAL OPERATIONS

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Introduction: After intraabdominal surgical interventions the postoperative subileus/ileus is of big clinical and financial relevance for the individual patient as well as for the health care system.
Reasons for the postoperative subileus/ileus are a dysregulation of the sympathic/parasympathic balance as well as the local effect of the surgical trauma in the abdominal cavity and the resulting inflammatory reaction.
A better propulsive activity through the parasympathic system can be achieved by activating the cephalic stimulation of the vagus with sham feeding with e.g. chewing gum, avoiding a too early oral ingestion of food after anesthesia. Some few clinical studies with few patients are reported and show a much shorter time duration until the first flatus and stool.
Materials & Methods: Our prospective, randomised study with patients of frequently performed abdominal operations was performed to test the effect of sham feeding with chewing gum concerning outcome in a bigger population of patients. 4 categories of patients were examined: patients with cholecystectomies, gastric and small bowel operations, colorectal operations and laparoscopic prostatectomies.
Postoperative nutrition was given according to the individual comfort and feeling of the single patient and depending on the clinically evaluated start of bowel activity. The test group started sham feeding with chewing gums immediately after waking up from anesthesia in the intermediate care room.
Results: A control group of 55 patients and a test group of 50 patients were comparable for age, gender and operations and the sham-fed test group showed significantly shorter time intervals until first bowel movements, flatus and defecation and a tendency for shorter hospitalisation. There were no complications or problems observed due to the sham feeding with chewing gums.
Conclusion: Conclusion: Postoperative sham feeding with chewing gum has a positive effect on bowel activity and may improve the postoperative recovery of patients after abdominal operations. It is cheap, inherits no risk, is uncomplicated to administer and can be used for practically all patients after abdominal operations.
Disclosure of Interest: None declared

124.04

DOES CARBOHYDRATE LOADING REDUCE LENGTH OF STAY IN COLORECTAL CANCER PATIENTS - A RANDOMIZED DOUBLE-BLIND PLACEBO-CONTROLLED TRIAL

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Introduction: Colorectal cancer (CRC) incidence in Malaysia is rising and may be related to high prevalence of known risk factors such as obesity and diabetes mellitus. Optimizing surgical outcome can minimize the health economic burden. Carbohydrate (CHO) loading in ERAS (enhanced recovery after surgery) protocols appears to reduce post-operative length of stay (LOS) in Caucasians, but its impact as a sole intervention on Asians, particularly diabetics, is uncertain. We aimed to determine whether CHO loading reduces LOS in CRC patients.
Materials & Methods: Patients who underwent elective open CRC resection at Sarawak General Hospital and University Malaya Medical Centre from 2017 to 2018 were randomized to receive either CHO or placebo pre-operatively. Outcomes assessed were LOS, days to return of gut function, and post-operative complications. Analysis was performed using Chi-square or Fisher's exact test for categorical data, and Mann-Whitney U-test for continuous data.
Results: Forty-four patients were enrolled and 22.7% were diabetic. Patients were mainly male, Chinese, and between 60 to 70 years of age. Post-operative complications were comparable in both arms (45.5%, p=1.0). Return of gut function was earlier (3 vs 4 days, p=0.035), and post-operative nausea and vomiting (PONV) less in the CHO group. Although the CHO group shows a trend to shorter hospitalization, it was not statistically significant (5 vs 7 days, p=0.27).
Image:

			Study group		*P*
		Total	**Placebo**	**CHO**	
		(n=44)	(n=22)	(n=22)	
Time to first flatus (days post-op)	Median (IQR)	3 (2)	3.5 (2.0)	2.5 (2.0)	0.109
	Range	1 – 11	1 -9	1 – 11	
Return to gut function (days post-op)	Median (IQR)	4 (3)	4 (4)	3 (3)	0.035*
	Range	2 -13	2 – 11	2 -13	
Length of stay: fit for discharge (days post-op)	Median (IQR)	5 (8)	7 (7)	5 (7)	0.270
	Range	3 – 22	3 – 20	3 – 22	
Actual day of discharge (days post-op)	Median (IQR)	7 (8)	7 (8)	6.5 (6)	0.714
	Range	3 – 29	3 – 29	3 – 22	

Note: All continuous variables were not normally distributed and analysed with Mann Whitney Rank U Test. All categorical variables were analysed with Chi Square or aFisher's Exact Test.

*significant at p<0.05

Conclusion: CHO loading is safe even in diabetic Asian patients, and is beneficial in promoting earlier return of gut function with less PONV, even though LOS was not significantly reduced.
Disclosure of Interest: None declared

124.05

THE INFLUENCE OF THE SEVERITY OF OBSTRUCTIVE SLEEP APNOEA ON THE PERIOPERATIVE OUTCOMES IN PATIENTS UNDERGOING BARIATRIC SURGERY

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Introduction: The obstructive sleep apnoea (OSA) is associated with obesity. Based on literature, undiagnosed or untreated OSA, especially when it is severe, increases the risk of cardiovascular disease and risk for perioperative complications. The aim of this study was to assess the influence of severity of obstructive sleep apnoea on the perioperative outcomes in patients undergoing bariatric surgery and treated for OSA.
Materials & Methods: The study enrolled 95 patients scheduled to bariatric surgery. Before the operation, the polysomnography was performed. The patients were diagnosed with OSA and severity was assessed. Appropriate treatment with CPAP was administered before surgery, based on polysomnography results. The primary end point was influence of OSA severity on recovery outcomes, perioperative morbidity, length of hospital stay (LOS) and 30-day readmission rate. Patients were divided into to two groups according to degree of OSA: group 1 (G1, n=24) with mild to moderate OSA and group 2 (G2, n=71) with severe OSA.
Results: There were no statistically significant differences between groups in demographics and comorbidities, except for mean age (42.04 vs. 48.27 years, p=0.013) and hepatic steatosis (17% vs. 46%, p=0.010). LSG was more commonly performed than LRYGB in both groups (G1: 20 (83%) vs. 4 (17%); G2: 53 (75%) vs. 18 (25%), respectively). Recovery outcomes and drugs management did not differ between groups (mobilization on the day of surgery (79%) vs. (93%), p=0.057; tolerating oral diet on POD1 (75%) vs. (73%), p=0.866; diuretics (13%) vs. (14%), p=0.845; extra pain medications (63%) vs. (76%), p=0.198. Similarly, LOS and readmission rate did not differ significantly, (median LOS: 3.0 (2.5-4.0) vs. 3.0 (2.0-4.0), p=0.069 and readmission rate: (4%) vs. (6%), p=0.781, respectively. Only postoperative complications differed between group (8%) vs. (0%), p=0.014.
Conclusion: Appropriate treatment of severe OSA in patients undergoing bariatric operations did not deteriorate perioperative outcomes in comparison with patients with mild to moderate OSA.
Disclosure of Interest: None declared

124.06

ESTABLISHMENT OF OPTIMAL TREATMENT PROCESS IN PATIENT WITH SEVERE ACUTE CHOLECYSTITIS

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Introduction: Cholecystectomy, including laparoscopic cholecystectomy, is standard treatment in acute cholecystitis. And Percutaneous transhepatic gallbladder drainage (PTGBD) is one treatment option for patients with moderate to severe acute cholecystitis. The purpose of this study is to compare the clinical outcome of upfront surgery between delayed surgery and establishment of optimal treatment process in patient with severe acute cholecystitis.
Materials & Methods: From 2014 to 2017, a total of 248 patients who underwent surgical resection with acute cholecystitis at Samsung Medical Center, Seoul National University Boramae Medical Center, Ilsan Paik Hospital, and Ajou University Hospital were analyzed retrospectively. The patients with grade Ⅱ, Ⅲ according to Tokyo Guideline 2013/2018 and underwent PTGBD insertion before surgery were included.
Results: Patients who underwent PTGBD before surgery were older, had more septic condition and more cardiac or cerebrovascular disease and bad performance status, which was defined ASA (American Society of Anesthesiologists Classification) score ≥ 3 and ECOG (Eastern Cooperative Oncology Group) score ≥ 2, than patients who underwent upfront surgery. In postoperative outcomes, the PTGBD group had longer total hospital stay and received more ICU care than upfront surgery group. In multivariable analysis, having previous abdominal operation history, ASA score ≥ 3 and ECOG score ≥ 2 were independent risk factors that increased postoperative hospital stay.
Conclusion: PTGBD insertion in severe acute cholecystitis did not affect postoperative complications and duration of postoperative hospital stay. In future, multicenter randomized controlled trial study will be necessary for accurate analysis of the effect of PTGBD insertion in patients with severe acute cholecystitis.
Disclosure of Interest: None declared

126.01

STATE OF ANAESTHESIA AT DISTRICT LEVEL HOSPITALS IN AFRICA

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Introduction: District level hospitals are the main providers of surgical services for rural populations in Sub-Saharan Africa (SSA). Skilled teams are essential for surgical care and gaps in anaesthesia impact negatively on surgical capacity and outcomes. This study, from a baseline of a project scaling-up access to safe surgical and anaesthesia care in Malawi, Tanzania and Zambia, illustrates the deficit of anaesthesia care in district hospitals (DHs).
Materials & Methods: We undertook an in-depth investigation of anaesthesia capacity in 76 DHs across the three countries, July-November 2017, using a mixed-methods approach. The quantitative component assessed district level anaesthesia capacity using a standardised scoring system based on an adapted and extended Personnel, Infrastructure, Procedures, Equipment and Supplies (PIPES) Index. The qualitative component involved semistructured interviews with providers from 33 DHs, exploring how weaknesses in anaesthesia impacted district surgical team practices and quality, volume and scope of service provision.
Results: Anaesthesia care at district level in these countries is provided only by non-physician anaesthetists, some of whom have no formal training. Ketamine is widely used in all hospitals, compensating for shortages of other forms of anaesthesia. Paediatric-size supplies/equipment were frequently missing. Anaesthesia PIPES index scores in Malawi (M=8.0), Zambia (M=8.3) and Tanzania (M=8.4) were similar (p=0.59), but an analysis of individual PIPES components revealed important cross-country differences. Irregular availability of reliable equipment and supply is the main problem in Malawi, where only 29% of facilities have uninterrupted access to electricity and 23% constant access to water, among other challenges. Zambia is the most affected by staffing shortages, with 30% of surveyed hospitals lacking an anaesthesia provider. The principle obstacle in Tanzania was non-availability of functioning anaesthesia machines among frequent shortages of staff and other equipment.
Conclusion: Tanzania, Malawi and Zambia, comprising 120 million people, are falling far short of ensuring universal access to safe and affordable surgical and anaesthesia care for district and rural populations. Mixed methods situation analyses - measuring and understanding deficits in district hospital anaesthetic staff, equipment and supplies - can inform national responses.
Disclosure of Interest: None declared

126.02

INJURY PATTERNS AND SURGICAL TREATMENT NEEDS OF WAR WOUNDED CHILDREN TREATED BY THE INTERNATIONAL COMMITTEE OF THE RED CROSS

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Introduction: With some of the world's largest humanitarian crises currently taking place, millions of children are affected in many ways; armed violence can lead to severe injuries, disabilities and even death. Understanding of injury patterns specific for pediatric casualties of armed conflict is essential to facilitate deployment preparations for humanitarian organizations that provide medical care in conflict areas. The aim of this database study is to identify injury patterns and treatment requirements that are specific for child casualties in armed conflicts.
Materials & Methods: Characteristics were analyzed of children (age <15 years) treated by the International Committee of the Red Cross (ICRC) between 1988 and 2006 in Butare, Kabul, Kao-i-Dang, Lokichogio, Kandahar, Novi Atagui, Peshawar and Quetta, or in the time period of 2009 through 2012 in a different treatment facility in Peshawar. Patient characteristics of pediatrics were compared to those of adult patients (age ≥15 years).
Results: Out of all patients enlisted in the database, 15.4% (5,794/37,664) were aged <15 years. The mean age was 9.0 years (SD4.0); 75.8% (4,390/5,794) being male. Eighty-six percent (4,986/5,794) of the admitted children underwent surgery, with a mean of 2.3 surgeries per patient (SD 3.0). When comparing with adult patients, children are more frequently seen with fragment injuries (39.1% vs 24.0%), burns (3.6% vs 0.9%) and mine injuries (22.4% vs 15.8%; all with $p<0.01$); they are more often injured to multiple body regions (38.4% vs 31.2% $p<0.01$) and vital structures (12.5% vs 10.1%; $p<0.01$), and have higher in-hospital mortality rates (4.1% vs 2.7%; $p<0.01$).
Conclusion: In the analyzed conflict areas, there are significant differences between adults and pediatrics in injury patterns and treatment requirements, with children often being more critically injured. The findings of this study can have implications for how the ICRC and other humanitarian organizations prepare personnel for deployment and structure logistics in current conflicts.
Disclosure of Interest: None declared

126.03

MATERNAL OUTCOMES FROM POOR SURGERY AND ANAESTHESIA IN LMICS

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Introduction: Purpose:
This paper explores and documents the damage caused to individual young females living in a resource and infrastructure-poor country by inadequate surgery performed by poorly trained practititoners.
Materials & Methods: A prospective, observational study is reported of patients referred to the tertiary referral HEAL Africa Hospital, Goma, eastern Democratic Republic of Congo (DRC), with a uretero-vaginal fistula (UVF) and in 'abdominal catastrophe' (AC) between January 2015 and June 2018. AC is defined as 'a patient who has undergone multiple laparotomies with inadequate source control and ongoing presence of intestinal or urinary leak, usually from the wound'. Data was collected on: demographics, operative findings, length of hospital stay and outcomes.
Results: 52 women were referred with Uretero-Vaginal Fistula and over 40 patients with 'Abdominal Catastrophe'. 73% of the AC cases were females. The mean age was 30 years. 85% of the AC cases and 71% of UVF cases were referred from rural areas. The primary procedure was a Caesarean section in 37.5% of AC cases and 71.2% of UVF cases. Patients with AC had undergone a mean of 2 operations to attempt correction before referral (range 1-6). The background and outcomes of reparative surgery will be discussed. 100% UVF patients underwent re-implantation with no resultant nephrectomy but the mortality from the AC group was 35%. The vast majority of these cases had initial surgery performed under Ketamine with little relaxant or sedative given.
Conclusion: The Democratic Republic of Congo is a low-income country with little timely access to surgical, obstetric and anaesthesia care. Consequently, junior doctors are often called on to perform significant surgery in adverse conditions with little training and only Ketamine anaesthesia. The Lancet Commission ideal of a Level I hospital being able to perform a safe Caesarian section, Laparotomy, and management of Open Fracture, is difficult to achieve in this setting. With over 80 million people living in an area just under twice the size of Western Europe, significant training and infrastructure investment is required. Training doctors and nurses in essential surgery and importantly concomitant anaesthesia care is essential and urgent, as many young female lives and those of their families are devastated by such surgical misadventures.
Disclosure of Interest: None declared

126.04

A FEASIBLE SURVEILLANCE SYSTEM FOR MONITORING AND EVALUATION OF SURGICAL SERVICES IN A LMIC HEALTHCARE SETTING

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Introduction: Optimal surgical care delivery is recognized as a major public health challenge in low-resource countries like Pakistan. The dearth of surgical epidemiological data makes monitoring and evaluation of surgical services difficult. These data are essential to identify shortcomings in surgical systems and start an iterative process for systematic improvement. Evidence suggests that monitoring of indicators like volume of surgical procedures performed, surgical site infection (SSI) rates, number of avoidable associated conditions, and perioperative mortality rates positively impact surgical outcomes.

Materials & Methods: An outcome-based health worker led surveillance program was initiated at a tertiary care hospital in Muzaffargarh, a peri-urban setting in Pakistan, in March 2018. Surgical patients and their caregivers were approached and educated about post-operative wound care by health workers. Prior to discharge from the facility, they were provided with educational material to help identify SSIs and a helpline number was provided to report any concerns. A weekly telephonic follow-up in the 30-day period following surgery was also conducted for reinforcement and proactive identification of symptoms.

Results: A total of 4600 patients underwent surgical procedures from March to December 2018 at the study facility. All patients were counselled about self diagnosis of SSI prior to discharge from hospital. Four patients died during the in-hospital postoperative course, while two patients died within the 30-day follow up period, with an overall perioperative mortality rate (POMR) of 0.13%. Telephonic follow up were completed for 4585 (99.7%) patients, of whom 54 (1.2%) developed a SSI; this included 37 (68.5%) patients who self reported the complication, while the rest were identified by the primary surgical team on a routine clinic visit or by a general practitioner outside the program site.

Conclusion: A well structured monitoring system led by health workers can help monitor key surgical outcomes in an LMIC setting. This data feeds into an iterative quality improvement process that aims to identify and address causative and contributing factors. Implementing surgical indicators monitoring in urban and rural facilities will enable collection of representative data that can inform policies to improve surgical systems in Pakistan.

Disclosure of Interest: None declared

126.05

THE DIRECT AND INDIRECT NON-MEDICAL COSTS OF TERTIARY SURGICAL CARE IN SOUTH AFRICA

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Introduction: A key indicator of equitable access to safe surgical care is impoverishing healthcare costs[1]. Many peri-operative costs incurred by households are non-medical, and may be hidden to traditional health economic tools. In South Africa, a state-sponsored health system means direct costs are low, but indirect and hidden costs, preventing or delaying access to care, may be underestimated. We developed a comprehensive tool to quantify the direct, indirect and hidden costs incurred by surgical patients.

Materials & Methods: This prospective, observational study was conducted at a tertiary, public hospital in Johannesburg. South Africa, including a convenience sample of patients aged 18-69 undergoing laparoscopic cholecystectomy or hernia repair over 1 month.A peri-operative cost analysis tool (POCA) was developed and adjusted after the pilot study and administered within 48h post-surgery. The average national monthly household income at this time was R2340 [2]. Data was collectd with the online data collection tool REDCAP.

Results: Of the 14 patients sampled 93% (n=13) were South African and 57% (n= 8) were female. The median age was 50 (range 22- 69 years). Most participants underwent laparoscopic cholecystectomies (71%, n=10). Direct medical costs at an average of R335.00 were incurred by patients seeking private medical care and by those required to pay a hospital registration fee.Direct non-medical costs from transportation and meal expenses increased average cost of care by R331.50.Indirect costs were incurred by 28.5% (n=4) of participants ranging from R20-R1700/ day. Formally-employed participants incurred the greatest indirect costs followed by participants receiving social grants as they were unable to collect these. Participants cited providing childcare, conducting housework, searching for employment and working as the primary alternate activities in which they would engage if not admitted. Costs incurred were directly proportional to time spent in hospital. Impoverishing costs (more than 10% of household annual income) were incurred by 43% of participants[3].

Conclusion: This study highlights that mitigation of direct medical costs is insufficient to decrease cost as a barrier to surgical care. Mechanisms to minimise impoverishing costs on individuals and households need to be explored further.

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126.06

THE EFFECT OF THE NATIONAL HEALTH INSURANCE SCHEME ON CATASTROPHIC HEALTH EXPENDITURE AMONG INJURED PATIENTS IN GHANA

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Introduction: Ghana implemented a National Health Insurance NHI Scheme (NHIS) in 2004, which covers all emergencies including trauma care, with a goal of achieving universal health coverage. To demonstrate whether NHIS protects against catastrophic health expenditure (CHE), we sought to determine the proportion of patients with traumatic injuries that required surgery at the initial visit who experienced CHE.
Materials & Methods: A retrospective review of patients presenting to the accident and emergency center of Ghana's second largest hospital was performed. All patients presenting from January 2015 to December 2016, with traumatic injuries requiring surgical intervention at the initial visit were included. Data collected included patient's age, sex, occupation, acuity level at presentation per South Africa Triage Scale, NHIS status and out-of-pocket payments (OOPP) made for the duration of hospital stay. The ratio of patient's OOPP to annual income and OOPP to annual household income were calculated. The proportion of patients who experienced CHE was calculated using thresholds (established by various prior publications) of 5–20% at both the individual and household levels. Multivariate logistic regression was used to examine how a priori selected covariates contributed to the CHE set at 10% threshold, using annual household income as the denominator.
Results: 999 patients were included in the analysis. 56% had NHIS coverage, 43% were uninsured and <1% had private insurance. Most injuries were due to road traffic crashes (58%) and falls (23%). Majority of the patients (89%) were admitted with a SATS acuity level of yellow or orange. Median OOPP made by patients was GHS 1,461 (USD 387). Using the individual patient's annual income as the denominator, 67–96% of patients experienced CHE at 5-20% threshold levels. Using the patient's annual household income as the denominator, 23–77% of patients faced CHE at 5-20% threshold levels. Table 1 shows the predictors of CHE. Severe acuity level more than doubled risk of CHE, whereas having NHIS decreased risk of CHE by half.
Conclusion: For patients presenting with traumatic injuries to a Ghanaian tertiary hospital who require surgery at the initial visit, Ghana's NHIS offers some protection against CHE but does not eliminate OOPP they have to make to assess the necessary essential care they need. A more robust NHIS structure that reliably covers essential care of all types is needed.

Disclosure of Interest: None declared

126.07

SURGICAL CAPACITY INDICES - A POOR PREDICTOR OF SURGICAL PRODUCTIVITY IN AFRICAN DISTRICT HOSPITALS

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Introduction: The monitoring of hospital service delivery capacity and understanding of its determinants are essential to achieving universal access to surgical care. This is particularly important in rural sub-Saharan Africa (SSA), where the need is greatest but district level hospitals (DLHs), the primary service providers, struggle to deliver safe and timely care. A variety of tools is available to measure surgical capacity. This study evaluates the utility of surgical capacity indicators as predictors of surgical productivity of DLHs in SSA.

Materials & Methods: We surveyed 76 DLHs in Malawi, Zambia and Tanzania, using a convergent mixed-method design. An extended Personnel, Infrastructure, Procedures, Equipment and Supplies (PIPES) survey tool was employed to collect data on surgical capacity indicators, availability of surgical providers and surgical output. 33 in-depth interviews complemented the quantitative findings. Two surgical providers were surveyed per facility to maximise data validity and reliability, and to minimise recall bias. Surgery volumes were extracted from theatre logbooks and hospitals were categorised into high and low productivity groups. An overall surgical capacity index and individual indexes for each subdomain were computed. Negative binomial regression models identified predictors of surgical productivity.

Results: Median general surgical productivity was low: 23 cases per four months in Tanzania (range: 1-68), 31 in Malawi (range: 8-103), 12 in Zambia (range: 0-42). DLHs in Tanzania and Malawi had higher numbers of providers per facility (median 8, 16 and 3 respectively); and performed significantly more procedures than in Zambia $F(2,72)=8.38$, $p=001$. No significant correlation was observed between surgical productivity and overall surgical capacity, nor with individual capacity domain, indexes. In multivariable regression models, surgical capacity indexes were not statistically significant predictors of surgical productivity. Qualitative findings suggested that additional factors, not captured by mainstream indicators, may affect hospitals' surgical productivity, particularly staff motivation.

Conclusion: Our findings suggest that the common tools to assess availability of essential staff, infrastructure, equipment and supplies do not capture some important parameters of surgical productivity in SSA DLHs. Further studies are needed to improve existing tools and approaches.

Disclosure of Interest: None declared

126.08

CLINICAL CHARACTERISTICS AND OUTCOME OF PAEDIATRIC SURGICAL ABDOMINAL EMERGENCIES AT A SECONDARY HOSPITAL IN CAMEROON.

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Introduction: Acute abdominal complaints are common reasons for emergency consultations in the paediatric population. Though they are mainly caused by self-limiting disorders, a good proportion of paediatric abdominal emergencies are due to life-threatening surgical causes. Paediatric surgical abdominal emergencies are associated with high morbidity and mortality and little is known in Cameroon about these emergencies and their impact on the paediatric population. This study aimed at evaluating the clinical characteristics and the factors affecting outcome of paediatric surgical abdominal emergencies in a level 1 healthcare centre in Douala, Cameroon.
Materials & Methods: This observational retrospective study involving paediatric patients aged 0 to 16 years was conducted in the Surgical Department of a level 1 institution in Douala. Patients' records and operation log books were checked for demographic data, clinical presentation, operative findings, post-operative evolution and final outcome. Data was analysed using the SPSS version 20.0 software, taking P-value<0.05.
Results: A total of 250 children operated on for an acute abdominal complaint over the study period could be analysed. This constituted 31.1% of the total paediatric surgical interventions. Their mean age at presentation was 6.02 years. The median duration of symptoms before presentation to hospital was 94 hours and the median duration between admission and surgical intervention was 24hours. Intestinal obstruction was the commonest indication accounting for 115 (46%) patients. This was followed by abdominal injuries (20.4%). Other indications included acute appendicitis (15.6%), typhoid fever related ileal perforations, ruptured ectopic pregnancy and primary peritonitis. Two hundred and two (81%) had postoperative complications. The commonest complications recorded were paralytic ileus 30 (14.8%), wound infection 28 (13.9%) and sepsis (26.2%). The overall mortality was 12.4% and mostly affected neonates (42%). Other mortality-related factors included prolonged interval between admission and surgery and the occurance of severe postoperative complications.
Conclusion: Paediatric surgical abdominal emergencies still constitute a major burden with a high large morbidity and mortality rate especially in neonates. There is need to reinforce access to timely surgical intervention for paediatrics populations with an emergent abdominal condition in our setting.
Disclosure of Interest: None declared

126.09

PARTICIPATORY ACTION RESEARCH TO DESIGN A SURGICAL TRAINING & SUPERVISION INTERVENTION FOR DISTRICT LEVEL HOSPITALS IN MALAWI, TANZANIA AND ZAMBIA

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Introduction: In sub-Saharan Africa (SSA) the main providers of surgical services for rural populations are district level hospitals (DLH). This implementation research study is from the baseline of a project scaling-up access to safe surgical and anaesthesia care in Malawi, Tanzania and Zambia. Participatory action research (PAR) was conducted in partnership with local stakeholders to inform the design of a user-focused health workforce training and supervision intervention.

Materials & Methods: PAR consultation meetings were held in the 3 partner countries from July-November 2017 with surgical teams from 67 district level and referral hospitals. Representatives included surgical and anaesthesia providers, theatre nurses, and hospital managers, and ministries of health representatives. Through semi-structured large and small group discussions, qualitative data were collected on participants' perceptions and experiences of barriers to the provision of safe and timely surgical and anaesthesia care, challenges with referrals systems, and training and supervision needs for surgical teams. Data were compared for themes across the three research sites, and across the surgical team cadres.
Results: All groups reported a lack of in-service training available to develop essential skills such as pre, intra and post-operative care, surgical skills to manage common conditions seen at DLHs, use and care of surgical and anaesthesia equipment, essential anaesthesia care, resuscitation skills, and infection prevention control. Very few participants had access to mentoring. Surgical providers at DLHs reported a demand for more feedback on surgical referrals, as a learning opportunity. Participants identified and prioritised training needs that could be addressed through regular in-service training and supervision visits from referral hospitals to DLHs over an intervention period of 24 months. These data were used by participants in an action-planning cycle to develop site-specific training plans for each research site.
Conclusion: Our findings suggest that participatory action research, as part of an implementation research approach, can improve the design of a user-focused country-specific intervention, and its acceptability. Further studies are needed to assess the effectiveness, relevance and sustainability of such interventions, and its intended outcome of improved surgical and anaesthesia care for rural populations.
Disclosure of Interest: None declared

126.10

SURGICAL CAPACITY AT DISTRICT HOSPITALS IN ZAMBIA: 2013 TO 2016

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Introduction: Sub-Saharan Africa has one of the highest burdens of surgically treatable conditions in the world and the highest unmet need, especially in rural areas. Zambia is one of the countries in the region taking steps to improve surgical care for its rural populations. The aim of this study was to demonstrate changes in surgical capacity in Zambia's district hospitals over a 3-year period and to provide a baseline from which future interventions in surgical care can be assessed.
Materials & Methods: A cross-sectional assessment of surgical capacity, using a modified WHO questionnaire, was administered in first-level hospitals in nine of Zambia's ten provinces between November 2012 and February 2013 and again between February and April 2016. The two assessments allowed measurement of changes in surgical workforce, infrastructure, equipment, drugs and consumables; and numbers of major surgical procedures performed over two 12-month periods prior to the assessments.
Results: There was a significant increase, 2013–2016, in number of theatre staff, from 174 (mean 4.4; SD 1.7) to 235 (mean 6; SD 2.9), P = 0.02. However, the percentage of hospitals with functioning anaesthetic machines dropped from 64 to 41%. There was also a drop in hospitals reporting availability of instruments, drugs and consumables from 38 to 24 (97–62%) and from 28 to 24 (72–62%), respectively. The median number of caesarean sections in 2012 was 99 [interquartile range (IQR) 42–187] and 100 (IQR 42–126) in 2015 (P value =0.53). The median number of major surgical procedures in 2012 was 54 (IQR 10–113) and 66 (IQR 18–168) in 2015 (P = 0.45).
Conclusion: An increase in the first-level hospital surgical workforce between 2013 and 2016 was accompanied by reductions in essential equipment and consumables for surgery, and no changes in surgical output. Periodic moni- toring of resource availability is needed to address shortages and make safe surgery available to rural populations.
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Disclosure of Interest: None declared

127.01

PREDICTING ISCHEMIC COMPLICATIONS IN THE INFRAMAMMARY APPROACH TO NIPPLE SPARING MASTECTOMY: THE MIDCLAVICULAR TO INFRAMAMMARY FOLD MEASUREMENT

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Introduction: Anatomical exclusion criteria for nipple sparing mastectomy was defined as “not excessively large or ptotic breasts”. However, morphologic criteria such as ptosis and measurements of sternal notch to nipple have not been shown to predict ischemic outcome. In this presentation, we introduce a novel measurement from midclavicle to inframammary fold (MCI) for NSM performed through an inframammary approach and demonstrate it to be predictive of mastectomy weight and ischemic outcomes.
Materials & Methods: Retrospective review was performed on all NSM through an inframammary approach. Exclusion criteria include other mastectomy incisions, staged mastectomy, previous breast operation, and autologous reconstruction. Preoperative anatomical measurements for each breast, clinical course, and specimen weight were obtained.
Results: 140 breasts in 79 patients were reviewed. Mastectomy weight was strongly correlated with MCI measurement on linear regression (R^2=0.651, p<0.001) but not ptosis or sternal notch to nipple. Twenty five breasts(17.8%) had ischemic complications: 16(11.4%) were nonoperative and 9(6.4%) were operative. The average mastectomy specimen weight in patients with major ischemic complications was 498g, significantly different from mastectomy specimens without major complications(315g, p=0.001). Those with mastectomy weights >=500g were 9 times more likely to have operative ischemic complications than those with mastectomy weights <500g(p=0.0048). The average MCI measurement among breasts with major ischemic complications was 30.2cm, significantly different from breasts without major ischemic complications(27.9cm, p=0.032)(**Table** 1). Those with MCI >=30cm had a 3.8 times increased incidence of any ischemic complication(p=0.00547) and 9.2 times increase incidence of operative ischemic complications(p=0.00376) compared with those <30cm. The majority of patients with and without major ischemic complications had grade I ptosis(p>0.05).
Image:

Table 1: Comparing the ischemic requiring operative intervention versus the nonischemic breast A significant in MCI measurement and average mastectomy weight between those with and without major ischemic complications was found

Major/Operative Ischemic Complications By Breast	Operative Ischemic Complications	No Ischemic Complications
Total	9	131
Average Midclavicular to IMF (cm)*	30.2 (28-34)	27.9 (20.5-34)
Ptosis		
0	2 (22%)	37 (28%)
1	5 (56%)	55 (42%)
2	2 (22%)	39 (30%)
3		0
Average mastectomy weight (g)*	497.9	315.2
Sternal Notch to Nipple (cm)	22.6 (21-23)	21.7 (18-25.5)
Base Width	14.1 (12.8-15.5)	12.7 (10.5-15)
* Significant (P<0.05)		

Conclusion: Breasts undergoing NSM with inframammary approach with MCI measurement >=30cm are at high risk for having ischemic complications. Previous anatomical measurements, such as SNN and ptosis, were not correlated with ischemic complications. While our absolute contraindication to NSM remains MCI >34cm, consideration for a staged approach or lateral incision is warranted in those >30cm to ultimately facilitate a better outcome for patients.
Disclosure of Interest: None declared

127.02

THE USE OF MRI IN EVALUATION OF BREAST CANCER IN ASIAN POPULATION

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Introduction: The utilization of magnetic resonance imaging (MRI) in the management of breast cancer has gained popularity in recent years. MRI was proven to be a useful tool for screening in the high risk population due to its high sensitivity. Currently there is limited evidence of the application of MRI breast on Asian women and its impact in the long term.

Re-excision in breast conserving surgery is associated with increased patient's anxiety, increased cost, morbidity and delay in adjuvant treatment. Reduction of re-excision rate is essential. This study aims to identify if there is any additional value of MRI on Asian women undergoing lumpectomy for breast cancer. Theoretically MRI gives a better picture of the disease extent, improves the surgical planning and hence reduces the re-excision rate.

Materials & Methods: This is a retrospective cohort study conducted in Princess Margaret Hospital, Hong Kong. Ethical board approval was obtained in the research committee of the hospital. Women with pathologically diagnosed breast cancer who planned for lumpectomy were retrieved from the CDAS (Clinical data analysis and reporting system) database. The study period was from Jan 2014 to Dec 2016. The following patients were excluded: 1) past history of breast cancer 2) known multifocal/multicentric disease 3) previous history of ipsilateral breast surgery 4) Ultrasound (USG) occult disease. The primary end-point was re-excision and mastectomy rate and secondary end-point was the waiting time for operation after diagnosis.

Results: 127 patients were recruited in the non MRI group and 59 patients in the MRI group. The median follow up time was 30.2 months (range 7.7-55.7) and 29.8 months (range 7.9-62.6) in non MRI group and MRI group respectively. There was no significant difference in re-excision rate (Non MRI 18%; MRI 15%, P=0.671) and mastectomy rate (Non MRI 32.2%; MRI 21.3%, P=0.671). In subgroup analysis of tumour type, both groups also did not demonstrate significant difference in mastectomy or re-excision rate (table 3). Time from diagnosis to operation was significantly longer in the MRI group (table 2). The average waiting time was 45.7 days in non MRI group and 58.5 day in MRI group (P=0.001).

Conclusion: In the setting of multidisciplinary management of breast cancer with low rate of local recurrence, the clinical benefit of MRI for preoperative evaluation of breast cancer in Asian women is marginal. There is no evidence to support its routine use.

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Disclosure of Interest: None declared

127.03

AN AUDIT WITH OUTCOME ANALYSIS AND CLINICO-EPIDEMIOLOGCAL TRENDS OF BREAST CANCER: RESULTS FROM TERTIARY CARE CENTER OF NORTHERN INDIA

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Introduction: Breast cancer is most common cancer in urban Indian woman. Patient profile here differs from the West. This abstract summarizes the audit of breast cancer patients visiting a single breast cancer unit from 1993-May 2018.
Materials & Methods: This is a retrospective review of data collected from 1993 to May 2018 of a single unit run breast cancer clinic (BCC) in the Department of Surgical Disciplines, AIIMS New Delhi. Details on demography, socioeconomic status, clinical and pathological profile, treatment response and outcomes were recorded. All cases were restaged according to AJCC VIII TNM classification. The trends over these years were categorized into 3 block years from 1993-2000,2001-2010 and 2011-2018 May. Disease-free survival (DFS) was calculated from the time of intervention to the time of first recurrence. Time of first recurrence was equated to time of death if the interval between them was not known. Overall survival (OS) was calculated from the time to intervention till the time of death. These 'time to event' variables were described using the life tables and Kaplan Meier product limit estimator for patients registered till June 2016 (analysis done in August 2018).
Results: The study comprised of 1825 cases with 98.5% being ladies. The mean age at presentation was 48 years and age at menarche was 13.85years. The mean parity was 3 with mean age at 1st child birth of 21 years. 55% women were post menopausal. Early menarche was seen in 1.1% and late menopause in 0.8%. Only 8.3%of tumors were <2cm size. Though the T1 tumors increased over 3 block years, T4 tumors still formed around 30% of total. Around 55% of tumors had clinically node positive disease. Though early breast cancer formed 53% of all cases, the proportion of EBC hasn't changed significantly in each block year. 24% of cases with receptor status available were TNBC , with an increase in each block year. The number of BCS, breast recontructions and SLNB increased over the years. Overall recurrence rate was 20.28% (EBC 18%, LABC 23.74%). The 5 & 10 year DFS was 71.46% & 60.60%. The 5&10 year OS was 75.5% and 62.4%.
Conclusion: Breast cancer in Indian appears to be different phenotype than in the West. The persistence of substantial burden of Locally advanced and metastatic breast cancer is alarming. Regular audit helps in understanding & evaluating clinico-demographic, clinical and management outcomes. These facts must be understood before extrapolating the results of western trials to our Indian population.
Disclosure of Interest: None declared

127.04

CURRENT STATUS AND INFLUENCING FACTORS OF SURGICAL OPTIONS ON BREAST CANCER IN CHINA -A CROSS SECTIONAL SURVEY OF 85721 PATIENTS

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Introduction: There is limited data about breast cancer surgical information national wide in China. CACA-CBCS (Chinese Anti-Cancer Association, Committee of Breast Cancer Society) conducted a survey to examining utilization and barriers associated with breast conserving surgery, sentinel lymph node biopsy, oncoplastic surgery and breast reconstruction surgery into practice all over the country.
Materials & Methods: Surveys were sent to director of 110 centers with at least 200 cases of breast cancer surgery in 2017 by email. The survey was mostly based on multiple-choice question, including questions on the demographics of the department and the surgeons, surgical practice and the application of breast reconstruction.The data retrieved from the survey were analyzed.
Results: The selected institutions are all over China which cover 31 provinces and performed 85721 breast surgery in 2017. 87% of the centers routinely perform breast reconstruction. The overall proportion of BCS is 22%.There is a significant positive correlation between local Gross Domestic Product (GDP) and the rate of BCS (p=0.046). SLNB was performed routinely in 76% hospitals,while only 15% used internal mammary lymph node biopsy.Over 50% of breast lumpectomy with oncoplastic techniques were performed in 36 (33%) hospitals. However, less than 10% were performed in 35 (32%) hospitals. The proportion of volume shifting technique used is significantly higher than volume replacement technique ($p < 0.001$). There is no correlation between Breast reconstruction type and the level of the hospital, GDP or academic settings. After any type of breast surgery, the overall BR rate is 11%, with 70% implant-based reconstruction, 17% autologous tissue reconstruction, and 13% combined. In total, 22% percent of the hospitals predominantly performed immediate breast reconstruction. For delayed reconstruction, two stage implant-based BR is the first choice for 46% of the centers, while 20% centers choose autologous reconstruction. Nearly 40% of the hospital seldomly use ADM or Tiloop bra. Among 96 centers perform autologous based BR, 96% master latissimus dorsi flap (LDF) reconstruction, 65% could use TRAM, and 45% perform DIEP reconstruction surgery.
Conclusion: Over 110 centers from most of the provinces in China were investigated in this survey. We could provide a great vision into the surgical practice in China. From the results, we could see the progress that has been achieved and some problems remains to be solved.
Disclosure of Interest: None declared

127.05

COMPARISON EFFICACY OF VARIOUS DOSE REGIMENS OF ORMELOXIFENE WITH TAMOXIFEN IN TREATMENT OF CYCLICAL MASTALGIA-A RANDOMIZED TRIAL

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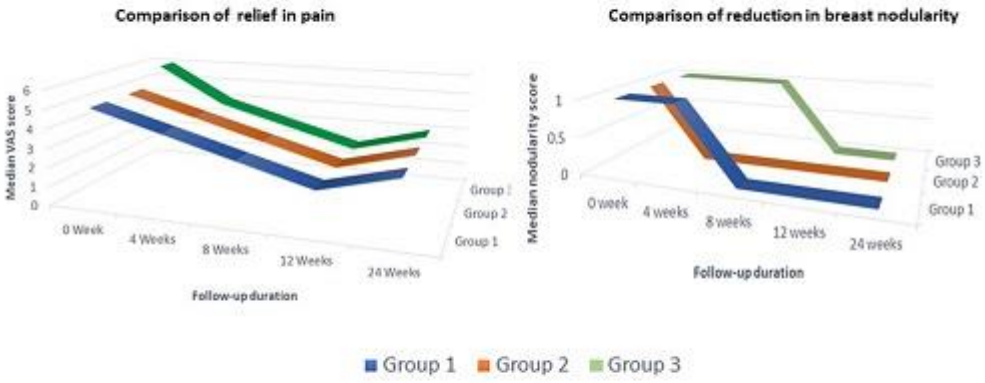
Introduction: Mastalgia of moderate to severe degree needs treatment. Tamoxifen is the drug of choice as reported in meta-analysis by srivastava et al published in 2007(1).A novel molecule, Ormeloxifene, developed in India, was shown in various RCT to be equally effective to tamoxifen.However, there is no consensus yet, on the optimal dosage regimen. This drug has a long half-life of 165 hrs. hinting towards less dose requirements. In present study, two dosage regimens of the drug were compared with tamoxifen for efficacy and adverse effects, to settle for the optimal dose.
Materials & Methods: Patients with cyclical mastalgia, moderate-severe pain score were included in the three-armed open labelled RCT. Group 1 received Tamoxifen 10 mg daily, Group 2 and 3 received Ormeloxifene 30 mg twice and 30 mg thrice week respectively for three months with follow-up three months. Breast pain, breast nodularity, ultrasonography of breasts and ovaries, quality of life and adverse events were recorded. Data analysis was done with standard statistical methods.
Results: Ninety three patients were enrolled with 32,31 and 30 cases in group 1,group 2 and group 3 respectively.All three groups enjoyed statistically significant improvement in breast pain on VAS[group 1(5→2) vs group 2(5→2) vs group 3(6→2),p<0.001)],nodularity on Lucknow-Cardiff nodularity scale [group1(1→0) vs group 2(1→0) vs group 3(1→0),p<0.001)]and in all the domains of quality of life of WHOQOL BREF questionnaire.However,no significant difference was observed in-between the groups. Temporary Ovarian cyst formation and menstrual irregularities were more with higher dose of Ormeloxifene.Cost of treatment per patient for 3 months in Group 1, group 2 and group 3 was INR 252 ,46 and 69 respectively.

		0 week	**4 Weeks**	**8 Weeks**	**12 Weeks**	**24 Weeks**	**Within group *p* value**
Mastalgia (median VAS)	Group 1	5	4	3	2	3	0.00
	Group 2	5	4	3	2	3	0.00
	Group 3	6	4	3	2	3	0.00
	Inbetween groups *p* value	0.80	0.56	0.51	0.90	0.74	
Breast nodularity (Lucknow- Cardiff scale)	Group 1	1	1	0	0	0	0.00
	Group 2	1	0	0	0	0	0.00
	Group 3	1	1	1	0	0	0.00
	Inbetween groups *p* value	0.094	0.473	0.614	0.439	0.802	

Image:



Conclusion: Ormeloxifene 30 mg twice or thrice a week is as effective as daily dose of tamoxifen 10 mg in relieving pain, nodularity and improving QOL. Ormeloxifene 30 mg twice a week is associated with least incidence of temporary menstrual irregularity and cyst formation in ovaries. **Cost effective dose of Ormeloxifene 30 mg twice a week for 12 weeks should be the optimal dosage regimen for treating moderate- severe cyclical mastalgia**.

Disclosure of Interest: None declared

130.01

THE USE OF A MATRIX FOR SKIN REGENERATION IN THE PREVENTION AND TREATMENT OF HYPERTROPHIC BURNS SCARS

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Introduction: Hypertrophic scars resulting from thermal injuries are a serious challenge. They arise as a result of excessive activity of fibroblasts producing mainly type I collagen in burn wounds. The final cosmetic and functional effect of the burned areas is formed up to two years after the injury. Therefore, prophylaxis is crucial in the treatment of burn wounds, reducing the risk of scarring and limiting motor functions scars. . Preventive measures include both surgical procedures (specialized surgical techniques) and conservative therapies (compression therapy). Depending on the specificity and location of hypertrophic scars, different methods of surgical treatment are used. A modern treatment of post-burn scars should guarantee the patient a return to the best possible efficiency.
Materials & Methods: The paper presents two different cases of patients treated in 2018 with a matrix for skin regeneration in the Department of Trauma Surgery, Burns and Plastic Surgery University of Medical Science in Poznan.
Results: Two different cases treated in the Clinic in 2018 using the Integra skin regeneration matrix were analyzed. Case 1st was a patient with a massive, hypertrophic scar of the neck, causing the head to be forced in a flexion forward position. The patient underwent surgical treatment involving the removal of scar tissue with the subsequent covering of the defect with a matrix for skin regeneration. The second case is a patient with third degree thermal burn on the anterior surface of the chest and neck. In this case, the Integra matrix was applied to the wound after removal of the necrosis to prevent excessive scarring. The healing process lasting in both 21 days ended with covering the wound with a split-thickness autogenous skin graft. The skin after healing in both cases showed significant flexibility only slightly limiting the anterior and posterior flexion of the head.
Conclusion: Modern methods of treatment of burns and their consequences allow to greatly reduce the risk of scarring scars. The matrix for skin regeneration should be used both in prophylaxis and treatment of hypertrophic scars, especially in the areas important from the aesthetic and functional point of view.
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Disclosure of Interest: None declared

143.01

LONG-TERM HEALTH-RELATED QUALITY OF LIFE (HRQL) AND PATIENT SATISFACTION AFTER REDO-FUNDOPLICATION

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Introduction: Few studies have examined the long-term outcome in patients with failed fundoplication and reintervention. Our aim was to assess long-term HRQL and patient satisfaction after redo-fundoplication.
Materials & Methods: A total of 1809 patients were operated for hiatal hernia and/or gastroesophageal reflux disease (GERD) at Helsinki University hospital during 2000-2017. According to the hospital database 111 (6%) had undergone reoperation. This patient data was collected to evaluate the safety and efficacy of redo-fundoplication. The current health status was assessed by a generic health survey (15D®). Long-term outcome, HRQL, post-fundoplication symptoms, and satisfaction after redo-fundoplication were evaluated.
Results: Of the 111 patients, 89 (87%) responded [median age 52.9 years (IQR 47.8-60.6), 43% males]. Six patients had died, 3 were unable, and 13 did not respond. The most common indication for reoperation was recurrent GERD, and the most common etiology of failure was herniation of the wrap. The median time from primary operation to reoperation was 3.6 years. The median postoperative follow-up period from reoperation was 9.3 years (IQR 5.3-11.9). The median operative time was 115 min, and hospital stay 2.0 days. Intraoperative complication rate was 6.7%. The conversion rate was 5.6%. Based on the 15D® and post-fundoplication symptom questionnaires the symptoms experienced were generally mild. Some 39% of patients reported that they are taking continuous PPI. Even though ongoing symptoms were common, the patients reported improved satisfaction after redo-surgery (64%→87%). Recurrent reflux symptoms resolved in 82 % of the 72 cases. Dysphagia (n=24) resolved in 67 % of the cases. Given the benefit of hindsight, 79% of all patients would have the operation performed again.

Table 1 Operative data and short-term surgical outcome (n=89).

Primary operation	Nissen=83, Toupet=6
Symptoms for re-oper	Gerd=56
	Dysfagia=13
	Hiatal hernia=9
	Gerd+dysfagia=3
	Dumbing=1, Other=6
Indication for re-oper	Hiatal hernia=46
	Disrupted fundoplication=13
	Slipped fundoplication=15
	Misplaced fundoplication=8
	Twisted fundoplication=3, Other=4
Re-operation	Nissen=83, Toupet=6
Bleeding	Mean(SD)=51ml
Mesh	19
Intraoperative complication	No complication=83
	Perforation=2, Bleeding=1
	Pleural opening=2, Pneumothorax=1

Image:

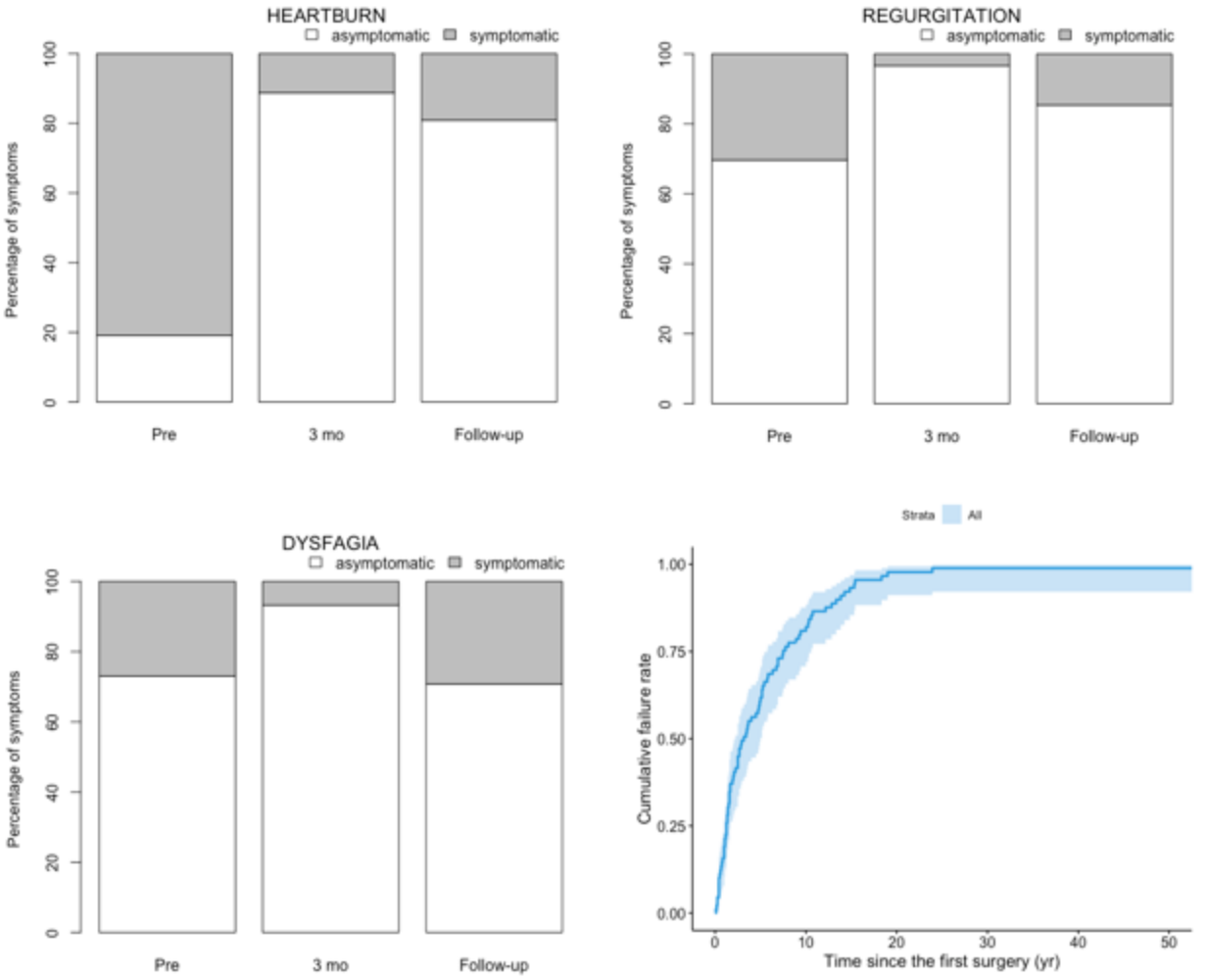

Figure 1. Change in point prevalence of typical reflux symptoms and cumulative failure rates for primary laparoscopic fundoplication. Surgical failure is shown as a function of time since the first surgery (n = 89).

Conclusion: The clinical outcome remains good in most patients in long-term follow-up after redo-fundoplication. The beneficial effect on quality of life and patient satisfaction seems to persist as well.
Disclosure of Interest: None declared

143.02
FIBRIN GLUE PRIMARY ENDOSCOPIC HAEMOSTASIS IN CIRRHOTIC VARICEAL BLEEDING

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Introduction: The recovery of patients with liver cirrhosis (LC) and acute variceal bleeding (AVB) are directly related to the efficiency and the primary endoscopic haemostasis performing time. The aim of the study was to estimate the efficiency of the endoscopic haemostasis (EH) with fibrin glue (FG) in acute variceal bleeding (AVB), and to evaluate the mortality rate in cirrhotic patients in relation to hepatic functional supplies (HFS) and the EH performing time from hemorrhage onset.
Materials & Methods: This study included 1490 patients with LC and AVB, treated over 2004-2018 (Child A/B/C-182/941/367). EH was performed with intravariceal FG injection up to the complete eradication of all variceal cordons. The mortality rate was analyzed in relation to the EH performing time from the AVB onset, and divided into 2 groups: I-<12 hours (664 patients), II-> 12 hours (826 patients).
Results: The AVB control was achieved in 1476 cases (98.4 %). In 24 patients (1.6%), the bleeding from the bottom gastric varices couldn't be stopped. No statistically valid relation was established between HFS and the mortality of patients with AVH controlled in the first 12 hours from its onset. 49 patients (7.4 %) died in this group due to an irreversible hemorrhagic shock. Meanwhile, we established a direct correlation with the grade of the HFS for the patients who received an EH later than 12 hours, the mortality in this group rising up to 21.1 % of the cases (174 patients). According to FHS, the death rate in stages Child A/B/C/ (178/463/185 pts.) mounted to 9/93/72 patients, or 4,9% / 20.1% / 38,9%, respectively, caused by hepatic failure.
Conclusion: Endoscopic Haemostasis with FG is an efficient method to control AVH in LC. The recovery of cirrhotic patients with AVB is directly related to the efficiency of the primary EH performing time. The results of EH in the first 12 hours from AVH onset did not depend on the HFS, but were determined by the severity of the hemorrhage. The mortality of patients with AVH stopped later than 12 hours significantly increases and correlates directly with the grade of disturbance of the hepatic function.

Disclosure of Interest: None declared

143.03

INFLUENCE OF BMI ON OUTCOMES OF EMERGENCY LAPAROSCOPIC APPENDECTOMY. RESULTS FROM THE POLISH LAPAROSCOPIC APPENDECTOMY MULTICENTER LARGE COHORT STUDY.

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Introduction: The increasing patients' weight is influencing their management. We evaluate the impact of overweight and obesity on outcomes of emergency laparoscopic appendectomy for acute appendicitis.
Materials & Methods: This is a sub-study of a 'Polish Laparoscopic Appendectomy' large multicenter observational study. Retrospective data analysis of outcomes of emergency laparoscopic appendectomies included 2440 patients from 18 centers (17 Polish and 1 German) from 2006 to 2018. We included all levels of laparoscopic experience. Software STATISTICA 13.0 PL was used for analysis. Skewed variables were presented as means and standard deviations. We used t-Students tests and Mann-Whitney's tests to compare groups. For dichotomous variables we used chi-squared Pearson's, Yates' and Fisher's exact tests. Univariate logistic regression model was built to determine risk factors for postoperative complications. Results were considered statistically significant for p-values <0.05.
Results: There were 2440 patients (median BMI=24.8 kg/m^2), 1301 (53.3%) men and 1139 (46.7%) women. 48% of patients were overweight or obese. Patients with BMI>25 presented later to the emergency department (39% versus 29%; p=0.01) and had lower Alvarado Scores (41% v 44%; p=0.04). In obese, the median operative time was 55 v 50 min. (p<0.001). We found that the obese patients were at the increased risk of complicated appendicitis (OR 2.15, 95%CI 1.68-2.74; p<0.001), perforated or autoamputated appendicitis (OR 2.78, 95%CI 1.69-4.59; p<0.001), gangrenous appendicitis (OR 1.91, 95%CI 1.4-2.53; p<0.001), intraabdominal abscess (OR 1.91, 95%CI 1.39-2.62; p<0.001), higher perioperative morbidity (OR 1.81, 95%CI 1.26-2.61; p=0.001) and higher conversion rates (OR 1.68, 95%CI 1.10-2.57; p=0.015). There was no impact of obesity on the frequency of intraoperative adverse events (OR 1.70, 95%CI 0.91-3.17; p=0.094), serious perioperative morbidity (OR 0.93, 95%CI 0.41-2.12; p=0.87), postoperative intraabdominal abscess (OR 1.39, 95%CI 0.55-3.51; p=0.485), reinterventions (OR 0.79, 95%CI 0.35-1.75; p=0.558) and readmissions (OR 1.43, 95%CI 0.70-2.91; p=0.328).
Conclusion: The high BMI is responsible for late presentation with complicated appendicitis, higher perioperative morbidity and higher conversion rates. It has no impact on frequency of intraoperative adverse events, serious perioperative morbidity occurrence, postoperative intraabdominal abscess formation, reinterventions and readmissions.
Disclosure of Interest: None declared

143.04

ENDOSCOPIC TRANSMURAL NECROSECTOMY AS A TREATMENT CHOICE FOR WALLED-OFF NECROSIS IN SEVERE ACUTE PANCREATITIS

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Introduction: Severe acute pancreatitis is associated with 20-30% mortality rate
Materials & Methods: Material consists of 722 patients treated in General Surgery Ward of Copernicus Hospital in Gdańsk within period 2007-2018 for acute pancreatitis. Severe necrotic pancreatitis was diagnosed in 109 patients. In the first period (2007-2014) surgery was the only type of intervention, performed in 42 patients. In next years (2015-2018) 18 patients were operated and 22 had endoscopic drainage of the walled-off necrosis, supplemented by lumbotomy (3 patients) or laparotomy (3 patients). Condition for endoscopic drainage was location of the necrosis adjacent to the stomach. Transmural access was gained by self-expanding metal stent and necrosectomy was performed in CO_2 insufflation. Most patients were qualified for this procedure 4 weeks from the onset of the disease. We investigated retrospectively procedure duration time, number of interventions, hospital length of stay, time in Intensive Therapy Unit (ITU), blood transfusions, major complications and deaths for patients treated in period 2015-2018 and compared it with patients treated surgically only in the first period.
Results: Median age in both groups, operated (group I) and endoscopic (group II) was comparable. Median hospitalisation time was longer for operated patients (38 vs 26 days). Median number of interventions were 1,44 vs 3,50 accordingly and the procedure duration were 120 vs 43 minutes. Operated patients required more blood transfusions (3,06 vs 2,0 units) and stayed longer in ITU (9,72 vs 5,95 days). We noted 4 major complications in operated patients (faecal fistula x2, duodenal perforation, intraabdominal haemorrhage) and 3 in endoscopic group (stent migration with bowel perforation x2 and retroperitoneal haemorrhage). There were 4 deaths in group I and 1 in group II. Surgical patients compared to the pre-endoscopic period were similar in terms of mortality (22 vs 19%) and hospitalisation time. Results did not reach statistical significance due to low volumes of the groups.
Conclusion: Endoscopic transmural necrosectomy as the first line treatment for the walled-off necrosis in severe acute pancreatitis is associated with shorter hospitalisation time, shorter stay in ITU, lower requirement for blood transfusions and lower death rate
Disclosure of Interest: None declared

143.05

OUTCOMES OF OMENTAL PATCH REPAIR IN LARGE OR GIANT PERFORATED PEPTIC ULCER ARE COMPARABLE TO GASTRECTOMY

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Introduction: Perforated peptic ulcer (PPU) is a surgical emergency which occurs in 2 to 10% of patients with peptic ulcer disease (PUD) and has mortality risk of up to 20%. Omental patch repair (OPR) is the mainstay of surgical management and gastric resectional procedures are advocated for a large / giant ulcer or suspected malignancy. Emergency gastrectomy is associated with increased morbidity and mortality. The aim of this study is to compare the outcomes of OPR with gastrectomy in patients with large PPU (≥20mm).
Materials & Methods: A retrospective review of all PPU patients who underwent surgery from Jan 2008 to Dec 2015 is done. Patients with PPU <20mm are excluded. Patient demography and perioperative data were recorded. Length of hospital stay, post-operative complications, need for intensive care unit admission and all-cause mortality are reported.
Results: 650 patients underwent surgery for PPU during the study period. 110 patients with a median age of 69.1 (range 28-90) years had PPU ≥20mm. There was female predominance (66.4%) and commonest co-morbidity was diabetes mellitus (19.1%). 42 (38.2%) patients presented within 24 hours from the onset of abdominal pain. Chest X-ray revealed free air under diaphragm in 59 (53.6%) patients. The median American Society of Anesthesiology score was 3 (range 1-4), Boey's score was 1 (range 0-3) and Mannheim peritonitis index was 19 (range 6-37). 52 patients had OPR and 58 patients had gastrectomy. The median operative time was 140 minutes (range 20-435). The median length of stay was 14 days (range 3 – 128). The overall incidence of intra-abdominal collection, post-operative leakage, re-operation and all-cause mortality was 16.4%, 11.8%, 6.4% and 19.1% respectively. No statistically significant difference was found in peri-operative outcomes of OPR versus gastrectomy: intra-abdominal collection ($p = 0.857$), post-operative leakage ($p = 0.715$), re-operation ($p = 0.657$) and all-cause mortality ($p = 0.142$). Subgroup analysis of patients who had an ulcer size of ≥30mm also revealed no statistical significance in peri-operative outcomes.
Conclusion: OPR confers similar peri-operative outcomes as compared to gastrectomy in patients with large PPU.
Disclosure of Interest: None declared

143.06

PERFORATION RATE OF APPENDICITIS AFTER UNCOMPLICATED APPENDICITIS ON COMPUTED TOMOGRAPHY

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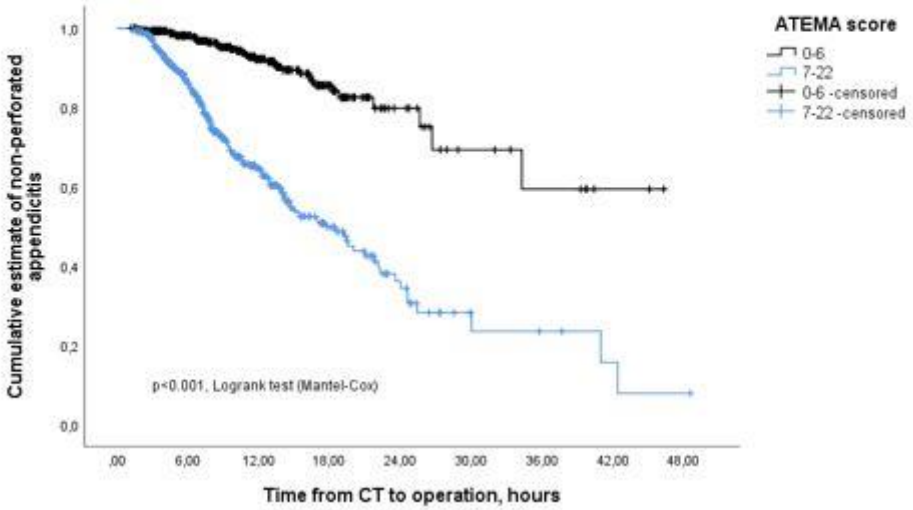
Introduction: Computed tomography (CT) is commonly used to diagnose acute appendicitis. Its sensitivity in differentiating non-perforated from perforated appendicitis is 57-95% and specificity 86-100% respectively. It is known, that the time period from the start of symptoms to the operation correlates with perforation rate, but the data on the effect of hospital delay to perforation remains controversial. The effect of hospital delay to complication rate of CT-verified uncomplicated appendicitis has not been studied before in adults. The aim of this study was to investigate how long it is safe to wait for operation with patients with uncomplicated acute appendicitis on CT and if the perforation rate depends on preoperative delay. In addition, it was our aim to find out whether the Atema score[i] can identify patients who develop perforation earlier.

Materials & Methods: A retrospective cohort study of 837 consecutive adults operated for acute appendicitis with preoperative CT-scan showing uncomplicated appendicitis was performed. The main outcome measure was perforation rate. Secondary outcomes were risk factors and the impact of preoperative delay on perforation. Kaplan-Meier analysis was used to estimate the risk of perforation during the waiting period after CT. Atema score, that aims to differentiate between uncomplicated and complicated appendicitis using clinical and imaging findings, was calculated, 0-6 points referring to uncomplicated appendicitis. The cohort was divided according to Atema score into low (0-6) and high (7-22) risk groups.

Results: At operation 187 (22.3%) patients had perforated appendicitis. The median time estimate for perforation was 25.4h (95%CI 21.1-29.7), the hourly rate of perforation being 2 %. The Atema score was the best variable in discriminating patients with non-perforating appendicitis from perforating appendicitis (Figure 1). The 95% non-perforation level was reached in 9.6h in the low-risk Atema score patients and in 4.4h in all patients respectively. In the low-risk Atema group, 25% of patients were estimated to develop perforation within 26.7h.

Image:

Figure 1. Kaplan-Meier analysis of appendiceal perforation



Conclusion: Uncomplicated appendicitis on CT-scan is associated with a substantial risk of perforation. The cumulative risk of perforation increases with preoperative delay. The Atema score can be utilized in determining the urgency of operation.

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Disclosure of Interest: None declared

143.07

MORTALITY AFTER OPEN NECROSECTOMY FOR NECROTIZING PANCREATITIS IS DETERMINED BY PREOPERATIVE RISK FACTORS AND INDICATION FOR SURGERY

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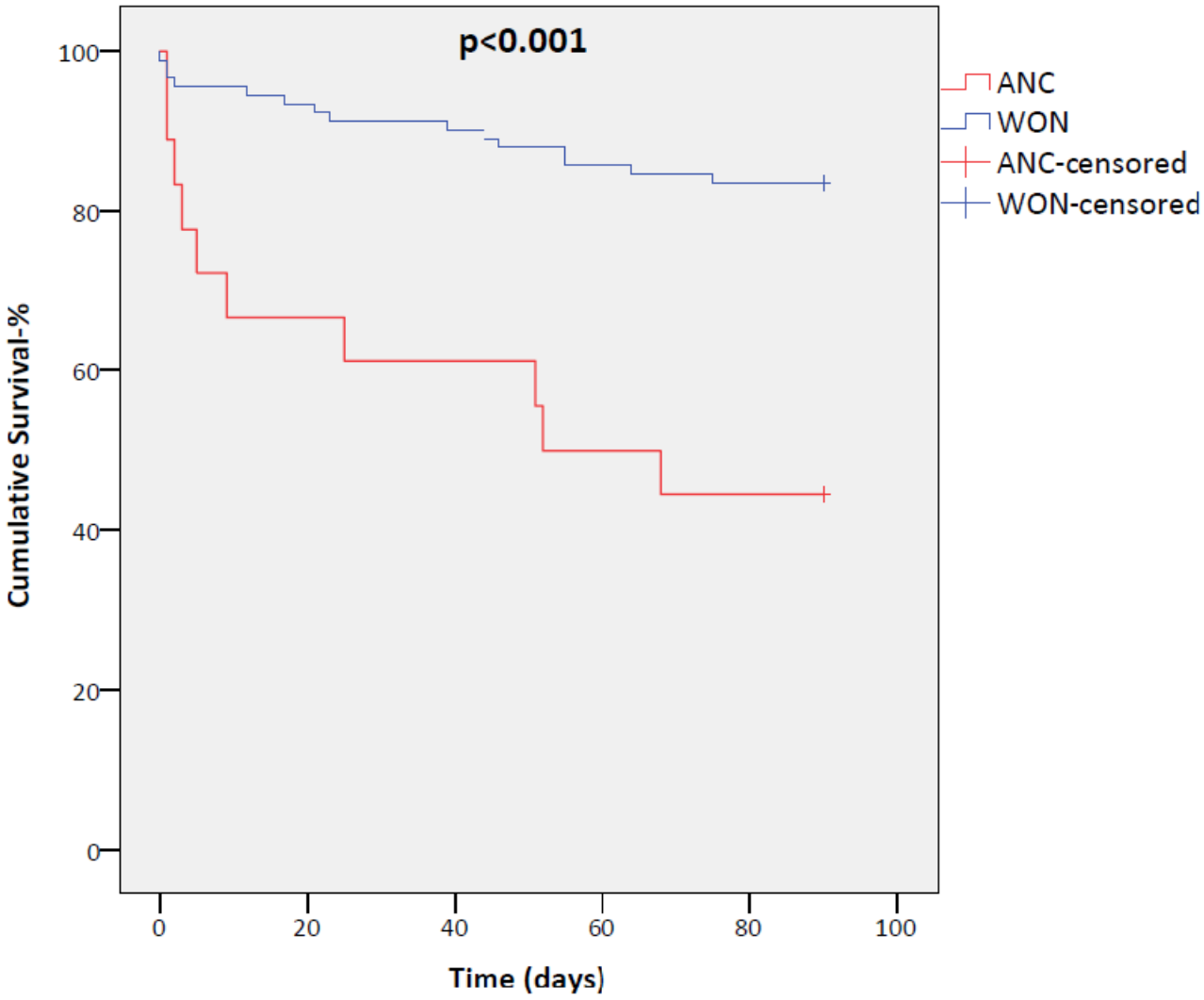
Introduction: Open necrosectomy, multiple organ failure (MOF) and early surgery are associated with high mortality. Recommendation is to postpone surgery for pancreatic necrosis until necrosis has become walled off. The purpose of this study was to determine risk factors for death and evaluate outcome after open necrosectomy in patients with walled off necrosis (WON) in comparison with patients with acute necrotic collection (ANC).
Materials & Methods: A 12-years retrospective cohort study of 109 consecutive patients treated with open necrosectomy at a tertiary centre.
Results: The overall 90-day mortality rate was 22.9% (25/109). It was 10.6% (7/66) when the first necrosectomy was delayed until 28 days after symptom onset in patients with WON. ANC-patients had significantly higher mortality rate than patients with WON (Figure). The risk factors for 90-day mortality were age over 60 years (OR 19.4), co-morbidities (OR 16.9), necrosectomy within 28 days from the onset of symptoms (OR 6.5), MOF (OR 12.2), white blood cell count over 23 x 10^9 / L (OR 21.4), and deterioration or prolonged organ failure as an indication for necrosectomy (OR 10.4). In 52 patients with none or one of these risk factors, there was no mortality (Table).

Table. Risk factor combinations and mortality

	Age over 60 years	Any comorbidity *	Deterioration or prolonged OF †	Necrosectomy < 28 days from disease onset	Multiple organ failure	WBC count ≥ 23.0 ‡	No other risk factor §
Age over 60 years	**41.9%** 31						
Any comorbidity *	**50.0%** 18	**32.6%** 43					
Deterioration or prolonged OF †	**85.7%** 7	**50.0%** 6	**66.7%** 18				
Necrosectomy < 28 days from disease onset	**61.5%** 13	**60.0%** 15	**88.9%** 9	**42.5%** 40			
Multiple organ failure	**83.3%** 6	**75.0%** 8	**84.6%** 13	**52.4%** 21	**48.5%** 33		
WBC count ≥ 23.0 ‡	**100.0%** 6	**80.0%** 10	**88.9%** 9	**76.9%** 13	**68.8%** 16	**62.5%** 24	
No other risk factor §	**0.0%** 6	**0.0%** 11	**0.0%** 2	**0.0%** 5	**0.0%** 2	**0.0%** 2	**0.0%** 24

Bolded values: mortality percentage (within 90 days after first necrosectomy). Non-bolded values: the absolute amount of patients.
*Heart/pulmonary disease, Mild renal insufficiency, Diabetes, Liver cirrhosis or Chronic pancreatitis. †Indication of necrosectomy: deterioration/prolonged organ failure. ‡WBC expressed as 1 x 10^9/L. Within 24 hours of first necrosectomy (one WBC count was taken earlier than 24h prior to index operation) §None of the risk-factors presented in figure (multi-variate analysis results). OF=organ failure,NC=not countable
Image:



Conclusion: Late open necrosectomy for WON has a low risk for mortality. In patients without multiple risk factors, open necrosectomy can be done without mortality.

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143.08

DO ICE PACKS REDUCE POSTOPERATIVE MIDLINE INCISION PAIN, NSAID OR NARCOTIC USE?

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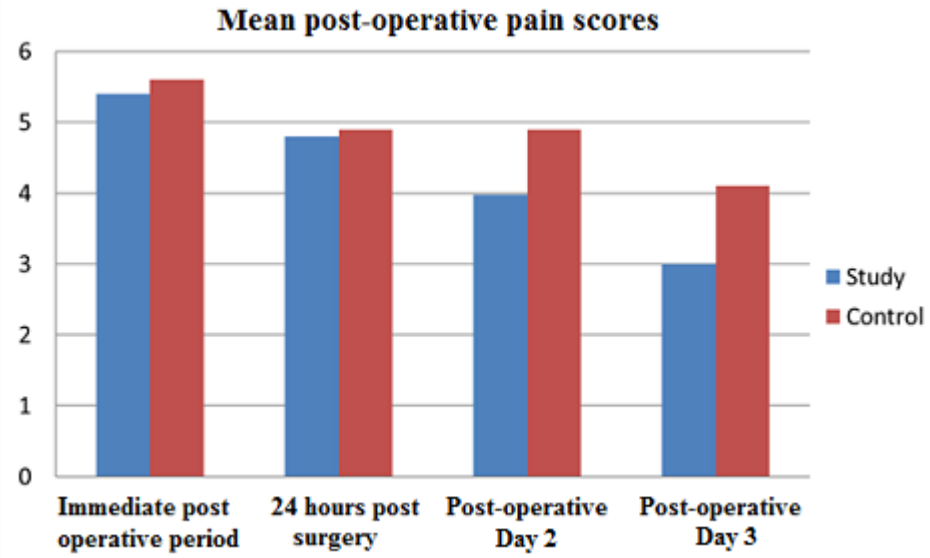
Introduction: Adequate post-operative analgesia especially after major abdominal surgery is important for recovery, early mobility and patient satisfaction. We aimed to study the effects of cryotherapy via an ice pack in the immediate postoperative period, for patients undergoing major abdominal operations.
Materials & Methods: This prospective study was conducted at our tertiary care referral center in a LMIC setting. The pre-operative characteristics, intra-operative variables and post-operative outcomes were compared between two sets of matched cases and controls. Cryotherapy was delivered via ice-packs for 24 hours immediately following laparotomy. Pain relief was assessed with the visual analog pain scale. Comparisons between groups were measured by chi-square test, Fischer's exact test,independent sample t-test or Mann-Whitney U test as appropriate.
Results: 68 patients were included in the study, 33 in the study group and 35 in the control group. Mean postoperative pain scores (using Visual Analogue Scale) were significantly lower in the cryotherapy group versus the control group (3.97±0.6 vs 4.9±0.7 on Post Operative Day(POD)1 and 3±0.5 vs 4.09±0.8 on POD2; p<0.001). The median narcotic use in morphine equivalents was lesser in the cryotherapy group from POD 1-3(66 (IQR-16) vs 89(IQR-17); p=0.001). No significant difference was seen in the NSAID use between the groups. The cryotherapy group was also found to have a lesser incidence of surgical site infection(p=0.03), better lung function based on incentive spirometry(p=0.01) and demonstrated earlier functional recovery based on their ability to perform the sit-to-stand test(p=0.001).
Image:



Conclusion: Ice packs are a simple, cost-effective adjuvant to standard postoperative pain management which reduces pain, narcotic use and promotes early rehabilitation.
Disclosure of Interest: None declared

144.01

THE RESISTANCE OF GRAM-NEGATIVE STRAINS FROM THE ENTEROBACTERIACEAE FAMILY TO CARBAPENEMS - ISOLATED FROM SAMPLES OF CLINICAL SPECIMENS TAKEN FROM PATIENTS HOSPITALIZED IN THE DEPARTMENT OF GENERAL AND TRANSPLANT SURGERY - (CRE) STRAINS

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Introduction: The Multi-drug Resistant Bacteria (MDR) strains, especially resistant to carbapenems, are an increasing problem in microbiological diagnostics and therapeutic treatment of infections. The rapid development of antibiotic resistance mechanisms among microorganisms means that the therapeutic options of "targeted" antibiotics are often limited or fail.

To assess the occurrence of Gram-negative rods from Enterobacteriaceae family on carbapenems - CRE (Carbapenem Resistant Entrobacteriaceae) isolated from clinical specimens.

Materials & Methods: Occurrence of CRE strains. Patients hospitalised 45-bed surgical ward. In total 14813 patients were hospitalized from 2010-2015. Microbiological cultures and susceptibility tests of isolated strains from clinical samples were done in accordance with the European Committee on Antimicrobial Susceptibility Testing **(**EUCAST) / Polish National Reference Center for Antimicrobial Susceptibility Testing (KORLD) recommendations, using the VITEK2 microbiological analyzer. For CRE strains, the results of the susceptibility test were confirmed using reference methods.
Results: All materials were isolated from clinical specimens: (blood, urine, surgical site, discharge from the lower respiratory tract) . In total 574 positive cultures, 974 Gram-negative strains from the Enterobacteriaceae family were isolated: Among them, the percentage of resistant strains CRE - for Ertapenem (ERT) - 3.2%, Imipenem (IMI) - 3.4%, Meropenem (MER) - 2.4%.

Blood : from 49 patients - 52 Gram(-)strains were isolated.*CRE – for Ert – 0%, Imi – 3.7%, Mer – 4.2%.Urine :* from 270 patients - 325 Gra(-) strains.*CRE* - for *Ert – 4.5%, Imi – 2.8%, Mer – 1.0%.*

Surgical site: from 348 patients - 476 Gram(-) strains.*CRE -for Ert– 6.3%, Imi– 5.1%, Mer – 2.5%. Respiratory tract:* from 87 patients - 121 Gram(-) strains.*CRE – for Ert– 2.0%, Imi– 1.9%, Mer– 1.9%.*

Conclusion: In the treatment of infections in patients in transplant wards, it is necessary to properly monitor bacterial strains occurring during treatment, rational antibiotic therapy, and rational perioperative prophylaxis. It is advisable to study carriers in immunosuppressive patients and isolate patients with MDR strains to prevent nosocomial infections.
Disclosure of Interest: None declared

144.02

KNOWLEDGE, ATTITUDE AND PRACTICE OF SURGICAL STAFF TOWARDS PREOPERATIVE SURGICAL ANTIBIOTIC PROPHYLAXIS IN SOBA UNIVERSITY HOSPITAL, KHARTOUM SUDAN, 2018

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Introduction: : Surgical site infections (SSIs) are one of the commonest serious complications after surgeries and it has major role in increasing mortality, morbidity and costs of health services. The use of surgical antimicrobial prophylaxis (SAP) is an effective measure that helps in protection against SSIs.

Aim: This study aimed to evaluate the knowledge, attitude and practice of prophylactic antibiotics in surgery department at soba university hospital
Materials & Methods: An observational descriptive study was conducted among doctors in surgery department in soba university hospital in order to assess their knowledge, attitude and practice (KAP) about surgical antibiotic prophylaxis (SAP). A four-section multiple-choice questionnaire was designed and hand-delivered to registered doctors in surgery department in soba university hospital. The surgeons' answers were considered correct when they were in accordance to WHO guidelines.
Results: 56 doctors were requested to participate in this study and their response rate was 87.5%. Six (12.5%) surgeons had good knowledge about appropriate SAP. However, 16.3% and 24.5$ of the respondents were aware of appropriate SAP in case of Ig E-mediated reaction to penicillin and risk of Gram-negative infections, respectively.

The surgeon's attitude score about the need for local and national guidelines for SAP was 98% and 100%, respectively. Accordance of the physician's practice with ASHP guidelines regarding timing of the first dosage of SAP was 35.4% while correct administration of an intraoperative dose was 42.9% in agreement with the guideline. 53.1% knows when to stop SAP after surgery correctly.
Conclusion: Although participants had a good attitude towards antibiotic prophylaxis guidelines, their knowledge and practice should be improved for proper administration of SAP.
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Disclosure of Interest: None declared

144.03

LACK OF RATIONALE FOR TREATING MULTIDRUG RESISTANT GRAM-NEGATIVE BACTERIA COLONIZATION.

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Introduction: Multidrug resistant (MDR) rods are a growing problem in numerous surgical units all over the world. β-lactamase resistance can be caused by numerous mechanisms, including extended spectrum ß-lactamase (ESBL) and New Delhi metallo-ß-lactamase-1 (NDM-1). High mortality of infections with these bacteria often results in overreacting in case of asymptomatic colonization of GI tract.

Materials & Methods: From January 2016 till June 2018 on admission to the department of surgery each patient was screened for colonization of GI tract and nose with pathogenic bacteria. Had clinical indications called for microbiological workup, other locations and materials were cultured.

Results: Of 5806 admissions to the department, 19 patients (0,32%) with ESBL and NDM-1 strains were identified. Twelve of them were diagnosed on screening at admission: 10 patients were colonized with NDM-1(+) K. pneumoniae, three with ESBL(+) E.coli and 1 with ESBL(+) Enterobacter cloacae (2 patients were colonized with more than 1 strain of multi-resistant bacteria). Most of the positive samples were taken from the anus. Seven patients became colonized with NDM-1(+) or ESBL(+) strains during hospitalization. Length of hospital stay in all 19 patients ranged from 2 to 86 days. One patient died of comorbidities with GI tract colonization and no sign of multidrug resistant bacteria infection. Three patients positive on admission (15.8%) (1 colonized and 2 with infection) were successfully treated with antibiotics active against ESBL and NDM-1 rods for surgical site, urinary tract and diabetic foot infection. Neither of the remaining 9 patients colonized on admission nor 6 of 7 patients with nosocomial colonization became symptomatic (78.9%). Eighteen patients underwent surgery (hernia repair, liver transplantation, sigmoid resection, other) and only one serious adverse event unrelated to MDR infection was seen. Ten of them (55.5%) were immunocompromised kidney or liver transplant recipients.

Conclusion: Common practice of administering colistin-based therapy in resistant gram-negative bacilli carriers seems not justified. Our experience confirms, that even in immunocompromised patients, only symptomatic infections should be treated with antibiotics.

Disclosure of Interest: None declared

144.04

PRIMARY VERSUS DELAYED PRIMARY SKIN CLOSURE FOR PREVENTION OF SURGICAL SITE INFECTIONS IN CONTAMINATED ABDOMINAL SURGERY: META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

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Introduction: Surgical site infections (SSIs) are one of the most common hospital acquired infections, they affect 45% of the patients that resulting in increased health care cost, prolonged hospital stay, and more hospital readmissions. Delayed primary skin closure (DPC) is a technique that can be used when there is a contaminated or dirty wound allowing the wound to be drained.
Materials & Methods: A systematic online search was conducted using the following databases and clinical trial registers: PubMed,Scopus,Cochrane Database of Systematic Reviews,The Virtual Health Library(VHL),Clinical trials.gov,ScienceDirect. Only randomized controlled trials (RCTs) that compared DPCvsPC were included in this review. in addition, studies selection process, risk of bias assessment and data extraction were performed independently by more than one reviewer. moreover, the Rate of SSIs, was our primary outcome, we pooled the data using fixed-effect model and random-effect model after assessing the heterogeneity among the included studies.
Results: 12 RCTs were included in the final analysis, including 1410 patients that were randomized to receive PC or DPC. All the patients were having a dirty or contaminated abdominal wounds,Complicated appendicitis(grossly inflamed,gangrenous,perforated,or abscess appendix) was the most common type of wounds with a percentage of(82.8%).The time to first review for DPC ranged between 2 to 7 days postoperatively.Regarding the risk of bias most of the studies were assessed as being at high risk of bias,especially allocation bias.The heterogeneity among the studies was 78 % which is very high. Firstly,SSIs were assessed using a fixed-effect model,in which DPC was found to be significantly effective in reducing the risk for SSI(odds ratio,0.48; 95%CI,0.35-0.65;P < 0.001),but it was not significant when we used a random-effect method the results were not significant(odds ratio,0.49;95%CI,0.22-1.08;P=0.08).
Conclusion: The final meta-analysis revealed that Delayed primary skin closure of contaminated and dirty wounds in abdominal surgeries might be more effective than primary closure in reducing the risk of SSIs, however most of the studies included in this meta-analysis conveyed a high risk of bias, hence more well-designed RCTs are recommended in this area.
References:
Disclosure of Interest: None declared

144.05

REDOSING IN ANTIMICROBIAL PROPHYLAXIS REDUCES THE RISK OF SURGICAL SITE INFECTIONS

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Introduction: The objective is to investigate timing of and compliance with redosing of surgical antimicrobial prophylaxis (amp) during prolonged surgery. Long duration surgery requires repeated amp administration. Amp redosing reduces SSI incidence but is frequently omitted. Clinical relevance of redosing timing and measures promoting compliance with standard protocols need to be investigated.
Materials & Methods: Data from >9000 patients (ttwo data sets merged) undergoing surgery and receiving amp in two tertiary referral Swiss hospitals have been prospectively assessed and analyzsed.
Results: In 9'680 a significant correlation between duration of surgery and SSI incidence have been observed (r=0,73, p=0.031). We identified 900 interventions with duration of $\geq$240 minutes, being candidates for repeat dosing of amp. Irrespective of the timing, in this group redosing was associated with significantly lower SSI incidence (95% CI: 0.37-0.96, p=0,034), as shown by multivariate analysis.
Conclusion: Long duration surgery is associated with higher SSI incidence. Amp redosing significantly decreased SSI incidence in the patients' cohort with prolonged surgery, irrespective of precise timing of amp redosing.
Disclosure of Interest: None declared

144.06

ARE WE READY FOR THE SUPERBUGS? - PROFILE OF MICROORGANISMS AND ANTIBIOTIC SENSITIVITY IN NECROTISING FASCIITIS

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Introduction: Necrotising fasciitis is one of the most fulminant and fatal skin and soft tissue infection which warrants early surgical intervention. Surprisingly the studies focussing on the nature of the causative organisms and the bacteriological data for aerobic and anaerobic organisms with the respective antibiotic sensitivity pattern have been few in the recent past. In this study we have profiled the same to form an antibiotic guideline.
Materials & Methods: Design and setting: Prospective, observational and descriptive study conducted at a tertiary care teaching hospital in south India.
Patients: A total of 278 cases of necrotising fasciitis were analysed for aerobic bacteriology, anaerobic culture for 109 patients and correalated blood cultures of all patients.
Debrided tissue sent for culture and sensitivity following surgery for necrotising fasciitis were considered to chart the organisms and the sensitivity pattern. Data collected was analysed in Statistical Package for Social Science version 15.0.
Results: Of all the aerobic cultures 90.65 % (n=252) of cases showed the presence of microbes, among the anaerobic cultures 49.54 % (n=54) of cases showed the presence of microbes. Of all the aerobic cultures 62.3% of cases showed polymicrobial growth while the remaining 37.7 % showed mono microbial growth. The most common gram positive and gram negative bacteria were staphylococcus aureus and pseudomonas aeuriginosa respectively. Amongst anaerobic organisms isolated were bacteriodes fragilis and clostridium species the common isolates.

Gram positive aerobes showed good susceptibility (>90%) to trimethoprim-sulphamethoxazole, tetracycline/doxycycline and clindamycin. Gram negative aerobes were adequately covered (>95%) by aminoglycosides, piperacillin- tazobactum, cefoperazone-sulbactum. MRSA showed high susceptibility (>97%) to teicoplanin, vancomycin, linezolid and rifampicin. All anaerobes were susceptible to either metronidazole or tinidazole.

Also analysed was the mortality (n=27) attributed to necrotising fasciitis and the most common isolate was acetinobacter baumini (n=9) with sensitivity only to colistin and tigicycline.
Conclusion: It is of interest to note that gram positive organisms have been increasingly implicated have been shown to consistently co-exist in necrotising fasciitis along with gram negative and anaerobic organisms and needs to be covered as well while initiating empirical therapy.
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146.01

IS THAT JUSTIFIED TO INVEST IN EXERCISES ON LAPAROTRAINERS FOR UNDERGRADUATES ?

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Introduction: Aims: verification of usefulness of starting laparoscopic training for interested students of last years of medical studies
Materials & Methods: Methods: retrograde analysis of three years of training on enhanced box trainers for undergraduates of fifth and sixth years of medical studies who plan to devote themselves to operative work. The 25 hours lap training courses were undertaken for 190 students, some of them took part in one of 11 editions of two day basic laparoscopic hands-on courses for young doctors (18 exercise hours) organized twice a year as well. All the courses were run according the same set of exercises of increased difficulty. Present results were verified with statistical analysis, according to sex, (112F:78M), Polish vs English Program of studies (PL152, E38), and an influence of previous participation in hands-on courses on current results.
Results: Results: First exercise-pulling a thick thread through 8 metal …O"hooks on a plate 190 students have done in mean 7min11sec ±4min31sec, between 2min27sec and 24min. At the end of the course average time of the same exercise was reduced to 3min24sec ±1min15sec, between 1min5sec and 6min5sec, $p<0,0001$.
Last exercise contained excision of a 5cm diameter circle and stitching it back with 4 stitches horizontal(2) and vertical(2). Average results for 157 students were 34min5sec ±12min6sec, between 9min24sec and 77min43sec.
Conclusion: Conclusions: simple laparoscopic exercises allow the majority of students to increase their skills, in most complicated ones the differentiation in results is greater. There were no statistical differences between results and sex or language of studies. Laparoscopic skills previously acquired by students persist for a longer time. These justifies starting laparoscopic education for undergraduate volunteers.
Disclosure of Interest: None declared

146.02

TIME AND TASK COMPLEXITY MATTERS – TIMING OF ASSESSMENT OF SIMPLE PROCEDURAL SKILLS.

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Introduction: Teaching and learning of practical skills often takes form of episodic, short term events. It is intuitive that for proper retention those skills need repetition. It is uncertain how complexity of those tasks and timing between teaching and assessment influence the results.

Materials & Methods: All 215 students were trained in knot tying and suturing during standardized 2 day (10 hours) training session. During this session they were informed also about the requirements and design and criteria of surgical skills OSCE stations during the grading at the end of the semester.

Results: Time from training to assessment ranged from 1 to 18 weeks. Students performed significantly better on knot tying then suturing with pass rates of 94 and 60% respectively. Also mean number of points achieved was lower for suturing (8,07 of 9 vs 8,4 of 13 points). There was statistically significant ($p<0,01$) correlation between time from teaching event to OSCE exam. This correlation was weaker for suturing.

Conclusion: For proper skill retention constant repetition is needed. For fair assessment time from training to evaluation should be taken into consideration or better countermeasures should be implemented to help the drop in skill over time. Not only time but also type of the task matters.

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146.03

GIVING NUMBERS TO CHAOS – UTILIZATION OF MOTION CAPTURE TECHNIQUES AND MULTIFRACTAL ANALYSIS FOR THE ASSESSMENT OF STUDENTS' PERFORMANCE IN HIGH FIDELITY TRAUMA SIMULATION?

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Introduction: Assessment of complex interactions between multiple students, equipment and simulated patients/family members is very prone to judgement error. Typically checklist and/or global assessment scales are applied with mixed results. No available technology allows for numerical evaluation of those complex interaction to facilitate human assessment.
Materials & Methods: Study was designed as feasibility testing. Video recordings from simulated sessions during trauma and emergency management have been recorded and analyzed with Tracker Video Analysis and Modelling Tool for Physics. For each student and SP involved time series of localization on two dimensional grid were created and then calculated with use of multifractal time series analysis tool for Mathlab. Time series were matched with event matrix composed of all major events during each scenario including entry of patients, family members, staff members, change of patient status or crucial information availability. The influence of events on parameters of multifractal analysis including but not limited to Hurst exponent, probability distribution were studied.
Results: For all scenarios we identified significant changes (>0,2) in Hurst exponent (H(t)) for major events.
Family members influence on team's performance could be split into two groups: negative influence with H(t)<1 depicting increasing chaotic movement and positive or neutral influence with H(t)>1 depicting more organized and coordinated work.
By standers also had similar influence with noticeable drop in H(t) especially significant for time period when they showed aggressive behavior (<1,07 vs >1,5).
Hurst exponent also had characteristic change pattern in relation to uncertainty understood as information deficit, rapid change of patients status and similar. H(t) was low at the beginning of each scenario, then rose to level typically around 1,5 and dropped down each time uncertainty increased.
Conclusion: Advanced statistical models applied to motion capture software that utilize standard video equipment of simulation room enable identification of several different events within each session. That methodology could be used as red flag marker. Significant change in multifractal analysis tools points us towards that area of recording which was significantly more difficult for students making video based feedback more effective. With further development this could be utilized also to other applications like real life identification of difficulties in team performance in automated manner.
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Disclosure of Interest: None declared

146.04

ARE WE REALLY READY FOR THE MAJOR ADVERSE EVENT: STRESS LEVEL DURING LAPAROSCOPIC SIMULATION OF A MAJOR VESSEL INJURY IN A LIVE ANIMAL MODEL.

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Introduction: Major vascular complications during laparoscopic surgery occur approximately in one in 1000 cases, but mortality rate can reach 8–17%. The most commonly injured vessels are aorta, the iliac vessels, and the inferior vena cava. Most vascular injuries lead to conversion to laparotomy and immediate repair via an open approach, but there are also reports of successful laparoscopic repair.
One of the aim of the modern laparoscopic training curriculum is creating a structured algorithm of actions during adverse event to reduce mental and physical strain of the surgeon.
Materials & Methods: During two editions of advanced laparoscopic training course 12 participants faced a task of controlling a major vessel damage (DAMAGE).Before the exercise the tutors explained the methods of bleeding control with a video footage.The algorithm of the "DAMAGE" task was the following: without previous preparation an 0.5cm injury of a major vessel was done with L-hook electrocautery. After the injury participants were free to control the damage the way they wanted.Heart rate of the participants was measured with an ear electrode with the General Electric Dash 4000 device.Measurements were carried out before the injury, immediately after the injury and after obtaining vessel control.At the end all participants were asked to evaluate the "DAMAGE" task.
Results: There was 12 vessel injuries performed in 10 animals. One animal died during “DAMAGE” task after 20 minutes of desuflation due to relapse of bleeding. There were no conversions to open procedure. Temporary vessel control was obtained with a grasper, gauze, intraabdominal pressure elevation or temporary clip application. All Participants used Vicryl 2.0 or PDS II 3.0 suture for final hemostatic purposes.
Heart rate of the participants shown on a picture.
Participants were asked to evaluate their experience using Visual Analogue Scale (1-pointless exercise; 5 - ideal training exercise). Eleven participants gave the exercise 5 points and one - 3 point resulting in 4.8 points for the whole group. There was statistically insignificant elevation of stress level in more experienced surgeons than in residents.
Image:

Participants #	HR before injury	Injury	Bleeding controlled
Participant 1	78	102	90
Participant 2	67	107	100
Participant 3	85	120	78
Participant 4	84	112	87
Participant 5	78	85	77
Participant 6	65	92	57
Participant 7	85	117	61
Participant 8	55	89	78
Participant 9	65	112	99
Participant 10	52	75	50
Participant 11	61	82	83
Participant 12	68	108	98

Conclusion: Participants felt stress during major vessel bleeding in animal model and this stress could result in a serious intraoperative mental strain and significantly increased heart rate.
The "DAMAGE" training mode allows for recreation of a serious adverse event and can be a beneficial training tool.
Disclosure of Interest: None declared

146.05

LEARNING CURVE OF SURGICAL TRAINEES FOR PERFORMING NATIVE ARTERIOVENOUS FISTULA FOR VASCULAR ACCESS FOR HEMODIALYSIS

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Introduction: Arteriovenous fistula (AVF) gives opportunity to General Surgical trainees for vascular surgery exposure. Studies have also showed that the results of AVF made by trainee after adequate training are equal to the results of the consultants.[1] Risk of primary AVF failure was lower when placed by surgeons who created more than 25 (vs. < 25) AVF during training.[2] There is a need to study the learning curve of trainees to perform (AVF) so as to standardize the training. The objective of the study was to study the learning curve of the trainees assessed by number of errors and anastomosis time.

Materials & Methods: The data was prospectively collected. The study was conducted on five General Surgery residents over a period of one year. Each resident was assessed for 30 procedures by a single consultant who assisted the trainees during the procedures. The total number of errors committed during the procedure were noted based on a check list and time taken to complete the anastomosis was also noted.

Results: Mean number of errors committed by trainees were 18.77 ± 7.53, 18.23 ± 8.96, 14.83 ± 7.02, 17.37 ± 7.95, 15.07 ± 7.38 and there was no statistical difference (p= 0.173). Mean time for anastomosis for AVF by trainees were 16.23 ±3.03, 15.37 ± 2.31, 17.13 ± 3.16, 16.20 ± 2.64, 15.70 ± 2.10 and was no statistical difference (p= 0.119). There was improvement in the skills of the residents as evident by decrease in errors and time taken for anastomosis with the number of procedures. Pearson Correlation for residents for number of errors with procedures were -0.99, -0.97,-0.95, -0.97 and -0.92. Pearson Correlation for residents for time taken for anastomosis with the number of procedures were -0.85,-0.80, -0.93, -0.86 and -0.84. There was significant statistical difference between the mean number of errors and time taken for anastomosis between procedure number1 to 10, 11 to 20 and 21 to 30 for each resident ($p < 0.001$).

Conclusion: There was improvement in the skills of performing AVF of trainees with the number of procedures and the improvement continued till total number of 30 procedures. The learning curve was similar in all the five trainees.

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Disclosure of Interest: None declared

146.06

SATISFACTION LEVEL OF GENERAL SURGICAL RESIDENTS WITH THEIR TRAINING PROGRAM

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Introduction: Singapore introduced the residency program in 2010. Training objectives were based on core competencies defined by the Accreditation Council for Graduate Medical Education-International. It aimed to develop a structured, competency-based, supervised approach to training, while exposing residents to administrative, teaching and research roles[1].
General Surgery(GS) is a stressful subspecialty. The training years are especially challenging, as residents juggle their demanding training and personal lives[2].
Materials & Methods: We evaluated the satisfaction level of residents in one GS residency program in Singapore, and factors that contributed to it, from January 2017-2018. The 'Happiness Index' was adapted from the 'Satisfaction with Life Scale' by Ed Diener *et.al*[3], conducted 6-monthly.
Results: There were 36 responders to the survey(92.3% of 39 residents), and 28 responders(87.5% of 32 residents) in the 1st and 2nd half of 2017 respectively. Satisfaction level of residents maintained at 83%(1st half of 2017:83.3%, 2nd half of 2017:82.8%,p=0.95). Camaraderie was the prime reason why residents were satisfied throughout the 2 years.
63.9% of residents wanted to improve the residency in various ways, significantly in terms of operative load(11.1%) at the start of 2017. This dropped to 3.1% in the 2nd half of 2017, with the main suggestion to decrease service load(12.5%).
Despite GS residency being demanding, strong relationships resulted in high satisfaction(83.3%). Interventions such as set operative goals, and reinforcement to faculty and residents of target numbers of operations performed by residents within subspecialty teams, were introduced. Only 1 resident mentioned operative load in the 2nd half of 2017, with the main suggestion to decrease service load(13.8%). Residents likely recognised the targeted interventions to improve their operative learning.
Service demands have been consistently mentioned. Measures have been instituted to ameliorate the load. It is highly probable that residents have come to accept service as a painful but necessary part of training, as other programs have[4].
Conclusion: The GS residents in our training program are generally satisfied, with camaraderie being key. Acting on feedback maintained satisfaction. Fostering camaraderie is important in maintaining satisfaction in the GS residency program. Continual feedback and improvements to the residency is important to keep it relevant for residents.
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Disclosure of Interest: None declared

153.01

THE FEASIBILITY AND EFFICACY OF NEOADJUVANT CHEMOTHERAPY FOR RESECTABLE PANCREATIC CANCER: A RANDOMIZED PHASE II/III TRIAL FROM JAPAN

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Introduction: Despite progress of postoperative adjuvant for resected pancreatic ductal adenocarcinoma (PDAC), its prognosis remains poor. We conducted a randomized controlled trial to compare neoadjuvant chemotherapy (NAC) with upfront surgery (US) for patients with PDAC planned resection.
Materials & Methods: Patients were enrolled after the diagnosis of resectable PDAC with histological confirmation. They were randomly assigned as either NAC or US. Patients received 2 cycles of gemcitabine and S-1 regimen. S-1 adjuvant for 6 months was administered in both arms. The primary endpoint was overall survival (OS); secondary endpoints included adverse events, resection rate, recurrence-free survival, residual tumor status, nodal metastases, and tumor marker kinetics.
Results: A total 362 patients were randomly assigned to NAC (n=182) or US (n=180) from 2013-16. The median OS was 36.7 months in NAC and 26.6 months in US; HR 0.72 (p=0.015, stratified log-rank test). Hematological Grade 3/4 adverse events were frequently observed in NAC. Resection rate for NAC and US were 77%, 72% respectively. There was no operative mortality in both groups. No significant difference for both groups (NAC vs US) was observed in blood loss (1079 mL vs 961 mL, p=0.81), operation time (448 min vs 463 min, p=0.35), and post-operative morbidity rates (45.9% vs 49.7%, p=0.57). Significant reduction of pathological nodal metastases in NAC (59.6%) was noted compared to those in US (81.5%) by histological evaluation for resected cases (p<0.01). Hepatic relapse after surgery was significantly reduced in NAC (30.0%) compared to US (47.5%), in contrast to no significant differences in other patterns of relapse.
Conclusion: NAC and surgery after NAC for resectable PDAC were feasible. The strategy of NAC showed significant survival benefit compared to that of US.
Disclosure of Interest: None declared

153.02

THE EFFECT OF NEOADJUVANT CHEMORADIOTHERAPY ON THE PROGNOSTIC VALUE OF LYMPH NODE HARVEST IN RECTAL CANCER

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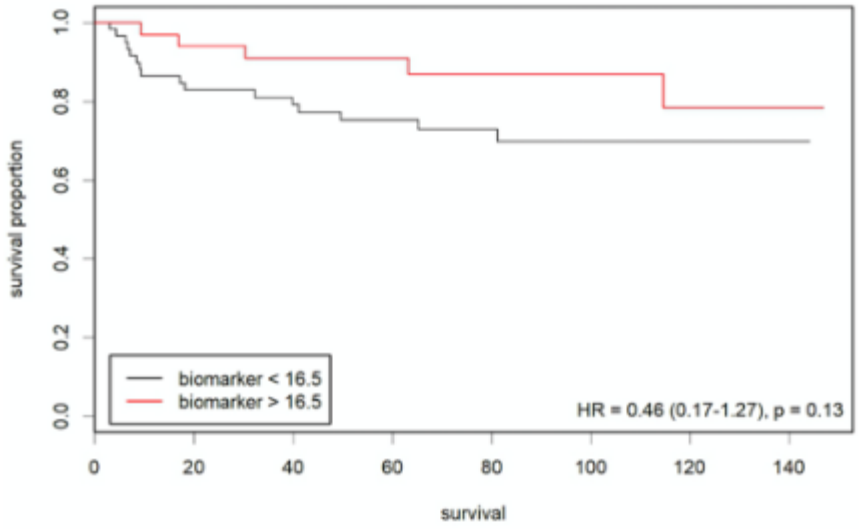
Introduction: The number of harvested lymph nodes is a well-established prognostic factor in patients with colon cancer. Neoadjuvant chemoradiotherapy (NACRT) is known to decrease the lymph node harvest (LNH) in the resected specimen and therefore the prognostic value of LNH in patients undergoing NACRT is debatable. This paper aims to assess the influence of NACRT on LNH, and to evaluate LNH as a prognostic tool for patient outcomes.
Materials & Methods: A retrospective review of all patient who underwent elective surgery for rectal cancer from 2006 to 2013 was performed. All patients with R1/2 resections, presence of metastases, and those operated on for recurrence were excluded. Patient demographics, clinical features, operative details, LNH and operative outcomes were recorded. Outcome measures include length of stay, 30-day mortality, recurrence rates and overall survival. Chi-square test, t-test, Kaplan-Meier and ROC curves were used as appropriate, with $p<0.05$ considered significant.
Results: 259 patients operated on for rectal cancer met the study criteria. Median age of this cohort was 66 years, of which 176 (68%) were male. 95 (37%) patients received long course NACRT, and 123 (47%) patients were Stage 2 and below. The mean LNH was 19, and this was significantly reduced by NACRT compared to upfront surgery (14 vs 23, $p<0.01$). Average length of stay was 9 (range 2-71) days, with a major post-operative complication rate of 4%. Recurrence and mortality rates were 24% and 36% respectively. Using ROC analysis for the NACRT subgroup, LNH cutoffs of 16.5 and 8.5 were obtained for disease free survival (DFS) and overall survival (OS) respectively. Survival analysis showed that a LNH cutoff of 8.5 was a significant predictor of OS ($p<0.001$).
Image:

Neoadjuvant therapy

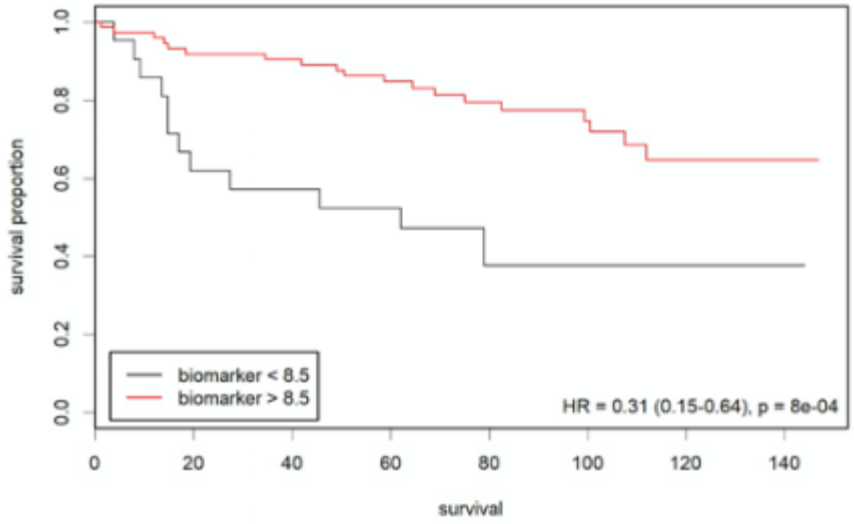
Disease free survival

LN cutoff = 16.5 (obtained using ROC curve analysis)



Overall survival

LN cutoff = 8.5 (obtained using ROC curve analysis)



Conclusion: LNH is reduced in patients receiving NACRT before rectal cancer surgery. The traditional LNH cutoff of 12 should not be applied to this subgroup of patients.

Disclosure of Interest: None declared

153.03

CLINICAL IMPACT OF D3 DISSECTION PRESERVING LEFT COLIC ARTERY FOR LEFT-SIDED COLON CANCER: SUBGROUP ANALYSIS FROM RANDOMIZED CONTROLLED TRIAL OF LAPAROSCOPIC VERSUS OPEN SURGERY FOR COLON CANCER FROM JAPAN CLINICAL ONCOLOGY GROUP STUDY

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Introduction: In curative resection of sigmoid colon and rectal cancer, it is unclear whether D3 lymph node dissection preserving left colic artery (LCA) (Group A) is beneficial compared to D3 without preserving LCA (Group B) in terms of clinical outcomes. Preservation of LCA is expected to maintain blood supply which results in preventing anastomotic leakage, intestinal paralysis, and so on.
Materials & Methods: The data of JCOG0404 (which is a randomized controlled trial comparing open to laparoscopic surgery for stage II/III colon cancer) were used. Eligibility criteria in JCOG0404 included histologically proven colon cancer; T3 or deeper lesion without involvement of other organs; N0-2 and M0. D3 lymph node dissection with or without preserving LCA was identified according to the photographs of the resected field collected for central surgical review in JCOG0404. The short and long-term outcomes were compared between each procedure.
Results: Among all randomized 1057 patients in JCOG0404, 631 patients who received assigned sigmoid colectomy and anterior resection were included in the subgroup analysis. The number of patients were 135 in Group A and 496 in Group B. The patient backgrounds did not differ between groups. The median operative time, median blood loss, and the proportion of grade 1 or more anastomotic leakage and intestinal paralysis were not remarkably different (Group A vs Group B: 185 min vs 186 min, 60 ml vs 50 ml, 3.0% vs 5.0%, and 2.2% vs 3.8%). However, overall postoperative complication occurred more in Group B than in Group A (9.6% and 21.6%, p=0.022). In terms of efficacy, 5-year relapse-free survival (RFS) and overall survival (OS) tended to be better in Group A than Group B (RFS: 83.7% and 80.5%, HR 1.25 (95% CI 0.79-1.96), OS: 96.3% and 91.1%, HR 2.47 (95% CI 1.13-5.40)).
Conclusion: Short and long-term outcomes were better in Group A than Group B. It was considered that D3 lymph node dissection preserving LCA could be alternative treatment for D3 lymph node dissection.
Disclosure of Interest: None declared

153.04

OUTCOMES FOLLOWING CYTOREDUCTIVE SURGERY AND HIPEC FOR PERITONEAL SURFACE MALIGNANCIES AND THE EFFECT OF THE LEARNING CURVE- AN ANALYSIS OF 362 CONSECUTIVE CASES

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Introduction: Peritoneal metastases were historically associated with an extremely poor prognosis, with a median overall survival of three to six months. The advent of cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) can offer selected patients with peritoneal disease from various cancers with a highly favourable disease free and overall survival. This multifaceted surgical procedure involves clearing all visible tumour deposits, with peritoneal with often multi-organ resections. While effective, it does carry the risk of significant morbidity. This study aims to evaluate the outcomes and the effect of the learning curve following CRS and HIPEC for all peritoneal surface malignancies (PSM) at a tertiary referral centre over an eight-year period.
Materials & Methods: A retrospective analysis was performed of a prospectively maintained peritoneal disease database from 2009 to 2017. To evaluate the effect of the learning curve, the proportion of successful complete cytoreductions, number of organ resections per case, and grade III/IV complications were compared between the first and the second half of cohort.
Results: Three hundred and sixty two cytoreductive procedures were undertaken in 312 patients over this period. The mean patient age was 55.6 years, with a female preponderance (58.6%). The median length of stay was 11 days (3-223). The median PCI for the entire cohort was 11. Pseudomyxoma peritonei was the most common reason for CRS and HIPEC, in 175 cases (48.3%), with colorectal peritoneal metastases and appendiceal cancers in 105 (29%) and 62 (17.1%) cases. Complete cytoreduction was achieved in 268 (74%) cases. Grade III/IV complications occurred in 80 (22.1%) cases, with three (0.8%) peri-operative mortalities. The median overall survival for the entire cohort was 58 months, with a disease free survival of 29 months. Complete cytoreduction rates and number of organ resections per case were significantly higher in the 182-362 cases group compared to the first 181 cases ($p<0.05$). Despite the increase in organ resections, there was no difference in the rate of Grade III/IV complications or mortality between the two groups ($p=0.37$).
Conclusion: CRS and HIPEC is safe and effective for PSM, with favourable survival outcomes and acceptable morbidity. Increasing surgical experience helps improve patient selection to safely perform more multi-organ resections and with improved complete cytoreduction rates at no increased morbidity.
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Disclosure of Interest: None declared

153.05

PREOPERATIVE RADIOTHERAPY 25 GY AND SHORT VERSUS LONG INTERVAL BETWEEN TOTAL MESORECTAL EXCISION FOR LOCALLY ADVANCED RECTAL CANCER: 10-YEAR FOLLOW-UP OF THE RANDOMISED CONTROLLED TRIAL

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Introduction: Studies on short-course preoperative radiotherapy in combination with total mesorectal excision (TME) reported improved local control without survival benefit in rectal cancer. The optimal radiotherapy fractionation and interval between radiotherapy and surgery is still under debate. The aim of this study was to compare 10-year treatment results of rectal cancer patients with different time-intervals between irradiation and surgery.
Materials & Methods: Prospective, randomized trial conducted at one tertiary centre. Patients were randomly assigned to short-course preoperative radiotherapy (5x5 Gy) followed by TME 7-10 days or 4-5 weeks after the end of irradiation. The primary endpoint was local recurrence rate at 10 years. The secondary endpoints were: systemic recurrence rate, overall survival, disease free survival, downstaging rate.
Results: 154 patients were randomly assigned into study groups (77 operated 7-10 days and 77 operated 4-5 weeks after the end of radiotherapy). Follow-up was continued until May 31, 2015. Median follow-up of surviving patients was 11.59 years. At 10 years incidence of local recurrence was 1.5% in short-interval group and 9.9% in long-interval group (p=0.09). The incidence of distant recurrence was 16.9% versus 7% respectively (p=0.15). Overall survival at 10 years was 58% and 61% respectively (log rank p=0.771). Patients with downstaging after radiotherapy had significantly better 10-year overall survival than non-responders (77% in comparison with 51%, respectively; log-rank p=0.004).
Conclusion: Short-course preoperative radiotherapy with delayed surgery (4-5 weeks) seems to be a useful alternative to short-course radiotherapy with immediate surgery in terms of 10-year treatment results.
Disclosure of Interest: None declared

153.06

EFFECTS OF DURATION OF INITIAL TREATMENT ON POSTOPERATIVE COMPLICATIONS IN PANCREATIC CANCER

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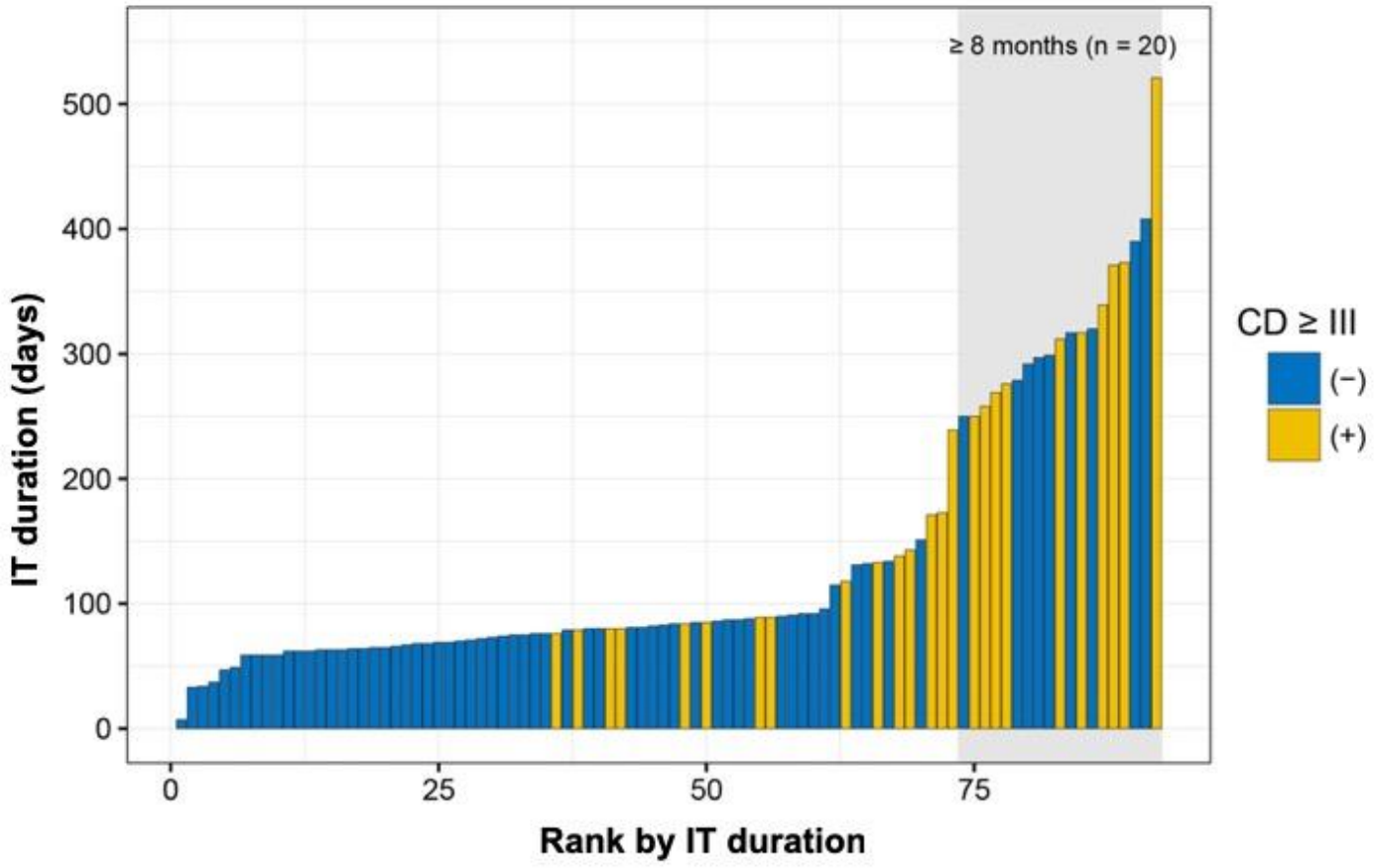
Introduction: Initial treatment (IT) has been used widely for borderline resectable pancreatic cancer and in attempts to downstage locally unresectable disease for resection. Studies of IT have demonstrated that it can be safely delivered prior to surgery, with no difference in overall postoperative morbidity or mortality rates. The Japanese Society of Hepato-Biliary-Pancreatic Surgery found that overall survival of patients who received non-surgical anti-cancer treatment for >240 days was high, which suggests that the optimal treatment period should be 8 months for unresectable disease. This study analyzed the clinical impact of IT on morbidity and mortality rates following pancreatectomy, and identified critical predictors of severe postoperative complications. We focused on duration of IT, and explored its clinical relevance.
Materials & Methods: We enrolled 509 consecutive patients between April 2001 and March 2018, with 417 in the upfront surgery group and 92 in the IT group. The IT group was subdivided into 72 patients treated for < 8 months and 20 treated ≥8 months. We compared rates of postoperative Clavien–Dindo grade ≥III complications between the groups. Multivariatelogisticregression analysis was used to find independent predictors of complications.
Results: Although the upfront surgery and IT groups did not significantly differ in overall postsurgical complications, the rate of postoperative pancreatic fistula was significantly less in the IT group. In contrast, rates of overall complications significantly differed between the <8 months and ≥8 months IT groups, although their background clinical factors did not differ. In multivariate analysis, operative procedure (distal pancreatectomy/distal pancreatectomy with celiac axis resection)(odds ratio [OR] 6.950, 95% confidence interval [CI]: 1.076–44.883,*P*= 0.0416) and IT ≥8 months (OR: 4.508, 95% CI: 1.330–15.278, *P*= 0.0156) were independent predictive factors for postoperative complications.
Image:

Figure 1. Relation between IT duration and CD III ≥ complications



Conclusion: In conclusion, postoperative complication rates did not significantly differ between the upfront surgery and IT groups, as previously reported. However, the rate of postoperative complications was significantly higher in the ≥8 months IT group, and multivariate analysis demonstrated that ≥8 months IT was an independent predictive factor for postoperative

complications. Therefore, stringent patient selection and meticulous surgical techniques are needed for procedures on patients who receive prolonged IT.

Disclosure of Interest: None declared

153.07

NEW PERSPECTIVES OF TAILORED LYMPHADENECTOMY IN PATIENTS WITH GASTRIC CANCER

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Introduction: Stage-adapted surgery guarantees the best outcome for patients with gastric cancer. Successful identification of lymph node (LN) involvement may help to reduce the number of extended lymphadenectomies. The Maruyama computer program (MCP) can estimate the lymph node involvement preoperatively and the sentinel lymph node (SLN) biopsy may help to reduce the number of redundant lymphadenectomy intraoperatively.
Materials & Methods: Prospective study was conducted between 2008 and 2018 at the Department of Surgery of Kenezy Gyula University Hospital, Debrecen, Hungary. Maruyama computer program and SLN mapping were applied in every patients simultaneously. Exclusion criteria included macroscopic serosal invasion, gastric stump tumor, cardia cancer and distant metastases. All patients underwent gastric resection and D2 lymphadenectomy. In order to measure the probability calculations by MCP, we had to define a 'cut-off level', with using the calculation of the receiver-operating characteristics analysis. Sentinel lymph nodes were marked with blue dye, examined intraoperatively in frozen sections and postoperatively with standard hematoxylin and eosin staining.
Results: During this time period 100 consecutive patients were investigated. Using a cutoff point of 18% the MCP had 88.5% of sensitivity, 52.1% of specificity and 71% of accuracy. The positive predictive value was 66.7% while the negative predictive value was 80.7%. The false negative rate was 6%. In 97/100 patients the SLN mapping was successful. The sensitivity of sentinel lymph node mapping was 94.1% , the specificity 100% and the accuracy 98.2%. The positive and negative predictive values were 100% and 96.9%, respectively. The false negative rate was 3.1% and all patients with a false negative result (n=3) had T3 tumors. In all 54 patients with macroscopic T3 tumors the highest or higher than 27 Maruyama score in any LN station represented the nodal status completely and proved that in 17/54 (31%) cases the D2 lymphadenectomy was unnecessary.
Conclusion: Our results suggest that intraoperative SLN biopsy is an effective method in early gastric cancer, while the Maruyama computer program is suitable in advanced cases without serosal invasion for tailoring the appropriate extent of lymphadenectomy.
Disclosure of Interest: None declared

153.08

EARLY POST-OPERATIVE COMPLICATIONS AFTER TOTAL GASTRECTOMY IN PATIENTS WITH AND WITHOUT NEOADJUVANT CHEMOTHERAPY – ANALYSIS OF ONE CENTER

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Introduction: An increasing number of scientific reports recommending neoadjuvant chemotherapy before surgery in patients with gastric cancer is observed. The aim of study was to compare early postoperative complications after gastrectomy in patients with and without neoadjuvant chemotherapy.
Materials & Methods: The study included patients operated in our department between 2016 and 2018 with gastric cancer. The study group consisted of 47 patients, 32 men and 15 women. The median age was 65 years old (IQR 59-75 years). All the patients underwent total gastrectomy with D2 lymphadenectomy and esophago-jejunal Roux en Y anastomosis with curative intent. 24 (61,7%) patients received neoadjuvant chemotherapy. The study groups were compared in terms of early post-operative morbidity and mortality.
Results: The overall morbidity was similar in both groups (54.2% vs. 65.2%, p=0.56). There was not any difference between the groups in the rate of surgical (20.8% vs. 26.1%, p=0.74) and medical complications (37.5% vs. 43.5%, p=0.77). The rate of anastomotic leakage was 4.2% in the neoadjuvant group compared with 8.7% in the non-adjuvant group (p=0.61). The post-operative mortality was comparable in both groups (4.2% vs. 4.4%, p=1,00). The median post-operative stay in neoadjuvant group was 14.5 days (IQR 12.5-19.5 days) in comparison with 15 days (IQR 13 – 19 days), p=0.86.
Conclusion: Neoadjuvant chemotherapy is not associated with an increased rate of post – operative complications.
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Disclosure of Interest: None declared

154.01

THORACOSCOPIC ESOPHAGECTOMY FOR THORACIC ESOPHAGEAL CARCINOMA IN THE LEFT LATERAL DECUBITUS POSITION UNDER ARTIFICIAL PNEUMOTHORAX BY CO2 INSUFFLATION

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Introduction: The rates of thoracoscopic esophagectomy performed in the prone and left lateral decubitus positions are similar in Japan. We retrospectively reviewed short term outcomes of thoracoscopic esophagectomy for esophageal cancer performed in the left lateral decubitus position under artificial pneumothorax by CO2 insufflation in a single institution. This study aimed to evaluate the feasibility of applying this procedure.
Materials & Methods: The thoracic procedure is performed as follows: The lymph nodes around the right recurrent laryngeal nerve are dissected. On the cranial side, the lymph node dissection is advanced to the level of the inferior thyroid artery. Then, the assistant rotates the trachea toward the ventral side, and the lymph nodes around the left recurrent laryngeal nerve are dissected. The middle and inferior mediastinal lymph nodes are dissected including supradiaphragmatic lymph nodes and the dorsal lymph nodes around the thoracic descending aorta. The right lower lung is towed by organ retractors to securing a good operating field. Then, the esophagus is transected using an automatic suture device. Finally, the tracheal bifurcation area lymph nodes are dissected. We retrospectively analyzed these patients.
Results: Between July 2013 and December 2017, 124 patients with esophageal cancer underwent thoracoscopic esophagectomy in the left lateral decubitus position under artificial pneumothorax by CO2 insufflation. The completion rate of thoracoscopic esophagectomy was 92.0%, and the procedure was converted to thoracotomy in five patients, due to hemorrhage, severe adhesion. The mean intrathoracic operative time, intrathoracic blood loss, and number of dissected mediastinal lymph nodes were 210.5 min, 120.5 mL, and 23.0, respectively. Postoperative complications included pneumonia (13.7%), anastomotic leakage (16.9%), and recurrent nerve paralysis (16.1%). Postoperative (30d) mortality was 2/124 (1.6%) due to ARDS and NOMI, respectively..
Conclusion: Standardization of the procedure for thoracoscopic esophagectomy in the left lateral decubitus position under artificial pneumothorax by CO2 insufflation, with a standardized clinical pathway for perioperative care led to favorable surgical outcomes.
Disclosure of Interest: None declared

154.02

LAPAROSCOPIC PANCREATODUODENECTOMY WITH DUCT-TO-MUCOSA PANCREATICOJEJUNOSTOMY WITHOUT PANCREATIC DUCT STENTING

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Introduction: Laparoscopic pancreaticoduodenectomy (LPD) is a complex procedure that is becoming increasingly popular among surgeons in last decades. Despite of many modern techniques there is still a high risk of anastomotic leakage following duct-to-mucosa pancreaticojejunostomy. Many surgeons performing this anastomosis with stenting of the pancreatic duct, but there are no randomised trails, showing superiority of the pancreatic duct stenting in terms of pancreatic fistula rate. However, laparoscopic pancreaticojejunostomy with a duct-to-mucosa anastomosis does not always require a stent tube even in patients with a normal soft pancreas.
The aim of our study was to analyze the results of the LPD without stenting technique.
Materials & Methods: Our study was conducted on 20 consecutive patients who had undergone a LPD due to periampullary tumor and chronic pancreatitis in the period from September 2015 to December 2019. We analyzed the effect of the non stenting technique of the duct-to-mucosa pancreaticojejunostomy on postoperative complications, morbidity and mortality.
The objective of this technique is to maintain adequate patency of the anastomosis using a laparoscopic approach. The pancreas, including the pancreatic duct, is transected with endostapler or using a monopolar cautery. The outer layer of the end-to-side anastomosis, composed of the capsular parenchyma of the pancreas and the jejunal seromuscularis is performed using 4/0 monofilament suture material. The inner layer, composed of the pancreatic duct and the whole jejunal wall is performed using 5/0 absorbable suture material.
Results: Of the 20 surgical patients 12(60,0%) were male. The mean age of the patients was 59.6± 10.1 years.Postoperative morbidity was 32%. Pancreatic fistula occured in 1 patient (5.0%), which is lower than around 10.0% found in literature.
Conclusion: Laparoscopic pancreaticoduodenectomy without stenting of the pancreatic duct stenting is feasible, safe, and effective; however, controlled trials are needed. Laparoscopic pancreaticoduodenectomy holds promise for providing advantages seen with minimally invasive approaches in other procedures.
Disclosure of Interest: None declared

154.03

A SUCCESSFUL COMBINED LAPAROSCOPIC CHOLECYSTECTOMY AND EXPLORATION OF COMMON BILE DUCT FOR GANGRENOUS CHOLECYSTITIS AND CHOLEDOCHOLITHIASIS IN A PREGNANT LADY

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Introduction: The incidence of gallstone-related disease in pregnant women is low (0.05 to 0.33 percent). Serious complications of gallstones, including acute cholecystitis, choledocholithiasis, and acute pancreatitis, are less than 10% of all symptomatic pregnant patients.In order to avoid radiation, laparscopic exploration of common bile duct (ECBD) is advocated for CBD stone. We report a case of 8 weeks' pregnant lady who had gangrenous cholecystitis with CBD stone, which was treated by combined laparoscopic cholecystectomy and ECBD.
Materials & Methods: A 38-year-old 8 weeks' pregnant lady presented with right upper quadrant pain. The Murphy's sign was positive. She has leukocytosis. Ultrasonography showed features of cholecystitis and suspect CBD stone which was comfirmed by MRCP. Emergency combined laparoscopic cholecystectomy and ECBD was performed. Standard laparoscopic approach was adopted. During the operation, gangrenous cholecystitis was confirmed. Laparoscopic transcystic duct ECBD was performed. The operative time was 110 minutes and the blood loss was minimal.
Results: Patient remained stable after operation. Abdominal drain was removed on postoperative day 2, and the patient was discharged on postoperative day 4. A healthy baby boy was delivered at 40 weeks without developmental problem.
Image:

Conclusion: In conclusion, we reported a successful combined laparoscopic cholecystectomy and ECBD for gangrenous cholecystitis and CBD stone in a pregnant lady.
References:

Disclosure of Interest: None declared

154.04

VIDEO-ASSISTED RETROPERITONEAL DEBRIDEMENT IN NECROTIZING PANCREATITIS USING SINGLE ACCESS PORT

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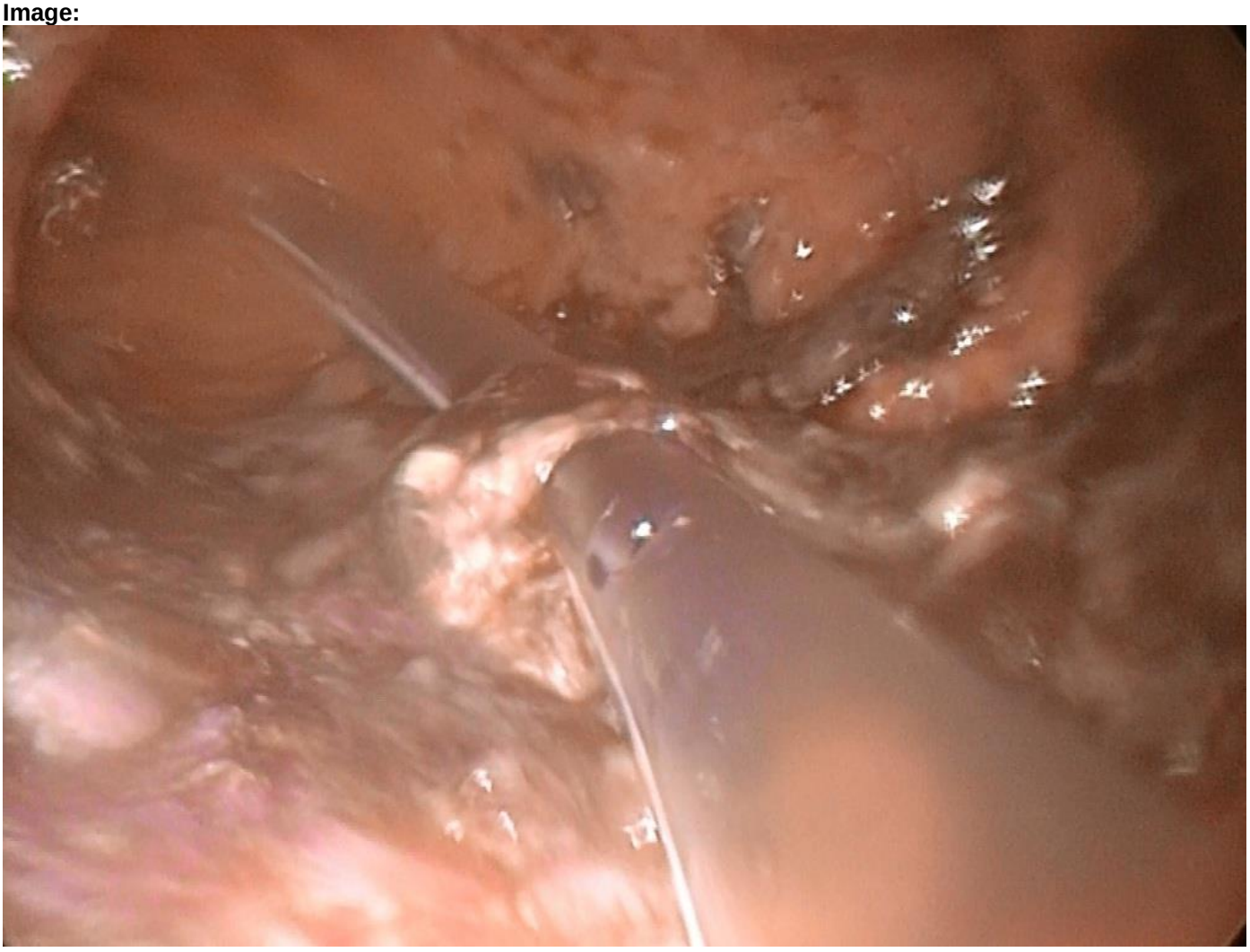
Introduction: Open necrosectomy, once the treatment of choice in infected pancreatic necrosis (IPN), is associated with a high perioperative morbidity and mortality. Currently, the step-up approach, which includes many minimally invasive techniques has been proposed as the standard of care for those patients. Video-assisted retroperitoneal debridement (VARD) is one of those techniques. Previously we reported our modification of VARD using a single access port. Our technique overcomes some shortcomings of other similar procedures, allowing fast and safe trocar placement, secure establishment of gas insufflation, and easy lavage of the necrotic cavity. We report our preliminary experience in the treatment of IPN using VARD with the single access port.
Materials & Methods: The group of patients consisted of 7 men and 1 woman with a mean age of 39 years (IQR: 27-55 years). As the first step, a percutaneous catheter drainage (PCD) under sonographic guidance was carried out through the left lumbar approach in 7 out of 8 patients. If further debridement was required, VARD using the single access port was performed.
Results: VARD was successful in 6 out of 8 patients. One session was sufficient in 3 patients, whereas another 3 patients required a second VARD procedure for adequate debridement of the necrotic debris. Two patients needed an additional PCD for drainage of residual necrotic collections located in the right pararenal space. Two patients developed pancreatic fistulas which were successfully treated by endoscopic stenting of the main pancreatic duct. Two patients showed signs of a colonic fistula and were managed by a diverting ileostomy in the right lower abdomen through a minilaparotomy. In one patient, open necrosectomy was necessary because of persistent sepsis. Two patients suffered hemorrhagic complications. One patient had a pseudoaneurysm originating from the splenic artery that was successfully treated by intravascular embolization. The second patient developed a massive hemorrhage into the retroperitoneum during VARD and underwent emergent laparotomy. This died of multi-organ failure 2 days after
Image:



Conclusion: VARD using the single access port is a valuable asset in the combined minimally invasive management of infected pancreatic necrosis

Disclosure of Interest: None declared

154.05

TOTAL LAPAROSCOPIC DISTAL PANCREATECTOMY WITH SPLENECTOMY IN TREATING A PATIENT WITH GIANT SEROUS CYSTADENOMA OF PANCREAS

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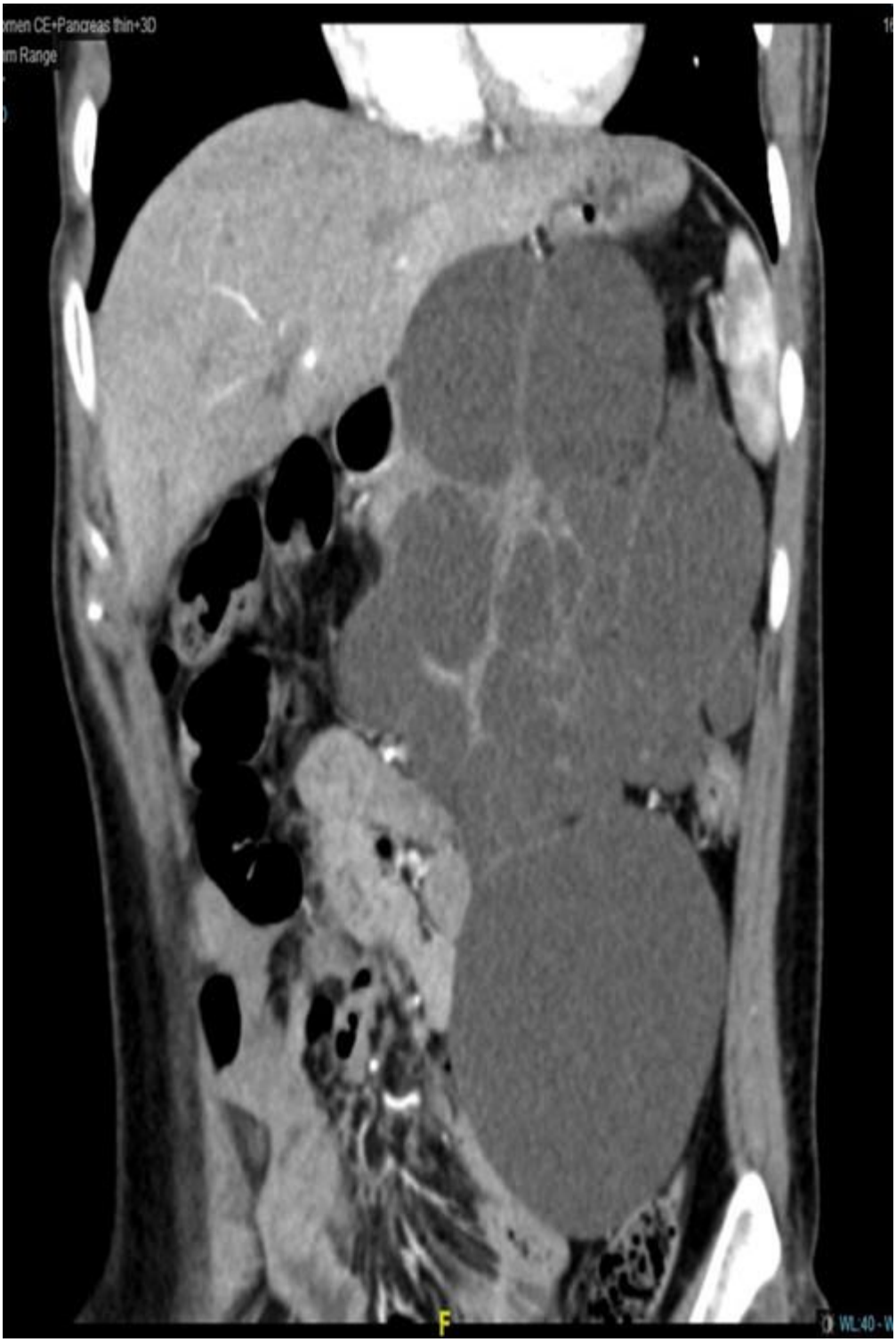
Introduction: In this video, we will introduce a case of total laparoscopic distal pancreatectomy. The patient is a 25-year-old woman,with a chief complaint of epigastric pain and distension for one month. On physical exmination, an approximately 5*5cm mass with tough texture and tenderness can be examined at her left upper quadrant but without rebound tenderness. Enhanced CT of abdomen manifests that multiple round masses with low density and the largest one is measured 94*68.4mm. Partial cystic wall could be seen intensified.
Materials & Methods: Considering her age and the pathology of the tumor, we performed the surgery of total laparoscopic distal pancreatectomy with splenectomy which promotes the enhanced recovery after surgery. In the opration, we carefully separated and blocked blood vessles such as splenic vein and splenic artery. we disected the whole specimen of tumor and the whole spleen.
Results: This female patient was discharged from hospital after POD10 with removal of drainages.
Image:



Conclusion: Laparoscopic pancreatectomy is feasible even in gaint benign tumors and enhances the recovery after operation.

Disclosure of Interest: None declared

154.06

ROBOTIC TOTAL MESORECTAL EXCISION FOR THE TREATMENT OF RECTAL CANCER

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Introduction: The da Vinci® surgical system (Intuitive Surgical, Sunnyvale, CA, USA) was developed specifically to compensate for the technical limitations of laparoscopic instruments, such as two-dimensional vision, misalignment of hands and instruments, limited dexterity of instruments inside the patient, and fixed instrument tips.
we describe our experience using robotic TME in a rectal cancer patient.
Materials & Methods: The patient is a 43-year-old male with a BMI of 33 and rectal cancer localized 5 cm above the anorectal ring. He received preoperative chemoradiation and subsequently underwent a surgical procedure in form of ultra low anterior resection with protective ileostomy
Results: Mobilization of the left colon was undertaken, using standard laparoscopic instruments, after the inferior mesenteric artery and vein were divided proximally, using clips. Then, the robotic instrument was positioned between the legs. The rectum was suspended, using an atraumatic grasper through the left port, and rectal dissection in the mesorectal plane proceeded in front of the levator ani muscle, using the cautery hook in accordance with the TME principles. The mesorectum was divided precisely, using both robotic arms. The reconstruction was performed, using a stapler. The pathologic diagnosis was well differentiated adenocarcinoma, and the main tumor had invaded the submucosa without lymph node metastasis.
The patient was discharged on PO day 5
Conclusion: In conclusion, this robotic system is an excellent instrument for performing the standard TME procedure in rectal cancer patients.
Disclosure of Interest: None declared

154.07

LAPAROSCOPIC RIGHT COLECTOMY FROM BOTTOM TO UP

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Introduction: Laparoscopic right colectomy is a well established procedure in colon cancer treatment, achieving oncological safe results. There are different approaches for direction of dissection: from top to bottom; from bottom to up; and for the anastomosis technique.
Materials & Methods: This vídeo presents a total intracorporeal anastomosis for right colectomy, from bottom to up. The patient lies in supine position, left arm is tucked. The surgeon and camera operator stand to the patient's left. Access to the peritoneal cavity is achieved by an open technique, a 10mm port is placed at the left upper quadrant, the abdomen is insufflated to 12 mm Hg; a 10mm port is placed in the suprapubic midline; a 5mm port at left lower quadrant and a 12mm port at the left lower quadrant. The dissection begins with the oppening of an avascular plane, posterior to the right mesocolon, creating a mesenteric route cranially along Gerota's fascia until the exposure of duodenum, pancreas and liver. The mesentery of terminal ileum is incised at a point beneath the ileocolic vessels, the vessels are skeletonized and divided with clips. The transverse colon is mobilized,
ileocolic artery, right colic artery, and the right branch of the middle colic are divided at the origin. The ileon and colon are divided using an endoGIA, a side-to-side ileocolic intracorporal stapled anastomosis is performed. The enterotomy is closed with a hand-sewn double layer suture. The mobilization of the right colon is, at last, performed.
Results: Laparoscopic right colectomy from bottom to up is a great alternative to classic approach, the advantages of this technic are: an easy approach to retroperitoneum; direct visualization and protection of duodenum and pâncreas; performing the dissection from bottom to up enables the identification of ileocolic vessels and right collic vessels at the origin, in a much simpler and safe way. This approach prevents iatrogenic lesions and guarantee total mesocolon excision. Also the performance of an intracorporeal anastomosis offers the advantage of a smaller extraction incision, lower wound-related complications, and fast recovery.
Conclusion: Using the bottom to up dissection approach is technically feasible and safe, with good outcomes.
Disclosure of Interest: None declared

154.08

EASY SPLENIC LAPAROSCOPIC ANGLE MOBILIZATION

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Introduction: Bearing in mind the splenic mobilization as one of the pitfalls of left colectomy, within the present vídeo, we would like to show an easy, quick and safe way of laparoscopic splenic angle mobilization, safely performed by trainees, at every left colectomy procedure.
Materials & Methods: The patient lies in supine position, legs abducted and the right arm in adduction; the surgeon stands between the legs and camera operator stands to the patient's right. Access to peritoneal cavity is achieved by an open technique, a 10mm port is placed at the umbilicus; a 12mm port is placed in the right inferior quadrant; a 5mm port at right upper quadrant; a 5 or 10 mm between the upper and lower left quadrant. The dissection begins with epiplo's incision, at the middle and distal part and the identification of epiplon´s retrocavity, always preserving the transverse mesocólon. The splenic angle is mobilized from lateral to medial, the mesenteric inferior vein is identified and divided with clips. Then we proceed to retroperitoneal dissection, with identification of anterior surface of pâncreas, entering the epiplon retrocavity.
Results: This approach ensues a safe and complete angle mobilization within 30 minutes, on average. We consider the placement of surgeon between legs an essencial choice to approcah the transverse colon. The oppening of epiplon's retrocavity , as a first step will facilitate the transverse mesocólon approach. An easy approch to this step will ensure a lower rate of iatrogenic colon and vascular lesions, less pancreatic lesions and subsquent fistula creation, the surgeon's position will guarantee a better visualization and na uneventful accomplishment of technique.
Conclusion: This approach, as part of left colectomy, stands as quick, easy to learn and safe step, avoiding some major complications.
Disclosure of Interest: None declared

154.09

POSTOPERATIVE OUTCOMES OF RECTOSIGMOID AND RECTUM DEEP INFILTRATING ENDOMETRIOSIS SURGERY: CLINICAL RESULTS IN A GROUP OF 40 PATIENTS

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Introduction: The objective of the study was to compare intra- and postoperative outcomes following laparoscopic segmental and discoid resection for colorectal endometriosis. Quality of life was evaluated.
Materials & Methods: 40 patients qualified for evaluation. Group 1 included 29 discoid bowel endometriotic nodule resection cases. Group 2 included 11 segmental bowel resection cases. All patients underwent radical conservative pelvic endometriosis surgery. The surgical method choice was based on preoperative imaging workup and intraoperative clinical evaluation. Evaluated parameters included: demographics; surgery time; hospital stay (uncomplicated and complicated cases); dehiscence rate; resection margins on histopathology. Quality of life was assessed in terms of presence/absence of bladder and bowel dysfunction.
Results: Both groups were age-matched, median age in Group 1 was 35 vs. 36 years in Group 2. Disease grading differed in both groups. Group 1 included 3.4% ASRM endometriosis Grade II, 10.3% Grade III, and 86.2% Grade IV patients. All patients in Group 2 were ASRM endometriosis Grade IV. Discoid colorectal resection was associated with significantly shorter operating times (278 vs. 345 minutes, $p<0.05$), same hospital stay for uncomplicated cases (9 days in both groups), and shorter hospitalisation for complicated cases (18.8 vs. 21 days in complicated segmental resection cases). However, a higher postoperative complication rate was found in Group 1 (24.1% vs. 9.1%). Dehiscence occurred in 7 cases in Group 1 (24.1%) vs. 1 case in Group 2 (9.1%). 5 cases in Group 1 required reoperation (17.2%), and 2 were treated conservatively (6.9%). Although global quality of life in both groups was comparable, two cases of temporary voiding dysfunction were observed in Group 2.
Conclusion: In our study, we observed that discoid colorectal resections were associated with shorter surgery time, lower voiding dysfunction rates, but significantly higher complication rates in terms of dehiscence, probably due to the confirmed presence of residual endometriosis in the surgical margins.
Disclosure of Interest: None declared

154.10

ROBOTIC TREATMENT OF CHRONIC PANCREATITIS - PUESTOW TECHNIQUE

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Introduction: A lateral pancreaticojejunostomy, also known as the Puestow procedure, is a complex procedure performed for chronic pancreatitis when the pancreatic duct is dilated and unable to drain properly. Thus, medical and surgical treatment of CP aims to improve patients' quality of life by providing pain relief, improving pancreatic insufficiency, and reducing the number of complications.
Materials & Methods: AB, 75 Years old male patient, with 16 hospital admissions due to chronic pancreatitis.
He had a portal hypertension and a lot of stones (2.0 and 3.0 cm) in the pancreatic duct. He was previously submitted to a BII gastrectomy.
Results: The main surgeon did a robotic Puestow-Gillesby pancreatojejunostomy using the da Vinci Si system.
Post operative course: Did well after surgery and was discharged on PO day 5, pain free and eating solid food and drinking beer.

Conclusion: This case demonstrates the utility of this advanced surgical technology and may lead to a new minimally invasive option for patients with chronic pancreatitis requiring surgical intervention.
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Disclosure of Interest: None declared

156.01

POSTOPERATIVE RECURRENT PRIMARY SPONTANEOUS PNEUMOTHORAX – SURGERY OR CONSERVATIVE?

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Introduction: Four to 7% of ipsilateral recurrences occur after operation on primary spontaneous pneumothorax (PSP). This study is to determine whether surgical intervention or conservative management is the better treatment.
Materials & Methods: All PSP patients received VATS between Jan 2012 and April 2015and patients with recurrence on the operated side were collected. Their treatment and outcomes were analysed.
Results: Of the 186 PSP patients who had received VATS, thirteen patients were found to have ipsilateral recurrence. All patients confirmed with CT scan examinations. Re-VATS were performed on 8 patients due to larger than 20% on radiography. Seven patients (87.5%) were found to have newly-formed blebs adjacent to the previous staple line and adhesions were few. Four patients received observation; and one patient received chemical pleurodesis due to less than 10% on radiography. No complication was found in these treatments. Upon average 46 months' follow-up, no further recurrence was found in all patients.
Conclusion: For large volume recurrence, surgical treatment is suggested due to high percentage of blebs and sparse adhesions. Re-VATS remains a technically feasible, safe, and effective way. For small volume recurrence, conservative treatment is an acceptable management, but operation can still be rigorously contemplated.
Disclosure of Interest: None declared

156.02

ROLE OF SERUM GALACTOMANNAN LEVELS IN CHRONIC PULMONARY ASPERGILLOSIS.

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Introduction: Chronic pulmonary aspergillosis - CPA is a long-term aspergillus infection of the lung and *aspergillus fumigatus* is almost always the species involved with the specific criteria for diagnosis of CPA includes chest x-rays, clinical symptoms and a blood test or tissue fluid test positive for aspergillus species. considering that many cases of CPA require surgical treatment, we planned a study to assess pre to post-operative change in serum GM (Galactomannan) levels and to evaluate the therapeutic success and prognostic efficacy of these changes.
Materials & Methods: This prospective study was done on consecutive adult patients with pulmonary aspergillosis with exclusion of patients with serious / other medical or surgical co-morbidities. Serum GM levels were assessed at pre-operative and 6 week post-operative period.
Results: In 24 patients of study, pre GM level of patients ranged from 0.7 to 8.9 with mean (± SE) 5.09 ± 0.48 whereas at post it ranged from 0.5 to 2.3 with mean (± SE) 1.20 ± 0.12 showing significant decrease (p value<0.05) in postoperative period.
Conclusion: Serum GM level may serve as marker of therapeutic success after surgical intervention and for prognostic purposes in pulmonary aspergillosis.
Disclosure of Interest: None declared

156.03

LEVELS OF SERUM VITAMIN D AND CHRONIC EMPYEMA THORACIS: AN OBSERVATIONAL STUDY.

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Introduction: Empyema thoracis is a common cause of severe morbidity and mortality, especially in the developing world where tuberculosis remains a common cause. It has been linked to vitamin D deficiency due to its ability to modulate the T lymphocyte of the immune system. We undertook this study to evaluate the levels of serum vitamin D in various stages of chronic tubercular empyema thoracis.
Materials & Methods: It was a observational study done by taking random blood sample for serum 25(OH)D3 on Eighty (80) adult patients with chronic tubercular and non-tubercular empyema thoracis selected from Department of General Surgery and Department of Respiratory Medicine of our institute. A random blood serum samples of the patient in the study group will be taken and tested for serum 25(OH)D3 at Department of Pathology, KGMU using Human Vitamin D ELISA Kit. Patients with other chronic co-morbid conditions, Vitamin D supplementation, immunocompromised states were excluded from the study.
Results: In our study on 80 patients, Stage III was most common (43.8%) flowed by Stage II (40%) and Stage I (16.2%). there was significant (p=0.0001) difference in Vit D level among the stages. Vitamin D level was found to be significantly (p=0.008) lower among patients who were on ATT (18.16±9.76) compared to who were not on ATT (25.16±12.82). Vitamin D level was significantly (p=0.0001) lower among whom TB was present (14.51±7.20) than absent (28.30±11.54).
Conclusion: It is seen that as the severity of the disease (Stage of Empyema Thoracis) increases, the level of Vitamin D in the body decreases. Furthermore, tuberculosis is associated with low levels of Vitamin D.
Disclosure of Interest: None declared

156.04

CYST OF HATTORI : A SYSTEMATIC REVIEW

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Introduction: The posterior mediastinal cysts could be caused by pericardial, bronchogenic , mesothelial,or thoracic duct. Cyst of Hattori are a very rare, encountered to 5.5% of mediastinal cysts.Histologically they are lined with ciliated columnar epithelium surrounded by a smooth muscular layer.There is a concern about a malignant transformation of the Müllerian tissue. The reported risk factors are female gender, high BMI, HRT and gynaecological pathology.
Materials & Methods: A systematic search of the published literature using Web of Science, EMBASE, Cochrane Database, MEDLINE (PubMed as the search engine) was performed The search strategy was based on combination of the following search key words: “Mullerian cyst, Cyst of Hattori, Posterior mediastinum”, with language in English . The material covers the period between 2005-2018. In literature, there are 40 reported cases of Cyst of Hattori since the first report by H Hattori in 2005.
Results: COH manifestations include cough (22%) chest pain (17%) , shortness of breath and dysphagia,however, 55% were asymptomatic.Usually presents about age of 40-60 years,in female gender located between T3-T8 . Usually solitary, and are easily detected in CXR,CT or MRI. The smallest was 12 mm , the largest 52 mm and the average was 31 mm. About 30% of cases located at T4 level and 75% were located between T3-T6. Lateralization distributed as the following: left 50%, right 38% , prevertebral 1% and bilateral in <1%. IHC shows 93% were ER+ve & 93% PR+ve. The hormone receptor expression in the cyst wall, as well as their histological similarity to fallopian tube, support the theory of origin as remnants of embryonic Müllerian tissue. Furthermore, all known reported cases in literature have been found within the female population. Four cases were tested for CK7 and were positive, also four cases tested for Paired Box Gene 8 (PAX8) and were positive. Paired box gene 8 (PAX-8); a gene found at 2p13, is associated with tumours of thyroid gland and Müllerian system. It is found to be positive in COH. Three cases tested for WT1(Wilms’ tumor protein 1) and were positive. Surgical excision is the standard treatment modality, either as an open surgery or by minimal-invasive approach . This is suggested to alleviate sever symptoms and know the definitive diagnosis.
Image:

Conclusion: Surgical excision of COH is recommended for definitive diagnosis, symptoms treatment and to reduce the risk of malignant transformation of Müllerian tissue.
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Disclosure of Interest: None declared

159.01

APLICATION OF SIGSTAD'S SCORING SYSTEM ON IDENTYFICATION OF DUMPING SYNDROME AND HYPOGLYCEMIA IN POST-BARIATRIC PATIENTS

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Introduction: Due to the worldwide epidemic of obesity, bariatric surgery as the only effective treatment is increasingly used as a therapeutic option. Bariatric operations apart from weight reduction allow for resolution of many comorbidities. Unfortunately, they also carry some side effects associated with deficiency syndrome or the phenomenon of hypoglycaemia.
Materials & Methods: Sigstad's scoring scale is used to estimate the level of dumping syndrome and hypoglycaemia. This scale contains of various clinical symptoms, which have the appropriate number of assigned points. Shock +5; Fainting, syncope, unconsciousness +4, Desire to lie or sit down +4; Breathlessness, dyspnoea +3; Weakness, exhaustion +3; Sleepiness, drowsiness, apathy, falling asleep +3; Palpitation +3; Restlessness +2; Dizziness +2; Headaches +1; Feeling of warmth, sweating, pallor, clammy skin +1; Nausea +1; Abdominal fullness, meteorism +1; Borborygmus +1; Eructation –1;Vomiting –4
Patients scoring >7 points additionally have been checked with continuous glucose measurement (CGMS). Hypoglycaemia was considered when glucose dropped < 55 mg/dL
Results: 34% of all post-bariatric patients complained on dumping syndrome symptoms. Significantly less after LSG 32%, after gastric bypass procedures around half of operated patients were affected by dumping syndrome and severe hypoglycemia episodes (OAGB 51%
RYGB 53%). The average time after surgery was for: LSG 7,3 months, OAGB 12,4 months, RYGB 13,1.
Conclusion: Sigstad's scoring system is helpful tool to identify post-bariatric patients affected by severe hypglycaemia. Obtained high percentage of this phenomenon should impact on appropriate patient education and should be considered during the qualification for the type of surgery.
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Disclosure of Interest: None declared

159.02

EVALUATION OF RESTING METABOLIC RATE IN LIVER ONCOLOGICAL SURGERY, COMPARISON OF INDIRECT CALORIMETRY WITH PREDICTIVE EQUATIONS.

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Introduction: Liver surgery refers to an organ with high metabolic and regenerative potential. The gold standard for assessment of total metabolic processes is measurement using the indirect calorimetry (IC) method. An alternative method can be the assessment of resting metabolic rate (RMR) using bioelectrical impedance analysis (BIA). Because these methods require the use of expensive equipment, mathematical equations have been constructed based on body weight, height, age and gender, which necessitate validation in different groups of patients.
Aim: A comparison of RMR assessed by the method: IC and BIA with selected predictive equations (Harris-Benedict's and Mifflin's) before and after surgery in the scope of the liver.
Materials & Methods: The measurements were carried out in 104 patients (48 M, 56 F, Average (Av) age 60.81 years ± 10.11) with metastatic changes in the liver, qualified for surgical treatment. In patients, 39 hemihepectomies, 36 focal resections and 29 segmentectomies were performed. The tests took place one day before the planned surgery and on the 6-7 postoperative day. The data obtained were compared with the Harris-Benedict and Mifflin formula.
Results: The value of resting metabolic rate determined by IC was different in terms of sex, higher on average by 399.21 kcal in men $p < 0.0001$. As a result of the applied procedures in the postoperative period, the RMR changed in a statistically insignificant manner ($p > 0.05$); M: -22.28 kcal, F: +4.86 kcal. In patients after hemihepectomies, a decrease in the mean size of changes was noted, and after segmentectomies and focal sections, there was an increase in demand. The highest compliance level was obtained for the use of the Mifflin formula before surgery (R=0.85, Av diff.= +43.77; Limit of agreement (LoA): -271 to +358), and Harris-Benedict after surgery (R=0,85; Av diff.= -36.36; LoA: -344 to +271). The BIA method shows the lowest agreement with the IC measurement (R = 0.76, Av diff.= +36.75, LoA: -417 to +344).
Conclusion: Liver surgery is associated with high surgical intervention, but does not have a significant impact on the body's metabolism. If it is not possible to assess RMR using the IC method, it is useful to use predictive models. There is currently no ideal predictive pattern for RMR in liver surgery.
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Disclosure of Interest: None declared

159.03

BODY COMPOSITION IS NOT ASSOCIATED WITH PATIENT'S PROGNOSIS IN OVARIAN CANCER

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Introduction: The reduced muscle mass and increased visceral fat mass have been considered negative prognostic factors for
gastroenterological cancer recently. Body composition assessment and proper nutrition therapy has been recognized to take important
role for those cancer patients. No report has been published about the association between body composition and gynecologic cancer.
This study evaluates the influence of body composition on perioperative complication and prognosis in ovarian cancer patients
Materials & Methods: A total of 94 patients with ovarian cancer who received surgery and/or chemotherapy between March
2006 to March 2013 are included. Body composition was assessed by measuring skeletal muscle mass, its lipid infiltration and visceral fat area in initial CT at the third lumbar vertebral level.
Results: Among the 94 patients, 62(65.9%) has reduced muscle mass (SMI<38.5), 23(24.4%) are viscerally obese (visceral fat area>100cm2) and 8(8.5%) has both characteristics. The muscle mass and fat mass have positive relation to BMI but no relation to patients' age. Patients' body composition is not related to perioperative complication and length of hospital stay. It also shows no statistical association with disease free survival and overall survival.
Conclusion: Unlike gastroenterological cancer, any specific body composition showed relationship with patients' outcome and prognosis. This discrepancy might be caused by the histological or oncological differences. In this study, skeletal muscle quality is evaluated by only its lipid infiltration status. Since diagnostic criteria of sarcopenia includes muscle power and strength besides mass, limited patients would be diagnosed as sarcopenia. Future study should be needed to evaluate sarcopenic status and patients' prognosis in ovarian cancer.
Disclosure of Interest: None declared

159.04

IS COMPUTED TOMOGRAPHY-BASED PSOAS SKELETAL MUSCLE AREA A VALID SENTINEL FOR WHOLE L3 SKELETAL MUSCLE CROSS-SECTIONAL AREA?

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Introduction: Computed tomography (CT)-based measurement of skeletal muscle cross-sectional area is frequently used to assess the presence of sarcopenia in a number of different cancer types. In combination with being overweight or obese, the presence of sarcopenia is a negative predictor of treatment outcomes and prognosis. The validated methodology for this analysis utilises whole skeletal muscle cross-sectional area (CSA) at the third lumbar vertebral level (L3). However, an increasing body of evidence has focused upon CSA of the psoas muscle alone at the L3 level as a surrogate for whole slice area, a technique which has not been validated. The aim of this study was to investigate the validity of using the psoas muscle as a sentinel for calculated CSA at the L3 level.
Materials & Methods: Portovenous phase CT images at L3 were identified retrospectively in 150 patients who underwent non-emergency scans at Nottingham University Hospitals NHS Trust and were analysed by a single trained assessor using SliceOmatic software v5.0 (TomoVision, Canada). Cross-sectional area (CSA) was calculated for psoas, paravertebral and anterior abdominal wall skeletal muscle and compared with values for the whole L3 skeletal muscle CSA.
Results: When compared with whole L3 skeletal muscle CSA, anterior abdominal wall CSA had the strongest correlation ($r = 0.9315$, $p < 0.0001$) followed by paravertebral ($r = 0.9508$, $p < 0.0001$), with psoas muscle CSA having the lowest correlation, although this remained statistically significant ($r = 0.7041$, $p<0.0001$). Cross sectional area was maximal for paravertebral muscles and least for psoas muscles, with abdominal wall muscles being in between.
Conclusion: Whole L3 skeletal muscle CSA correlated positively with psoas muscle CSA, although the correlation was stronger for both anterior abdominal wall and paravertebral muscle groups. Given the simplicity of the gold standard for measurement of muscle CSA and the validated thresholds for the diagnosis of sarcopenia, we recommend that whole L3 skeletal muscle rather than individual muscle CSA should remain the gold standard for this method of body composition analysis.
Disclosure of Interest: None declared

159.05

THE USEFULNESS OF INDIRECT CALORIMETRY, BIOELECTRICAL IMPEDANCE AND SELECTED BIOCHEMICAL PARAMETERS IN THE ERAS PROTOCOL IN PATIENTS UNDERGOING LIVER RESECTION.

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Introduction: Surgical resection is the recommended method of treatment of metastatic neoplastic lesions within the liver. Knowledge of the accompanying pathophysiological and metabolic changes assessed by bioelectrical impedance analysis (BIA), indirect calorimetry (IC) and biochemical indicators can be helpful in improving the ERAS (Enhanced Recovery After Surgery) therapeutic protocol. A characteristic indicator obtained due to the bioelectrical impedance is the phase angle, which reduced value indicates a smaller cell mass and worsens the prognosis.
Aim: Monitoring postoperative course and analysis of changes in biochemical indicators, body composition and resting metabolic rate of patients undergoing partial resections of the liver or thermoablation of focal lesions.
Materials & Methods: The study involved 131 people, including 68 women (F) and 63 men (M). Resection of metastatic tumors to the liver concerned 80.15% of the subjects. In the remaining cases, primary changes were found. The analysis covered data on the body's water bodies, the results of laboratory tests as well as the resting value of metabolism.
Results: A comparison of the results of tests performed before and after surgical intervention in the liver revealed statistically significant differences ($p < 0.05$) in both biochemical and body composition tests. The value of resting metabolic rate did not change significantly, it was: before surgery 1472.8 kcal ± 295.5 (F - 1284.3; M - 1676.7), after surgery 1466,6 kcal ± 276.4 (F - 1299.9; M - 1649.8). The highest increase in average concentration was related to GGT, ALT and CRP. The differences amounted to 96.92 U/L, 73.40 U/L and 47.83 U/L, respectively. In addition, there was a significant increase in extracellular water and total body water. Significant loss of intracellular water, muscle mass, cell mass as well as adipose tissue was observed. The value of the phase angle decreased by an average of 0.74°.
Conclusion: Patients qualified for surgical procedures within the liver are initially organ-efficient. In patients undergoing partial resection of the liver there are adverse changes in biochemical indicators, caused by the surgical technique used and the composition of the body resulting partly from perioperative management. These changes are reversible, their monitoring should be included in the ERAS protocol.
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Disclosure of Interest: None declared

159.06

APPLYING ENHANCED RECOVERY AFTER BARIATRIC SURGERY (ERABS) PROTOCOL FOR MORBIDLY OBESE PATIENTS WITH END -STAGE RENAL DISEASE.

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Introduction: Obesity in a group of patients with chronic renal failure may preclude access to kidney transplantation. Bariatric surgery (BS) is becoming more recognized as a treatment option either to help deminish progression of chronic kidney disease on early stage or to prepare for kidney transplantation if the weight loss is needed to qualify for transplantation.
Materials & Methods: From 2015 onwards 1,400 patients non – ESRD were operated and 21with ESRD underwent BS according to the ERABS protocol

To evaluate the safety and effectiveness of ERABS for ESRD morbidly obese patients were compared with non-ESRD morbid patients undergoing BS.

Demographic data, complications and duration of hospital stay and mortality were compared.
The primary endpoint was the length of stay in hospital (LOS) measured in days, secondary endpoints were the number of re-admissions, re-operations and complications during admission and within 30 days. Complications were graded using the V-stages Clavien−Dindo classification.
Results: At the presented ESRD group we have noted only one serious complication (IIIb, IVb Clavien Dindo scale). In case of ESRD patients the hospitalization time was 3.8 ± 0.5 day (excluded one case where the LOS reached 26 days) comparing with non-ESRD patients undergoing BS where the average hospital stay was 2.1± 0.5 day.
Conclusion: Our study shows that the use of ERABS protocol in this particularly risky group of morbidly obese patients with ESRD allows to maintain the quality as well as efficiency of surgery, while ensuring the highest safety standards.
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Disclosure of Interest: None declared

159.07

THE FEASIBILITY STUDY OF ERAS PROTOCOL FOR HIGH RISK PATIENTS WITH THORACIC ESOPHAGEAL CANCER

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Introduction: Data on enhanced recovery programs after thoracic esophageal cancer surgery for high risk patients are sparse. The aim of this study was to evaluate the impact of an enhanced recovery after surgery (ERAS) program in patients with high risk who underwent a transthoracic esophagectomy.
Materials & Methods: Between April 2012 and December 2015, 33 patients who underwent a transthoracic esophagectomy were put enrolled into the ERAS program for high risk patients (Group H). This group was then compared with a group of 99 patients who had a standard risk (Group S). The program was started on the first postoperative day (POD 1). Mobilization and enteral nutrition were initiated on the first postoperative day (POD 1). The outcome measures comprised the mortality rate, morbidity rate, the average postoperative days when the patients started walking and enteral nutrition, postoperative pneumonia, anastomotic leak, and length of postoperative hospital stay and readmission rates within 30 days. This was a retrospective study. Differences between groups were examined for statistical significance using the chi-square, Fisher's exact test or the Mann-Whitney U-test.
Results: The morbidity, mortality, anastomotic leak, postoperative pneumonia and readmission rates were 6%, 52%, 21%, 9% and 0%, and 0%, 39%, 13%, 6% and 1%, in Groups H and S, respectively (n.s, $p<0.01$,n.s, n.s,and n.s). The average postoperative days when the patients started walking and enteral nutrition in Groups H and S were 1.0, 1.4 and 1.2, 1.0 days, respectively ($p<0.01$,and n.s). The length of postoperative hospital stay was reduced in Group S in comparison to that in Group H (average 21.7 versus 32.3 days; $p<0.01$). There were no adverse event in this protocol.
Conclusion: Groups H was inferior in starting walking, hospital stay and mortality rate, compared with group S. However, there were no statistical differences in morbidity rates including postoperative pneumonia. Even in high risk patients, an ERAS protocol is managed safely and is effective for the prevention of postoperative complications.
Disclosure of Interest: None declared

159.08

ENTERAL FEED-RELATED ISCHAEMIA FOLLOWING MAJOR UPPER GASTROINTESTINAL RESECTIONS

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Introduction: Enteral feed-related ischaemia (EFRI) is a rare but catastrophic complication of enteral nutrition in patients having undergone major abdominal resection. Despite the potential for such serious complication(s), little remains known about predisposing factors and pathophysiology. This study aims to review the incidence of EFRI in patients undergoing major upper gastrointestinal oncologic resections and to determine both risk factors and clinical course to help pre-operatively identify patients at risk of developing EFRI.
Materials & Methods: Data were retrospectively obtained from 141 patients throughout 2010 to 2018. All patients undergoing major upper gastrointestinal oncologic resection with placement of a jejunal feeding tube were included in the study.
Results: The overall incidence of EFRI was 2.8% (4/141); 3.2% of patients undergoing pancreaticoduodenectomy developed EFRI, 2.8% following oesophagectomy and 16% following subtotal gastrectomy. The complication was not seen following total gastrectomy. The average age of patients developing EFRI was 68.7 years (range 61-77 years); no sex difference was identified. All patients had pre-operative cardiovascular risk factors, and all patients required a brief period of post-operative inotropic support; one patient was receiving inotropes at time of deterioration. Signs of EFRI developed at a mean of 6.8 days (range 3-10 days) and in all cases included tachycardia and increased nasogastric output. Two patients developed abdominal distension, and all non-ventilated patients reported increased abdominal pain. Lactic acidaemia was found in all patient, however, only 50% of patients developed leukocytosis. . Cross-sectional imaging showed evidence of mesenteric ischaemia in all cases (pneumotosis intestinalis with portal venous gas) *without evidence of vascular occlusion.* Evidence of bacterial translocation in both blood and peritoneal culture was found in 75% of cases. Surgery was required in all patients. One patient had viable bowel, the remainder displayed patchy foci of ischaemia distal to the feeding tube; the proximal bowel was normal in all cases. Overall mortality was 50%.
Conclusion: These data demonstrate that EFRI is a potential, though rare, life-threatening complication of enteral nutrition. Clinical deterioration after the introduction of enteral feeding should prompt immediate cessation of enteral feeding and urgent investigation and management with cross sectional imaging, intravenous antibiotics and preparation for further surgery.
Disclosure of Interest: None declared

159.09

DIAGNOSING MYOSTEATOSIS ON L3 VERTEBRAL LEVEL ABDOMINAL CT SCANS: ALL MUSCLES OR INDIVIDUAL MUSCLE GROUPS?

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Introduction: Attenuated skeletal muscle Hounsfield Unit (HU) density which can be measured on computed tomography (CT) imaging at the third lumbar vertebral (L3) level, is associated with systemic inflammation and adverse outcomes. The validated technique for measurement of skeletal muscle density uses the combined density of all skeletal muscle at L3. However, there is increasing interest in the use of psoas muscle HU density at the same level. This technique has not been thoroughly investigated as a potential surrogate for muscle density when compared with the gold standard.
Materials & Methods: Portovenous phase CT images at the L3 level were identified retrospectively in 150 patients who had non-emergency scans at Nottingham University Hospitals NHS Trust and analysed by a single trained assessor using SliceOmatic software (v5.0, TomoVision, Canada). Manual segmentation based upon validated HU thresholds for skeletal muscle density was performed for all skeletal muscle at the L3 level, as well as the psoas, paravertebral and anterior abdominal wall skeletal muscle. The software then automatically calculated the mean HU density of each muscle group and all were compared with the gold standard which is whole L3 skeletal muscle density. The presence of myosteatosis was calculated from a previously validated definition.
Results: The mean±SD density of the psoas muscle (42±8.4 HU) was significantly higher than that of the whole slice skeletal muscle (32.3±9.5 HU, $p<0.0001$), with paravertebral density being a more accurate estimation of density (34.5±10.8 HU), although this was also significantly different from whole slice values ($p<0.0001$). There was a significant difference in the prevalence of myosteatosis when the density measured from the psoas and whole L3 skeletal muscle were compared (28.5% vs. 63.1%, $p<0.0001$).
Conclusion: Psoas skeletal muscle HU density was significantly greater than whole slice density and is likely to underestimate the true prevalence of myosteatosis, making this an unreliable sentinel for the gold standard analysis of whole skeletal muscle density at L3.
Disclosure of Interest: None declared

159.10

PREOPERATIVE IMMUNONUTRITION COMPARED TO STANDARD NUTRITIONAL SUPPORT AFFECTS THE INFLAMMATORY RESPONSE WITHIN THE COLORECTAL CANCER TISSUE - RANDOMIZED CONTROLLED TRIAL.

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Introduction: The first choice of treatment in colorectal cancer is surgery. Nutritional support in form of oral nutritional supplements (ONS) in the preoperative period is widely accepted in reducing the amount of perioperative complications and immunonutrition is generally recommended. However, there is little clinical data regarding the impact of such treatment on a tumor biology. Therefore we designed a study comparing the effect of immunonutritional and standard ONS treatment on altering the expression of inflammatory response cytokines in colorectal cancer tissue.

Materials & Methods: 26 patients who underwent laparoscopic colonrectal resection due to cancer were included into the study. None of them underwent preoperative radiochemotherapy. In all patients, tumor samples were collected during colonoscopy at the time of diagnosis (samples A). Next, randomization to 2 groups was performed. The group 1 consisted of patients who, as part of standard preparation, used standard ONS (3 x Nutricia Nutridrink per day) for 2 weeks before surgery. In group 2 ImmunoONS (2x Nestle Impact Oral) was administered. Tumor tissue (samples B) was than retrieved after resection. The material was analyzed in flow cytometry for proteins expression (TNF-α, CXCL8, SDF-1a, CXCL6, CXCL2, MPO, CXCL1)

Results: Pre-operatively, the groups did not differ in terms of demographic parameters and tumor staging. There were no differences in the expression of any of the analyzed proteins in the pre-operative period (samples A). A statistically significant change in the deference of expression of TNF-α was observed between the groups [group 1 (35.68 vs 21.54); group 2(27.79 vs 31.63) p= 0.049] and CXCL1 [group 1 (2144.59 vs 953.75); group 2 (1902.86 vs 2698.27) p = 0.032]. The levels of remining cytokines did not differ.

Conclusion: Immunonutrition in preoperative period compared to standard nutritional support may influence inflammatory cytokine expression in the tumor tissue in patients with colorectal cancer. Farther studies are needed to establish real influence of immunonutrition in colorectal cancer tissue.
Disclosure of Interest: None declared

163.02

THE APPLICATION OF INDOCYANINE GREEN-FLUORESCENCE IMAGING DURING ROBOTIC LIVER RESECTION: RESULTS OF A CASE-MATCHED STUDY

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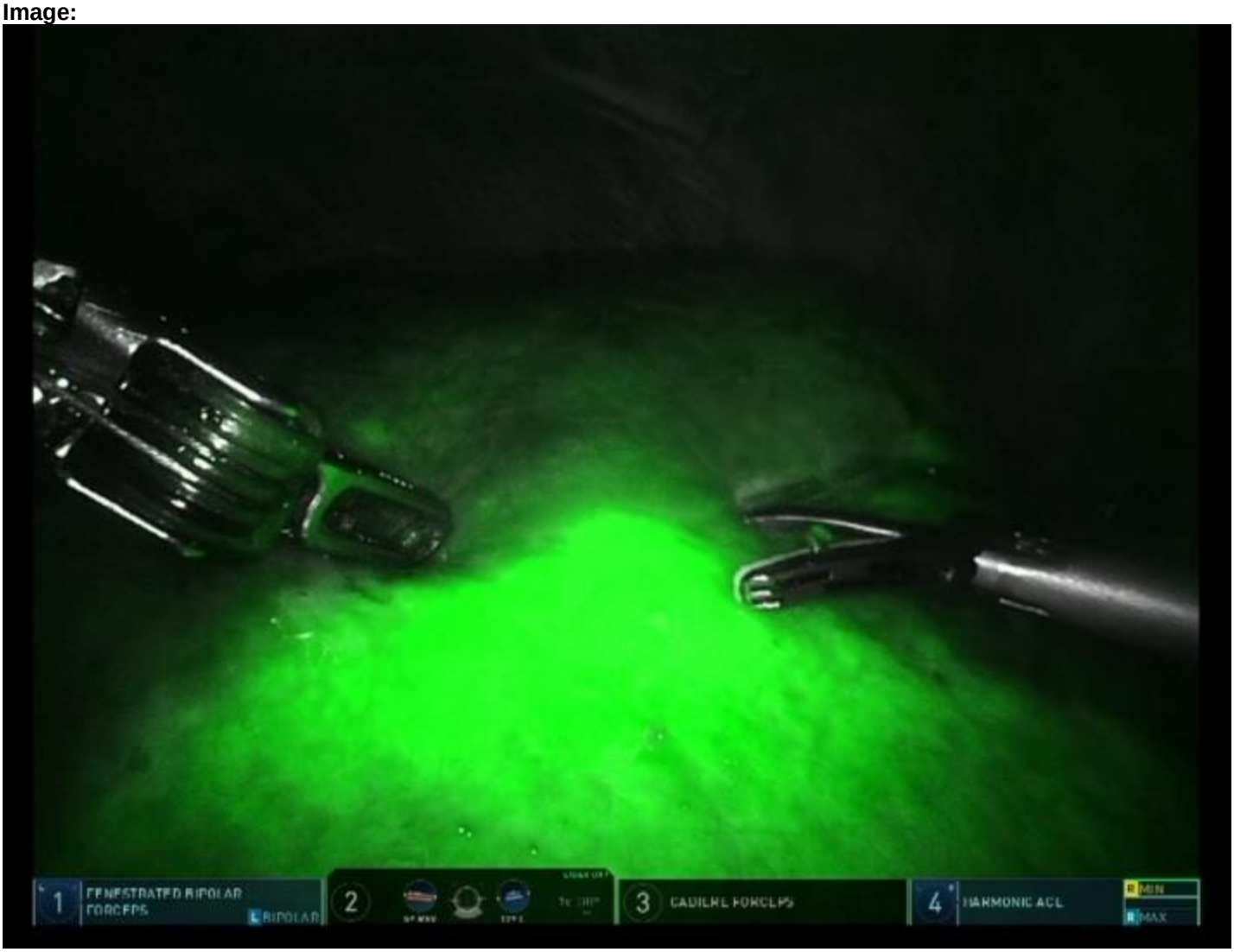
Introduction: The ICG-fluorescence properties are progressively gaining momentum in HPB surgery (1). Despite several laparoscopic experience have already been reported, no comparative (ICG versus no-ICG) studies are available for robotic liver resection (2).
Materials & Methods: Twenty-five patients who underwent ICG-fluorescence guided robotic liver resection, from April 2016 to November 2018, were case matched in a 1:1 fashion to a cohort which underwent standard robotic liver resection.
Results: The median operation time (288 vs 272 min, p=0.778), and the estimated blood loss (270 vs 255 ml, p=0.675) were both similar in the two groups. The postoperative bile leakage and liver abscess were both null in the ICG-group. The resection margin was higher in the no-ICG group (22 vs 15 mm,p=0.135), nevertheless the R0 resection rate was lower in comparison to ICG-group (92% vs 100%,p=0.216).
In the ICG group, we identified 8 new lesions more. The mean size of the new lesions detected was the following: 3.5 mm (range 3-8). All of them located until 8 mm from liver surface. The 1-year recurrence rate didn't differ (82% vs 79%, p=0.883)in patients with new diagnosed liver tumors in comparison to others.

Image:



Conclusion: The ICG-fluorescence is a simple and effective navigation tool. It seems to reduce the post-operative complication rate. The oncologic outcomes of its applications needs further investigations.
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Disclosure of Interest: None declared

163.03

THE ROBOTIC-ASSISTED LIVER RESECTION WITH EXTRAHEPATIC GLISSONEAN PEDICLE-FIRST APPROACH: PRINCIPLES, TECHNIQUE AND INITIAL RESULTS

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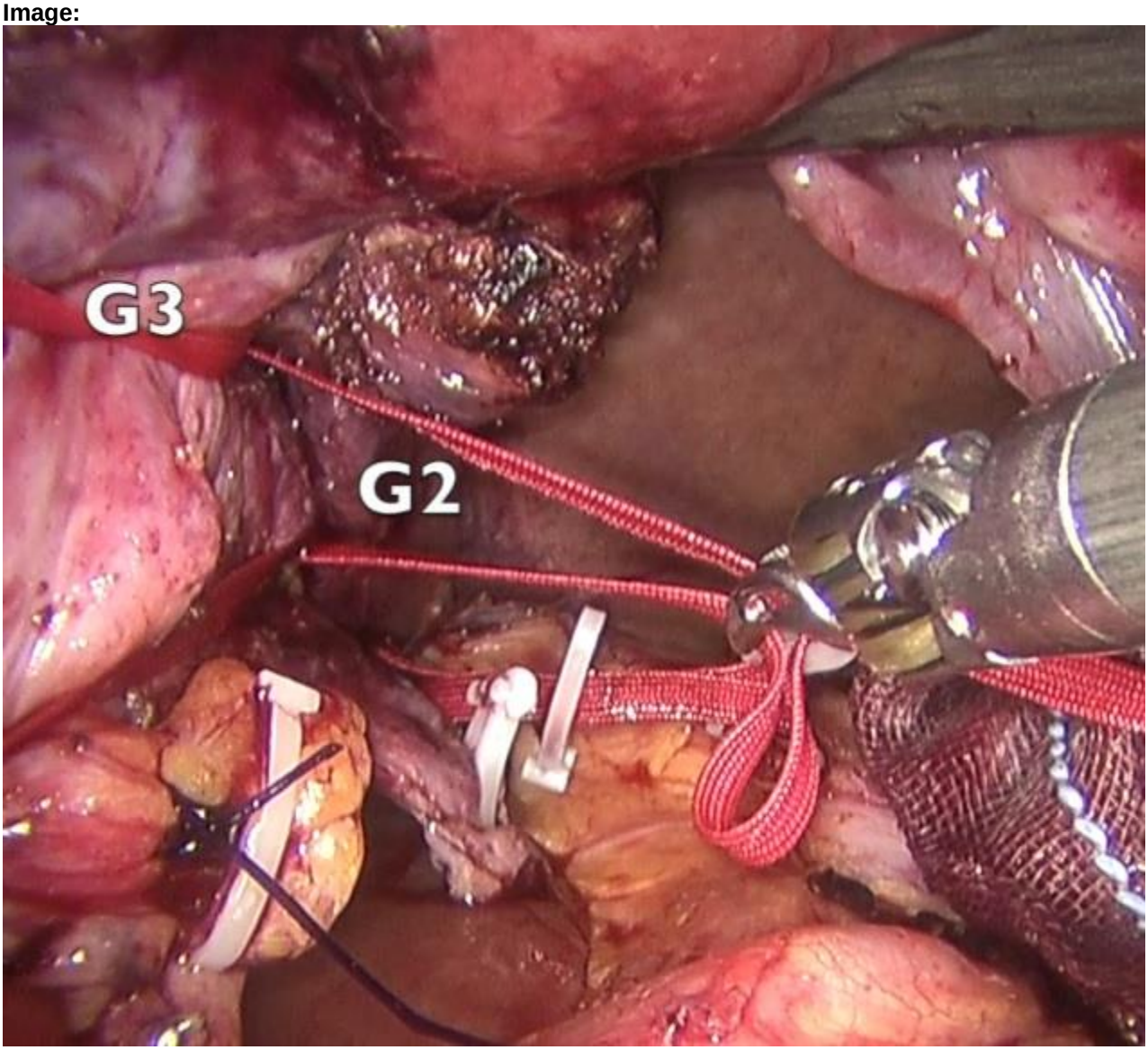
Introduction: The extrahepatic Glissonean pedicle-first approach (EGPFA) is mandatory when a liver tumor is adjacent to the Glissionian pedicle. It allows a more anatomical resection, a safer control of hemostasis and potentially a wider resection margin in comparison to parenchymal-first approach (1).
Materials & Methods: We have performed a retrospective analysis of our prospectively maintained database that included 40 patients who underwent robotic-assisted liver resection with EGPFA approach between April 2015 and November 2017. The aim was to evaluate the impact of this new surgical approach on the postoperative outcomes.
Results: A total of 22 major hepatic resection, 12 segmentectomy and 6 bisegmentectomy were performed. Thirty-two out of forty patients (80%), had a malignant tumor as preoperative diagnosis. The mean operative was 425 min (range 332-688), and the median blood loss was 255 ml (range 70-620). No patients required conversion nor intraoperative transfusion. The complication rate was acceptable 6/40 (15%). Two patients experimented biliary fistula, both treated by percutaneous drainage. The mean hospital stay was 6 (range 5-23) days. We achieved an R0 resection rate in thirty-one out of 32 patients (96.8%) with a mean resection margin of 24 mm (1-45). The 1-year disease free survival was 82.8%, whereas the 1-year overall survival was 88.5%

Image:



Conclusion: The EGPFA is a safe and feasible method. This approach is not time-consuming and it offers promising results in terms of both surgical and oncologic outcomes.

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Disclosure of Interest: None declared

163.04

UNDERSTANDING THE NATURAL HISTORY OF COMMON BILE DUCT STONES: A META-ANALYSIS AND SYSTEMATIC REVIEW

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Introduction: Biliary diseae is a leading cause for surgical emergency admissions globally and despite the association of common bile duct stones (CBD) stones with increased mortality, the natural history of CBD stones is not well documented.
This study undertook a meta-analysis of the significance of CBD stones in cholecystectomy patients.
Materials & Methods: An ethically approved, PROSPERO-registered (CRD42018102167) meta-analysis following the PRISMA guidelines was undertaken. The databases Pubmed and Scopus were searched for relevant literature from the last thirty years. Articles were assessed using the Methodological Index for Non - Randomised Studeis (MINORS). MINORS scores for inlcuded articles were $\geq$ 10/16 (non-comparative studies) and $\geq$ 15/24 (comparative studies). The primary outcome was the natural history of CBD stones.
Results: This study identified 11215 articles, 43 were found to meet the inclusion criteria and 28 of these were included for analysis after applying the MINORS criteria. A total of 46588 cholecystectomies were reported, with CBD stones identified in 4955 patients (10.6%) (Range: 1.3% - 20.9%). Post cholecystectomy, CBD stones passed spontaneously in 49.6% (mean) of patients. (Range: 12.5% - 73%). Only four papers reported the clincial sequelae of CBD stones: the rate of jaundice, abdominal pain, pancreatitis and cholangitis in cholecystectomy patients were 45.3%, 43.8%, 11.8% and 8.2% resepectively.
Conclusion: Remarkably, few papers report known outcomes of CBD stones in patients undergoing cholecystectomy. Complications are significant in 8-45% of patients. With decreasing cholangiography rates, this may result in increased long term biliary related mortality. Multinational risk registries are urgently required to identify the sequelae in CBD stones.
Disclosure of Interest: None declared

163.05

DIRECT-ACTING ANTIVIRALS (DAAS) IMPROVE OUTCOME OF HEPATOCELLULAR CARCINOMA SURGICAL TREATMENT

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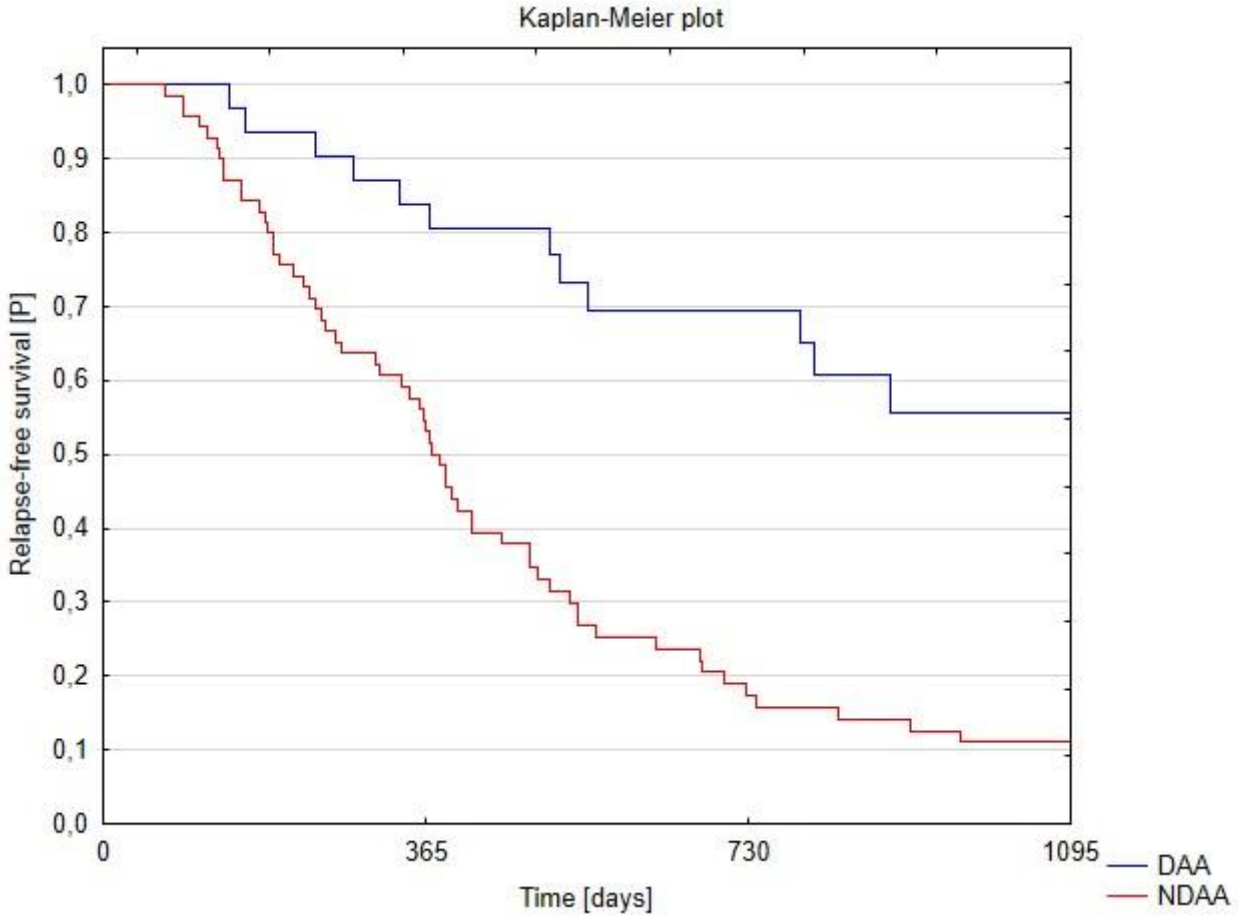
Introduction: Recently implemented new interferon-free direct-acting antiviral (DAA) therapy caused major progress in HCV treatment. A lot of reports show decreased risk of both cirrhosis and primary hepatocellular carcinoma (HCC) occurrence after successful HCV eradication. Nonetheless, it is unclear whether new therapy affects the number of recurrent HCCs after successful surgical control of primary lesion. Influence of DAA therapy on timing and frequency of the recurrence after surgical treatment needs further observation.
Aim of the study was to assess the influence of DAA on recurrence rate and time to relapse.
Materials & Methods: One hundred and one patients with liver cirrhosis caused by HCV and a history of previous surgical treatment for HCC in 2012-2017, were analyzed in a retrospective case-control study. The group consisted of patients, who underwent surgical procedures with curative intention such as non-anatomic liver resection and radio-frequency ablation (RFA). Thirty-one (30,7%) patients received DAA therapy after tumor remission achieved by surgery and 70 (69,3%) of them didn't (NDAA group). Observation included multiphase CT-scan or MRI of the liver and AFP level in 3- to 6-month intervals.
An effect of DAA treatment on recurrence was assessed with chi-square test and Kaplan-Meier estimator. P-value <0.05 was considered as statistically significant. Analysis was performed with STATA 13 Statistical Software.
Results: HCC recurrence occurred in 76 (75,2%) patients. In the DAA group recurrence was observed in 13 (41,9%) patients and in the NDAA in 63 (90,0%) patients (p = 0,00; OR = 12,46; CI: 4,33 - 35,88). Mean time to relapse was 516 days after surgery in the DAA group vs. 445 days in the NDAA group. One-year relapse-free survival (RFS) rate was 83,6% vs. 54,0% respectively in the DAA and the NDAA group.
Image:



Conclusion: DAA treatment significantly decreases recurrence rate of HCC. Also, there is no correlation between DAA implementation and time to relapse after successful surgical control of primary lesion. Therefor, there is no need to withdraw DAA treatment in these patients.
Disclosure of Interest: None declared

163.06

THE EFFECT OF A NOVEL MINIMALLY INVASIVE STRATEGY FOR ACUTE NECROTIZING PANCREATITIS

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Introduction: Step-up approach consisting of multiple minimally invasive techniques has gradually become the mainstream for managing acute pancreatic necrosis (APN).
Materials & Methods: Methods. The recommendations of the IAP / APA Working Group (2013) were used for diagnosis, evaluation of severity and treatment. General characteristics, APACHE II scores, SOFA scores, intra-abdominal pressure (IAP) etc. According to the treatment strategy, consecutive patients fulfilling the inclusion criteria were put into two time intervals to conduct a before-and-after comparison: the comparison group, in the treatment of which we used drainage operations and open necrosectomy with an infected APN (2000–2007) and the main group, in the treatment of which we used the step-up approach (2008–2018) in the treatment of which we used the drainage approach consisted of different steps including percutaneous drainage,
vidio-laparoscopic necrosectomy and open necrosectomy in sequence. The primary endpoint was major complications (new-onset organ failure, sepsis or local complications). Secondary endpoints included mortality during hospitalization, need of emergency surgery, duration of organ failure and sepsis and 30-day mortality.
Results: Of the 319 recruited patients, 156 were treated with the conventional approach and the remaining 163 were managed with the step-up approach. In the first period, complications occurred in 89 patients (57.1%), in the second period - in 61 patients (37.4%) ($p<0.05$). For other important endpoints, there was statistical difference in mortality between the two groups ($p = 0.013$), significantly fewer patients in the in the second group required emergency surgery when compared with the conventional group (17.2% (28/163) vs. 33.9% (53/156), $p<0.001$). In addition, stratified analysis revealed that in the second group presented significantly lower incidence of new-onset organ failure and other major complications in patients with the most severe type of ANP.
Conclusion: Comparing with the conventional approach, the step-up approach significantly reduced the rate of new-onset major complications and requirement of emergency operations in treating APN, especially in those with the most severe type of acute pancreatitis.
Disclosure of Interest: None declared

163.07

PANCREATODUODENECTOMY WITH PRESERVATION OF THE GASTRODUODENAL ARTERY: INDICATIONS, TECHNIQUE AND RISKS.

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Introduction: The standard pancreatoduodenectomy involves ligation of the gastroduodenal artery (GDA). In case of severe celiac axis stenosis, ligation of the gastroduodenal artery might result in critical liver ischemia and failure. Most cases of celiac stenosis are due to the median arcuate ligament syndrome. Decompression of the celiac axis improves flow in the hepatic artery and enables safe pancreatoduodenectomy. Otherwise, there is usually a need of revascularization. Preserving the GDA at the time of pancreatoduodenectomy is challenging and technically demanding. Only single cases of GDA preservation during pancreatoduodenectomy have been reported in the literature.
Materials & Methods: We report two cases of pancreatoduodenectomy with preservation of the gastroduodenal artery. These patients had small periampullary tumors and soft pancreatic glands. Complete resection was achieved. In the first patient, pancreatoduodenectomy was preceded by transluminal angioplasty and stenting of the celiac axis. In the second patient, no intravascular management was undertaken preoperatively. The gastroduodenal arteries in these patients were long and tortuous and their dissection required ligation of multiple branches.
Results: The postoperative course in both patients was complicated by a pseudoaneurysm originating from the gastroduodenal artery secondary to pancreatic fistula. The first patient experienced acute intraperitoneal hemorrhage and required emergency relaparotomy during which the gastroduodenal artery was ligated and external wirsungostomy performed. The second patient was treated by intravascular placement of a stent covering the site of arterial rupture and angioplasty with stenting of the celiac axis. Further treatment was uneventful.
Conclusion: Pancreatoduodenectomy with preservation of the gastroduodenal artery is an interesting option in selected patients with stenosis of the celiac axis. However, there is a high risk of hemorrhagic complications in case of postoperative pancreatic fistula because of multiple sites of potential bleeding along the preserved gastroduodenal artery.

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Disclosure of Interest: None declared

163.08

LONG-TERM INCIDENCE AND CHARACTERISTICS OF INTESTINAL FAILURE IN CROHN'S DISEASE: 50-YEAR EXPERIENCE.

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Introduction: Patients with Crohn's disease (CD) often require multiple surgeries, which increases the risk for intestinal failure (IF) with short bowel. IF is characterized by the inability to maintain protein-energy, fluid, electrolyte, or micronutrient balance. IF patients usually require home parenteral nutrition (HPN) to survive. The aim of the present study was to clarify the long-term risk and characteristics of IF in CD patients after surgery.
Materials & Methods: Between 1961 and 2017, 473 CD patients underwent intestinal surgery at our hospital. We retrospectively reviewed the medical records of the 473 CD patients and analyzed the incidence and characteristics of IF at the time of January 2019.
Results: Of the 473 CD patients, 37 patients (7.8%: male, n=27; female, n=10) developed IF. In the IF patients, median age at diagnosis of CD, initial surgery, IF occurrence, and present age at the time of the study were 21.2, 25.9, 39.2, and 50.4 years, respectively. The median duration of follow-up after the occurrence of IF was 9.9 years. The median number of surgeries per patient was 3 times. The median length of the remnant small bowel at the time of IF was 150 cm. Twenty patients (54%) had a stoma (jejuno- or ileostomy, n=8; colostomy, n=12), and 32 patients (86%) had a resected ileocecal valve at the time of IF occurrence. In terms of medical treatment, HPN was used in all the 37 patients. No patient underwent small bowel transplantation. In terms of complications after the occurrence of IF, catheter related blood stream infection (CRBSI) was the most common complication (n=31, 84%). Liver dysfunction was the second most frequent complication (n=18, 49%). In terms of prognosis, 10 patients (27%) had died at median 9.5 years of follow-up after the occurrence of IF (CRBSI, n=3; Anorectal cancer, n=3; Liver cirrhosis, n=1; Pneumonia, n=1; Intestinal perforation, n=1; Suicide, n=1). Three patients (8%) were weaned from IF status after median 3.8 years from the occurrence of IF.
Conclusion: The present study showed that the incidence of IF in CD patients was not low over the long-term after initial surgery. CRBSI and liver dysfunction were the most frequent complications, and the poor prognosis was mainly due to CRBSI. There is a pressing need to develop strategies for the prevention and management of IF.
Disclosure of Interest: None declared

163.09

DIAGNOSTIC ACCURACY OF PROCALCITONIN FOR THE EARLY DIAGNOSIS OF ANASTOMOTIC LEAKAGE AFTER COLORECTAL SURGERY-A META-ANALYSIS

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Introduction: Anastomotic Leakage (AL) is a dreaded complication following colorectal surgery. Procalcitonin is one of many biomarkers studied and research has suggested that it has improved accuracy for the diagnosis of AL compared to other inflammatory biomarkers such as CRP. This meta-analysis was conducted to evaluate the accuracy of procalcitonin in the early diagnosis of AL following colorectal surgery.
Materials & Methods: MEDLINE, EMBASE and Pubmed were searched for studies evaluating procalcitonin in the context of AL following colorectal surgery in the elective setting. The literature was reviewed using the Preferred Reporting Items for Systematic Review and Meta-Analysis (PRISMA) statement. Quality of the studies was assessed using the Quality Assessment Diagnostic Accuracy Studies (QUADAS)-2 tool. Meta-analyses were conducted using Area under the Receiver Operating Characteristic Curves (AUROC) for day 3, 4 and 5 post-surgery as a diagnostic test to detect AL.
Results: A total of 8 studies were analysed. Results showed that the highest diagnostic accuracy for PCT is on Day 5 post surgery. The reported optimal cut off values ranged from 0.25ng/ml to 680ng/ml from POD 3 to 5, with reported negative predictive values ranging from 95% to 100%, and positive predictive values of up to 34%. The highest AUROC was 0.88 on POD 5.
Conclusion: Procalcitonin is a useful negative test for AL following elective colorectal surgery. However, as an isolated test, it is not useful in detecting AL.
Disclosure of Interest: None declared

168.01

ESTIMATION OF NATIONWIDE RATES OF TRAUMA SURGERY IN GHANA: BENCHMARKING GLOBAL TRAUMA CARE

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Introduction: The Lancet Commission on Global Surgery, using New Zealand as example, proposed 5000 operations/100000 persons annually as a benchmark at which developing countries might realize most of the population-wide benefits of surgery, but did not define benchmarks for specific operations. New Zealand performed 1158 trauma operations/100000 persons in 2015. We aimed to determine the annual rate of trauma operations in Ghana, categorized by priority level, and compared to the New Zealand benchmark.
Materials & Methods: All operations performed in Ghana over a 1-year period in 2014-5 were obtained from representative samples of 48/124 district and 13/16 referral hospitals and scaled up to nationwide estimates. The 2015 World Bank population estimate of 26,786997 was used to calculate operation rate. Trauma operations were grouped by hospital-level and categorized into 'essential' (i.e., most cost-effective, highest population impact) versus 'other' per World Bank's Disease Control Priorities definitions.
Results: 232,776 operations were performed in Ghana over the 1-year period. 15% of these were for trauma, resulting in 134 trauma operations/100,000 persons. District hospitals performed 62% of all operations in the country, but performed only 38% of trauma operations. 87% of trauma operations performed were 'essential'; mostly wound management (44%) and fracture reduction (26%) (Table). 54% of district hospitals were not staffed by a surgeon but performed 37% of trauma operations at this level.

Table. Estimates of trauma operations performed in Ghana, 2014-2015

	District hospitals	**Referral hospitals**
	N	**N**
Essential trauma operations	**12,633**	**18,481**
Wound management	8,899	6,715
Fracture reduction	2,503	,932
External fixation/traction/ Open fracture irrigation and debridement	390	2,255
Skin grafting	191	1,020
Tube thoracostomy	209	493
Trauma laparotomy	276	399
Trauma amputation	139	267
Burr hole	3	249
Surgical airway	5	112
Fasciotomy/escharotomy	18	39
Other trauma operations	**989**	**3694**
Open reduction & internal fixation	736	2,747
Spine procedure	103	325
Contraction release or tendon repair	147	372
Craniotomy	0	221
Thoracotomy or vascular repair	0	29
Total	**13,622**	**22,175**

Conclusion: Compared to the New Zealand benchmark rate, Ghana is meeting only 12% of its trauma surgical needs. This presents an opportunity for high-impact capacity building initiatives, especially at district hospitals, to reduce preventable death and disability. Future global surgery benchmarking should consider benchmarks for trauma at different hospital levels.

Disclosure of Interest: None declared

168.02

HUMAN EPINEURAL SHEATH CONDUITS SUPPORTED WITH HUMAN MESENCHYMAL STEM CELLS AS A NOVEL APPROACH FOR PERIPHERAL NERVE REGENERATION.

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Introduction: The objective of this study was to assess the effect of **human Epineural Sheath Conduit (hESC) supported with human Mesenchymal Stem Cells (hMSC)** on the restoration of 20mm long nerve defect in a nude rat model.
Materials & Methods: Restoration of 20mm sciatic nerve defect with hESC created from human sciatic nerve supported with hMSC was tested in 4 experimental groups: Group 1: no repair control (n=6), Group 2: autograft control (n=6), Group 3: hESC (n=6), Group 4: hESC + hMSC (n=6). Functional tests of toespread and pinprick were performed at 1, 3, 6, 9, 12 weeks after repair. At 12 weeks, nerve samples were collected for immunostaining of HLADR, VEGF, NGF, laminin B. and histomorphometric analysis of myelin thickness, axonal density, fiber diameter, and percentage of the myelinated nerve fibers. Muscle samples were gathered for Gastrocnemius Muscle Index (GMI) and muscle fiber area ratio measurements.
Results: Macroscopic evaluation of epineural conduit repair site at 12 weeks showed preservation of a normal nerve shape without tissue adhesion or local signs of inflammation and good vascularization in all groups. The best sensory and motor recovery was observed in Group 2, followed by Group 4, Group 3 and Group 1 (pinprick 3.0 vs. 2.33 vs. 2.0 vs. 0.5; toespread 1.83 vs. 1.5 vs. 1.0 vs. 0.13, respectively). GMI and muscle fiber area ratio was the highest for Group 2 (0.322/0.414) followed by Group 4 (0.285/0.306), Group 3 (0.274/0.286) and Group 1 (0.167/0.098). Immunostaining for expression of VEGF, NGF and laminin B was highest for Group 2, followed by Group 4, Group 3 and Group 1. HLADR was expressed in Group 4. Myelin thickness results were highest in Group 4 (0.65 ± 0.06 mm) followed by Group 2 (0.63 ± 0.10 mm) and Group 3 (0.47 ± 0.07 mm). The same trend was noted in both fiber diameter and percentage of myelinated nerve fibers values with Group 4 being the highest (4.04. ± 0.31 mm /92 ± 3%) followed by Group 2 (3.79 ± 0.69 mm /83 ± 2 %) and Group 3 (3.35 ± 0.19 mm /74 ± 7%). The highest axonal density was found in Group 2 (322 ± 122), followed by Group 4 (167 ± 47) and Group 3 (133 ± 81).
Conclusion: We confirmed the feasibility of human ESC creation. Efficacy of hESC conduit in nerve regeneration was proved at 12 weeks after nerve gap repair. Our novel human ESC provides a potential alternative to the autograft nerve repair.
Disclosure of Interest: None declared

168.03

ONCE UPON A TIME… A TRAUMA COURSE

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Introduction: In the Netherlands, each year a three-day international trauma course is organized to provide knowledge and skills needed to safely care for the critically injured trauma patient. The course is divided in Definitive Surgical Trauma Care (DSTC®) and Definitive Anaesthetic Trauma Care (DATC) and consists of lectures, case discussions, workshops anatomy, damage control surgery and orthopedics. The aim of this study is to analyze the long-term effect on self-efficacy after following such a trauma course. Self-efficacy is confidence in one's own ability to achieve intended results. A high self-efficacy rate has a positive effect on performance and development.

Materials & Methods: Participants of the annually organized courses of 2013-2018 were asked to fill in a digital questionnaire before (pre), at one day (post) three months, one year and two years after the course (follow-up). The questionnaire concerned general skills (communication, teamwork, leadership) and specific skills (techniques). Each item was weighed on a 1-5 Likert scale with 1 = completely incompetent and 5 = fully competent. For each questionnaire the total mean scores for the general and specific skills were calculated and mixed models was used to deal with the correlation.

Results: In total 424 participants were asked to participate. Response rate was 55% (233/424) for the pre-questionnaire, 54% (230/424) for the post questionnaire and for three months, one year and two years respectively 34% (112/328), 32% (84/261) and 26% (50/196). In the DSTC® group, there was a statistically significant increase in self-efficacy for general skills (3.84 to 4.19) and specific skills (2.98 to 3.72) p=0.001. Also in the DATC group self-efficacy increased significantly in general skills (3.76 to 4.17) and specific skills (3.38 to 4.99) p=0.001 (figure 1). For both DSTC® and DATC group statistical significance remained during follow up and after two years the groups were still above pre course levels.

Image:

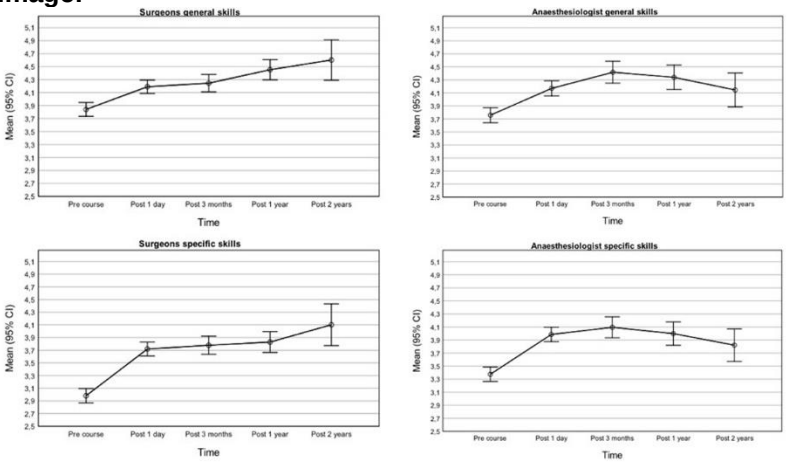

Figure 1. General and specific skills for surgeons (L) and anaesthesiologists (R)

Conclusion: This is the first study to show that the effect on self-efficacy is sustained for a long time. There was a significant increase in self-efficacy in general and specific skills for both DSTC® and DATC participants. A trauma course such as this contributes positively to the self-efficacy. The right moment for a participant to repeat the course, will result from continuation of this study.

Disclosure of Interest: None declared

168.04

DAMAGE CONTROL LAPAROTOMY: HIGH VOLUME CENTERS DISPLAY SIMILAR MORTALITY RATES

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Introduction: Comprehensive analysis of trauma care between high and low middle income countries (HIC/LMIC) is needed to improve global health. Comparison of HIC and LMIC outcomes after damage control laparotomy (DCL) for patients is unknown. We evaluated DCL utilization among patients treated at high volume trauma centers in the United States and South Africa hypothesizing similar mortality outcomes despite differences in resources and setting.
Materials & Methods: Post-hoc analysis of prospectively collected trauma databases from participating centers was performed. Injury severity, physiologic, operative data and post-operative outcomes were abstracted. Univariate and multivariable analyses were performed to assess differences between HIC/LMIC for the primary outcome of mortality.
Results: There were 967 HIC and 602 LMIC patients who underwent laparotomy. In the LMIC144 patients (25%) and in the HIC 241 (24%) required DCL, respectively. Most patients sustained (58%) penetrating trauma and with higher rates in the LMIC compared to the HIC (71% versus 32%, p=0.001). Between groups, no differences were found for admission physiology, coagulopathy, or markers of shock except for increased presence of hypotension among patients in the HIC. HIC patients received more blood products than those in the LMIC. Overall mortality was 30% with similar rates between groups (29 vs 33%, p=0.4). On regression, base excess was an independent predictor of mortality but not patient residential status, Table.
Image:

Independent predictors of mortality

Variable	OR	95% CI	p-value
LMIC	1.3	0.77-2.1	0.4
Coagulopathy?	1.1	0.6-1.8	0.9
Lactate	0.9	0.8-1.2	0.6
Base Excess	1.1	1.05-1.16	0.001
Systolic Blood Pressure	1.00	0.9-1.1	0.07

Conclusion: Use and survival of DCL for patients with severe abdominal trauma was similar between trauma centers in HIC and LMIC despite increased penetrating trauma and less transfusion in LMIC centers. This suggests no gap in care for patients requiring DCL in LMIC. Sufficient volume appears to be associated with reasonable results in an LMIC.
References: J R Army Med Corps. 2018 Nov;164(6):428-431. doi: 10.1136/jramc-2018-000950. Epub 2018 Jun 27
Disclosure of Interest: None declared

168.05

DESIGN OF SWEDISH TRAUMA SYSTEM AS SUPPORT FOR GEOSPATIAL EFFECTIVENESS AND CONFIGURATION

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Introduction: Previous studies have shown deficiencies regarding competence, experience and volumes of managing complex trauma patients, especially in the Scandinavian countries. Sweden, as most countries in Europe, faces challenges regarding increased threats and violence. Sweden is particularly vulnerable, compared to other countries, due to decreased exposure and subsequent lack of expertise in managing complex trauma patients. There is a need to rapidly increase the capacity of management of trauma care through strategic investment in action plans, including design of civil and military trauma system as well as innovative educational methods. Trauma systems have been shown to reduce death and disability from injury and therefore the design of a Swedish trauma system needs to be optimized, to support the maximize geospatial effectiveness and best configuration.

Materials & Methods: The study is a collaboration through the Trauma Innovative Research Group, with stakeholders from Sweden and United Kingdom. This article describes the design of the Swedish trauma system, using the Geospatial Evaluation of Systems of Trauma Care (GEOS) method. The GEOS method aims to derive geospatially optimized trauma system configurations for a geographically defined setting. The defined setting and case study is Sweden and the GEOS method has considered Sweden's spatial injury profile, available resources and made use of the combination of travel time analysis and multi-objective optimization, when designing the trauma system.

Results: The primary outcomes will be design of a configured trauma system aimed for the Swedish setting, focusing on the performance of the system as a whole. Modelling suggested that system configurations related to the demography of Sweden could be optimized designed to five high-volume Level I trauma centres.
Conclusion: GEOS will contribute to the design of trauma system for Sweden and the modelling suggested that the configuration and design of a trauma system for Sweden could be optimized into five trauma centres.
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Disclosure of Interest: None declared

168.06

SUCCESSFUL IMPLEMENTATION OF THE ENHANCED RECOVERY APPROACH IN EMERGENCY SURGERY FOR OBSTRUCTIVE COLON CANCER

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Introduction: There is a limited number of studies on the introduction of enhanced recovery after surgery (ERAS) concept in emergency surgery as a whole. The aim is to study applicability, safety, and efficiency of the ERAS in the surgical treatment of patients with obstructive colon cancer.

Materials & Methods: In a randomized clinical trial (2016-2018) participation of 106 patients (middle age 71,2 (41-93) year), included in the ERAS and control comparable groups on 53 patients respectively.

In addition to well-known and applicable in emergency surgery components ERAS we also during the operation performed decompression of the colon and small (by indications) intestine, the small intestine lavage, embryology oriented surgery and D3-lymphadenectomy, rectus sheath or wound infusion catheterization (local anesthesia of the wound).

Compared the pain syndrome level (NRS), terms of enteral insufficiency events relief terms, the postoperative complications and mortality, duration of the post-operative period. Results are presented as the median (Me) (Q1;Q3).

Results: The ERAS group: the post-operative pain syndrome was 4 (3; 4) points in the first day, with regression up to 1 (1; 1,5) points by the fourth day. Patients no needs in opioid analgesics. 47 (88,7 %) patients had no nausea and vomiting; they began to receive enteral feeding in 24-36 h after the surgery; intestinal peristalsis appeared within 12-24 h, gases discharge – in 24-36 h and stool discharge – in 36-48 h after the surgery. There were 11 complications (Clavien-Dindo I-IIIa – 7, IIIb-IV – 4) in 9 (17 %) patients, 6 patients (11,3 %) died. The postoperative period was 8 (5,5; 11) days.

The control group: pain syndrome was about 30% more than in the ERAS group – 6 (5,5; 6) points in the first day, which required the use of opioid analgesics (24 (45,3 %) cases), with regression up to 3 (3; 4) points by the 4-5th day. More than half of the patients (55,7 %) had nausea and vomiting in the early postoperative period, events of postoperative intestinal paralysis were eliminated by the 4-5th day. 19 postoperative complications were recorded (Clavien-Dindo I-IIIa – 12, IIIb-IV – 7) in 16 (30,2 %) patients. 5 patients (9,4 %) underwent relaparotomy. 13 patients (24,5 %) died. The post-operative period was 14 (11; 18,5) days.

Conclusion: The ERAS is safe and effective due to improving the immediate results of surgical treatment of patients with obstructive colorectal cancer, that creates good conditions for early start of adjuvant chemotherapy.

Disclosure of Interest: None declared

175.01

CLINICOPATHOLOGICAL FEATURES OF NEEDLE TRACT RECURRENCE FOLLOWING THYROID FINE NEEDLE ASPIRATION CYTOLOGY

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Introduction: Thyroid fine needle aspiration cytology (FNAC) is a reliable, safe, and cost-effective test. Although rare, needle tract recurrence (NTR) can follow FNAC. The clinicopathological features of NTR have not been sufficiently studied so far. The present study is designed to investigate the clinicopathological characteristics of thyroid NTR.
Materials & Methods: 192,839 patients who underwent FNAC for thyroid carcinomas and related lymph nodes metastases at Kuma Hospital between 2006 and 2017 were retrospectively evaluated. NTR was defined as macroscopic recurrent tumor at the previous insertion site of FNAC. NTR was diagnosed in 137 lesions out 66 patients (48/112839; overall incidence and risk 2/1,000 for thyroid FNAC and 18/7803; overall incidence and risk 5/1,000 for lymph node FNAC). All lesions underwent surgical resection and the clinicopathological features of NTR and its corresponding primary site were compared.
Results: The histological types found in the NTR were as follows: papillary thyroid carcinoma (PTC) (50/66; 75.8%, interval between aspiration and NTR (IAN) 6-309 months, median 83.7), follicular carcinoma (7/66; 10.6%; IAN 36-169 months, median 71.1), poorly differentiated carcinoma (PDC) (7/66; 10.6%; IAN 36-256 months, median 103.8), anaplastic carcinoma (2/66; 3%; IAN 6 months). NTR was confined in the skin in 16 out of 137 lesions (11.7%), subcutaneous tissue in 87 out of 137 lesions (63.5%) and muscle in 34 out of 137 lesions (24.8%). The histological findings of NTR were similar to those of primary tumors except for 12 cases that exhibited more aggressive variants of carcinomas in NTR. The incidence (n=32, 48.5%) of patients with high Ki-67 labelling index (>10%) in NTR were significantly higher than those (n=6, 14.6%) in primary carcinomas ($p<0.05$). NTR was solitary in 38 (57.6%) patients and multiple in 28 (42.4%) patients, respectively. Out of the 66 patients with NTR, 7 (10.6%) cases died from the disease and 14 (21.2%) had distant metastases but alive with stable disease after radioactive iodine treatment or radiotherapy. The remaining patients were alive and free without any recurrence at last follow-up.
Conclusion: We demonstrated that any type of thyroid carcinomas can develop NTR. The microscopic findings of NTR may change to more aggressive histological variant and show higher Ki-67 labelling index than its corresponding primary site. This is the first study presenting the largest series of thyroid NTR with clinicopathological correlation and clinical outcome.
Disclosure of Interest: None declared

175.02

SINGLE DOSE STEROID INJECTION AFTER LOSS OF SIGNAL (LOS) DURING THYROID SURGERY IS EFFECTIVE TO RECOVER ELECTRIC SIGNAL AVOIDING VOCAL CORD PALSY AND THE NEED OF STAGED THYROIDECTOMY. PROSPECTIVE EVALUATION ON 702 PATIENTS.

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Introduction: Steroids are often used for the management of vocal cord palsy after thyroid surgery. There are no reports in the current literature of their use intra-operatively immediately after a loss of signal during neuromonitoring (LOS). We evaluate the impact of a single dose of 4 mg of dexamethasone on laryngeal nerve function, administrated at the time of a LOS during a nerve-monitored thyroidectomy.
Materials & Methods: A prospective study was made, dividing patients in two groups, when a LOS was detected. LOS was defined as a value inferior to 100 µV when stimulating the inferior laryngeal nerve, according to international guidelines. In group 1 (G1) surgeon wait for signal's recover up to 20 minutes. Absence of a detectable signal after 20 minutes was predictive of vocal cord palsy; if it affected the first side of surgery the procedure was interrupted to avoid the risk of bilateral nerve palsy. In group 2 (G2) a single iv injection of 4 mg of Dexamethasone was performed within 10 minutes from a detected LOS, waiting 10 minutes for its effects. An electric potential superior to 200 µV at 10' was predictive of full recovery and normal post-operatory vocal cord function. Vocal cords motility was checked at post-operative day 1 in all patients by an experienced ENT.
Results: Between January 2017 and December 2018, 702 patients underwent thyroid surgery under intermittent intraoperative nerve monitoring (i-IONM) by two expert surgeons. A LOS was found in 22 patients in G1 and 16 in G2. Four patients in G1 spontaneously recovered electric signal (18.2%), while in G2 a signal was recovered in 14/16 patients (87.5%) ($p<0.001$). This immediate effect was monitored by electromyography, showing the increase in potentials at 10, 15 and 20 minutes after injection. ENT evaluation found vocal cord palsy respectively in 18/22 and 1/16 patients (G1 vs G2, $p<0.001$). One of the patients in G2 who recovered electric signal presented transient palsy, fully recovered at two months, while the two patients who show a signal < 200 µV did not present post-operative cord palsy. In G1 10/18 palsy were definitive. No permanent palsies were presents in G2.
Conclusion: A single 4 mg iv dexamethasone injection within 10 minutes form a LOS during thyroid surgery exerts a therapeutic action, measurable by electromyographyc's modifications. It avoids vocal nerve palsy and the need of a staged thyroidectomy. It may also protect from permanent cord palsy, but the mechanism is unknown.
Disclosure of Interest: None declared

175.03

DIFFERENTIATING BENIGN FROM MALIGNANT ADRENOCORTICAL TUMORS BY A SINGLE MORPHOLOGICAL PARAMETER

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Introduction: The morphological differentiation between benign and malignant adrenocortical tumors is an ongoing diagnostic problem. In recent decades both the scoring systems of Weiss (1984) and van Slooten (1985) have been widely used. These scoring systems calculate the probability of malignancy in adrenocortical tumors on the basis of 9 and 7 morphological parameters, respectively. Microscopically these include atypical nuclei, rate of mitosis, invasion, and necrosis as sign of cancer. Based on a consecutive series of 856 adrenocortical tumors we herewith present a substantially simplified method to diagnose or exclude adrenocortical carcinoma by a single histomorphological parameter.
Materials & Methods: Between 1994 and 2018, altogether 2397 adrenal tumors of all types were removed, 98% by minimally invasive approaches. After exclusion of pheochromocytomas, adrenal metastases, Cushing's disease related specimens, and Conn's adenomas, the present series consisted of 856 adrenocortical tumors. All tumors were analyzed by standard histopathological methods (hematoxylin-eosin stained sections and Ki67-immunohistochemistry) by the experienced pathologists of a single institution. Clinical and histopathologic data were prospectively collected and retrospectively analyzed.
Results: Clinically, 448 patients had functioning tumors (FT; 425 hypercortisolism, 14 virilizing, 1 feminizing, 8 combined secretion) and 408 had non-functioning adrenal tumors (NFT). The mean size of FT was 3,7±1,7 cm (range 0.5-16 cm) and for NFT 4,3±2,4 cm (range 1.5-18 cm). Histomorphologically, 32 adrenal tumors were classified as adrenocortical cancer (ACC; 3.8%). All 32 cases (tumor size: 8,7±4,3 cm, range: 3-18 cm) showed tumor necrosis. This single criterion was not found in any of the remaining 824 tumors (control group). With a mean follow of 10.3 years 23 of the 32 patients primarily diagnosed with ACC developed distant metastases (71.8%) whereas all patients of the control group remained free of metastasis during follow-up.
Conclusion: We conclude that a single morphological parameter (tumor necrosis) is sufficient to predict a poor clinical course in adrenocortical tumors. This parameter is simple to diagnose and highly reproducible.
Disclosure of Interest: None declared

175.04

COMPARISON OF PRE- AND POST-TRANSPLANT PARATHYROIDECTOMY IN RENAL TRANSPLANT RECIPIENTS AND THE IMPACT OF PARATHYROIDECTOMY TIMING ON CALCIUM METABOLISM AND RENAL ALLOGRAFT FUNCTION: A RETROSPECTIVE SINGLE-CENTER ANALYSIS

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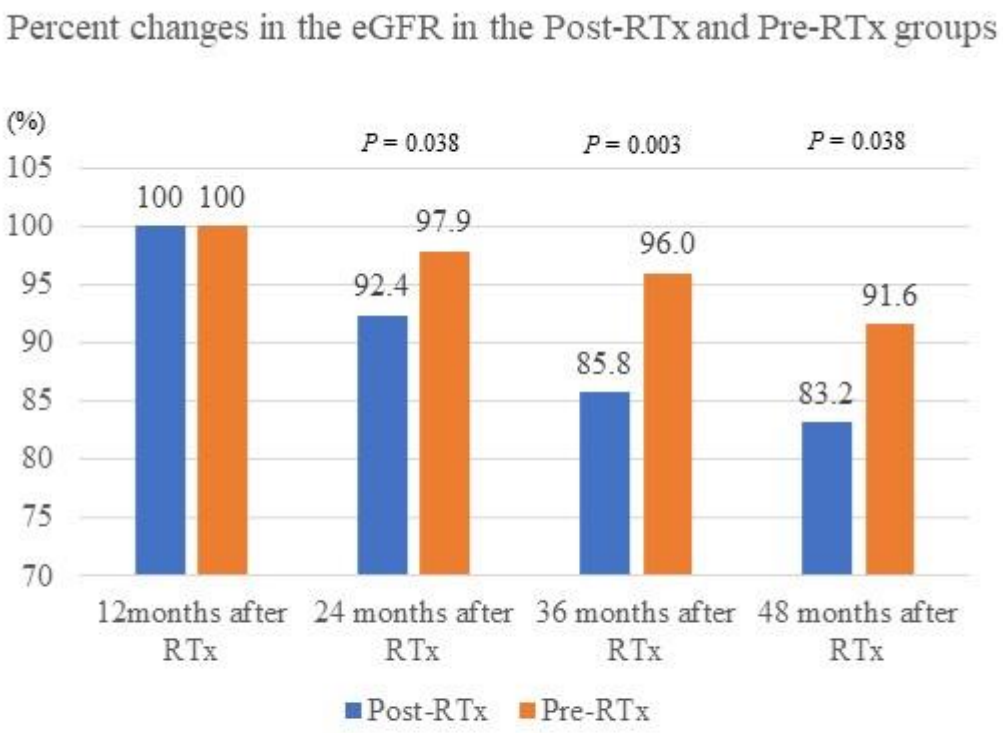
Introduction: Renal hyperparathyroidism (HPT) is a frequent and severe complication of chronic kidney disease, which might persist in up to 25% of patients even after successful renal transplantation (RTx) and increase the risk of post-transplant mortality and renal graft loss. The impact of parathyroidectomy (PTx) timing on serum calcium (Ca) levels and renal functions in renal transplant recipients with severe HPT remains unclear. We retrospectively aimed to investigate and compare the clinical data of patients who underwent pre- and post-transplant PTx and elucidate the impact of PTx timing on serum Ca levels and renal graft outcomes after RTx.
Materials & Methods: During January 2000–December 2016, 1270 patients underwent RTx. Out of them, 53 and 55 patients underwent post-transplant PTx (Post-RTx group) and pretransplant PTx (Pre-RTx group), respectively. The serum Ca and parathormone levels and estimated glomerular filtration rate (eGFR) were assessed between both groups.
Results: There was no significant differences in age at the time of PTx, gender, the duration of dialysis before PTx, renal diagnosis, donor age, donor sex, types of immunosuppressive agents, and follow-up period after RTx between both groups. At the end of the follow-up, the serum Ca levels were significantly higher and the incidence of hypocalcemia was significantly lower in the Pre-RTx group than in the Post-RTx group [9.5 vs. 8.9 mg/dL, $P < 0.001$; 14.5% vs. 34.0%, $P = 0.024$]; there was no difference in the incidence of persistent hypercalcemia between both groups. A decrease in the eGFR at 12–36 months after renal transplantation was more significant in the Post-RTx group than in Pre-RTx group (−13.8% vs. −0.9%; $P = 0.001$). Logistic regression revealed that post-transplant PTx is an independent risk factor for persistent hypocalcemia at the end of the follow-up ($P = 0.002$) and for >20% decrease in the eGFR at 12–36 months after RTx ($P = 0.029$).
Image:



Conclusion: In renal transplant candidates with severe HPT, pretransplant PTx should be performed to prevent persistent hypocalcemia and deterioration of the renal graft function.
Disclosure of Interest: None declared

175.05

RELATIONSHIP BETWEEN DEVELOPMENT OF DISTANT METASTASIS FROM DIFFERENTIATED THYROID CANCER AND PROGNOSIS: A RETROSPECTIVE STUDY FROM LONG-TERM FOLLOW-UP

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Introduction: Differentiated thyroid carcinoma (DTC) is a slow-progressive disease, and patients with DTC may demonstrate distant metastasis and poor prognosis upon initial surgery or after some years. Via long-term postoperative follow-up, in the present study, we retrospectively examined the clinical features of patients with DTC who developed distant metastasis.
Materials & Methods: This study included a total of 153 patients with DTC with distant metastasis who were treated at the Kanagawa Cancer Center from 2011 to 2018; 53 (34.6%) patients already had distant metastasis at the initial surgery (M1 group), 88 (57.5%) developed distant metastasis during follow-up (M0 group), and 12 (7.8%) were excluded because they had not undergone computed tomography during initial surgery. All patients were treated with RAI therapy followed by total thyroidectomy. TKI treatment was added to progressive disease. The median follow-up period was 9.58 years (range, 0.3–40.5 years). The survival curves of the M0 and M1 groups were compared. During follow-up, thyroid-stimulating hormone (TSH) was suppressed (<0.1 mIU/L) in 72 patients (47.1%; S group), euthyroidism (0.35–4.94 mIU/L TSH) was maintained in 40 patients (26.1%; N group), and TSH levels were restricted to 0.1–0.34 mIU/L in 39 patients; two patients demonstrated hypothyroidism and were hence excluded. Euthyroidism was defined as TSH levels of 0.35–4.94 mIU/L, whereas TSH suppression was defined as TSH levels of <0.1 mIU/L. The survival curves for groups S and N were compared using the log rank test. $P < 0.05$ was considered statistically significant.
Results: The median time to the appearance of distant metastasis during follow-up showed large variations and was 7.1 years (range, 0.2–28.6 years) in the M0 group. The median overall survival in the M0 group was 11.57 years (range, 1.19–40.18 years), which was significantly greater than that in the M1 group (3.45 years; range, 0.02–18.25 years; $p < 0.001$). In addition, there were no significant differences between the group S and N survival curves ($p = 0.27$).
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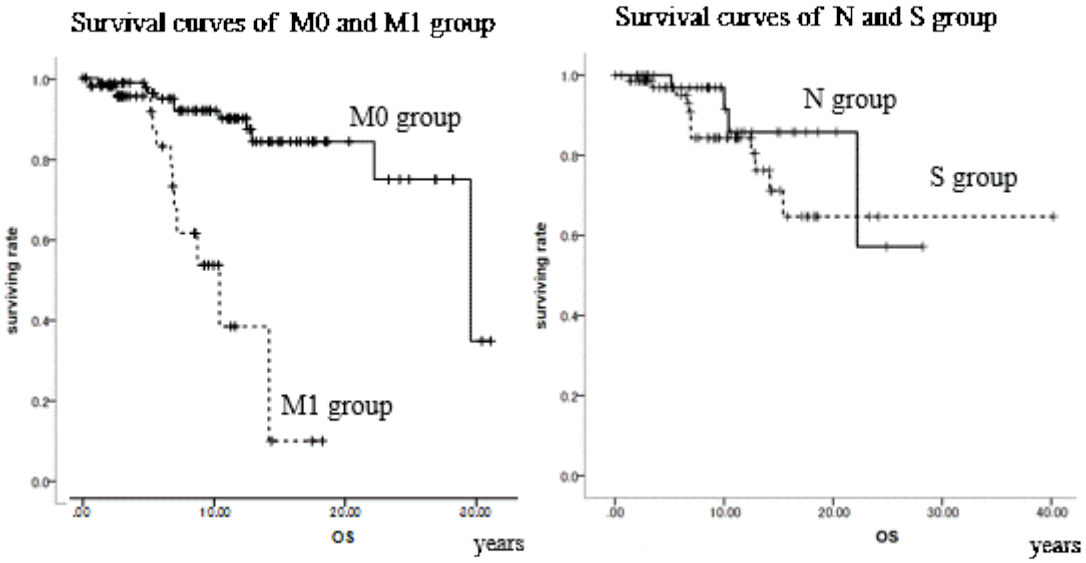

Conclusion: Patients with DTC with distant metastasis upon initial surgery had poorer prognoses than those who developed distant metastasis after some years. No difference was observed in the prognosis after TSH suppression, and this finding is contrary to that recommended by standard guidelines.
Disclosure of Interest: None declared

175.06

CORRELATING THE BETHESDA SYSTEM FOR REPORTING THYROID CYTOPATHOLOGY WITH HISTOLOGY AND EXTENT OF SURGERY: A REVIEW OF 21,746 PATIENTS FROM FOUR ENDOCRINE SURGERY REGISTRIES ACROSS TWO CONTINENTS

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Introduction: The Bethesda system for cytopathology (TBSRTC) is a 6-tier diagnostic framework developed to standardize thyroid cytopathology reporting. The aim of this study was to determine the risk of malignancy (ROM) for each Bethesda category and the associated surgical procedure in an international patient population.

Materials & Methods: Thyroidectomy-related data from 314 facilities in 22 countries were entered into the following outcome registries: CESQIP (North America), Eurocrine (Europe), SQRTPA (Sweden) and UKRETS (United Kingdom). Demographic, cytological, pathologic and extent of surgery data were mapped into 1 dataset and analyzed.

Results: Out of 41,294 thyroidectomy patient entries from January 1, 2015 to June 30, 2017, 21,746 patients underwent both thyroid FNA and surgery. A comparison of cytology and surgical pathology data demonstrated a ROM for Bethesda categories 1 to 6 of 19.2%, 12.7%, 31.9%, 31.4%, 77.8% and 96.0%, respectively. Male patients had a higher rate of malignancy for every Bethesda category. Secondary analysis demonstrated a high ROM in male patients with Bethesda 3 category aged 31-35 years (52.1%, 95% confidence interval (CI) 37.9% - 66.2%), aged 36-40 years (55.9%, 95% CI 39.2% - 72.6%) and aged 41-45 years (46.9%, 95% CI 33% - 60.9%). Patients with Bethesda 5 and 6 scores were more likely to undergo total thyroidectomy (65.9% and 84.6%); for Bethesda scores 2, and 3 patients, a higher percentage of females underwent total thyroidectomy compared to males.

Conclusion: These data demonstrate that Bethesda categories 1, 2, 3 and 4 are associated with a higher ROM compared to the 1st edition of TBSRTC, especially in male patients, and validate findings from the recently released 2nd edition of TBSRTC. These findings may assist with extent of surgery decision-making.

Disclosure of Interest: None declared

175.07

MULTIMODALITY TREATMENT IMPROVES LOCO-REGIONAL CONTROL AND OVERALL SURVIVAL IN PATIENTS WITH ANAPLASTIC THYROID CANCER

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Introduction: Anaplastic thyroid cancer (ATC) is a rare and aggressive form of thyroid cancer with a one-year overall survival (OS) of 20%. The ideal treatment approach for ATC remains unclear and the benefit of targeted molecular agents and immunotherapy remains unproven. Multimodality treatment (MMT) may reduce locoregional tumor progression (LTP) and improve OS when compared to treatment with palliative intention (TPI). Expanding MMT with targeted therapy or immunotherapy may further improve OS. This study aims to compare survival outcomes and morbidity between ATC patients treated with MMT and TPI. Additionally, the effect of MMT with or without targeted therapy and/or immunotherapy on OS in stage IVC ATC is assessed.

Materials & Methods: A retrospective cohort study of ATC patients evaluated within a single tertiary hospital referral center was performed. Patients were assigned to either TPI or MMT following multidisciplinary tumor board discussion and their own preference. The primary outcome measure was LTP. Secondary outcome measures were one-year OS and major treatment related morbidity defined as [3]grade IV events according to standard classifications for adverse events. Subgroup analysis of stage IVC patients was performed to assess the effect of targeted and/or immunotherapy on OS.

Results: 67 patients (29 males) with a mean age of 71 years (range 31 – 99 years) had sufficient follow-up data for inclusion. They were diagnosed with stage IVA (n=2), IVB (n=31) or IVC (n=34) ATC between 1979 and 2018. Patients treated with MMT (n=33) had a mean age of 67 (range 31-94) years, whereas patients undergoing TPI (n=34) were 76 (range 39-99) years. Tumor stages at diagnosis between the MMT or TPI groups was similar. LTP was lower (p=0.02) in patients receiving MMT (46%) when compared to TPI (74%). MMT increased one-year OS to 43% compared to 0% in patients treated with TPI (p<0.0001). There was no difference in major complications between the MMT (15%) or TPI (23%) cohort (p=0.54). A combination of MMT, targeted therapy and/or immunotherapy (n=5) increased one-year survival in Stage IVC ATC to 60%, compared to 33% or 0% in patients receiving MMT without targeted therapy and/or immunotherapy (n=11) or PI (n=18) respectively (p < 0.0001, Figure 1).

Image:

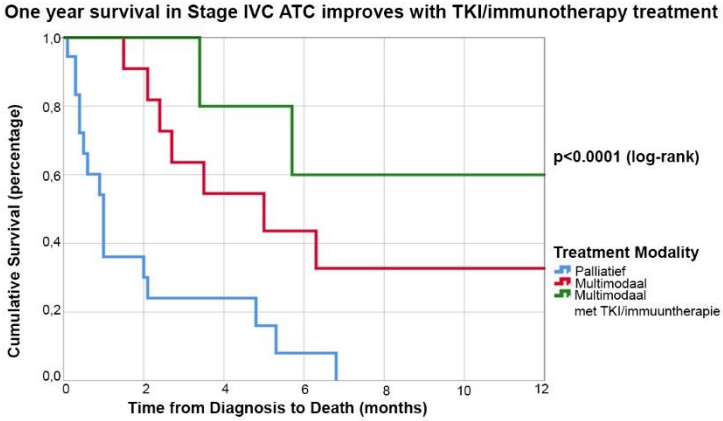

Figure 1 *One year survival in stage IVC ATC patients following palliation (blue line), MMT without TKI/immunotherapy (red line) and MMT with TKI/immunotherapy (green line).*
MMT = Multimodality treatment. TKI = tyrosine-kinase inhibition.

Conclusion: MMT reduces LTP and improves OS in selected ATC patients without increasing morbidity. The addition of targeted molecular therapy or immunotherapy to multimodality treatment protocols is associated with improved OS in stage IVC ATC patients.

Disclosure of Interest: None declared

175.08

DOES INFRAMANDIBULAR INCISION THYROIDECTOMY MAKE ENDOSCOPIC THYROIDECTOMY IRRELEVANT?

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Introduction: The classical Kocher's low neck incision is visible and prone to Keloid formation and is the main reason to perform Endoscopic Thyroidectomy. Large goiters are not suitable for endoscopic thyroidectomy. Hence an alternate high neck incision at the level of the Hyoid was tried as this is a flexural area and is in the shadow of the face and chin and not seen.

Materials & Methods: All Total Thyroidectomies done by a very senior endocrine surgeon through this very high incision at the upper end of neck (at the level of Hyoid) were included for this study. Entire thyroid gland with any extension(s) including intrathoracic extensions are dissected out with Ultrasonic shears. For large goiters and those with lax neck skin, classical neck lift (Muscle, fascia & skin tightening) is done during closure.

Results: 303 Total Thyroidectomies have been performed by this technique. The incision length varied from 4 to 8 cms depending on the size of goiter. The largest goiter weighed 410 gms. PTH and Thyroglobulin levels are routinely checked before and after surgery to monitor safety and adequacy of the procedure. Vocal cords are routinely checked before surgery. Any voice change postop is checked. Of these 303 patients, 3 (0.99%) had temporary hoarseness of voice, 7(2.3%) had temporary difficulty in speaking loudly, 1(0.33%) developed unilateral vocal cord palsy 6 months after surgery, 2(0.66%) had seroma, 1(0.33%) had Bronchopneumonia and 1(0.33%) had right pneumothorax. Immediate and late follow up images of the neck show the excellent cosmetic results. 2 patients have complained that they have received no sympathy as no one believes they have undergone thyroid surgery.Patients are incredulous how their large goiters have been removed without visible scar. Numerous referrals by operated patients show its popularity.

Conclusion: The scar of this safe procedure is so well hidden that Endoscopic techniques of Thyroidectomy become irrelevant. It provides a complete specimen to the pathologist unlike a large goiter removed piece meal by Endoscopic Thyroidectomy.

Disclosure of Interest: None declared

175.09

A NEW DIAGNOSTIC METHOD TO PREDICT OUTCOME AFTER PARATHYROIDECTOMY—SHORT-TERM TREATMENT WITH CALCIMIMETICS

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Introduction: Primary hyperparathyroidism (pHPT) is often associated with neuropsychological symptoms. Our intention was to evaluate the diagnostic value of short-term calcimimentic treatment to predict outcome after parathyroidectomy.
Design: Observational study: ClinicalTrials.gov, identifier NCT00982722.
Materials & Methods: The study included 110 patients scheduled for parathyroidectomy (median age 62 years; 91 females) and was preceded by a non-blinded randomised pilot study (20 females).
Intervention: Calcimimetic treatment, 4 weeks, 30-60 mg daily.
Outcome Measures: A panel of tests assembled to assess quality-of-life aspects, Quality-of-Life Questionnaire Core 30 (QLQ-C30); The Hospital Anxiety and Depression Scale (HAD), the Positive State of Mind (PSOM), cognitive function (The Montreal Cognitive Assessment, MoCa) and muscle strength (Timed-Stands Test, TST), was performed four times: At baseline, after four weeks of study medication, six weeks and six months after parathyroidectomy. The predictive values of changes during study medication for each test were determined.
Results: Short term treatment with calcimimetics resulted in increase of self-assessment scores in four of six functional domains of QLQ C-30: Role function, emotional, cognitive and social function, increase in PSOM and a decrease in HAD and in time spent on TST. Eleven out of 38 participants with a baseline MoCa score <26, defined as mild cognitive impairment, reached scores ≥26 during medication. Improvements in quality-of-life aspects, cognitive function and muscle strength, during study medication correlated well with the postoperative outcome (positive predictive values 74-96%).

Image:

Prediction of improvement at follow up 6 months after PTX*	PPV (%)	NPV (%)	Sensitivity (%)	Specificity (%)	Δ Score Calcimimetic AUC±SE*	95% CI
QLQ-C30						
Global health status	85.0	53.7	64.2	78.6	0.686±0.059	0.571;0.801
Physical functioning	95.5	76.9	63.6	97.6	0.789±0.059	0.674;0.905
Role functioning	90.0	76.6	62.1	94.7	0.710±0.072	0.568;0.851
Emotional functioning	87.1	65.6	71.1	84.0	0.760±0.052	0.658;0.862
Cognitive functioning	74.2	60.5	57.5	76.5	0.689±0.057	0.578;0.800
Social functioning	88.0	81.4	73.3	92.1	0.803±0.051	0.703;0.904
Corresponding test panel						
Timed stand test	95.3	28.6	85.9	57.1	0.850±0.054	0.745;0.956
MoCa	86.0	32.6	54.4	71.4	0.629±0.068	0.495;0.763
HAD anxiety	84.0	61.5	73.7	75.0	0.729±0.065	0.603;0.856
HAD depression	87.2	68.3	75.9	82.4	0.713±0.068	0.678;0.847
PSOM	80.4	44.1	68.3	60.0	0.729±0.055	0.605;0.820

*cut off for improvement in QLQ-C30; 10 points

Conclusion: This study presents a new diagnostic method to aid in predicting improvement of pHPT related symptoms after parathyroidectomy.

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Disclosure of Interest: None declared

175.10

PRINTING A THREE-DIMENSIONAL DEVICE REDUCES THE RISK OF MENTAL NERVE INJURY DURING TRANSORAL ENDOSCOPIC THYROIDECTOMY VESTIBULAR APPROACH

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Introduction: Transoral endoscopic thyroidectomy vestibular approach (TOETVA) have been applied in thyroid surgery to prevent the neck incision scar. However, there are some inherent concerns from the TOETVA method, including clean-contaminated nature of the incision, oncologic concern of cancer seeding and local recurrence, difficulty in extracting larger specimens, the significant learning curve, and the potential injury to the recurrent laryngeal nerve or the mental nerve. A patient-specific safety device (PSSD) has been designed to prevent mental nerve injury during thyroidectomy via TOETVA.

Materials & Methods: After preoperational head and neck computed tomography (CT) and the 3D image reconstruction performed, PSSD was designed as a brace fit to the lower teeth and had two safety markers on each side of the device to indicate the location of the mental foramen and the PSSD was printed by 3D printer. If the brace would not be applicable, a 3D mandible model of patients was printed as a PSSD instead. The TOETVA procedure is like the method that Angkoon Anuwong published previously. Before the placement of lateral trocars, we applied PSSD to indicate the location of mental foramen. We have incorporated the PSSD into our TOETVA procedure from the first case. We retrospectively analyzed all patients undergoing TOETVA at our institution from March 2017 to December 2018. The preoperative detail and complication profile were analyzed.

Results: Forty-three patients were enrolled in this study. Preoperative neck CT was conducted. The 3D image reconstruction indicated the most common location of the mental foramen was between the second premolar and the first molar on both sides (48% on the right side and 48% on the left side), followed by just below the root of the 2nd premolar (33% on the right side and 23% on the left side). Notably, difference in location between the two sides occurred in one-third of the patients. The results further confirmed that the actual location of the nerve foramen of each patient may vary individually. By incorporating PSSD in our TOETVA procedure, there have been no cases with mental nerve injuries.

Image:

Conclusion: According to our preliminary experience, incorporating customized PSSD into surgical procedures of TOETVA would help to avoid the risk of mental nerve injury and reduce the learning curve of this new and promising technique.

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Disclosure of Interest: None declared

174.01

LIVER TRANSPLANTATION FOR WILSON'S DISEASE – SINGLE CENTER EXPERIENCE

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Introduction: Wilson's disease (WD) is autosomal recessive disorder of copper metabolism. WD is rare indication for Liver Transplantation (LT). In patients with predominantly liver symptoms liver transplantation is a well-established treatment modality. The aim of the study was to evaluate the long term results of Liver Transplantation in cohort of patients treated in our institution.
Materials & Methods: From August 2000 till December 2018, 653 LTs were performed at a single institution. In that group were 25 patients (3,8%) with Wilson's disease. Eight patients (32%) underwent elective and seventeen (68%) - urgent liver transplantation.
Results: Overall surgical complications rate was 32% - 35,3% in group of urgent transplantations and 25% in group of elective patients. There was two retransplantation in that group due to hepatic artery thrombosis. Overall graft survival rates at 1, 5 and 10 years after liver transplantation were respectively 88%, 88% and 84%. Overall patient survival rates at 1, 5 and 10 years after liver transplantation were respectively 92%, 92% and 88%. Three patients died – 9 days, 57 days and 109 months after Liver Transplantation. The causes of death were stroke, hepatic artery thrombosis and infection.
Conclusion: Liver transplantation is a method of choice for treatment of Wilson's disease associated with liver failure. The results of the patient's and graft's survival are excellent in this selected group of patients.
Disclosure of Interest: None declared

174.02

TOLVAPTAN FOR POSTOPERATIVE FLUID MANAGEMENT IN LIVER TRANSPLANT RECIPIENTS

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Introduction: Tolvaptan, an antagonist of the vasopressin V2 receptor, is a novel oral diuretic that promotes water excretion selectively. We have used furosemide as a primary diuretic and added human atrial natriuretic peptide (hANP) if necessary for fluid management postoperatively in liver transplantation recipients. Recently, we introduced tolvaptan for postoperative management in both living-donor liver transplantation (LDLT) and deceased-donor liver transplantation (DDLT).

Materials & Methods: 1) Clinical outcomes were compared between LDLT recipients whose postoperative fluid management was performed before (control group, n=25) and after (tolvaptan group, n=25) introduction of tolvaptan. 2) The comparison was also performed between DDLT recipients whose postoperative fluid management was performed before (control group, n=10) and after (tolvaptan group, n=13) introduction of tolvaptan. Therapeutic policies for postoperative diuretics are as follow: Until January 2015, we used furosemide as a primary diuretic and hANP was used as an add-on diuretic when necessary for the management of postoperative fluid balance after transplantation. Since January 2015, we introduced tolvaptan and used furosemide as first-line and tolvaptan as second-line diuretics and hANP was used as an add-on diuretic when necessary.

Results: 1) Outcomes in LDLT. Preoperative and intraoperative demographic data did not differ significantly between the control and tolvaptan groups except for the period of post-surgical follow-up. Urine volume, body weight gain, and fluid volume from abdominal drainage tubes did not differ significantly between groups. The time from hANP initiation to discontinuation and the time to removal of central vein catheters were significantly reduced in tolvaptan group. No severe side effects directly related to tolvaptan were observed. The survival rate at 1 year did not differ significantly between groups. 2) Outcomes in DDLT. Urine volume, renal function test, liver function test, and sodium concentration did not differ significantly between the control and tolvaptan groups.
Conclusion: Tolvaptan in combination with furosemide provides an adequate diuretic for fluid management subsequent to either LDLT or DDLT without causing adverse effects.
Disclosure of Interest: None declared

174.03

PORTAL THROMBOSIS IN HEPATIC TRANSPLANTATION - OUR EXPERIENCE AND SURGICAL ALTERNATIVES

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Introduction: We intend to evaluate the population of transplanted patients with portal thrombosis from 12/2009 to 08/2018, including pre-transplantation status, surgical technique, postoperative, recurrence of portal thrombosis and survival.
Materials & Methods: 70 of the 847 liver transplant recipients in this period have been diagnosed with portal thrombosis. Re-transplants and patients transplanted due to acute hepatic failure were excluded.
Results: The incidence of thrombosis in patients transplanted within this time period was 8%; of which about 50% were not known in pre-transplantation. Of the 70 patients with portal thrombosis, 91% had echo-doppler or angio-CT in the 3 months prior to transplantation. 40% had grade I thrombosis, 39% grade II and 21% grade III. Of the patients with intraoperative thrombosis, 60% had grade I thrombosis. Thrombectomy and direct portal anastomosis were performed in 87% of patients with thrombosis but the rest required other surgical techniques, including venous graft reconstruction. The recurrence of thrombosis was 5%. Acute renal injury, hemorrhage and sepsis were the most frequent postoperative complications. The operative mortality was 16%. Survival at the first year is slightly lower in the group of patients with portal thrombosis (78%) than in the group of patients without thrombosis (84%).
Conclusion: Portal thrombosis is under-diagnosed, but is no longer considered a contraindication for transplantation and patients have good post-transplant survival.
Disclosure of Interest: None declared

174.04

EARLY POSTOPERATIVE COMPLICATIONS OF KIDNEY TRANSPLANTATION IN OBESE PATIENTS

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Introduction: Kidney transplant recipients often have significant comorbidities, which increase perioperative risk and significantly affect transplantation results. Obese patients with body mass index [BMI] ≥ 30 kg/m2 are at risk of delayed graft function and surgical complications, such as infections or delayed wound healing. There is also a trend to exclude extremely obese patients from transplantation until bariatric surgery or successful weight loss is granted. On the other hand, no association between obesity and either graft loss or death was noted.
The aim of the study is to evaluate the effect of BMI on the most common surgical complications after kidney transplantation.
Materials & Methods: Five hundred and seventy-six patients after kidney transplantation performed in a single center in 2010-2015 were analyzed in a retrospective case-control study. Median BMI was 24,4 kg/m2 (16,2 – 34,3); 8,5% of the study group were obese (BMI ≥ 30 kg/m2) and 5% had underweight (<18,5 kg/m2). Patient records were searched for early surgical complications: lymphocele more than 7 days following transplantation, hematoma adjacent to transplant (at least 33 mL) more than 7 days following transplantation, urinary leakage or urinary tract infection [UTI].
An effect of BMI on these complications was assessed with multiple regression and chi-square test. P-value <0.05 was considered as statistically significant. Analysis was performed with STATA 13 Statistical Software.
Results: Surgical complications occurred in 304 (54,7%) patients. Lymphocele was observed in 135 (23,4%) patients (p = 0,69), hematoma in 87 (15,3%; p = 0,18) patients, urinary leakage in 35 (6,6%; p = 0,15) patients and UTI in 185 (32,1%; p = 0,58) patients. No correlation between BMI and surgical complication rate was noted.

	non-obese (n = 527)	obesity (n = 49)	p
lymphocoele	23,7% (n = 125)	20,4% (n = 10)	0,60
hematoma	14,8% (n = 78)	18,4% (n = 9)	0,50
urinary leakage	6,6% (n = 35)	0% (n = 0)	0,06
UTI	31,9% (n = 168)	34,7% (n = 17)	0,69

Conclusion: Recipient's BMI has no influence on the most common surgical complications after kidney transplantation. There is no need to delay kidney transplantation in moderately obese patients.
Disclosure of Interest: None declared

174.05

LIVER TRANSPLANTATION IN LOW INCOME ENVIRONMENTS: A NEW EXPERIENCE IN ECUADORIAN HEALTH SYSTEM

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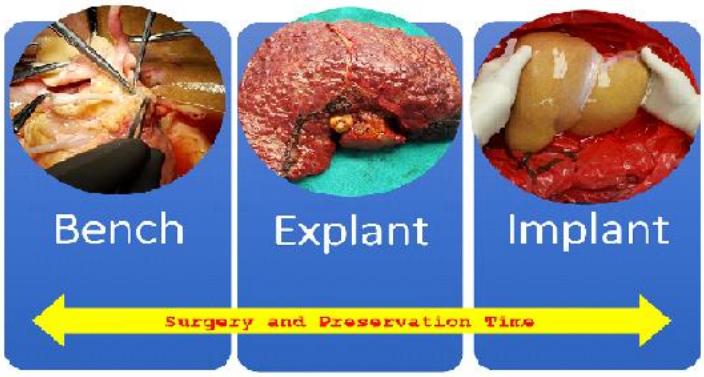
Introduction: Liver transplantation (LT) is the therapeutic option for selected groups of patients with terminal liver disease or liver failure. The indications, contraindications and surgical techniques are well- established.
In 2007, Ecuador formally began with liver transplantation, but there was no greater significance at that time. Since 2014 deceased donor liver transplants were reported more often. Currently, Ecuador performed exclusively deceased donor liver transplantation (DDLT) and there are only two health facilities that are accredited for these highly complex interventions; “Luis Vernaza Hospital” from Guayaquil city located in the coastal region of Ecuador is one of them.
Materials & Methods: A non-experimental, retrospective study was conducted between January 2013 and December 2017, with observational action to describe the experience of “Luis Vernaza Hospital” Liver Transplant Program from Guayaquil-Ecuador.
Results: The universe consisted of 57 patients, a sample of 34 patients who met the inclusion criteria, underwent deceased donor liver transplantation and/or liver retransplantation. The most frequent indication for LT was cryptogenic cirrhosis (n = 11, 31%). Besides, 83% of the recipients had a length of surgery in the range of 6-8 hours. In addition, 83% of the LT recipients presented cold ischemia time (CIT) between 5-8 hours, and warm ischemia time (WIT) ≤45 minutes in 63% of patients. The indication for liver retransplantation was thrombosis of the hepatic artery. Six surgical reoperations were performed, the most frequent cause was postoperative bleeding (n = 4, 12%).
Table 1. Indications for Liver Transplantation in Hospital Luis Vernaza, Guayaquil-Ecuador de 2013 a 2017.

Diagnosis	Frequency	Percentage	Cumulative percentage	
Cryptogenic Cirrhosis	11	31%	91%	
Autoinmune Cirrhosis	9	26%	51%	
Alcoholic Cirrhosis	6	17%	26%	
Cirrhosis + HCC	3	9%	9%	
Primary biliary Cirrhosis	2	6%	57%	
Others	4	12%	12%	
Total	35	100%	100%	

HCC: Hepatocellular carcinoma
Image:

Image 1. Liver Transplant stages. Hospital Luis Vernaza. Guayaquil-Ecuador.



Conclusion: Ecuador has a national policy for organ transplantation. The experience of Luis Vernaza Hospital Liver Transplant Program from Guayaquil-Ecuador is comparable to that reported by other medical centers in the world. However, there is a need to implement living donor liver transplant programs and to train more multidisciplinary teams for this type of transplant.
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174.06

ULTRASOUND-GUIDED BALLOON ANGIOPLASTY AS AN ALTERNATIVE FOR ARTERIOVENOUS FISTULA STENOSIS TREATMENT.

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Introduction: Stenosis of arteriovenous fistula is one of the most common reason of inefficient hemodialysis because it reduces flow volume in fistula and could lead to vascular access thrombosis. Balloon angioplasty has become a golden standard in treatment of arteriovenous fistula or graft stenosis. Although the procedure is simple and patients are often released immediately, availability of that procedure is limited. Angioplasty is performed in hybrid rooms or operation rooms with c-arms. Fluoroscopy-guided percutaneous angioplasty in patients with borderline renal function can effect in filtration decrease due to the contrast-induced nephropathy. Another risk for patients and personnel is radiation.
Stenosis angioplasty could be also performed under the guidance of ultrasound. This method is becoming popular as safe and low-cost alternative to fluoroscopy. Effectiveness of both methods could be comparable.
Materials & Methods: All patients with stenotic arteriovenous fistula or graft were qualified for ultrasound-guided angioplasty. Indications for procedure were symptomatic stenosis reducing flow in fistula and being responsible for inefficient dialysis. Another indication was asymptomatic, critical stenosis. In case of acute thrombosis angioplasty procedure followed open trombectomy. All stenotic sites were located below subclavian vein to be accessible for ultrasonography.

Results: During 60 months between January 2014 and December 2018 there were 290 patients admitted with stenotic arteriovenous fistula or graft. There were 175 males and 115 women. Total of 378 angioplasty procedures guided by ultrasonography were performed. In 277 cases stenosis was successfully treated. Only in 11 cases the access patency could not be restored No serious complication during the procedure were noticed.

Conclusion: Ultrasound-guided AVF angioplasty can successfully replace fluoroscopy. The procedure is safe and time-saving. Primary assisted patency rate is high and comparable to x-ray angioplasty. Ultrasonography also allows to avoid the risk of ionizing radiation and adverse reaction to contrast media. The procedure costs are significantly lower while fluoroscopic equipment is much more expensive and occupies a great deal of space. That could have great impact on availability of angioplasty procedure for dialyzed patients in the future.

Disclosure of Interest: None declared

176.01

TAPP LEARNING CURVE AFTER SPECILIZED HERNIA CENTER FELLOWSHIP

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Introduction: Hernia surgery is one of the most popular surgery performed worldwide. More than 20 million hernia surgery performed annually, among these more than 1 million hernia surgery performed in China. Transabdominal preperitoneal hernioplasty (TAPP) developed in the early 1990s, not too long after laparoscopy introduced in general surgery[1]. Compared to traditional open surgery, laparoscopic hernia surgery usually need a long learning curve[2]. The aim of this study was to define the learning curve for TAPP after the learning surgeon complete his fellowship in an Asia-Pacific hernia society (APHS) center.

Materials & Methods: A retrospective analysis of 28 consecutive patients with primary unilateral inguinal hernia was performed (1 case with conversion and 2 scrotal hernia excluded for learning curve analysis). All surgery were performed by a single learning surgeon from March 2017 to October 2018 at Tsinghua Changgung Hospital. The first 8 surgery were performed after sole video learning. The rest 20 surgery were performed after 6 months fellowship in an APHS center in China.

Results: For the consecutive 28 cases with primary unilateral inguinal hernia, 1 case with conversion because of firm adhesion, 2 cases with scrotal hernia were excluded for learning curve analysis. The operative time decreased gradually after 6 cases and stabilized after 10 cases. The median operative time were 111 and 82 min in the learning period and stabilized period ($p<0.05$). More patients received prophylactic antibiotics in the learning period ($p<0.05$). There were no significant differences in blood loss, inta-operative injury, length of hospital stay, readmission, surgical site infection (SSI), seroma, chronic pain and recurrence during follow up.

Table 1. Perioperative data

Variable	Learning period (n=10)	Stablizing period (n=15)	P-value
Operative time (min)	105 (65-189)	82 (62-105)	0.006
Blood loss (ml)	10 (2-20)	10 (10-20)	0.072
Intraoperative injury	0	0	NS
Prophylaxis antibiotics	4 (40)	0 (0)	0.009
Length of hospital stay (d)	3.5 (1-7)	4 (1-6)	0.958
Readmission	0	0	NS
Complications			
Seroma	3 (30)	1 (7)	0.127
Surgical site infection-SSI	0 (0)	2 (13)	0.238
Chronic pain	0	0 (0)	NS
Recurrence	0 (0)	0 (0)	NS

Data are number of patients n (%) and median (range)

Image:

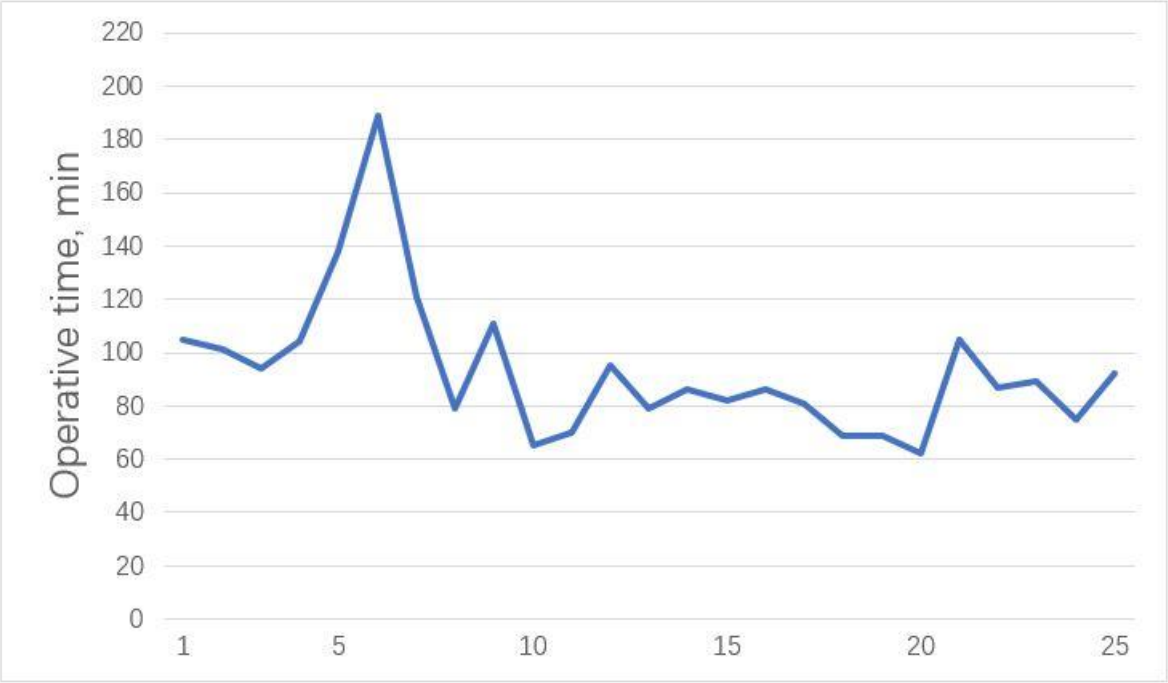

Figure 1 Learning Curve

Conclusion: The learning curve of TAPP may take 10 cases to reduce operative time. The learning experience in specialized hernia centers will help to overcome the learning curve more rapidly.

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Disclosure of Interest: None declared

176.02

CIRCULATING TUMOR DNA IN KRAS POSITIVE COLORECTAL CANCER PATIENTS AS A PROGNOSTIC FACTOR – A SYSTEMATIC REVIEW.

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Introduction: Liquid biopsy is a novel tool for cancer diagnostics, monitoring of cancer treatment or screening for recurrence. It has some significant advantages versus conventional biopsy. Liquid biopsy provides detection of tumor cells, cell-free nucleic acids and exosomes in peripheral blood and other body fluids from cancer patient. What is more it is useful not only for diagnosis but can also be used for staging, prognosis, anticipation, prediction of therapy response and follow-up.

Materials & Methods: The systematic review was performed according to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) and PICO (Patients, Interventions, Comparisons, Outcomes) protocols. The search was performed using PubMed, Web of Science and Scopus. Additionally, Cochrane reviews and clinicaltrials.gov were checked for applicable studies. Following search query was used: “circulating AND (DNA OR nucleic) OR liquid biopsy AND (colorectal OR colon) AND cancer AND (prognosis OR prognostic)”.

Results: In total 16 articles matched the inclusion criteria and were analyzed. There were 1587 patients diagnosed with colorectal cancer. In majority (12/15; n=902) of studies patients were in stage IV of the disease. Total of 641 patients were KRAS tumor positive and plasma negative and 334 patients were KRAS tumor positive and plasma positive. Presence or high amounts of KRAS mutation in plasma were associated with inferior overall survival, progression free survival and disease-free survival. Hazard ratios (HR) for inferior overall survival from original studies are presented in table 1.

Author	Overall Survival
Patients T+P+ versus T+P-	
Ryan *et al.*[31]	**HR 6.37** (95% CI, 2.3-18.0) **P=0.000**
Spindler *et al.*[27]	**HR 2.98** (95% CI, 1.53-5.80) **P=0.001**
Thomsen *et al.*[33]	**HR 2.30** (95% CI, 1.27-4.15) **P=0.0057**
Scholer *et al.*[16]	**HR 6.7** (95% CI, 1.6-28.7) **P=0.01**
Trevisol *et al.*[20]	0% versus 12.5%; tissue KRAS2 mutation **P=0.009** and serum KRAS2 mutation **P<0.0001**
Lecomte *et al.*[1]	48% (95% CI, 26-66) versus 100% DNA **P<0.03**
Sefrioui *et al.*[21]	not reached versus 11 months (95% CI, 6.6-9.6) **P=0.04**
Patients T+P+ versus negative (tumor KRAS mutation status not specified)	
Sclafani *et al.*[30]	**HR 0.78** (95% CI, 0.31-1.96) P=0.60
Sun *et al.*[24]	**HR 0.88** (95% CI, 0.59-1.33) P=0.088

Conclusion: Occurrence of KRAS mutation in cancer patient's plasma can be considered as a strong prognostic factor. Further studies are needed to validate this method in everyday clinical practice.

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176.03

A SURVEY OF POST-POLYPECTOMY COLONOSCOPY SURVEILLANCE KNOWLEDGE AMONG GENERAL PRACTITIONERS.

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Introduction: Screening has been shown to be effective in reducing CRC incidence and mortality. Adherence to the guidelines of surveillance after polypectomy is considered key. In most countries including Poland general practitioners (GPs) are responsible for referring patients for surveillance colonoscopy.
The aim of the study was to examine the knowledge of post-polypectomy surveillance among GPs in Poland.
Materials & Methods: We have designed five scenarios of post-polypectomy surveillance based on European guidelines adapted by the Polish Society of Gastroenterology. The scenarios described different risk groups based on the characteristics of the removed polyps requiring different time intervals of surveillance colonoscopy. They were supplemented with basic demographic data of the surveyed GP. The questionnaire was carried out by surveyors during a national congress of GPs.
Results: A total of 340 questionnaires were filled by GPs. None of the surveyed doctors gave correct answers in all questions. The knowledge of post-polypectomy surveillance is very unsatisfactory (correct answers 1.2%>55.0%). One-year surveillance interval was the most commonly chosen interval regardless risk groups based on the characteristics of the removed polyps. In 4 of 5 scenarios the surveillance overuse ranged 42.1%>98.5%. In a high risk group scenario surveillance was underused in 45.0%.

<table>
<tr><th></th><th colspan="2">S1</th><th colspan="2">S2</th><th colspan="2">S3</th><th colspan="2">S4</th><th colspan="2">S5</th></tr>
<tr><td>1 year</td><td colspan="2">187
55.0%</td><td>143
42.1%</td><td>overuse
=42.1%</td><td>247
72.7%</td><td rowspan="2">overuse
=98.8%</td><td>191
56.2%</td><td rowspan="3">overuse
=98.5%</td><td>297
87.4%</td><td>overuse
=87.4%</td></tr>
<tr><td>3 years</td><td>83
24.4%</td><td rowspan="4">underuse
=45.0%</td><td colspan="2">152
44.7%</td><td>73
21.5%</td><td>93
27.4%</td><td colspan="2">31
9.1%</td></tr>
<tr><td>5 years</td><td>62
18.2%</td><td>34
10.0%</td><td>underuse
=13.2%</td><td>16
4.7%</td><td rowspan="2">38
11.2%</td><td>8
2.4%</td><td>underuse
=3.5%</td></tr>
<tr><td>10 years</td><td>6
1.8%</td><td colspan="2">9
2.7%</td><td colspan="2">4
1.2%</td><td>13
3.8%</td><td>4
1.2%</td></tr>
<tr><td>does not require surveillance</td><td>2
0.6%</td><td colspan="2">2
0.6%</td><td colspan="2">0</td><td colspan="2">5
1.5%</td><td>0</td><td></td></tr>
</table>

Conclusion: Post-polypectomy surveillance schemes are not known to GPs with a significant trend towards overuse. Strict adherence to guidelines should be pursued to include written recommendation on surveillance program in the final endoscopy report. Efforts should be made by public health policy makers to increase knowledge of surveillance schemes among GPs.

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176.04

DEFINING MAJOR SURGERY: A DELPHI CONSENSUS AMONG EUROPEAN SURGICAL ASSOCIATION (ESA) MEMBERS

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Introduction: Major surgery is a term frequently used but poorly defined. The aim of the present study was to reach a consensus to an acceptable definition of major surgery, with clear criteria as defined by European Surgical Association (ESA) members.
Materials & Methods: A 3-round Delphi process was performed and questionnaires were delivered via an online platform. All ESA members (n=305) were invited to participate in the expert panel. In round 1, experts were inquired by open and closed-ended questions on potential criteria to define major surgery. Results were analyzed and presented back anonymously to the panel within round 2 and 3. Closed-ended questions in round 2 and 3 were either binary or statements to be rated on a Likert scale ranging from 1 to 5 (1: strong disagreement, 5: strong agreement). Participants were sent 3 reminders at 2-week intervals for each round. 70% of agreement was considered to indicate consensus.
Results: 105 invited ESA members answered to the first round, and 79 members completed the surveys 2 and 3 (final response rate 26%). Mean age was 59 years (SD 9), 99% were males, a majority was specialized in HPB surgery (65%), had >20 years of practice (87%) and in university hospitals (95%). No preoperative factor was retained to define the term major surgery. In contrast, vascular clampage/organ ischemia (87%), >10µg/min noradrenalin requirements (72%), intraoperative blood loss > 1000 ml (83%), perioperative blood transfusion > 2 red blood cell (71%) and operative time > 3 hours (75%) were all considered to be related with a major surgical procedure. Similarly, systemic inflammatory disease response was selected (75%) along with related biomarkers (C-reactiv protein: 87%, lactate: 89%), the need for intensive/intermediate care (80%), and important fluid resuscitation (75%). Consequences of major surgery were a high morbidity (>30% overall, >10% severe) and mortality (≥1%). Experts agreed that a major surgical procedure requires high expertise of the surgeon (91%), multidisciplinary work (87%), and the setting of a high-volume institution (84%).
Conclusion: ESA experts defined major surgery according to extent and complexity of the procedure, its pathophysiological consequences, and consecutive clinical outcomes. The term major surgery should be used only if these criteria are fulfilled.
Disclosure of Interest: None declared

176.05

SERUM CONCENTRATIONS OF BRAIN DERIVED NEUROTROPHIC FACTOR CORRESPOND TO CURATIVE OPERATION IN PANCREATIC CANCER.

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Introduction: Brain Derived Neurotrophic Factor (BDNF) belongs to the neurotrophin family that includes also neurotrophin-3, neurotrophin-4 and nerve growth factor. BDNF plays crucial role in brain development and neurogenesis, additionally is involved in pathogenesis of many neurologic disorders. It is produced by inflammatory cells including lymphocytes T, B, monocytes and macrophages. BDNF may contribute to the pathogenesis of neural and non-neural cancers, as well gastrointestinal tumours. In this study we investigate BDNF serum concentration concerning staging and curative treatment in pancreatic cancer.

Materials & Methods: 25 consecutive (12 females and 13 males) patients suffering from pancreatic cancer were included into the study. Control group consisted of 20 patients operated on schedule on inguinal hernia. BDNF was measured using ELISA before and on the day 3 after operation.

Results: There were no significant BDNF differences between groups according to sex and staging. We found significantly lower post-operation BDNF serum concentration comparing to preoperative time-point (18,490ng/ml, SD=7,985 vs 25,384ng/ml, SD=15,446, *p*=0,0455). When resection was taken into account it was noted that in patients who underwent curative resection BDNF serum concentration after operation was significantly lower comparing to preoperative results (16,671ng/ml, SD=7,612 vs 23,769ng/ml, SD=12,794, *p*=0,0098). In patients without resection there were no significant differences before and after operation (27,806ng/ml, SD=19,253 vs 21,218ng/ml, SD=8,130, *p*=0,7518). Such result was confirmed in patients with 4thTNM stage (without resection) and in patients with 1st, 2ndand 3rdTNM stage (with resection).
There were no statistically significant differences in BDNF serum concentration before and after operation in control group.
Conclusion: BDNF serum concentration decreases significantly after tumour resection in pancreatic cancer patients within 3 days after operation. This finding is noted only when curative

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Disclosure of Interest: None declared

176.06

THE BURDEN OF EMERGENCY GENERAL SURGERY AT HOSPITAL TUANKU JA'AFAR

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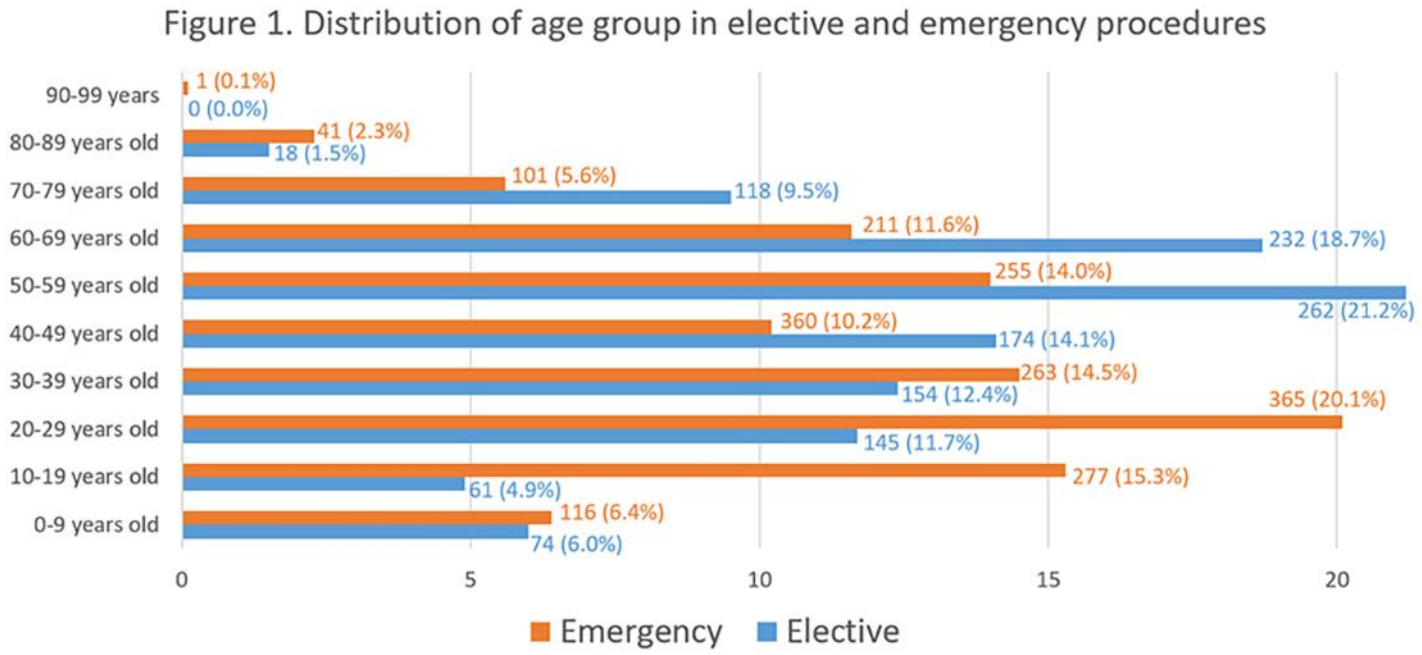
Introduction: Patients undergoing emergency surgery are generally ill and may have acute life-threatening conditions. Emergency surgery is associated with major challenges since there is limited opportunity for preoperative optimisation of the functional and physiological status of the patient. Information on the burden of emergency surgery will help improve its outcome. This study looked at the burden of emergency surgery in a tertiary care hospital of Ministry of Health, Malaysia.
Materials & Methods: This is retrospective study of consecutive general surgical procedures performed at Hospital Tuanku Jaafar, Seremban for the period 1/1/2017 – 31/12/2017. Surgical procedures studied excluded ear, nose, throat (ENT), trauma, ophthalmology, obstetrics and gynaecology (O&G) and orthopaedics procedures. Information on patient demographics, ASA status, type of procedure, and timing of procedure was obtained. Data was obtained using the Computerised Operating Theatre Documentation System (COTDS), anesthetists' blue sheets and patient management system (SPP).
Results: Three thousand and fifty-four (3054) general surgical procedures were performed in year 2017, 1816 (59.5%) were performed as emergency.
The patients who underwent emergency procedures were sicker. A total number of 591 patients had 2 or more comorbidities. (Tab 1.) ASA 1, 2, 3 and 4 were recorded in 52.9%, 30.5%, 12.3%, 4.4% compared to 42.1%, 57.9%, 0.0%, 0.0% in elective surgery.
Three hundred and fifty-four (19.5%) of the emergency procedures were performed in patients who were 60 years and more. (Fig 1.)
Majority of emergency procedures (59.0%) were performed after office hours and weekends.
There were 77 admissions to ICU, 97 admissions to HDU and 98 mortalities in emergency surgeries.

			No of Comorbid					Total
			0	1	2	3	4	
Operation Status	Elective	Count (%)	677 (54.7)	297 (24.0)	206 (16.6)	55 (4.4)	3 (0.2)	1238 (100.0)
	Emergency	Count (%)	1133 (62.4)	356 (19.6)	245 (13.5)	79 (4.4)	3 (0.2)	1816 (100.0)
Total		Count (%)	1810 (59.3)	653 (21.4)	451 (14.8)	134 (4.4)	6 (0.2)	3054 (100.0)

Table 1. Number of patients with different comorbidities in elective and emergency procedures.

Image:



Conclusion: The burden of emergency surgery is significant; the patients are sicker with multiple comorbid factors. In addition, the surgeries were mostly performed at out of hours. The procedures are associated with increased morbidity and mortality rate. There is a need for change from current practice, redistribution of resources will help improve the outcome of emergency surgery.

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Disclosure of Interest: None declared

176.07

PATIENTS SEEKING INFORMATION ABOUT COLONOSCOPY – LESSONS LEARNED FROM GOOGLE.

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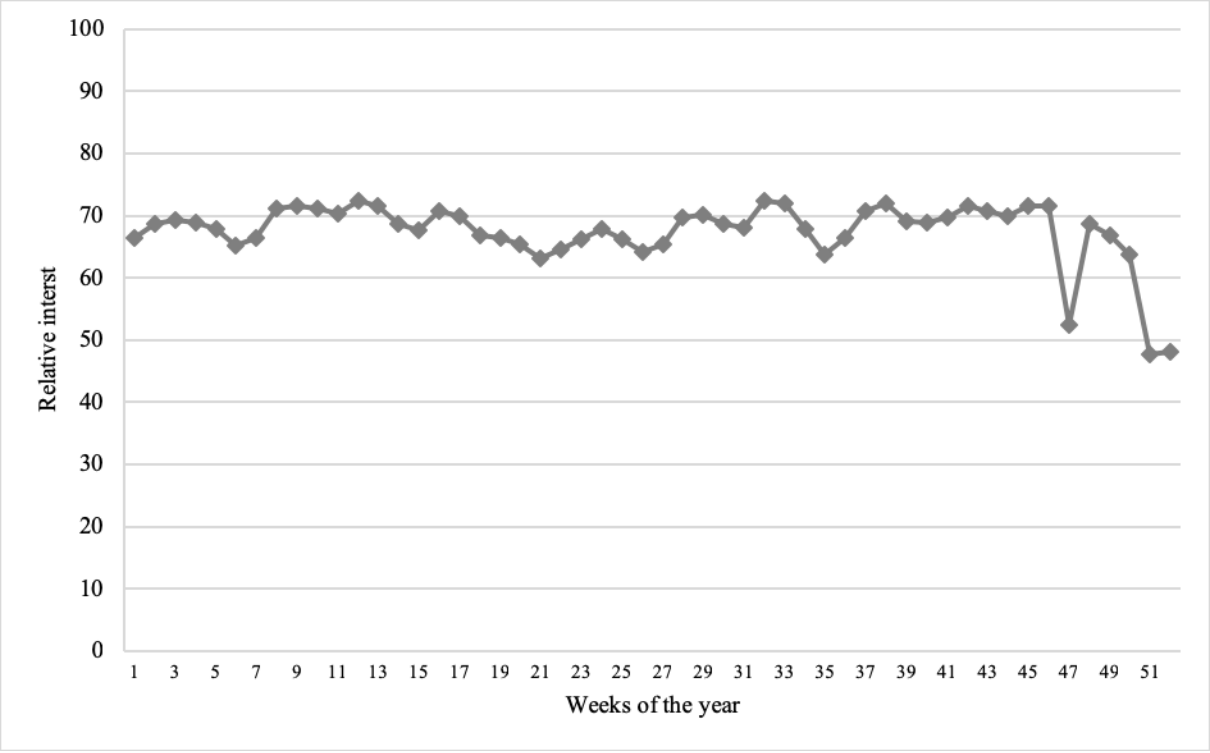
Introduction: Every year in USA over 14 million colonoscopies are performed. It requires high quality examinations but also relevant information strategy. Colonoscopy compliance is not satisfactory, what to some extent might be related to patients' attitudes towards colonoscopy. In the current study we addressed the questions of what kind of information do people seek and get when they search internet for "colonoscopy

Materials & Methods: Using Google Trends web facility we analyzed search results of "colonoscopy", related searches and annual and weekly search trends. Fields of interest analysis was performed based on the related searches.

Results: Patients are generally offered quality data on the first result page of Google search biased only by Wikipedia scored first on the result list. The number of "colonoscopy" searches is stabile over week with significant decrease on weekends and stabile over the year with significant decrease around Thanksgiving Day and in the Christmas/New Year's Eve Period. The most common field of search is colonoscopy preparation thus underlining the importance of this part of colonoscopy.

Image:



Conclusion: Internet search provides abundant information on colonoscopy. In general, this information is accessible, preferred by patients and of good quality. This should be kept in mind by healthcare providers while educating patients about colonoscopy.

Figure 1. Yearly change of number of search results for "colonoscopy" keyword.

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176.08

LAPAROSCOPIC COLORECTAL CANCER SURGERY - RESULTS AND PROBLEMS IN THE LEARNING CURVE PERIOD. THE EXPERIENCE OF ONE SURGICAL CENTER.

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Introduction: According to current data, laparoscopic colorectal operations are comparable to open surgery in terms of oncological radicality and long-term results. The aim of the study was to analyze the perioperative course and early results of treatment of the first 80 patients with colorectal tumors operated laparoscopically in one surgical department.
Materials & Methods: A retrospective analysis of medical documentation of first 80 laparoscopic colorectal resection was performed. Patients aged 65,0±13,9 yo were diagnosed with large bowel cancer or HGD polyps unresectable endoscopically. All surgical procedures were planned, performed by 5 surgeons experienced in open colorectal surgery. All except one intestinal anastomosis performed during right or left hemicolectomies were done extraabdominally. All sigmoid and rectal resections were done with typical two-staples anastomosis technique. All patients, except three with CS IV cancer disease, were treated with intention of curing. Most of the patients (78%) suffered from concomitant chronic diseases. The mean value of BMI was 27,1±5,1 (18,3-38,23).
Results: Analysis revealed that in the study group 5 ileo-caecal resections, 33 right hemicolectomies, 2 left hemicolectomies, 18 sigmoid, 13 rectosigmoideum, 7 rectal resections (incl. 1 abdominoperineal resection) and 2 colectomies. Conversion to the open method was performed during 5 surgeries (6,25%). Mean duration of the surgery was 240±56,2 (150-355 min). Resection margins were clear in all specimens. Mean lymph node harvest was 10,3±7,3 (2-47). However, 12 and more lymph nodes were found only in 35,6% specimens. Postoperative surgical complications occurred in 13 (16,3%) patients and consisted of intestinal anastomosis leak in 3 patients, intraabdominal bleeding in 3 patients, anastomotic bleeding in 1 patient, anastomotic stenosis in 1 patient, subileus in 2 patients, intraabdominal abscess in 2 patients, eventration in 1 patient, surgical site infection in 7 patients. Among them six patients (7,5%) required reoperation. No deaths in postop period were recorded. The average hospital stay was 8,0 (4-68) days.
Conclusion: Study results show that lap surgeries performed during the learning curve characterize by a fairly long duration, clear margins with too low amount of resected lymph nodes. Number and type of complications are comparable with open surgery. A low conversion rate may be associated with more careful selection of patients, greater determination of trained surgeons and longer duration of surgery.
Disclosure of Interest: None declared

176.09

PAKISTAN'S NATIONAL SURGICAL, OBSTETRICS, AND ANESTHESIA PLAN: A STRATEGIC POLICY PLAN FOR EQUITABLE SURGICAL CARE TO ACHIEVE SDGS 3, 5, 6, 8, 9, 10, 16, AND 17

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Introduction: Achieving the health-related UN SDG 3 requires interdisciplinary efforts. Pakistan's health system faced significant challenges, and fell short achieving the UN health MDGs. Acute surgical illnesses result in 187 deaths per 100,000 population, compared to 164 deaths per 100,000 from infectious diseases. In 2015, The Lancet Commission on Global Surgery launched its report "*Global Surgery 2030*" and proposed the National Surgical, Obstetric and Anesthesia Plan (NSOAP) approach to frame the state of surgical care globally. Pakistan has started to engage at a national and provincial level to develop a National Vision for Surgical Care. This policy intervention initiative has potential to help saving lives, prevent disabilities and promote a country's economic growth by minimizing catastrophic out-of pocket expenditure.

The project aims to describe how NSOAP has potential to help achieve SDG 3. In addition, the impact of NSOAP implementation on economic development, gender equality and infrastructure improvement will be evaluated and a possible spillover effect on attaining other SDGs will be discussed. Finally, the paper will explore how Pakistan's devolved model of health policy with provincial autonomy in planning and implementation provides a unique opportunity to develop provincial surgical plans that are better adapted to local needs.

Materials & Methods: A theoretical analysis supplemented by case examples on implemented NSOAPs and a literature review using articles from Pubmed, Embase and Google Scholar exploring the link between strengthening surgical care and other SDGs in Pakistan will be conducted. This will be presented to bring upon experience and knowledge from different authors and implementers. Then the analysis will provide an overall view of the needed intersectoral approaches to achieve the SDGs. There would be further reference to reports from countries that developed NSOAPs and their documented processes to understand what steps would reflect on the relevant SDG.

Results: Strengthening surgical systems in Pakistan is a step towards Universal Health Coverage which is an integral pillar in fulfilling SDG 3. This is achieved by working with SDGs 5, 6, 8, 9, 10, 16, and 17 which also leads to their improvement.

Conclusion: The SDGs are innately interconnected and allow for concurrent progress across different SDGs. The use of a NSOAP framework in Pakistan allows for direct progress towards achieving SDG 3, whilst promoting improvements towards a majority of the non-health related SDGs.

Disclosure of Interest: None declared

176.10

ASSESSMENT OF WHO SURGICAL SAFETY CHECKLIST IMPLEMENTATION IN TIKUR ANBESSA SPECIALIZED HOSPITAL, ETHIOPIA, 2018

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Introduction: The WHO Surgical Safety Checklist (SSC) comprises a total of 19 items relating to key aspects of patient safety, and when used properly has been shown to reduce complications by 1/3 and mortality by 40%. The aim of the checklist is to engage the whole OR team in patient's safety to improve teamwork and communication for better patient care and management. The checklist can be difficult to implement as it requires behavior changes and sometimes reorganized care routines. After introducing the SSC at a tertiary referral center in Ethiopia, we aimed to evaluate appropriate implementation of the checklist.

Materials & Methods: We conducted a prospective observational study over a period of 1 month in Tikur Anbessa Specialized Hospital. Nine different sub-speciality operating rooms (ORs) were observed and use of the SSC was evaluated using the WHO Behaviorally Anchored Rating scale (WHOBARS) tool. Data were analyzed using STATA; chi-squared and t-test was used to evaluate significance as appropriate.

Results: We observed 241 cases in 9 different subspecialty ORs and evaluated the use of the SSC using the WHOBARS tool. 31 (12.86%) cases were emergency and the rest were elective. The Sign in was not done at all in the endourology, gynecology and emergency ORs. The checklist is performed better in cases lead by consultants than by residents with WHOBARS "Time out" mean score of 2.7 and 1.4 (out of 7 total), respectively (P<0.001) but full compliance is still weak.

Image:

Factor	Consultant	Resident	p-value
N	162	79	
Pt age, mean (SD)	27.4 (20.5)	32.5 (20.7)	0.079
Pt Sex			0.15
F	57 (36.3%)	21 (26.9%)	
M	100 (63.7%)	57 (73.1%)	
OR			<0.001
Chest	17 (10.5%)	3 (3.8%)	
ENT	4 (2.5%)	4 (5.1%)	
Emergency	11 (6.8%)	20 (25.3%)	
Urology	10 (6.2%)	23 (29.1%)	
GI	31 (19.1%)	5 (6.3%)	
Gynecology	8 (4.9%)	2 (2.5%)	
Neurosurgery	32 (19.8%)	0 (0.0%)	
Orthopedics	17 (10.5%)	14 (17.7%)	
Pediatrics	32 (19.8%)	8 (10.1%)	
Emergency	11 (6.8%)	20 (25.3%)	<0.001
Elective	151 (93.2%)	59 (74.7%)	
WHOBARS Scores			
Overall Mean	0.9 (0.7)	0.5 (0.7)	<0.001
Sign In (Mean, SD)	0.0 (0.1)	0.0 (0.0)	0.17
Time Out (Mean, SD)	2.7 (2.1)	1.4 (2.0)	<0.001
Sign Out (Mean, SD)	0.0 (0.2)	0.0 (0.0)	0.49

Conclusion: Despite the undeniable importance of using the checklist to decrease morbidity and mortality in surgical patients, at this large tertiary referral center the SSC is not being effectively utilized. Particularly in emergency cases and in those performed by residents, where risk of complications is relatively higher, SSC is being used substantially less or not at all. In the ORs where it is performed, only the Sign in portion is done in selected ORs, highlighting the fact that SSC use is still a process driven by surgeons, rather than shared responsibility among nurses, anesthetists and surgeons. We

suggest structured training of OR staffs how proper implementation of the checklist, teamwork and communication. This may positively affect the post-op outcome of surgical patients at this center.

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Disclosure of Interest: None declared

176.11

AIRSEAL SYSTEM, DOES IT IMPROVE PHYSIOLOGICAL OUTCOME IN LAPAROSCOPIC RADICAL PROSTATECTOMY?

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Introduction: To prospectively compare the physiological effects of the Airseal system compared to the standard carbon dioxide (CO_2) insufflator in laparoscopic radical prostatectomy (LRP).
Materials & Methods: Two cohorts of patients who underwent LRP with Airseal versus standard insufflation between January 2018 and October 2018 were prospectively analysed. In addition to clinicopathological data, various intraoperative physiological values (end-tidal CO_2 ($ETCO_2$), pH, pCO_2, and base excess (BE)) were collected per pre-formed proforma and analysed. A $P<0.05$ was considered statistically significant.
Results: A total of 17 patients were included in this study; 9 (52.9%) had Airseal and 5 (47.1%) had standard insufflation. There was no difference in mean age (68 years vs 61 years, p=0.34), PSA (12 vs 13, p=0.99), and Gleason Score (p=0.76) between Airseal and standard groups. There was significantly lower mean pCO_2 in Airseal group at the 2-hour mark (54.9±5.3mmHg vs 77.4±22.3mmHg, p=0.04). There was a trend towards lower mean $ETCO_2$ in Airseal group compared to standard group at both 1 and 2 hours (43.8 ±3.1mmHg vs 47.1 ±7.3mmHg, p=0.30 and 40.7 ±5.7 vs 55.3 ±11.1, p=0.12 respectively) with smaller difference in $ETCO_2$ at 1 and 2 hours from baseline (4.3 ±4.4mmHg vs 9.8 ±9.4mmHg, p=0.16, 8.8 ±5.6mmHg vs 17.4 ±12.1mmHg, p=0.17 respectively). Airseal group was observed to have more stable mean pH at the 2-hour mark, although not statistically significant (7.25±0.05 vs 7.23±0.10, p=0.71).
Conclusion: Airseal is a novel valve-less system that enables stable pneumoperitoneum with continuous CO_2 recirculation which allows improved patient's exposure to CO_2 during LRP with more stable CO_2 circulation amongst Airseal group as observed by significantly lower mean pCO_2 at 2 hours, lower $ETCO_2$, and less systemic acidosis.
Disclosure of Interest: None declared

176.12

PREFERENCES OF PATIENTS WITH INFLAMMATORY BOWEL DISEASE FOR RECEIVING SPECIALIZED HEALTH SERVICES – ROLE OF DIFFERENT SOURCES OF MEDICAL INFORMATION AND INTERNET

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Introduction: It is notable that patients with inflammatory bowel disease (IBD) have insufficient knowledge about their disease and are willing to be more involved in their treatment. Nowadays medical information is easily available and health related topics state the third most frequent reason for using the Internet. Therefore, patient's health related self-awareness and willing to take part in medical decisions has improved. The possibility of choice of specialized health services may have positive effect on patient's satisfaction. The aim of the study was to characterize the extent of Internet use for health information research among a representative sample of the IBD patients and to examine the effects that Internet and other resources of information about specialized health services has on patients' pick of a doctor and hospital department.
Materials & Methods: 174 IBD patients admitted to the Department of General and Colorectal Surgery at Medical University of Lodz were asked to complete an anonymous questionnaire. Only 150 fully completed questionnaires were included for analysis. Study group involved 78 women and 72 men.
Results: 84,1% IBD patients used Internet in order to gather medical information about their disease. Age of those patients was significantly lower than these patients who didn't use Internet. The most reliable source of information about physician was Internet. Opinions and recommendations gathered from Internet have notable influence on patients' preference of hospital department and attending physician.
Conclusion: Majority of patients used Internet as a source of medical information related to IBD. Opinions obtained from the Internet seem to be the most reliable regarding attending physicians treating IBD patients.
Disclosure of Interest: None declared

176.13

EVALUATION OF LONG-TERM RESULTS INTRAOPERATIVE PHOTODYNAMIC THERAPY IN PATIENTS WITH PANCREATIC HEAD CANCER

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Introduction: Currently, recurrent pancreatic cancer after pancreatoduodenal resection occurs in more than 80% of patients, and the 5-year survival rate of patients with resectable tumors does not exceed 15-20%. It forces to search for new ways in treatment. In our research, we compared the long-term results of surgical treatment of patients with pancreatic head cancer using intraoperative PDT and the results of surgical interventions without using this PDT technique.
Materials & Methods: In the 6th general surgical department of the municipal "Mariinsky Hospital" for the period from 2011-2016 yy treated 144 patients with cancer of the pancreatic head. Of these, 96 patients (mean age 62.1 ± 2.2 years), undergoing surgical treatment (pancreatoduodenal resection with extended lymph node dissection) and intraoperative PDT. According to the TNM classification, patients in the study group were distributed as follows: T2N0-8 (8.3%), T2N1-5 (5.2%); T3N0- 42 (43.8%), T3N1-41 (42.7%). The control group consisted of 48 patients who underwent radical surgery without the use of PDT. For photodynamic therapy, Radachlorin, a photosensitizer, was administered intravenously at a dose of 1.5 mg/kg followed by 180-240 minutes. Further, intraoperatively, after removal of the tumor and lymph node dissection, laser irradiation of the lymphatic collectors' zone with the Headlight device (wavelength 661 ± 2 nm) was performed for 20 minutes. The cytological material of the remote, irradiated lymph nodes was also explored.
Results: When comparing the survival rate of patients with intraoperative PDT and the control group, an increase in survivance was observed in first group: 6 months 92% - compared with 85% in the control group; 12 months - 60% (32% in the control), 24 months - 31% (15% in the control group). Also revealed signs of apoptosis of tumor cells in irradiated lymph nodes. Thus, PDT significantly increased the survival rates in cancer patients of this localization.
Conclusion: PDT is a safe, effective component in the surgical treatment of pancreatic head cancer. The using of intraoperative PDT increases the life expectancy of patients with pancreatic head cancer.
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Disclosure of Interest: None declared

176.14

DIFFICULTY LEARNING: IMPROVING SURGICAL TEACHING IN A DISTRICT GENERAL HOSPITAL SURGERY DEPARTMENT

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Introduction: To assess the effectiveness, efficiency and difficulties of different teaching methods in a busy Surgical Department and implement these improvements in teaching.
Materials & Methods: Curriculum was created in discussion with Consultant colleagues and using Core Surgical Curriculum. Implementing differing teaching methods delivered to all grades and assessing through direct feedback of sessions and overall feedback of methods. The teaching methods were teaching ward rounds, small group teaching, post-graduate exam questions, practical skills/simulation skills and journal club. The sessions were implemented gradually over a period of 18 months. Feedback was delivered via electronical survey and paper feedback. A scale from 1-10 in several parameters covering delivery and content of teaching, as well as the organisation and equipment/facilities.
Results: Overall rates of 'Local Teaching' at GMC survey improved from 42% in 2016 to 67.5% in 2018, an overall improvement of 25.5%. Looked at by grade, the most successful teaching overall was journal club for seniors (ST3 above, average feedback 8 range 7-10) and skills/simulation for juniors (F1-CT2, average feedback 9, range 8-10), although journal club feedback improved significantly if overseen by a consultant(Ave. 9, range 8-10). Small group teaching had consistent feedback (Ave. 9, range 8-10) and had the benefit of being easy to arrange, deliver and attend (Ave, attendance n=8). Teaching ward rounds were extremely variable in content and organisation, dependent on work load and available/interested seniors (Ave 6, range 4-9). Post-graduate exam preparation had good feedback (Ave 8, range 7-9) but had lowest attendance numbers overall (Ave. attendance n=4).

Conclusion: Different grades prefer different styles/opportunities with regards to teaching. A combination of Consultant led journal club, small group and simulation teaching seems to be the best approach in regards to organisation and delivery. Thi would cover the best rated teaching systems in terms of content, delivery and ease of organisation to suit all grades.
Disclosure of Interest: None declared

176.15

ANALYSIS OF ONLINE LAPAROSCOPIC APPENDICECTOMY VIDEOS UTILISING THE LAP-VEGAS GUIDELINES.

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Introduction: Laparoscopic surgery began as an uncontrolled, apprentice-driven phenomenon.
Consumers, medical students, trainee doctors and specialists now have access to millions of online educational videos. Until recently, there have been no guidelines for surgical educational videos.
In 2018, the LAP-VEGaS international consensus guidelines were produced.
The aim of this study was to analyse the most commonly viewed laparoscopic appendicectomy (LA) videos and to qualitatively assess these LA videos utilising the 2018 LAP- VEGaS criteria.[1]

Materials & Methods: A YouTube® search was performed for the terms "***Laparoscopic*** OR ***Lap Appendicectomy*** OR ***Appendectomy."***
Videos with over 1000 viewer hits were selected for detailed analysis. These were reviewed against a checklist of 19 baseline LAP-VEGaS criteria.
Results: Of the 302 LA videos identified, 161 had over 1000 hits and these were analysed. The total views for these 161 exceeded 2.4 million.
Advanced pathology was displayed viewed in 86 (53.4%).
Expensive energy sources were used in 91 (56.5%)
The retrograde approach was used in only 4 (2.5%)
The average checklist score was 4/19 and only 5 videos met over 50% of the criteria (3.1%).
The lowest score was 1/19 and highest was 11/19.
No videos included either a disclosure statement or a functional outcome. Commentary was present in 61 (37.9%) and 53 had a step-by-step approach (32.9%).
No credentials or authors' information were present in 30 videos (18.6%).
Conclusion: - Online videos are highly accessible and have the potential to be a beneficial tool for surgical education.
- The quality of online material falls significantly short of international guidelines.

References: [1] Celentano, V. et al. LAP-VEGaS Practice Guidelines for Reporting of Educational Videos in Laparoscopic Surgery. *Annals of Surgery*, 268(6), pp.920-926

Disclosure of Interest: None declared

176.16

HIDDEN TREASURES--AFRICAN MEDICAL LITERATURE IN THE AFRICAN DATABASES

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Introduction: All research topics begin with a comprehensive search of the surgical and scientific peer-reviewed literature.
Materials & Methods: A random sample of articles that included African subjects showed that researchers routinely started with Medline, a bibliographic database of life sciences and biomedical information accessed by PubMed, and then moved on to PubMed Central (all entries full-text and open access), EMBASE, Global Health, CINAHL, Cochrane Library, PsycInfo, PubMed/Medline, ScienceDirect and Web of Science. The problem with employing these well-known, respected databases is that many journals published in Africa with articles reporting research performed primarily in Africa are not included in these databases.

Results: Researchers need to be aware of—and make use of—the databases that are intentional in including journals that are edited and published on the continent. While conducting basics of research workshops with surgery and other medical house officers, medical students, and other health care professionals, the authors learned that most of these trainees were unaware of those African and other global databases such as African Journals Online (AJOL), Bioline, African Index Medicus, Bibliotheca Alexandrina Information for Africa, African Journal Archive, AfricArxiv, and Directory of Open Access Journals.
Conclusion: We propose that surgery training and research programs include these African literature resources in their curriculum in order to provide access to evidence-based medicine to enhance clinical decision-making and to offer appropriate literature for any trainees or faculty that want to research. These databases should also be promoted in continuous professional development for faculty and staff.
Disclosure of Interest: None declared

184.01

TIME INTERVAL BETWEEN RIGHT ILIAC FOSSA PAIN AND UNCOMPLICATED APPENDICECTOMY

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Introduction: Appendicitis usually presents acutely and is the most frequently performed urgent abdominal operation, and early surgical intervention improves outcomes. Worldwide, perforated appendicitis is the leading general surgical cause of death.
Materials & Methods: This prospective observational study was conducted from May 2014 to November 2014 among 100 cases of clinically diagnosed acute appendicitis in Bir Hospital, a tertiary level hospital of Nepal. Clinical diagnosis was based on Alvarado score. Data were collected on a structured proforma. Intraoperative finding of the appendix was noted and classified into different grades as G0 (Inflamed appendix with healthy base), G1 (Inflamed appendix up to the base), G2 (Gangrenous appendix), G3 (Perforated appendix), G4 (Early phlegmon) and G5 (Lump or periappendiceal abscess). G1 through G5 were considered complicated appendicitis while G0 was considered uncomplicated appendicitis. Data were entered and analysed using Social Package for Statistical Sciences 17.0 software. The time interval between the onset of pain in right iliac fossa and the incision was calculated and analysed with the intraoperative findings of the appendix.
Results: When the interval was <8 hrs, the risk of developing G0, G1, G2, G3, G4 and G5 was 100%, 0%, 0%, 0%, 0% and 0% respectively which changed to 79.48%, 2.56%, 15.38%, 0%, 2.56% and 0% respectively when the interval was 9-24 hrs and to 65.85%, 4.87%, 14.63%, 4.87%, 7.31% and 2.43% respectively when the interval was 25-48 hrs and to 53.84%, 0%, 30.76%, 7.69%, 7.69% and 0% respectively when the interval was 49-96 hrs. Time interval between incision for emergency appendicectomy and right iliac fossa pain <25 hrs is statistically significant (P = 0.021) for uncomplicated appendicitis.
Conclusion: Prolonged time interval between right iliac fossa pain and appendicectomy is a significant risk factor for the development of complicated appendicitis. It is prudent to undergo appendicectomy within 25 hrs of the onset of right iliac fossa pain to avoid complicated appendicitis.
Disclosure of Interest: None declared

184.02

EVALUATING RISK PREDICTION TOOLS IN EMERGENCY LAPAROTOMY

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Introduction: Emergency laparotomy (EL) refers to a common group of operations indicated for a wide variety of acute abdominal pathologies. EL is a high-risk operation and is increasingly performed on a heterogeneous population of patients, making risk assessment and decision-making potentially difficult. In August 2018 the National Emergency Laparotomy Audit (NELA) in the UK produced a predictive tool for EL that has not yet been externally validated. We aimed to examine the accuracy and calibration of four different risk predictive tools: NELA, P-POSSUM, ACS-NSQIP and APACHE II.
Materials & Methods: We reviewed computer and paper records of EL patients over a five year period from May 2012 to June 2017 at Middlemore Hospital in New Zealand**.** The inclusion/exclusion criteria for EL mirrored the one used for the UK NELA. Two authors extracted data into predesigned databases and a third author validated and cross checked 10% of data entry. We compared predicted versus actual 30-day mortality and examined the Area Under the Curve (AUC) of Receiver Operator Curves (ROC) for discrimination and accuracy of the tests.
Results: A total of 758 patient met the inclusion criteria with a 30-day mortality rate of 7.9%. The predicted mortality rate with NELA was 7.4% which is not different form the observed mortality ($p = 0.59$). The ROC for NELA showed good discrimination with an AUC of 0.83. P-POSSUM significantly over-predicted mortality at 13.4% ($p < 0.0001$) and showed moderate discrimination with an AUC of 0.72. ACS-NSQIP significantly under-predicted mortality at 5.4% ($p < 0.0023$) and showed good discrimination with an AUC of 0.80. APACHE-II significantly over-predicted mortality at 14.2% ($p < 0.0001$) and showed moderate discrimination with an AUC of 0.76.
Conclusion: We have demonstrated the superiority of the NELA predictive score for mortality after EL and highlighted the need for specific tool development for specific illnesses. The NELA tool should supersede the current objective risk assessment methods in EL. Future efforts should focus on improving the discrimination of the tool by adding assessment of nutrition and frailty. The applicability in the preoperative setting will also need to be improved by substituting for intraoperative variables.
Disclosure of Interest: None declared

184.03

INTRAABDOMINAL ABSCESS AFTER LAPAROSCOPIC APPENDECTOY FOR NECROPURULENT APPENDICITIS. DOES INTRAOPERATIVE CULTURE SWAB MODIFY OUTCOMES?

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Introduction: Postoperative intraabdominal abscess (IAA) is one of the most frequent complication after acute necropurulent appendicitis. Although intraoperative culture swab (ICS) is usually taken in this setting, its benefit remains controversial. We aimed to determine whether ICS modify outcomes after laparoscopic appendectomy for necropurulent appendicitis.
Materials & Methods: A medical record review of patients who underwent a laparoscopic appendectomy from 2008 and 2018 was performed. Only those with necropurulent appendicitis and peritonitis were included. The sample was divided into two groups, group 1 (G1): without intraoperative swabs and group 2 (G2): with intraoperative swabs. Demographic and operative variables were analyzed. Pathogen isolation along with antibiotic sensibility were described. The incidence of postoperative IAA and their treatment were compared between groups.
Results: A total of 270 patients met the inclusion criteria; 180 (67%) were in G1 and 90 (33%) in G2. There were no significant differences between groups regarding age, obesity, and ASA score. In G2, more patients had generalized peritonitis (G1: 17% vs G2: 42%; p=0.01) and longer operative time (G1: 76 min vs G2: 86 min; p=0.04). All patients received an empiric postoperative course of broad-spectrum antibiotics. Seventy-two (80%) patients had positive cultures in G2. The most frequently isolated bacteria were E. Coli (45%), Bacteroides spp. (15%) and Streptococcus spp. (13%). Twenty-six (36%) cases needed a change in empiric antibiotic course due to bacterial resistance. The rate of IAA was significantly higher in patients with intraoperative swabs (G1: 9.4% vs G2: 21%; p=0.01). Complications were managed as follows: laparoscopic lavage (G1: 47% vs G2:53%), CT-guided percutaneous drain (G1: 18% vs G2: 37%) and antibiotics alone (G1: 35% vs G2: 10%); p= 0.16. After comparing the intraoperative and the postoperative (from either the percutaneous drainage or laparoscopic lavage) culture swabs in G2, a different type of bacteria was isolated in 43% of the patients.
Conclusion: Intraoperative culture swab and antibiotic adjustment were not associated with a lower incidence of postoperative IAA, and did not modify patients' management. Moreover, a different pathogen was often isolated after taking new culture swabs from IAA. Intraoperative culture swab in necropurulent appendicitis does not offer relevant clinical benefits.
Disclosure of Interest: None declared

184.04

COMPARISON OF POST-OPERATIVE PAIN IN SHORT VERSUS LONG STITCH TECHNIQUE FOR ABDOMINAL WALL CLOSURE AFTER ELECTIVE LAPAROTOMY- A DOUBLE-BLIND, RANDOMIZED CONTROLLED TRIAL

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Introduction: Conventional mass closure uses suture-to-wound length ratio (SL:WL) of 4:1 ('long stitch', LS). 'Short stitch' (SS) has a SL:WL of more than four and incorporates only the linea alba, which may reduce tension and pain. We compared post-operative pain after laparotomy closure using LS and SS.
Materials & Methods: Patients undergoing elective midline laparotomy through standardized incisions in two tertiary hospitals from February 2017 to September 2018, were randomized to either LS or SS. The primary outcome was post-operative PCA morphine usage at 24-hours. Secondary outcomes were presence of surgical site infection (SSI) and length of hospital stay (LOHS). Categorical variables were analysed using Chi-square analysis. Outcomes of study were tested for normal distribution. Skewed data were analysed using Mann-Whitney U test.
Results: Eighty-six patients were recruited (42 SS, 44 LS). The median age was 66 (IQR=15). Majority were males (62.8%) and Chinese (50%). The median incision length was 17cm in both groups. The median PCA morphine usage 24-hours post-operatively did not differ significantly (SS: 21mg, IQR=28.3; LS: 18.5mg, IQR=33.8, p= 0.829). The median pain score at rest (SS: 1, IQR=1; LS: 1, IQR=2, p=0.426) and movement (SS: 3. IQR=1; LS: 3, IQR=2, p=0.307) did not differ significantly. LOHS was shorter in the SS group (SS:6, IQR=4; LS:8, IQR=5, p=0.034). The rate of SSI trended lower in the SS group with no statistical difference.
Conclusion: Shorter LOHS in the SS group may be an indirect consequence of improved pain control. We recommend the use of SS as closure method of choice in primary laparotomy.
Disclosure of Interest: None declared

184.05

APPENDICITIS IN ELDERLY PATIENTS IS MORE SEVERE AND ASSOCIATED WITH CHRONIC VASCULAR STENOSIS

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Introduction: The aim of the current study was to assess the severity of morphological changes, related to acute appendicitis, as well as the presence and type of chronic vascular stenosis in appendicular blood vessels in elderly vs young patients.
Materials & Methods: In a retrospective study, consecutive cases of surgically treated acute appendicitis were identified in the archives of a single university hospital. Two cohorts of patients were defined by age: young cases, between 18 and 35 years, and elderly group, patients over 65 years. The following parameters were assessed: presence and stage of appendicitis (early acute vs phlegmonous vs gangrenous); occurrence of appendicular perforation; presence and type (eccentric vs concentric) of chronic vascular stenosis in *a.appendicularis*, small mesenteriolar and submucosal arteries and arterioles. Descriptive and analytical statistics was carried out by SPSS23 (IBM); $p < 0.05$ was considered significant.
Results: Archive search yielded 59 elderly and 97 young patients subjected to appendectomy for suspected acute appendicitis. Vascular stenosis was measured only in patients with morphologically confirmed diagnosis of appendicitis. Phlegmonous appendicitis was found in 88.6% [95% confidence interval 78.8-94.3] of young patients, contrasting with 37.7% [25.9-51.2] in elderly patients; $p<0.0001$. Elderly patients had significantly more frequent occurrence of gangrenous appendicitis: 62.3% [48.8-74.1] vs 7.1% [2.7-16.0] in young patients; $p<0.0001$ and morphologically evident perforation: 32.1% [21.0-45.5] vs 2.9% [0.2-10.4] in young patients; $p<0.0001$. Chronic vascular stenosis was found in 17.1% [9.9-27.8] of young patients and 69.8% [56.4-80.6] in elderly cases; $p < 0.0001$. In the elderly group, the stenotic changes involved *a.appendicularis* in 32.1% [21.0-45.5] vs 2.9% [0.2-10.4] of young patient cases, mesenteriolar blood vessels in 28.3% [17.9-41.7] vs 7.1% [2.7-16.0] and submucosal vessels in 26.4% [16.3-39.7] vs 12.9% [6.7-22.9]. Notably, elderly patients were characterised by marked concentric vascular stenosis while focal eccentric stenosis prevailed in younger patients ($p < 0.0001$).
Conclusion: Acute appendicitis in elderly patients is more severe, characterised by significantly more frequent occurrence of gangrenous changes and morphologically evident perforation that could be promoted by ischemia due to chronic vascular stenosis.
Disclosure of Interest: None declared

184.06

LAPAROSCOPIC APPENDECTOMY: PERIOPERATIVE RISK FACTORS OF INTRA-ABDOMINAL SEPTIC COMPLICATIONS IN PATIENTS WITH ACUTE APPENDICITIS AFTER SURGERY AND PREDICTORS OF CONVERSION.

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Introduction: Laparoscopic appendectomy (LA) has gained acceptance over the past years in surgical practice, but indications and results are still conflicting which caused by a link with risk of postoperative intra-abdominal septic complications (IASC) especially in cases of complicated acute appendicitis (AA). The aim of this study was to examine perioperative factors affecting postoperative IASC in complicated AA after LA.
Materials & Methods: From December 2014 to November 2018, appendectomy for complicated AA was performed on 356 patients in Clinical Hospital of Chelyabinsk Station of OJSC “Russian Railroads”. Of these, 249 patients (69,94%) underwent LA. The clinical, surgical, pathological and microbiological data of this cohort were included in a prospective database. The following perioperative factors were analyzed in order to identify which were associated with postoperative IASC (such as perforation, abscess formation, and peritonitis): age, sex, body mass index (BMI), previous abdominal surgery, comorbidities, clinical, intraoperative findings and laboratory parameters (concentration of cathepsin B, LPS Endotoxin Activity Assay of serum and peritoneal fluid samples). LA was performed by different surgeons in accordance with the national protocol.
Results: The occurrence of intraabdominal abscess or peritonitis was significantly associated with gangrenous type of appendicitis ($p = 0.046$), appendix perforation ($p = 0.002$) and preoperative elevated levels of peritoneal/serum LPS ($p < 0.001$) and preoperative concentration of blood cathepsin B ($p < 0.001$). The multivariate analysis showed a strong association in laboratory variables cited before. At univariate analysis, the factors significantly related to the conversion were the presence of higher BMI (24.1 ± 3.8 vs 29.3 ± 4.1 kg/m(2), $p = 0.008$) and the presence of peritoneal adhesions disease ($p = 0.035$). Multivariate analysis finally showed that factors significantly related to the conversion were the presence of an appendiceal perforation ($p = 0.002$), an extraperitoneal location of the appendix ($p = 0.032$), the presence of appendicular abscess ($p = 0.037$) and diffuse peritonitis ($p = 0.001$).
Conclusion: Appendix perforation, levels of peritoneal and serum LPS, a concentration of blood cathepsin B are predictive factors for the appearance of a postoperative IASC after LA. Also, we found that perioperative independent factors related to conversion during laparoscopic appendectomy are the presence of higher BMI and peritoneal adhesions disease.
Disclosure of Interest: None declared

184.07

A NOVEL "POSTERIOR WINDOW FIRST" LAPAROSCOPIC CHOLECYSTECTOMY ENSURES CONSISTENT OUTCOMES AND SHORT LEARNING CURVE FOR ACUTE CHOLECYSTITIS – VIDEO PRESENTATION

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Introduction: Early laparoscopic cholecystectomy (ELC) in acute cholecystitis (AC) is challenging with low but significant risks for the newly qualified surgeon. We propose a novel 'posterior window first' approach to facilitate dissection and minimise injury to critical structures in the Calot's triangle.
We aim to audit the learning curve of this technique by performing a cumulative sum (CUSUM) analysis of 2 newly qualified general surgeons who adopted this technique strictly for ELC for AC. A video illustrating the procedure is being presented.
Materials & Methods: Patients who underwent ELC for AC in the same index admission over January 2017 to July 2018 by 2 newly qualified surgeons were retrospectively studied. These surgeons have never utilised this technique before. A composite outcome score was calculated via the use of the following primary endpoints: Intra-operative blood loss greater than 500ml, bile duct injury, post-operative collection, operative time of 150 minutes or longer, conversion and greater than 3 days length of stay a. If any one of the primary endpoints was present, it was considered a failure. If none of the primary endpoints were present, it was considered a success.
Surgical technique (Video)
The medial and lateral peritoneum of the gallbladder was opened with diathermy. The posterior window was dissected carefully with blunt dissection from both the medial and lateral approach in the subserosal plane. The Hartmann's pouch of the gallbladder is retracted outwards and laterally after obtaining a large posterior window to ensure the angle between the cystic duct and common bile duct angle become less obtuse. The Calot's triangle is dissected to achieve Strasberg's critical view of safety. Finally, the cystic artery and duct are clipped before division and the gallbladder is removed from the liver.
Results: A total of 98 consecutive patients were analysed. CUSUM analysis showed that both surgeons achieved competence in this technique after 7-8 cases.
Threre were no bile duct injury or any conversion. Four patients had intra-operative blood loss greater than 500ml but did not suffer a post-operative adverse event. There was one patient with a small post-operative collection in the gallbladder fossa which was managed conservatively with antibiotics.
Conclusion: The 'posterior window first' technique for acute cholecystitis has a short learning curve, can be easily adopted and implemented by newly qualified surgeons. It is a safe procedure and ensures consistently good outcomes.
Disclosure of Interest: None declared

190.01

THORACIC AORTA DAMAGES DUE TO BLUNT TRAUMA

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Introduction: Traumatic injury of the thoracic aorta remains the leading cause of death in multiple trauma patients and it requires immediate care. The development of new classifications, based on a better understanding of the mechanisms of these injuries, has clarified the indications for treatment. Advances in techniques, especially in endovascular management, have contributed to an improved prognosis for patients.
Materials & Methods: The author presents his own experience and results of thoracic aorta injuries' treatment from the perspective of a vascular surgeon in Trauma Centre of Military Institute of Medicine in Warsaw to analyze pathologies, causes of injury, surgical approaches, outcomes and complications of vascular trauma in patients with vascular injuries operated on over a period between 2013 and 2018.
Results: In a group of patients who underwent endovascular interventions due to aorta pathologies – 495 in total - thoracic aorta was involved in 150 (30,3%) cases. This group covered patients requiring surgical interventions due to the aortic wall disruption – 49 (32%) as a result of a blunt trauma. There were no postoperative deaths. One patient presented four-limb paraplegia but in this case additional injuries were found including pelvic and limbs' fractures as well as spine damages. In three patients additional hybrid procedures were performed including carotid-carotid-subclavian by-pass.
Conclusion: Our late mortality and complication rates were similar to other studies, which confirms international experiences. Endovascular surgery, which usually consists of endovascular placement of a stentgraft, now constitutes the gold standard treatment for these injuries. Due to potentially negative prognosis for these patients, it is crucial to know how to detect these injuries and manage them. The treatment of blunt thoracic aorta injury should take place in specialized centers capable of performing such endovascular interventions and ready for additional procedures.
Disclosure of Interest: None declared

190.02

NEW HEMOSTATIC MEDICAL SUBSTANCE RESEARCH IN MODEL OF HEPATIC WOUND PARENCHYMAL HEMORRHAGE

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Introduction: Fire, splinter and knife wounds are often accompanied by significant blood loss and are the main cause of death during military conflicts, car accidents, natural and man-made disasters. Timely, effective stop of bleeding at the prehospital stage is one of the main issues of field and emergency medicine. Physical methods of temporarily stopping bleeding (maximum limb flexion, pressure bandages, finger clamping of arteries, imposition of plaits, etc.) have significant drawbacks.
In recent years, local hemostatic agents (MGS), which act precisely and can be used both in case of damage to large vessels and diffusion bleeding, begin to spread. For example, QuickLot with a base on mineral rocks (zeolite derivatives), when applied to a wound, produces a large the amount of heat. As a result, the bleeding stops not due to coagulation, but due to “cauterization”, which causes the victim severe pain and burn
The developed drug KAPROFER NEO is a complex preparation of salts of trivalent iron, aminocaproic acid and a number of inorganic components.
The drug is an orange hydrophobic liquid. The drug is applied to the wound surface with a wet swab or with a spray head.
Materials & Methods: Technique
We analyzed the effectiveness of this drug in experimental parenchymal bleeding from liver tissue.
The experiments were conducted on 16 laboratory rats of the Wistar line - males weighing 350 g.
Under Nembutal anesthesia (35 mg.kg) laparotomy was performed - a 40 mm incision parallel to the right costal arch with the release of the left lateral lobe of the liver.
Then a dosed incision was made with a length of 15 mm and a depth of 10 mm.
After 10 seconds, the wound was dried with a napkin and hemostasis was performed with irrigation of the wound surface KAPROFER NEO. Hemostasis time and its stability over 1 hour were evaluated.
Results: In all 16 laboratory rats, the use of KAPROFER NEO caused hemostasis for no more than 5 seconds after the application of the drug.
On the wound surface a dense film of dark brown is formed up to black color, tightly bound to this surface. When this occurs, the cessation of bleeding. Dense connection of the surface film with the underlying tissue was maintained throughout the entire observation period (more than 1 hour)
findings

Conclusion: The use of KAPROFER NEO is capable of stopping acute parenchymal blood flow, which can prevent fatal blood loss at the prehospital stage.

Disclosure of Interest: None declared

190.03

TREATMENT OF GUNSHOT PENETRATING THORACIC WOUNDS IN A FIELD HOSPITAL DURING ANTITERRORIST OPERATIONS

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Introduction: In a terrorist act, terrorists use predominantly various personal explosive devices causing severe combined injuries. The main cause of death of the wounded in the act of terrorism and at the stages of evacuation remains a thoracic injury.
Materials & Methods: The analysis of the results of providing medical care to wounded servicemen of the National Guard of RF from 2000 to 2014 was carried out. Military personnel participated in the liquidation of terrorist groups in the North Caucasus and were the main targets of terrorist attacks. The treatment was performed in a special medical unit (field hospital). Gunshot penetrating thoracic wounds were in 227 people. Most of the injured (81.5%) were between the ages of 20-30. 85% of the wounded were taken to the SMU within 2 hours after the attack. In a stable condition were 39% of the wounded, in a severe (shock) - 52%, in the terminal - 9%. The volume of blood loss of 1-1.5 l was in 57.7% of cases. more than 1.5 l - at 42.3%. Isolated injuries were in 13% of cases, combined - in 87%. Two areas of the body were damaged in 41% of the wounded, three in 48%, four in 10%, and five in 1%. ISS = 28.1 ± 6.2.
Results: All wounded are urgently operated. Emergency thoracotomy was performed in 23% of the injured, tubular thoracostomy in 67.5%, closure of open pneumothorax in 9.5%. When thoracotomy was performed atypical resection of the lungs (12), suturing wounds of the lungs (22). heart (5), lobectomy (3), pneumonectomy (2), stop bleeding from the vessels of the mediastinum and chest wall. Emergency operations were also carried out (simultaneously or sequentially) in other areas in 139 wounded. For injuries of the abdomen, great vessels, bone fractures, Damage control tactics were used. 23 people died in the field hospital (16.7%). After using the tactics of Damage control (31) mortality decreased from 23.9% to 9.9%.
Conclusion: In terrorist acts, gunshot wound to the chest is characterized by a combination of injuries, in most cases accompanied by acute massive blood loss and shock. In a field hospital, the use of damage control tactics has reduced mortality to 9.9%.
References: The analysis of the results of treatment of wounded in the chest during attacks of terrorists. Most of the injuries (87%) were associated with large blood loss. All wounded are urgently operated. Emergency thoracotomy performed in 23% of cases. In other areas of the body, operations were carried out in 139 people, in 31 cases Damage control tactics were used, which made it possible to reduce mortality to 9.9%.
Disclosure of Interest: None declared

190.04

AIRBORNE OPERATIONS IN DESERT TERRAIN - CHALLENGES & IMPROVISED SOLUTIONS IN MEDICAL SUPPORT

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Introduction: Airborne operations enable a large military force or a task specific special ops team to be deployed on ground in a very short span of time. These come with its own set of unique challenges in terms of medical support owing to remote locations & no / minimal ground resources to support . The aim of this paper was to analyse these challenges & figure out low cost practically applicable solutions order to create a self contained environment for the troops to function
Materials & Methods: Over a period of 4 years, 04 week long training exercises involving a total of 600 paratroopers were held in desert terrains of India in different seasons to understand in totality the various requirements for providing a robust medical support system for the troops with the final objective of reducing the potential injury & other non combat associated morbidity. The various parameters analysed ranged from potentially incapacitating limb injuries as a result of airborne or heliborne operations to loss of man-hours due preventable illnesses like Gastroenteritis & heat exhaustion. Also the potential threat of desert flora & fauna was analysed & their impact studied. In addition to this low cost improvised solutions for treatment of various conditions in such austere environments e.g water scarcity & potability, provision of cold rooms were applied & their effect of improving the overall well being of troops studied.
Results: The use of various improvised methods due to Non jump related illness like gastro enteritis & heat exhaustion was brought down significantly (18 vs 2) i.e 18 % vs 2.5 % ($p<0.05$).
Use of proper landing technique & ankle brace reduced the incidence of limb injuries.
Various preventive measures reduced the incidence of vector borne diseases eg malaria
Conclusion: In desert ops , various solutions can be improvised using low cost locally available resources to reduce the overall morbidity & improve the efficiency of troops in time critical airborne ops .
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Disclosure of Interest: None declared

190.05

VASCULAR INJURIES IN EVERY DAY PRACTICE OF TRAUMA CENTRE - PEACE TIME

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Introduction: The frequency of arterial injuries in peacetime has increased markedly in the past decades. Management of traumatic vascular injuries can offer special challenges to experienced surgeons in peacetime and in wartime. As more automobile accidents and an appalling increase of gunshot and stab wounds are noticed, so is the increasing use of therapeutic and diagnostic endovascular techniques. In many developed countries, vascular iatrogenic injuries are rising in number as a response to ageing populations and augmented number of minimally invasive procedures.
Materials & Methods: The author presents the experience and results of vascular injuries' treatment from the perspective of a vascular surgeon in Trauma Centre of Military Institute of Medicine in Warsaw to analyze the causes of injury, surgical approaches, outcome and complications of vascular trauma in patients with vascular injuries operated on over a period between 2013 and 2018. Aorta's injuries were excluded for the purpose of this analysis.
Results: 257 patients were selected from the Institute's database. All of the 257 patients underwent an acute procedure. There was one early postoperative death which was related to heart failure in patient after heart transplantation. We noticed an increasing ratio of iatrogenic vascular injuries comparing *year over year* during five-year observations. This kind of injuries form a growing number of complications indicating our areas for improvement.
Conclusion: It would seem that peace time should also be rest time for surgeons. However our results show that an increasing number of endovascular procedures become a constant source of vascular injuries, sometimes with dramatic consequences. Due to technological development, the scope of minimally invasive endovascular procedures is continuously widened and so further complications should be expected.
References: Key words: vascular injuries, iatrogenic injuries, endovascular interventions
Disclosure of Interest: None declared

204.01

VALUE AND FEASIBILITY OF PHONE FOLLOW UP IN ETHIOPIAN SURGICAL PATIENTS

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Introduction: Surgical site infections (SSI) represent a major cause of morbidity and mortality in Ethiopia. Lack of post-discharge follow up, including identification of SSIs, is a barrier to continued patient care, often due to financial and travel constraints. Phone call follow up is cost effective in low-resource settings and has been successfully used to follow Ethiopian trauma patients. As part of a surgical quality improvement (QI) initiative, we aimed to assess patient outcomes at 30 days post-surgery with a phone call.

Materials & Methods: We conducted phone follow up as part of a surgical QI program, called Clean Cut, aimed at reducing surgical infections. One urban referral hospital and one rural district hospital in Ethiopia were included. Outcomes, including SSI, were tracked in-hospital by direct observation and 30 days post-surgery by phone with a brief questionnaire about signs of SSI, healthcare-seeking behavior, and treatments provided since discharge. Data were analyzed in STATA using chi-squared tests for significance.

Results: A total of 661 patients were included; overall 81.4% of patients were reached by phone after discharge. The rural study site reached 87% of patients by phone; the urban site reached 71.5% ($p<0.0001$). Regarding surgical infections, 48% of SSIs were captured as outpatient by phone follow up ($p<0.0001$), and 34% of all complications were captured as outpatient ($p<0.0001$). Phone follow up improved from 65-78% in the first half of project implementation to 90-97% in second half of project implementation. Patients with signs of SSI were referred for treatment at their local healthcare facility.

Factor	Rural Setting	Urban Setting	Overall	p-value
N	415	246	661	
Patient reached by phone	362 (87.2%)	176 (71.5%)	538 (81.4%)	<0.0001
Overall SSI	17 (4.1%)	22 (7.7%)	39 (5.6%)	0.04
Inpatient	7 (1.7%)	13 (4.6%)	20 (2.9%)	0.03
Outpatient	10 (2.4%)	9 (3.2%)	19 (2.7%)	0.55
Overall complications	33 (8.0%)	31 (10.8%)	64 (9.1%)	0.19
Inpatient	22 (5.3%)	20 (7.0%)	42 (6.0%)	0.35
Outpatient	11 (2.7%)	11 (3.6%)	22 (3.1%)	0.37

Conclusion: Phone follow-up after surgery in Ethiopia is feasible and valuable, and can be accomplished for most surgical patients. Follow up improved over the course of the program, likely indicating a learning curve that, once overcome, is a more accurate marker of its practicability. Phone follow up identified nearly half of all SSI and a third of total complications. Given the increasing use of mobile phones and ease of implementation, this model could be practical in other low-resource surgical settings.

Disclosure of Interest: None declared

204.02

ERADICATION OF NEGLECTED SURGICAL DISEASES IN KENYA: A STUDY PROTOCOL

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Introduction: Every day, people are dying or being disabled from untreated surgical conditions that have a proven cost-effective solution. The actual prevalence of these conditions are unknown.We aim to conduct a county-wide door to door identification, referral, and treatment of Neglected Surgical Diseases (NSDs) as a health systems strengthening activity.
Materials & Methods: To establish the true prevalence of NSDs and to pilot test an eradication strategy, a single-county door to door census will be conducted in a county in Kenya by community health volunteers (CHVs) utilizing a mobile app that categorizes six NSDs: obstetric fistula, cleft lip and palate, cataracts, clubfoot, hernia, and neglected injuries. A two-day training workshop for community health volunteers on NSD identification was conducted. Prevalence data will be calculated. Identified cases will immediately be referred for treatment to established NGOs who will also train existing health workers in appropriate county level hospitals.
Results: Meru County was identified as a pilot study area with a population of 1,517,077 people, 11 administrative sub-counties, and 45 wards. A total of 1,552 CHVs were identified. Demographic data on the number of patients with NSDs, the type of NSD, their contact details, geographical location as well as the contacts of the parent/guardian will be collected by trained research assistants. The data will be fed onto a dashboard that dynamically updates with each NSD identified to aid in tracking cases.
Conclusion: A novel approach using mobile technology coupled with primary care networks will be deployed to establish the prevalence of the Neglected Surgical Diseases, treat them and train existing health workers to end the neglect of common surgical diseases.
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Disclosure of Interest: None declared

204.03

INTERNATIONAL TRAUMA ROTATIONS CAN DIVERSIFY AND INCREASE ACUTE CARE SURGERY FELLOWS' OPERATIVE TRAUMA EXPOSURE

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Introduction: Acute Care Surgery (ACS) Fellowships train specialists to address the increased demand for trauma, critical care, and general surgery coverage in academic and community hospitals. While participating programs adhere to a standardized curriculum, a diverse operative experience is necessary to train well-rounded acute care surgeons. We hypothesized an ACS Fellowship complemented by an international trauma rotation would provide a more comprehensive operative trauma experience.
Materials & Methods: ACS Fellows from an urban level-1 trauma center, assuming the position of a Senior Registrar, participated in a 1-month trauma rotation at a busy international academic trauma center. ACS fellows' primary and visiting institution operative case logs were compared to the host institution's Junior Registrars' 5-month trauma rotation experience.
Results: Throughout their formal training the Fellows (n=2) averaged an equivalent number of cases/month as the international registrars (27.2 vs 26.8). The Fellows performed 44% (n=66) and 91% (n=33) operative penetrating trauma cases at their home and international institutions respectively. Compared to the home institution experience, the Fellows performed 33% (n=12) more abdominal and 83% (n=5.5) more vascular cases/month while abroad, however the home institution offered 40% (n=7) more thoracic and a greater number of head and neck (3.1 vs 0.0) cases/month. ACS Fellows averaged 23 operative trauma cases/month while overseas, this represented 37.8% and 19.6% of their 2nd year and total Fellowship operative trauma case volumes respectively.
Conclusion: International trauma rotations may diversify and increase ACS Fellows' operative trauma exposure, and may be beneficial to programs with lower operative volumes.
Disclosure of Interest: None declared

204.04

LACK OF AWARENESS AMONG SURGEONS REGARDING SAFE USE OF ELECTROSURGERY. A LOWER MIDDLE INCOME COUNTRY PERSPECTIVE.

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Introduction: To assess the fundamental knowledge on the safe use of electrocautery among surgeons at our institute.
Materials & Methods: A questionnaire was prepared and distributed among all the surgeons and residents at 2 institutes which tested their knowledge and understanding on the safe use of electrosurgical devices. A total of 18 consultants, 12 fellows and 20 residents were tested. For the sake of anonymity no information was obtained regarding the level of training and experience on the proformas. Total 12 questions were asked and an expert level was set at 10/12. Moderate level at above 6 and below that was considered as unsafe.
Results: A total of 50 participants completed the questionnaire. Only 6 had an expert level of understanding. 16 had moderate understanding and 28 were considered unsafe regarding use of electrosurgical devices. 85% participants were not aware of that electrosurgery relies on AC current for usage. 66% participants weren't aware of the correct placement of dispersive electrode. 85% participants weren't aware of the correct mode of current to use for coagulating vessels. 50% of surgeons would cut a dispersive electrode to fit it on a child. 60% participants were unaware of the need for double gloving while using electrocautery. 60% of surgeons didn't know how to handle an operating room fire. 50% participants weren't aware how to protect themselves from the hazardous OR smoke.
Conclusion: There is lack of understanding on how electrocautery works and how to use it safely. There is a need to arrange hands on workshops and lectures to increase awareness of this item which is a necessary part of a surgeons practice.
Disclosure of Interest: None declared

204.05

BREAKING THE LAST TABOO: BENEFITS AND BARRIERS

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Introduction: "Do not attempt cardiopulmonary resuscitation" (DNACPR) orders are often poorly discussed and poorly documented on surgical wards. This, combined with the high-volume, high turnover nature of the surgical acute take, results in on call doctors and nurses often being unaware of patients' resuscitation status (RS). The potential for error is high, both in terms of inappropriate resuscitation and, conversely, delays in commencing resuscitation. This is compounded by the storage of RS orders in the notes, remote from the patient. A recent high-profile UK legal case (GMC vs Bawa-Garba) highlighted this issue. Another landmark legal case (Tracey vs Cambridge) established the legal requirement for transparency regarding DNACPR orders.
A system whereby the RS is documented on patients' wristbands would help to reduce uncertainty around RS, as well as reassuring patients by ensuring transparency.
Materials & Methods: Two electronic surveys of doctors were conducted by email invitation across several NHS trusts. The first survey aimed to delineate the problems leading to delayed or inappropriate decisions in arrest scenarios. The second survey explored doctors' attitudes towards the concept of RS wristbands, perceived benefits and barriers, and the relationship of attitude to specialty.
Quantitative data were analysed using Microsoft Excel and qualitative data were evaluated for common themes.
Results: 190 doctors responded to the first survey. In arrest situations within the past year, 19% witnessed inappropriate delivery of CPR, 52% witnessed delay due to difficulties in finding the RS form, and 50% described an arrest in which the RS was unclear.
122 doctors (27% surgical) responded to the second survey. 65% felt that the current practice of keeping RS orders remote from the patient was inadequate. 87% agreed it would be beneficial for patients' RS to be kept with them, and 78% supported RS being on a wristband. Surgical doctors were particularly in favour of this, relative to other specialties (84% vs 74%). Potential barriers included confidentiality concerns, stigma or a "mark of death", and a need for cultural change.
Conclusion: Confusion surrounding RS is a common problem on hospital wards, with inappropriate resuscitation more frequent than it should be. Doctors were positive about the concept of "resuscitation status wristbands", and this solution could improve safety and reduce errors in arrest situations, especially on high turnover surgical wards.
Disclosure of Interest: None declared

206.01

A 10 YEAR RETROSPECTIVE ANALYSIS OF FACTORS AFFECTING PERIOPERATIVE MORTALITY IN THREE HOSPITALS OF THE SOUTHWEST REGION OF CAMEROON

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Introduction: Perioperative mortality is reported to be six times higher in low income countries. Perioperative mortality rate as defined by the World Health Organisation is death during and after surgery and before discharge within 30 days of the operation. Factors known to be related to perioperative mortality include pre-operative patient status, emergency surgery, type of anaesthesia, the nature of the surgical intervention, the age of the patient and the occurrence of perioperative adverse events. The aim of this study was to determine the perioperative mortality and its associated factors in setting with limited technical background where such data are scarce.
Materials & Methods: This was a ten year observational retrospective study carried out in three referral centres of the Southwest region of Cameroon. All cases of death occurring in the hospital during a surgical intervention or within 30 days after surgery were identified. Socio-demographic and clinical characteristics were recorded and analysed using STATA 13.0.
Results: A total of 19618 major surgical procedures were recorded over the study period, mostly under general anaesthesia (91.5%). A total of 329 perioperative deaths were recorded giving an overall mortality rate of 1.68%. These included 52% of male and 48% of female and 72% of these death followed emergency surgery. Overall mortality rate was 2.37% for emergency surgery as compared to 0.93% for elective surgery. The operative room mortality was 6.4% and 59% of death occurred within 48 hours after surgery. Of the patients who died, 27% had developed an intraoperative complication and 82.5% had developed postoperative complications. Neurosurgical conditions yielded the highest mortality rate (8.24%). Emergency was a risk factor for perioperative mortality ($P<0.001$, OR: 2.6). Acute abdominal conditions and the presence of comorbidities were significantly associated to early perioperative death while developing postoperative complications was significantly associated to late perioperative death.
Conclusion: overall mortality rate in our setting is comparable to what is reported in high income settings. Efforts to reduce this burden should be oriented towards emergency surgery and a closer monitoring of early post-operative period.
Disclosure of Interest: None declared

206.02

PREDICTING OUTCOME FOR EXTREMITY WOUNDS IN PEDIATRIC CASUALTIES OF WAR

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Introduction: The International Committee of the Red Cross (ICRC) is an impartial humanitarian organization that provides medical care to victims of war. Since the early 90s, the ICRC has consistently used a classification system for penetrating wounds, the Red Cross Wound Classification (RCWC), to quickly assess the severity of wounds. The RCWC wound grading seems to serve as a tool to aid clinical decision making in patients with extremity wounds. However, the RCWC wound grading and its correlation to patient outcomes in pediatrics has not yet been studied independently from adults. The aim of this study is to assess whether the RCWC wound grade of a pediatric patient's extremity wound is correlated to patient outcomes.
Materials & Methods: This study included pediatric patients (age <15 years), who have been treated by the ICRC for war-associated extremity wounds between 1988 and 2012. The correlation of the following variables with the RCWC were analyzed: number of surgeries and blood products, length of stay and mortality.
Results: Pediatric patients comprised 12.6% (2 459/19 511) of the study cohort. Pediatric patients with a RCWC wound grade 3 received the highest number of surgeries per patient (mean 4.0, SD 2.9), followed by patients with wound grade 2 (mean 3.0, SD 2.2) and wound grade 1 (mean 2.4, SD 3.5; all with $p<0.05$). The number of blood products given to pediatric patients was significantly higher in RCWC wound grade 3 (mean 0.7, SD 1.5) than in wound grade 1 (mean 0.3, SD 1.2) and wound grade 2 (mean 0.4, SD 1.0; $p=0.000$ and $p=0.001$ respectively). Mortality rate of RCWC wound grade 1, 2 and 3 were respectively 1.0% (20/1 953), 0.0% (0/342) and 1.9% (3/161). There was no significant difference in mortality rate between any of the wound grades. Pediatric patients with RCWC wound grade 3 were hospitalized the longest (mean 49.6 days, SD 38.8), followed by wound grade 2 (mean 40.0 days, SD 39.0) and wound grade 1 (mean 25.9 days, SD 34.0; all with $p<0.05$).
Conclusion: The wound grade of pediatric patients' extremity wounds appears to have a correlation with the number of required surgeries, number of blood products and length of hospital stay, but not mortality. This is the first research to reveal that grading of extremity wounds with the RCWC can support clinical decision making in pediatric patients.
Disclosure of Interest: None declared

206.03

EFFECTIVE AND SAFE SURGICAL TASK-SHIFTING: SUSTAINABLE NON-SPECIALIST TRAINING PROGRAMME IN MALAWI

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Introduction: Shortages of specialist surgeons in African countries mean that the needs of rural populations go unmet. Task-shifting from surgical specialists to other cadres of clinicians occurs in some countries, but without widespread acceptance. Clinical Officer Surgical Training in Africa (COST-Africa) developed and implemented BSc surgical training for clinical officers in Malawi.

Materials & Methods: Trainees participated in the COST-Africa BSc training programme between 2013 and 2016. This prospective study done in 16 hospitals compared crude numbers of selected numbers of major surgical procedures between intervention and control sites before and after the intervention. Volume and outcomes of surgery were compared within intervention hospitals between the COST-Africa trainees and other surgically active cadres.

Results: Seventeen trainees participated in the COST-Africa BSc training. The volume of surgical procedures undertaken at intervention hospitals almost doubled between 2013 and 2015 (+74 per cent), and there was a slight reduction in the number of procedures done in the control hospitals (–4 per cent) (P = 0·059). In the intervention hospitals, general surgery procedures were more often undertaken by COST-Africa trainees (61·2 per cent) than other clinical officers (31·3 per cent) and medical doctors (7·4 per cent). There was no significant difference in postoperative wound infection rates for hernia procedures at intervention hospitals between trainees and medical doctors (P = 0·065).

Conclusion: The COST-Africa study demonstrated that in-service training of practising clinical officers can safely improve the surgical productivity of district-level hospitals.

Disclosure of Interest: None declared

206.04

MATERNAL AND PERINATAL OUTCOME AFTER CAESAREAN SECTION IN SIERRA LEONE – A PROSPECTIVE MULTICENTRE STUDY COMPARING MEDICAL DOCTORS AND ASSOCIATE CLINICIANS

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Introduction: Many countries lack sufficient medical doctors (MDs) to provide safe and affordable surgical and emergency obstetric care. Task-sharing to associate clinicians (ACs) has been suggested to fill this gap.
Materials & Methods: All nine hospitals in Sierra Leone where both ACs and MDs performed caesarean sections were included in this prospective observational multicentre non-inferiority study. Patients undergoing caesarean sections were followed for 30 days. The primary outcome was maternal mortality, and secondary outcomes were perinatal events and maternal morbidity.
Results: Between October 2016 and May 2017, 1282 patients were enrolled in the study. In total 1161 patients (90·6%) were followed up with home visits at 30 days. Data for 1274 caesarean sections were analysed, 443 performed by ACs and 831 by MDs. Twin pregnancies were more frequently operated by ACs while MDs performed a higher proportion of operations outside office hours. In the AC group there was one maternal death and in the MD group there were 15 maternal deaths (crude OR = 0·12; CI 0·006–0·67). In the AC group there were fewer stillbirths (OR 0·74; CI 0·56–0·98), but patients were twice as often readmitted (OR = 2·17; CI 1·08–4·42).
Conclusion: Caesarean sections performed by ACs are not inferior to those undertaken by doctors. Task-sharing can be a safe strategy to improve access to emergency surgical care in areas where there is a shortage of doctors.
Disclosure of Interest: None declared

206.05

WHATSAPP GROUP FORUM (WGF) IMPROVES RURAL POPULATION ACCESS TO SPECIALIST SURGICAL CARE IN MALAWI – PROSPECTIVE OBSERVATIONAL STUDY

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Introduction: Access to surgery is a challenge for low-income countries like Malawi because of shortages of specialist surgeons, especially in rural areas. District Hospital (DH) clinicians send difficult cases with referral form to Central Hospitals (CH)with no prior communication and little likelihood of feedback from CH.
Materials & Methods: A secure WhatsApp Group Forum (WGF)was established, March 2018, including all Surgeons from Queen Elizabeth Central Hospital (QECH)and all clinicians from 10 DHs referring to QECH. DH clinicians post information on the forum on patients for specialist opinion. For patients who ended up being referred, the specialists provide feedback to referring clinicians
Results: From April-Oct 2018 DHs posted 95 cases for specialist consideration, with 57% including an image to help assessment of the case. Fifty-seven (57%) of cases were referred immediately, 25% not referred, and 12% referred later. On average, 2 consultants and DH clinicians contributed to case discussions. Seventy-five (75%) and 66% of the cases received first response and decisions within an hour respectively.
Conclusion: WGFs provide rapid, free access to multiple specialists' opinion. Advice provided on cases and feedback post-discharge from CHs is educative for referring clinicians, potentially leading to improved patient surgical care. Unnecessary referrals save costs for patients, families, hospitals and the health system.
Disclosure of Interest: None declared

206.06

VALIDATION OF THE "LUSAKA FORMULA", A NOVEL FORMULA FOR WEIGHT ESTIMATION IN CHILDREN PRESENTING FOR SURGERY IN A LOWER-MIDDLE INCOME COUNTRY

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Introduction: Accurate determination of weight is essential to avoid drug errors. Where weighing is not feasible, age or length based formulae are used to estimate weight. Formulae must be validated in the local population as most are derived from high income countries where childhood obesity is increasing.

Materials & Methods: The "Lusaka formula" [weight=(age in months/2)+3.5 if <1year; weight = 2x(age in years)+7 if =>1year] was derived from a previously published data set. We conducted a prospective, observational study that aimed to validate this formula in a new data set. Weights, heights and age of 330 children were measured before surgery. Accuracy was examined by comparing the (1) Mean Percentage Error and (2) the percentage of actual weights that fell between 10% and 20% of the estimated weight for the Lusaka formula and other existing formulae.

Results: Median percentage difference between actual measured weight and estimated weightof different formule

Formula	Mean %error	Within 10% of estimated weight	Within +-20% of estimated weight	Mean difference	SD difference	n	95% CI mean bias	95% limit of agreement
BROSELOW	-4.76	51.6	79.5	-0.85	2.49	307	[-0.6, -1.1]	[4.0,-5.7]
LUSAKA	1.376	48.5	73.0	0.46	3.68	330	[0.9,0.1]	[7.7,-6.8]
OLD APLS	-4.4	47.3	74.1	-0.59	4.04	259	[-0.1, -1.1]	[7.4,-8.5]
ARC	-7.383	43.8	71	-1.58	4.73	259	[-1.0, -2.2]	[7.7,-10.9]
NELSON	-7.692	42.5	72.2	-1.19	3.40	302	[-0.8, -1.6]	[5.5,-7.9]
SHANN	-11.940	34.5	63.3	-1.95	4.14	259	[-1.4,-2.5]	[6.4,-10.1]
CAWR	-8.280	32.9	57.8	-1.88	4.18	237	[-1.3,-2.4]	[6.4,-10.1]
LEFFLER	-15.702	28.8	54.8	-2.07	2.94	308	[-1.7,-2.4]	[3.7,-7.9]
NEW APLS	-10.429	36.4	56.9	-2.55	4.58	311	[-2.0, -3.1]	[6.5,-11.6]
TINTINALLI	-19.403	26.0	51.4	-2.63	3.30	247	[-2.2,-3.0]	[3.9,-9.1]
GARWOOD	-17.391	24.6	49.8	-3.57	5.36	259	[-2.9,-4.2]	[7.0,-14.1]
PARK	-17.949	24.1	52.3	-3.70	5.74	323	[-3.1,-4.3]	[7.6,-15.0]
THERON	-25.536	22.8	43.5	-5.62	7.10	237	[-4.7,-6.5]	[8.4,-19.6]
LUSCOMBE	-23.077	21.5	40.5	-3.88	4.18	237	[-3.3,-4.4]	[4.4,-12.1]
BEST GUESS	-27.27	14.3	35.9	-5.45	6.14	259	[-4.7,-6.2]	[6.6,-17.5]
MICHIGAN	-45.09	2.5	10.5	-8.14	4.44	200	[-7.5,-8.8]	[0.6,-16.9

The Lusaka formula had a mean percentage error of 1.37% (95% limits of agreement 7.7,-6.8) and estimated weights to within 10% of actual weight 48.5% of the time. It had a slight tendency to underestimate weights. Its precision was comparable to the Broselow tape. Newer formulae significantly overestimated weights of the children in this population.
Conclusion: The Lusaka formula is superior to previously published age based weight estimating formulae in children presenting for surgery at the University Teaching Hospital (UTH) in Lusaka, Zambia
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Disclosure of Interest: None declared

206.07

CAPACITY OF DISTRICT-LEVEL HEALTH FACILITIES IN PROVIDING SURGICAL SERVICES IN TANZANIA

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Introduction: Five billion people are without access to safe, affordable surgical and anaesthetic care with Low and Middle Income Countries (LMICs) worst affected. Only 6% of needed surgery takes place in the poorest countries; and 33 million people endure catastrophic expenditure in paying for essential, often life-saving surgery. Where district hospitals deliver emergency obstetrical interventions (caesarean sections) and limited general surgery, these are often undertaken by non-physician clinicians (NPCs) such as clinical officers who have limited support and usually work with no supervision.
We conducted the situational analysis to determine the capacity of District Level Hospitals in providing Surgical Services.
Materials & Methods: We employed mixed methods, based on a participatory implementation research approach. Data collection was carried out during the period October - November 2017. The study covered 36 facilities including district hospitals and health centres (HC) in transition to district hospital status in the Northern zone regions of Tanzania.
Results: All DLHs have Assistant Medical Officers (AMOs), and 97.2% (35/36) of facilities have Medical Doctors (MDs) doing surgery. All hospitals rely heavily on nurse anaesthetists for the administration of anaesthesia as there are no qualified anaesthesiologists in any of the surveyed sites and very few anaesthesia AMOs.
Furthermore, 72.7% of the district hospitals refer surgical cases deemed by respondents to have been performed at the district hospital. Substantial numbers of DHs in all three countries unnecessarily refer common Bellwether procedures. Lack of safe blood services, basic surgical and anesthesia skills are the commonest reported reasons for surgical referrals by district hospital staffs.
Conclusion: To address gaps in surgical services provision at the district hospitals, Government Interventions to address facility factors (equipment, medicine and medical supplies, and safe blood services) and collaborative approaches to build capacity are needed. However, the challenge to all these interventions is lack of guidance about / list of the surgical procedures that can be conducted at the district hospitals from the ministry responsible. We advocate the development of this list of procedures so that interventions with the aim of building capacity to district surgical staffs can be harmonized and objectively evaluated

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Disclosure of Interest: None declared

206.08

INTERNATIONAL MULTICENTRE COHORT STUDY FOR THE EXTERNAL VALIDATION OF CLASSIC – CLASSIFICATION OF INTRAOPERATIVE COMPLICATIONS

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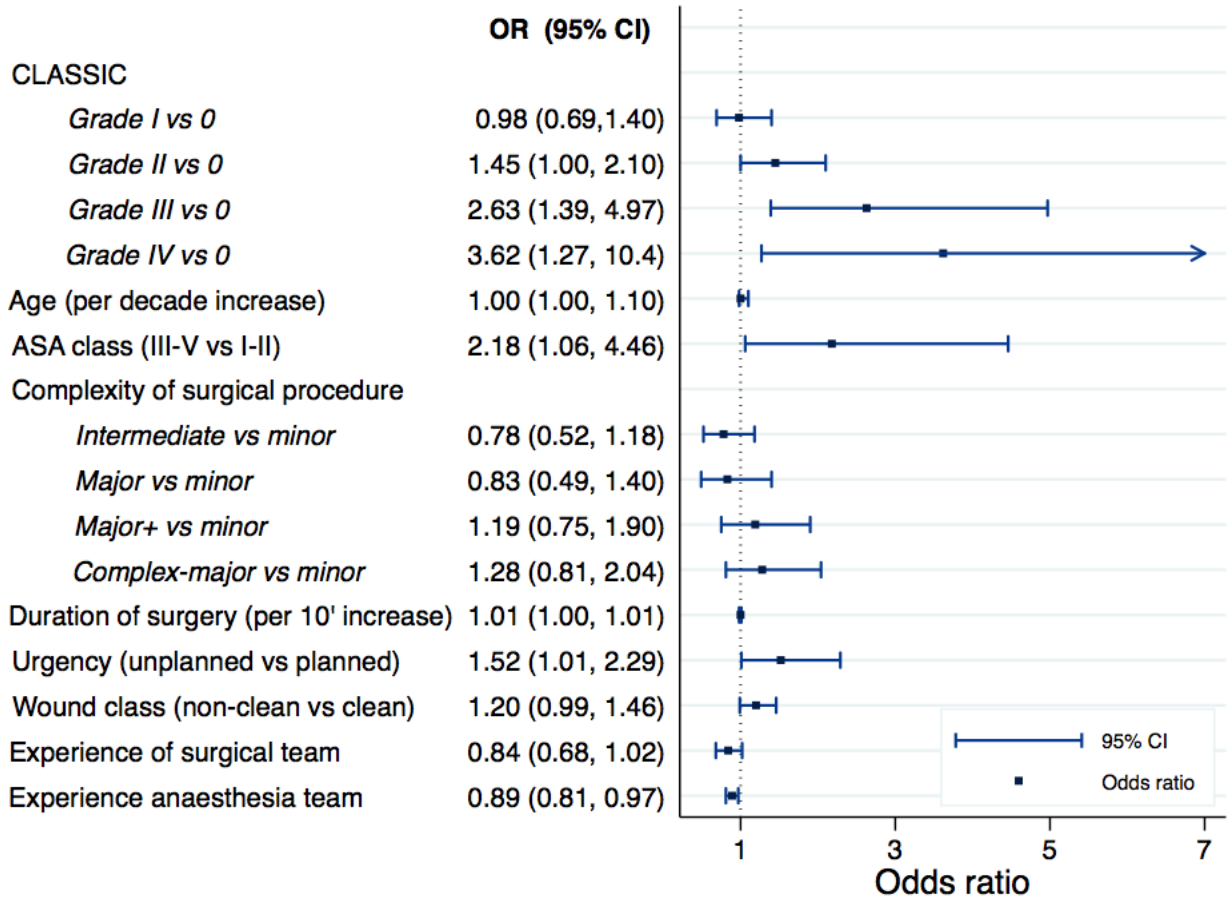
Introduction: Prospectively validated systems for reporting intraoperative complications are lacking. This international prospective cohort study aimed to assess the external validity and practicability of CLASSIC, a newly developed and updated CLASSification of Intraoperative Complications (CLASSIC).[1] The updated CLASSIC uses 5 severity grades depending on the need for treatment and severity of symptoms.
Materials & Methods: In 18 centres from 12 countries, patients undergoing any type of surgery were consecutively enrolled excluding one-day surgeries (NCT03009929). The attending surgical and anaesthesia team graded all intraoperative complications according to CLASSIC. All postoperative complications were assessed daily until hospital discharge and graded using the Clavien-Dindo classification.[2] The association between the most severe intra- and postoperative complication (primary endpoint) was investigated in a multivariable hierarchical proportional odds model. Secondary endpoints were the association between the most severe CLASSIC and the Comprehensive Complication Index (CCI®) and the postoperative length of stay (pLOS). All analyses were adjusted for age, ASA-class, wound classification, complexity and urgency of the procedure. Additionally, reliability of CLASSIC was assessed in a survey including 10 fictitious case scenarios describing intraoperative complications using the intra-class correlation coefficient (ICC).
Results: Out of 2640 patients screened, 2520 were enrolled, of which 610 (24%) experienced any intraoperative complication. 2508 postoperative complications were observed in 838 patients (33%). In-hospital mortality was 1% (n=25). In the multivariable model, there is a gradual increase in odds for a higher grade of the most severe postoperative complication with increasing grade of the most severe intraoperative complication (OR (95%CI) for CLASSIC I vs 0: 0.98 (0.69, 1.40); CLASSIC II vs 0: 1.45 (1.00, 2.10); CLASSIC III vs 0: 2.63 (1.39, 4.97); and CLASSIC IV vs 0: 3.62 (1.27, 10.35), Fig. 1). Consistently, there was a steady increase in CCI® and pLOS and with increasing grade of CLASSIC. The survey (response rate 83%) showed an ICC of 0.75 (95% CI 0.59, 0.91).
Image:



Conclusion: CLASSIC provides a validated and standardised tool to quantify and qualify intraoperative complications in clinical practice and research with a high reliability. Intraoperative complications show an association with important postoperative outcomes rendering CLASSIC a useful tool to enhance perioperative patient safety.

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206.09

PATTERNS AND APPROPRIATENESS OF SURGICAL REFERRALS IN MALAWI

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Introduction: Surgical conditions are a growing health burden in Malawi, particularly in rural areas where access to surgical care is inequitable. Quality district health services and well-functioning referral networks are critical to ensure adequate access to life-saving surgery for rural populations. The aim of this study was to examine surgical cases commonly referred to Queen Elizabeth Central Hospital (QECH) in Blantyre to capture patterns and to identify inefficiencies in referral systems.
Materials & Methods: Data on inter-hospital surgical referrals to QECH were collected prospectively in January 2014-December 2015 using patient records. A sub-sample of 257 referrals was assessed for appropriateness and quality.
Results: 1380 referrals were recorded during the study period (average 58/month), of which 80% were referred by government district hospitals. Approx. 1 in 3 cases were referred unnecessarily, many of which could have been managed locally at district hospitals. In over 80% of cases there was no communication with QECH prior to referral, 41% had incorrect/incomplete diagnoses by the referring clinicians and 40% were not referred timely.
Conclusion: Referral process improvements, including sound data collection, research and monitoring systems, are urgently required to ensure access to timely surgical care for rural populations, better utilisation of public resources and, ultimately, effectiveness and responsiveness of the wider healthcare system.
Disclosure of Interest: None declared

206.10

SECONDARY COMPLICATIONS FOLLOWING SPINAL CORD TRAUMA IN NORTH TANZANIA

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Introduction: Introduction: Surviving a Traumatic Spinal Cord Injury (TSCI) in a low-income country signifies an overwhelming burden to an individual. Apart from limited access to acute care facilities, rehabilitation is often compromised by a general lack of sufficient resources to enable the provision of such services. Patients with a TSCI admitted to Kilimanjaro Christian Medical Centre (KCMC) in North Tanzania are often managed with conservative means due to the minimal spine surgery expertise available and scarcity of the required equipment.
Materials & Methods: Materials and Methods:A multidisciplinary team prospectively reviewed every traumatic spinal cord injury patient admitted to KCMC from January 2018 to December 2018. Data was collected prospectively detailing every patient's age, gender, insurance cover, level of injury as well as occurrence and type of secondary complications.
Results: Results: The final study cohort comprised of 94 patients; a male preponderance of 76.6% was noted with an average age of 38.2 years. Secondary complications developed in 39.4% after admission and most commonly included pressure sores (27.7%), urinary tract infections (8.5%) and medically unmanageable muscle spasms (8.5%). TSCI patients more likely to develop secondary complications included those with complete injuries and cervical level lesions. Only 23.4% of the patients were covered by health insurance.

Frequency of Each Secondary Complication

SECONDARY COMPLICATIONS	FREQUENCY (n)	PERCENTAGE (%)
Pressure Sores	26	27.7
Urinary Tract Infection	8	8.5
Unmanageable Spasms	8	8.5
Pneumonia	4	4.3
Contractures	4	4.3
Deep Vein Thrombosis	3	3.2
Pulmonary Embolism	3	3.2
Paralytic Ileus	3	3.2
Halotraction Pin Site Infection	2	2.1

Conclusion: Conclusion: Suffering a TSCI is a drastic event in any individual's life. In a low-income country, this devastating experience is further compounded by the lack of ideal care during the acute, sub-acute and rehabilitationphases. The paucity of healthcare resources also contributes to a high level of secondary complications which further hamper the patient's quality of life. The necessity of developing a sustainable spine surgery program as well as continuing with rehabilitation services in North Tanzania is also highlighted by the results of this study.
Disclosure of Interest: None declared

214.01

SURGICAL SITE INFECTIONS IN EMERGENCY ABDOMINAL SURGERY AT TAMALE TEACHING HOSPITAL, GHANA

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Introduction: Surgical site infections (SSIs) result in delayed wound healing, increased use of antibiotics and increased length of hospital stay, putting remarkable physical and financial burden on patients, their relatives and the healthcare facilities. Patient-related factors, such as pre-existing colonization with antibiotic-resistant bacteria, and clinical-related factors, such as adherence to sterile techniques, contribute to the development of SSIs. The objective of this study, therefore, was to determine the SSI rate and risk factors for emergency abdominal surgeries at Tamale Teaching Hospital, Ghana.

Materials & Methods: The study population was composed of patients undergoing emergency abdominal surgery at the Tamale Teaching Hospital between June 2010 and June 2015. Demographic and clinical data were collected and included, but was not limited to, patient age and sex, type of procedure performed, wound class (dirty or contaminated), receipt of perioperative blood transfusion, American Society of Anesthesiologists (ASA) score, presence of SSI, length of hospital stay and outcome of surgery. Standard multiple regression was used to statistically assess the independent variables for their association with SSI, and Pearson correlation coefficient was used to determine the strength of association. The beta (β) values, which had the greatest influence on the overall SSI, indicated the relative influence of the entered variable(s).

Results: A total of 1011 patients underwent various emergency abdominal surgical procedures during the period of study. The β values were 0.008 for perioperative blood transfusion, 0.050 for sex, - 0.048 for ASA risk, - 0.001 for having health insurance, 0.037 for being referred from another health facility and 0.034 for age. Sex was the most distinctive contributor to SSI, while perioperative blood transfusion showed the least influence. Sex and ASA score were the best predictors of SSI occurrence. The coefficients of the P values for wound class and serum haemoglobin level (g/dL) were 0.000 and 0.032, respectively. The outcome of surgery was significantly and strongly associated with overall SSI and vice versa (r = 0.088, P < 0.01 two-tailed).

Image:

Table 2 Risk factors of SSI when the dependent variable is the SSI (SSI dummy)

Model	Unstandardized coefficients		Standardized coefficients	*t*	*P* value	95% Confidence interval for *β*	
	β	Std. error	*β*			Lower bound	Upper bound
1							
(Constant)	0.180	0.103		1.747	0.081	− 0.022	0.382
NHIS	− 0.001	0.029	− 0.001	− 0.041	0.967	− 0.058	0.055
Sex	0.038	0.025	0.050	1.557	0.120	− 0.010	0.087
Age	0.005	0.005	0.034	1.055	0.292	− 0.004	0.014
Referral	0.027	0.023	0.037	1.173	0.241	− 0.018	0.073
ASA	− 0.003	0.002	− 0.048	− 1.508	0.132	− 0.007	0.001
Wound class	− 0.130	0.022	− 0.199	− 5.922	0.000	− 0.173	− 0.087
Haemoglobin in g/dL	0.029	0.013	0.069	2.151	0.032	0.003	0.055
Blood transfusion	− 0.009	0.037	− 0.008	− .246	0.805	− 0.081	0.063

ASA American Society of Anesthesiologists, *NHIS* National health insurance scheme, *SSI* surgical site infection

Conclusion: Sex, ASA score, perioperative blood transfusion, wound class and haemoglobin level can predispose to SSI.

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Disclosure of Interest: None declared

214.02

COMPUTER SURVEILLANCE SYSTEM FOR SIMPLE AND EFFICIENT DOCUMENTATION OF ABDOMINAL SURGICAL SITE INFECTIONS IN HOUSE AND POST DISCHARGE

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Introduction:
Surgical site infections (SSI) represent the most frequent hospital acquired infections. Requiring routine follow up, we used an easy to handle standardized computer assisted documentation tool for surveillance of SSI and establish long term follow up. The presented analysis aimed to document the follow up and evaluate its suitability.

Materials & Methods: NISS-OP, an user optimized documentation tool for SSI, was launched in 2010 our tertiary care center in Graz, Austria. Since then, surgical and SSI data have been collected. Surgical procedures, microbiological records, out-patients visits and readmissions, and particularly post-discharge surveillance were collected. 1328 procedures were included in the presented analysis. All data were processed with risk stratification related to the surgical technique – open or laparoscopic technique – and with risk adjustment by CDC risk index classes. Standardized infection ratios (SIR) were calculated for each operation. Patients were followed for 48 months.

Results: 1328 procedures were included in an equal number of patients (48.6% male and 51,4% female). Median age was 46 years, most common procedure was appendectomy. SSI was diagnosed in 114 patients, especially after colectomy. SSI rates in open appendectomies improved throughout the observation period (f.e. open appendectomy from 6.25% to 3.28%). All data were processed with risk stratification related to the surgical technique – open or laparoscopic technique – and with risk adjustment by CDC risk index classes. Post-discharge surveillance revealed SSI in a range of 21% to 71%.

Conclusion: Continuous computer assisted surveillance of SSI is useful to enhance awareness for postoperative SSI. Post-discharge Surveillance is crucial and mandatory to detect SSI.

Disclosure of Interest: None declared

214.03

IS WATCHFUL WAITING THE BEST STRATEGY FOR ALL ELDERLY PATIENTS WITH INGUINAL HERNIAS?

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Introduction: The European Hernia Society recommends the watchful waiting strategy for older patients or those with significant comorbidities. However, inguinal hernia incarceration is associated with significant morbidity and mortality in this group. We aimed to find a group of patients that could benefit from elective hernia repair rather than watchful waiting strategy.
Materials & Methods: A total of 721 patients undergoing inguinal hernia repair at the Department of General and Colorectal Surgery, Medical University of Lodz between 2006 and 2018, divided into two groups: aged 60 and older as the study group and below 60 years of age as the control group, were involved in our study. We analysed information about patients including age, medical history, mode of admission, comorbidities, type of intervention, applied anaesthesia and 30-day surgical outcomes.
Results: 488 patients aged above 60 years were enrolled in the study group and 233 patients less than 60 years old were analysed as the control group. Percentage of patients who underwent emergency hernia surgery was significantly higher in the study group than in control group (9,4% vs 7%, p=0.034). Multivariate logistic regression revealed that factors significantly associated with the development of the complications were emergency operation (OR=22,9; 95%CI [10,5-49,8]; p<0,001) and Charlson Comorbidity Index (CCI) (OR=1,41; 95%CI [1,2-1,7]; p<0,001). According to ROC curve analysis, CCI appeared to be the most adequate predictor of the development of the complications after emergency surgery for an inguinal hernia (AUC=0,837). The best cut-off point with maximal Youden Index was 5 (78% sensitivity and 84% specificity). Among patients with a Charlson score of 5 and above, emergency surgery significantly increases the risk of complication development (OR=92,6; p<0,001). There was no association found between higher CCI score and presence of complications in the elective surgery group (p=0,187).
Conclusion: Results of our study suggest that elective inguinal hernia repair should be taken into consideration in symptomatic elderly patients, especially those with CCI of 5 and above. Among patients with comorbidities, urgent surgery significantly increases morbidity, whereas elective surgery results in negligent complications. Avoiding the necessity of emergency surgery seems to be more effective than watchful waiting in the prevention of postoperative complications in this group.
Disclosure of Interest: None declared

214.04

NOVEL TECHNIQUE OF PRESERVING GONADS IN A CASE OF FOURNIER GANGRENE

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Introduction: Fournier gangrene is a necrotising fasciitis involving the skin and sub cutaneous tissue of perineum, external genitalia and perianal area. It rarely involves the testis or the deep tissues of the penis because of the tunica vaginalis and bucks fascia respectively. It is a polymicrobial infection involving gram positive, gram negative, aerobic and anaerobic organisms. Risk factors include diabetes mellitus, peripheral vascular disease, alcoholism, immunocompromised state. Management includes urgent aggressive debridement of the necrotic tissue, broad spectrum intravenous antibiotics and supportive care initially, followed by reconstruction and closure at a later date. I have started a novel technique of preserving the testis in the management of Fournier gangrene by creating an inguinal pouch.
Materials & Methods: Prospective multicentric study at tertiary care hospitals between 2005-2018
Results:

	n=15	%
Age (mean in years)	55	
Mean duration of symptoms	3.9 days	
SYMPTOMS		
Fever	15	100
Pain	12	80
Scrotal swelling	12	80
Skin necrosis	09	60
Surrounding region	03	20
Primary source of infection		
Scrotum	12	80
Perineal region	12	80
Thigh abscess	09	60
Comorbidities		
DM	08	55
Hypertension	09	60
Tuberculosis	03	20
NHL	03	20

Image:

Conclusion: Fournier's gangrene is characterised by progressive necrotising fasciitis of the genitalia, perineum and perianal region. It requires early diagnosis and urgent management in the form of aggressive debridement by removal of necrotic tissue and our technique of preserving the testis wherever possible by creating an inguinal pouch. This should be followed by early reconstruction of the scrotum.

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Disclosure of Interest: None declared

214.05

MINIMALLY INVASIVE STEP-UP APPROACH FOR THE MANAGEMENT OF POSTOPERATIVE INTRAABDOMINAL ABSCESS AFTER LAPAROSCOPIC APPENDECTOMY

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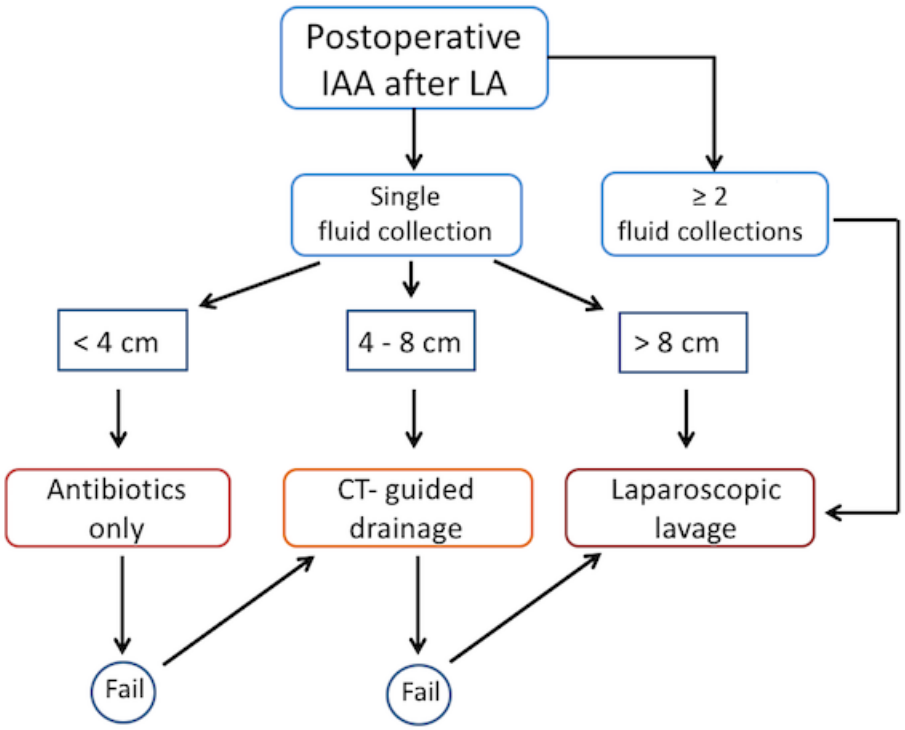
Introduction: Laparoscopic appendectomy has been widely embraced for the management of acute appendicitis (AA). Postoperative intraabdominal abscess (IAA) is the most feared complication after this operation. We aimed to evaluate the management of this complication in a large cohort of patients in order to design a treatment algorithm.
Materials & Methods: A consecutive series of patients undergoing laparoscopic appendectomy (LA) for acute appendicitis from January 2008 to December 2018 were included. Patients who required conversion to open surgery were excluded. Patients characteristics and intraoperative variables related to postoperative IAA were analyzed. The management of patients with IAA were divided into 3 groups based on the treatment implemented: G1: antibiotics only, G2: CT- guided drainage, and G3: laparoscopic lavage of abdominal cavity.
Results: In the period of the study a total of 1668 LA were performed. The mean age was 34 years, 878 (52%) were male, and ASA score was I-II in 98% of patients. The re-hospitalization rate was 55% (20 patients). The rate of IIA was 2.2% (36 patients). Patients who had this complication were significantly more obese and had perforated appendicitis compared with non-complicated patients ($p < 0.01$). It was observed a significant increment on hospital stay in patients with IAA (1.6 days vs 6.6 days) $p < 0.05$. There were 12 (33%) patients who received antibiotics only (G1), 8 (22%) with percutaneous drainage (G2) and 16 (45%) with laparoscopic lavage (G3). The median size of the abscess was 2.7 (1.2-4) cm in G1, 6.2 (4.5-8) cm in G2, and 9.6 (8-11.4) cm in G3 ($p < 0.04$). Patients with two or more fluid collections were undergo to laparoscopic lavage in all cases. After establishing the treatment, it was observed a failure rate of 16 % in G1 (2 patients required percutaneous drainage), 12.5 % in G2 (1 patient needed laparoscopic lavage), and 12.4% in G3 (2 patients required re-laparoscopic lavage). None patients in the entire cohort needed open surgery to resolve the postoperative complication.
Image:



Conclusion: A minimally invasive step-up approach based on the size and number of fluid collections is associated with excellent outcomes. An evidence-based algorithm for the treatment of postoperative IAA is proposed.
References: Figure 1. Minimally invasive step-up approach (MISA) algorithm for the management of intraabdominal abscess after laparoscopic appendectomy. IAA: *intraabdominal abscess*, LA: *laparoscopic appendectomy.*
Disclosure of Interest: None declared

214.06
SURGICAL MINI-INVASIVE CORRECTION OF REFRACTORY ASCITES IN PATIENTS WITH LIVER CIRRHOSIS

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Introduction: Occurrence of refractory ascites in liver cirrhosis presents considerable difficulties for treatment. Evolution of cirrhotic ascites is closely interrelated with violations of peritoneal absorption and blockage of lymph circulation. Objective: to determine possibilities of surgical correction of refractory ascites in patients with decompensate liver cirrhosis by laparoscopic sanitation with post-surgery fractional rinsing of abdominal cavity, with simultaneous decompression of thoracic lymphatic duct.
Materials & Methods: From 2014 to 2018, 98 patients (53 men (54.1%) and 45 women (45.9%),) aged 29 to 71 underwent surgery for cirrhosis with massive refractory ascites Child C (9-10), without obvious signs of hepatic encephalopathy. Major etiological factors were: viral hepatitis C (47 patients (48.0%)), B (29 pts (29.6%)), B+D (17 pts (17.3%)), toxicity (5 patients (5,1%)). To prevent possible bleeding at the first stage, endoscopic filling of esophageal varices with fibrin glue was performed in 81 patients (82.7%). After testing the effectiveness of varices filling, in the following 5-7 days decompression surgery of thoracic lymphatic duct was performed under local anesthesia to improve lymphatic drainage from liver and abdominal organs. Simultaneously, laparoscopic sanitation of abdominal cavity was performed, with complete evacuation of ascites fluid, rinsing and drainage. Fractional post-surgery rinsing was repeated daily for 3-5 days towards removing peritoneum edema and improving its absorptive properties. Results evaluation was performed 3, 6 and 12 months after surgery, based on criteria of liver reserves and ascites volume.
Results: Post-surgery mortality from liver failure was 5.1% (5 patients). 7 other patients died of the same cause the following 3-6 months. Annual survival rate was 87.6%. Complete ascites regression over 3-12 months after surgery was noted in 53 patients (55.8%), significant regression and stabilization in 25 (25.6%), moderate regression with need for periodic decompressive laparocentesis in 8 cases. In all patients, functional liver reserves and life quality significantly improved.
Conclusion: The use of the given technique of refractory ascites correction, in patients with liver cirrhosis, by laparoscopic sanitation & post-surgery fractional rinsing of abdominal cavity, with simultaneous decompression of thoracic lymphatic duct showed very high efficiency and deserves establishment as a clinical practice.
Disclosure of Interest: None declared

PE001

EPIDEMIOLOGY AND MICROBIOLOGY OF SURGICAL SITE INFECTIONS IN MUSCULOSKELETAL SYSTEM SURGERY – SINGLE CENTRE STUDY

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Introduction: Healthcare-associated infections are one of the most important challenges of modern medicine. The European Centre for Disease Prevention and Control (ECDC) recommends active surveillance of surgical site infections (SSI), which is the basis for the preventive actions taken. The aim of the study was to analyse the SSI's in musculoskeletal surgery in 2012–2018 in St. Luke Provincial Hospital in Tarnów, Poland.
Materials & Methods: Prospective, targeted, active infection surveillance according to ECDC HAI-Net protocol.
Results: Retrospective analysis of SSIs comprised 10 006 operations and 105 SSIs. The deep SSIs were detected most often: 80-100% of all SSIs (Table 1). No differences were observed in patients' age and length of hospital stay (LOS) in different procedures, but the longest LOS were observed in arthroplasties. Additionally, incidence rates in this operations, equal to 1.4% and 1.9% respectively, were the highest ones.
Gram-negative rods was the most numerous etiological factor, 68 cases (70.1%), the second was *S. aureus*, 37 cases (38.1%), of which 13.5% of strains were multidrug resistant: MRSA or macrolide-lincosamide-streptogramin B, MLSB. About 1/5 of *Enterobacteriace* produced the extended-spectrum β-lactamases, ESBLs.
Table 1 Characteristics of patients and SSIs by type of surgical procedure

surgical procedures (number)	LOS* Average/SD	Patients age* average/SD	SSI		SSI incidence %
			all	deep SSI*, n; %	
Limb amputation (74)	5/6.3]	53/18.1	1	1; 100	1,4
Arthroscopy (991)	4/2.4	33/13.0	5	4; 80	0,5
Reduction of fracture and dislocation (1 168)	6/5.4	55/25.7	11	11; 100	0,9
Open reduction of fracture (1 878)	8/7.0	60/22.0	16	14; 87.5	0,9
Hip prosthesis (1 756)	12/7.2	70/12.0	25	24; 96	1,4
Knee prosthesis (583)	13/7.8	69/8.3	11	10; 90.9	1,9
Removal of anasthomosis (828)	3/4.5	45/19.9	10	9; 90.0	1,2
Other (2 728)	5/8.1	50/20.7	26	26; 100	1,0
Total (10 006)	7.2/7.4	55/22. 0	105	99; 94.3	1,0

* p<0.0001, SD standard deviation
Conclusion: The incidence rates for HPRO and KPRO observed in the study were two and three times higher than the corresponding values reported by ECDC. Differences concerned the average length of postoperative stay (in the European program: much shorter) and the dominance of deep SSIs. Microbiology and drug resistance were similar to the European data. The obtained results indicate the need for more accurate, targeted studies, taking into account process indicators and organizational conditions in order to allow identification of the discrepancy reasons between European data and optimal prevention methods.
Disclosure of Interest: None declared

PE002

CANCER VACCINE THERAPY USING DENDRITIC CELLS GENERATED FROM INDUCED PLURIPOTENT STEM CELLS EXPRESSING CARCINOEMBRYONIC ANTIGEN

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Introduction: The clinical application of dendritic cells (DCs) vaccine therapy is hindered by the need for a large quantity of DCs generated from the peripheral blood monocytes of patients. Additionally, function of DCs is declining in cancer patients.
Materials & Methods: We investigated whether genetically modified human induced pluripotent stem cell (iPSC)-derived dendritic cells (hiPSDCs) expressing carcinoembryonic antigen (CEA) could induce CEA-specific cytotoxic T cells in a human model, and whether genetically modified mouse iPSDCs (miPSDCs) expressing CEA would show an actual antitumor effect using a CEA transgenic mouse model.
Results: We differentiated hiPSDCs from iPSCs of three healthy donors and transduced the CEA cDNA into hiPSDCs. The surface marker expression, cytokine secretion and migratory capacity of hiPSDCs were equivalent to human monocyte-derived DCs (hMoDCs). After three cycles of stimulation of autologous peripheral blood mononuclear cells by genetically modified hiPSDCs, cytotoxicity was assessed using ^{51}Cr release assay. The cytotoxic T cells induced by hiPSDCs-CEA exhibited CEA-specific cytotoxic activity against the target cells expressing CEA. Furthermore, in the CEA transgenic mouse model, the cytotoxic T cells generated in mice immunized with miPSDCs-CEA showed CEA-specific cytotoxic activity against MC38-CEA. In the subcutaneous tumor model, vaccination with miPSDCs-CEA achieved a significant growth inhibitory effect on MC38-CEA. With the miPSDCs vaccine therapy, neither weight loss nor diarrhea was observed in the CEA transgenic mice. No formation of teratoma due to administration of iPSDCs was observed either.
Conclusion: Genetically modified iPSDCs expressing CEA is a promising tool for clinical application on vaccine therapy against gastrointestinal cancer patients.
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Disclosure of Interest: None declared

PE003

AGGRESSIVE NEO-INTIMAL HYPERPLASIA IS ASSOCIATED WITH INCREASED TNF-A MRNA EXPRESSION IN A PIG ANIMAL CORONARY GRAFTING MODEL

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Introduction: Athersclerosis is a chronic inflamatory disease condition that results in thickining and hardening of the affected blood vessels.Different risk factors contribute to the cause of atherosclerotic cardiovascular disease and increasing evidence implicate the immune system.Intimalhyperplasia will support the foundationof the atherosclerotic process and later on the progression of the formation of atheromatous plaque,
Materials & Methods: We hypothesized that TNF-α mRNA expression levels were directly dependent on the severity of atherosclerosis to test our hypothesis. Seven, 4 months old, 35 kilogram, Yorkshire Gross domestic swine supplied from Yeazel and Co. (Wolverton,OH,USA) were proposed to be used in this study.Our pigs animal model, are planned to be subjected to coronary bypass surgery. The implanted vessels to be harvested at different time points 0 hour, 1 hour, 3 hours, 1 day, 4 days, 1 week and 2 weeks to calculate the development of intimal hyperplasia at vein to artery versus artery to artery implantation sites, based on the intimal area/ total circumference area (RI) ratio.
Results: Our expected results may be helpful to show that TNF-α mRNA expression and the development of the neo-intimal hyperplasia in providing the evidence of a direct pro-inflammatory cytokine signaling link between the biomechanical forces on the vessel wall and the remodeling response.We are expecting that anastomosis of a vein graft to an artery will result in acute induction of intimal hyperplasia and expression of the TNF-α mRNA with an early increase within the first few hours, peaking at the first week post operatively. This expression could be augmented by different factors including the accelerated intimal hyperplasia. The expected high levels of TNF-α mRNA associated with the aggressive development of the intimal hyper plasia at the venous side of the anastomosis could be similar to human studies.
Conclusion: The study proposed that aggressive neo-intimal hyperplasia in animal pig model can develop early, and is associated with increased recruitment of macrophages capable of expressing TNF-α mRNA producing TNF-α. The above results may guide us to the use of arterial graft conduits in humans (total arterial revascularization) using the different arterial conduits as left and right internal mammary arteries, Thus, it becomes rather obvious that part of the disease management and therapeutic approach entails the modulation of the innate immune responses to lipoproteins.
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Disclosure of Interest: None declared

PE004

CASE REPORT - RECTUS SHEATH HAEMATOMA. - MASQUERADING AS ACUTE PANCREATITIS.

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Introduction: Rectus Sheath Haematoma (RSH) is a rare etiology of acute abdomen. It is define as accumulation of blood in the sheath enclosing rectus abdominis muscle, secondarily to rupture of the epigastric artery or muscle tears. This condition can occur spontaneously but mostly resulting from trauma. The clinical presentation often misdiagnosed as other cause of intra abdominal pathology.

Materials & Methods: We reported a case of 71 years old lady, with underlying comorbidities of Cholelithiasis, Diabetes Mellitus, Hypertension and Bronchial Asthma, presented to us with history of acute abdominal pain following episodic of severe attack of coughing. Clinically, there is a periumbilical and right flank ecchymosis, with palpable mass at the right hypochondrium region. Blood investigations revealed drop in hemoglobin level with elevated urine amylase value. A provisional diagnosis of acute hemorrhagic pancreatitis was made, hence Computerized Tomography was done with findings of rectus sheath haematoma. Patient recovered uneventfully on conservative management. The purpose of this report is to explain the masquerading sign and symptoms of RSH in clinical practice.

Results:

Type	Description	Treatment
I- Mild	Intramuscular, unilateral, and does not dissect along fascia adjacent to the rectus muscle	Conservative; usually outpatient follow up only
II-Moderate	Intramuscular, dissects along adjacent fascia and may involve bilateral rectus muscles but without extension into the prevesical space	Observation, short hospital stay. May need transfusion
III- Severe	Dissects along the fascia and extends into the peritoneum and the prevesical space	Reversal of anticoagulants and blood transfusion. Angiographic interventions may be needed.

Table 1 showed classification of RSH based from CT scan and corresponding management

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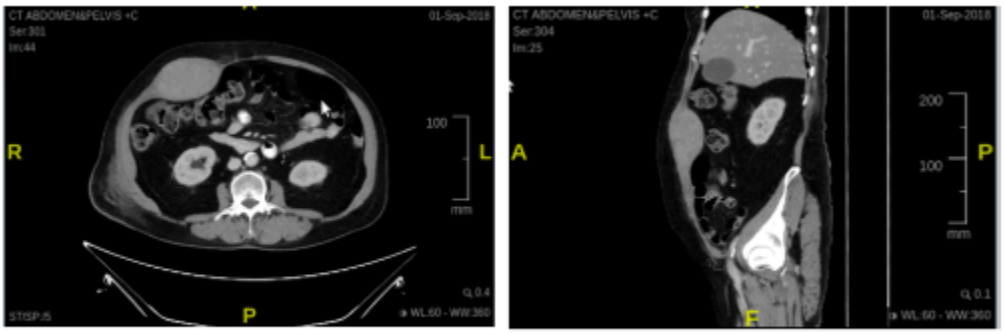

Figure 1 & 2 - CT abdomen of cross section and sagittal view showed hematoma within the right rectus sheath.

Conclusion: Rectus Sheath Haematoma is a uncommon clinical entity that mostly misdiagnosed as acute abdomen. Obtaining a detail history with careful clinical examination and appropriate imaging, help in diagnosing this condition. CT scan is the most suitable choice of imaging. Management is usually conservative, which consists of bed rest, intravenous fluid, blood transfusion and adequate analgesia.

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Disclosure of Interest: None declared

PE005

FITZ HUGH CURTIS SYNDROME AS AN INCIDENTAL FINDING DURING A CHOLECYSTECTOMY

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Introduction: Fitz-Hugh-Curtis Syndrome (FHCS) is a perihepatitis produced by peritonitis secondary to the ascending of bacteria, this result of a pelvic inflammatory disease, being the most frequent etiologic agent *Chlamydia trachomatis*; it presents clinically with right upper quadrant pain (1). The FHCS has an incidence of 4.7 % in laparoscopy due to benign gynecological pathology (2).
Objetive: To describe a clinical case of Fitz-Hugh-Curtis Syndrome

Materials & Methods: A patient undergoing cholecystectomy is included and the presentation of the FHCS is described.
Results: Clinical Case.
A 65-year-old woman with a history of sporadic abdominal distension, without abdominal pain and without a history of gynecological organ infections. The blood tests were normal, no abdominal computed tomography (CT) was performed and the abdominal ecotomography showed cholelithiasis, so laparoscopic cholecystectomy was performed, and multiple adhesions from the liver to the abdominal wall were found as an intraoperative finding (Figure 1). Chronic phase evidences adhesions between hepatic surface and abdominal wall, characterized by the resemblance to “violin strings”, this image is considered diagnostic criteria.
In the acute episode, CT shows hepatic capsular enhancement in arterial phase that reflects blood flow in inflamed hepatic capsule and in chronic stage shows delayed phase that may reflect a capsular fibrosis (3)
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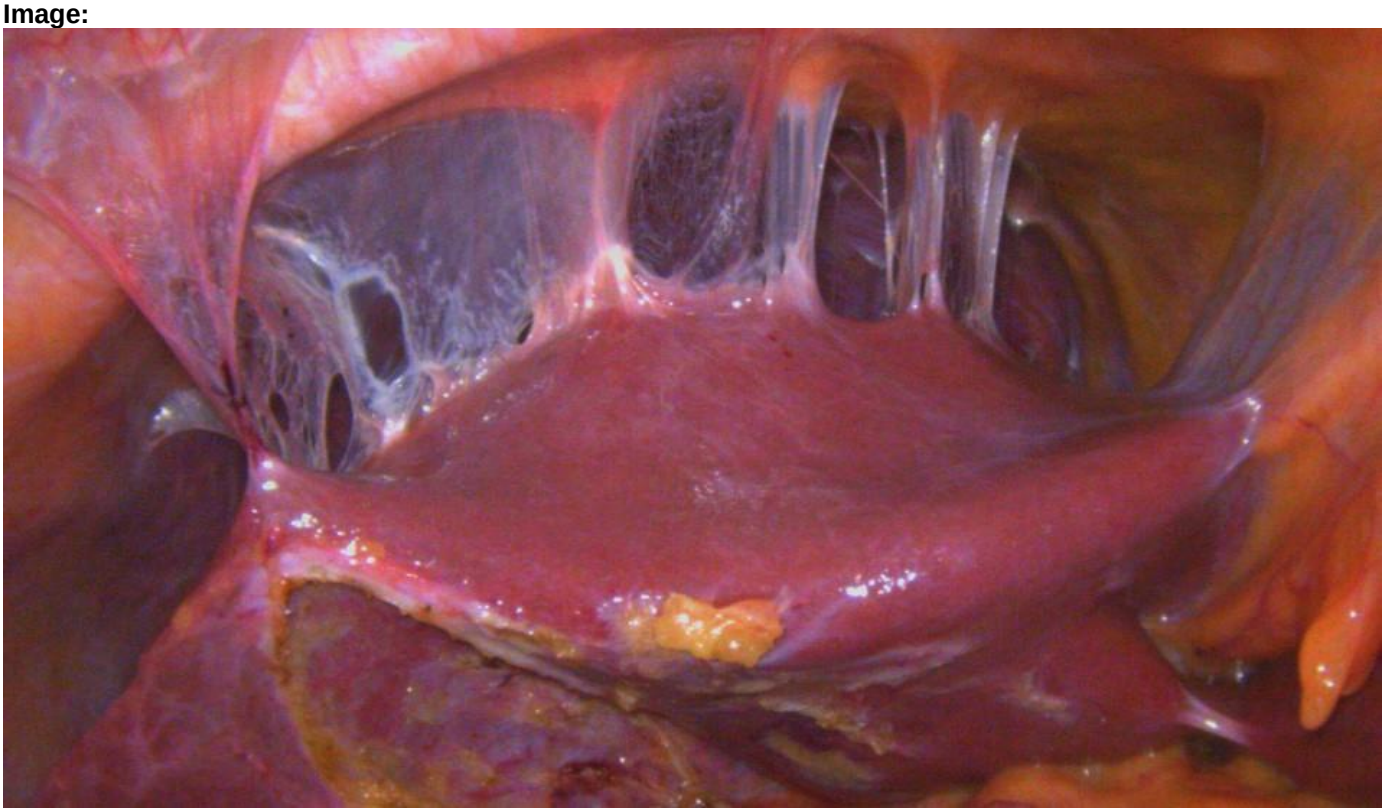

Conclusion: Fitz-Hugh-Curtis syndrome in the chronic stage may be asymptomatic and therefore may be present as an incidental surgical finding in abdominal surgery.
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Disclosure of Interest: None declared

PE006

EXTENSIVE PORTOVENOUS GAS AND PNEUMATOSIS INTESTINALIS ARISING FROM JEJUNITIS – A CASE REPORT.

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Introduction:

Portovenous gas was first described in infants with severe necrotizing enterocolitis in the mid 1900s. Since then, it has always been a portentous radiological sign to the surgeon's mind, and is usually worrisome for bowel ischaemia or compromise in mesenteric vascular supply with high mortality rates of 70-80%. The presence of abdominal pain with portovenous gas often necessitates an exploratory laparotomy to investigate for such causes. Nevertheless, there are also cases where portovenous gas arises from causes which would not usually require surgery, with 30% thought to arise from causes other than ischaemia including sepsis, ileus and idiopathic. Here we present a case report of a patient with portovenous gas and pneumatosis intestinalis from jejunitis.

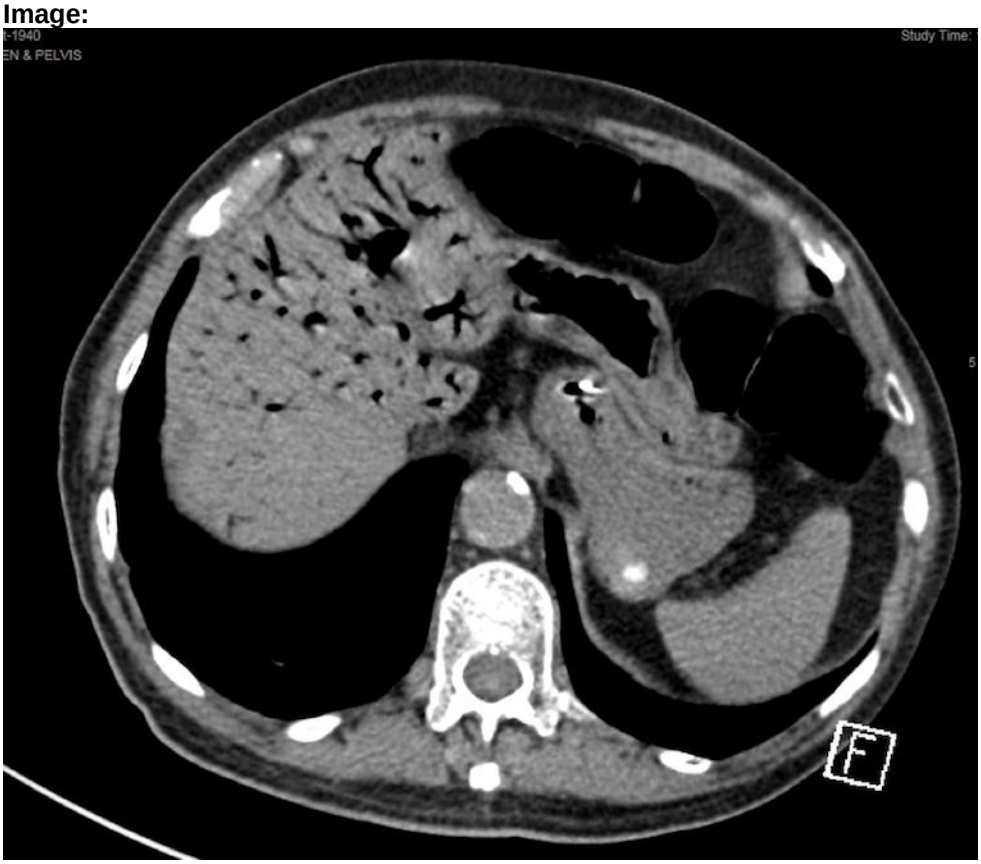
Materials & Methods:

Our patient is a 77-year-old nursing home resident who was admitted for acute onset of abdominal pain, distension and nausea for one day. He has a previous history of diabetes, hypertension, ischaemic heart disease on clopidogrel and previous deep vein thrombosis. On examination he was haemodynamically stable with abdominal distension and tenderness over his right flank. His investigations were significant for lactic acidosis with a base excess of -11 and acute kidney injury. A computed tomography of his abdomen was performed which showed dilated small bowel with a thick irregularwall, with pneumatosis coli and gasin the portal and hepatic veins.

Results:

The patient underwent an emergency laparotomy for suspected bowel ischaemia. Intraoperatively a 15 centimetre segment of jejunum was thickened but with no compromise of vascularity. No other clinically significant pathology was found to explain the extensive portovenous gas. A temporary abdominal closure was performed and relook laparotomy the following day confirmed no ischaemia. No bowel resection was performed and the abdomen was closed. He was treated for severe enteritis with antibiotics and hydration and had an uneventful recovery.

Image:



Conclusion:

Inflammatory etiology such as severe enteritis in this patient is a rare cause of portovenous gas. When there is evidence of portovenous gas with a suspicion of bowel ischaemia, expedient exploration should still be performed as delay in diagnosis could be rapidly fatal.

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Disclosure of Interest: None declared

PE007

PERFORATED PEPTIC ULCER- CURRENT EPIDEMIOLOGY AND DIAGNOSTIC PATTERN.

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Introduction: Perforated peptic ulcer (PPU) is a serious complication of peptic ulcer disease (PUD). Operative managment is a therapeutic standard of PPU. Unfortunately, despite the constant development of diagnostic techniques and therapeutic options, perioperative mortality reaches up to 30%. Diagnostic examination confirming the diagnosis is a free air under diaphragm on chest or abdominal cavity X-ray.
Materials & Methods: The case files of 118 patients who underwent emergency surgery treatment for PPU over a period of 2012 – 2018 at Wroclaw University Clinical Hospital were retrospectively reviewed.
Epidemiology, the diagnostic process as well as mortality and morbidity were taken into account in particular. The results were compared with available data from Poland from 1976-2006
Results: In our group was 50 women and 68 men with mean age of 59,6 years and BMI of 24,89 kg/m2. In men, the perforation occurred at a younger age than in women (50.6 vs. 70.8 years p = 1.032E-10). Eighty-two percent of patients had abdominal X-ray, which presented features of gastrointestinal perforation in 58% of cases. The overall 30-day mortality rate was 18% and varies depending on the age of the patient.
Conclusion: Despite a large percentage of false negative X-ray results, the abdominal cavity X-ray is still the first-line examination in the diagnosis of PPU.
Currently, the incidence of perforation in men is almost equal to the frequency and incidence of perforation in women
In men, perforation occurs at a younger age than in women.
Disclosure of Interest: None declared

PE008

A 29 YEAR OLD MAN WITH INTRAMUSCULAR, HIPERVASCULAR HIBERNOMA.

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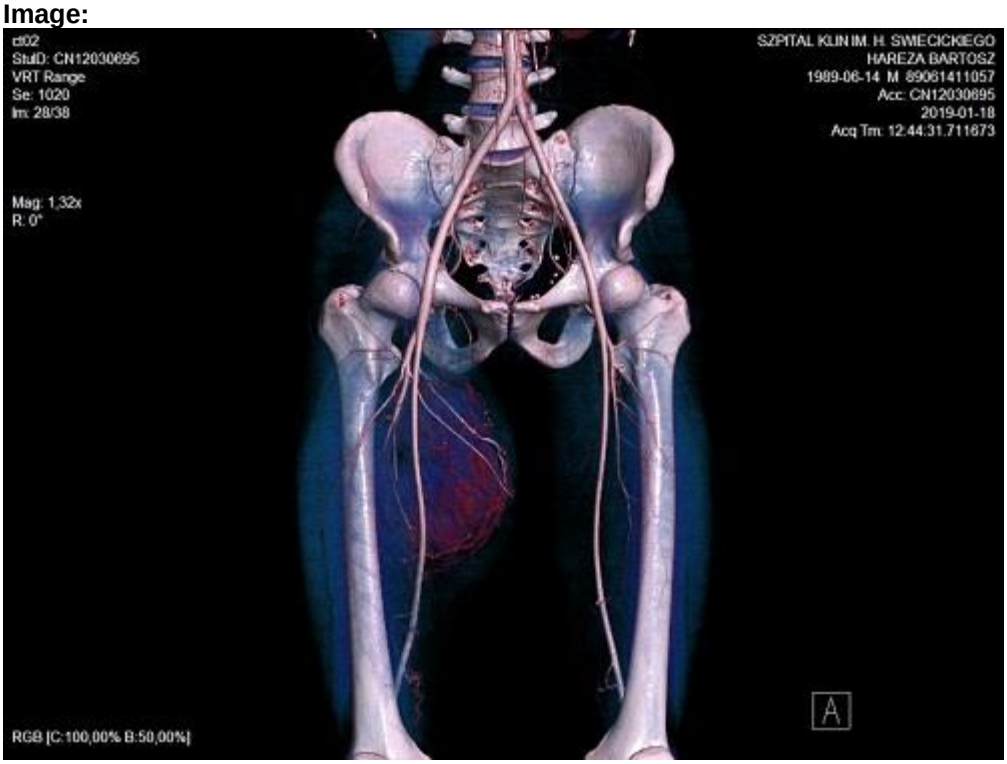
Introduction: Hibernomas are rare tumors of adipose tissue, histologically resembling the brown fat of hibernating animals [1,2,6]. Brown fat is present in fetal life and gradually is replaced by white adipose tissue. The most common site for hibernomas are: thighs, shoulders, trunk, arms, head, neck andretroperitoneum [2-4,6]. Up to 10% of all cases are intramuscular, occur in the age range of 2-75 years, and account for about 1,6% of all lipomatous tumors [4,5]. They are usually soft, painless, slowly-growing masses with multiple sources of vascular supply [5,9].

Materials & Methods: We present the case of a 29 year-old male treated due to enlarging soft-tissue mass of the proximal right thigh. Diagnosed iagnosed with atypical subfascial lipomatous, well-vascularised tumor (19x9x8cm) found in whole body MRI (XI.2017). Patient underwent two open surgical biopsies. First biopsy was complicated with surgical site infection, treated with targeted antibiotics and surgical drainage. Histopathology reports showed brown adipose tissue consistent with hibernoma. There was no MDMZ gene amplification in IHC staining (that excluded hibernoma-like liposarcoma). It was decided upon surgical treatment as the method of choice. CT-Angiogram performed in I.2019 showed a 12,7x11,6x16,5 cm tumor with arterial supply originating from the deep branch of the medial circumflex femoral artery and the venous drainage to the deep circumflex femoral vein. Numerous arterio-venous shunts were visualized. The largest supplying vessel was 11mm in diameter. Due to the rapid enlargement of the tumor and pressure-related symptoms surgical procedure was planned. The rich vascular supply and ischiatic nerve conflict in preoperative imaging required a meticulous surgical technique and a vessels-first approach. Complete resection of the tumor was performed. Vessels smaller than 7mm were ligated with a harmonic device. Intraoperative blood loss was less than 100ml.

Results: Postoperative macroscopic assessment showed a soft, encapsulated mass, without infiltration or satellite nodules, 19x12x8 cm in size and 610g in weight. On dissection the surface was tan-yellow with no evidence of necrosis or bleeding. The postoperative period was uneventful. The patient was discharged 72 hours after the surgery.

Image:



Conclusion: Hibernomas are rare benign tumors of adipose tissue. Meticulous preoperative imaging and histopathological assessment enable proper qualification and safe treatment even in not commonly encountered cases (2,3,7).

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Disclosure of Interest: None declared

PE009

CEREBRO TENDINOUS XANTHOMATOSIS - A RARE CLINICAL ENTITY

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Introduction: Cerebrotendinous xanthomatosis (CTX) is a rare genetic metabolic disorder of cholesterol and bile acid metabolism resulting in systemic and neurologic abnormalities. CTX was first reported by van Bogaert in 1937. It is due to mutation of CYP27A1 gene located on chromosome 2q33-qter which codes for enzyme sterol 27-hydroxylase, involving in bile acid synthesis. therefore bile acid precursor cholesterol and cholestenol deposit in the brain, spinal cord, muscles and tendon, eyes and blood vessels.

It presents as xanthomatosis of brain manifesting with symptoms of dementia, seizures, intellectual disability and psychiatric disturbances. Tendinous xanthomas are hall mark of the disease particularly on tendo Achilles, patellar tendon and Elbows.

Materials & Methods: 37 year old female presented to general surgery opd of mediciti institute of medical sciences with soft tissue swellings over both ankles, evaluated clinically, radiologically, serologically, histopathologically and genetic maping were done.

Results: clinical findngs: A 37 years old lady presented with swellings over both the Achilles tendons since 32 years which were gradually progressing. The size of the swellings was 20x6 cm, surface was lobulated, firm in consistency. The swelling was mobile horizontally with restricted vertical mobility. Similar swellings were noted on the elbow, patellar tendon, and great toes. She developed seizures 5years back and underwent cataract surgery in right eye 4years back.

Investigations: cholesterol and cholesterol levels were slightly elevated.

Plain radiographs of both Ankles showed soft tissue swellings over both the tendo-achilles without signs of calcifications.

MRI Brain showed bilateral hyperintensity in dentate nucleus of cerebellum

FNAC showed foamy macrophages and giant cells.

Genetic study showed mutation of CYP27A1 gene.

Chenodeoxycholic Acid was started, 15mg/kg body weight/day along with Statins. Patient is being followed for last 1 year showed improved neurological symptoms.

Image:

Conclusion: CTX is a rare metabolic disorder. No surgical treatment. Surgical excision of tendenous xanthomas pose problem in gait imbalance and cannot prevent degenerative changes. The condition is treated by replacing the bile acids , chenodeoxycholic acid. It helps to relieve both neurological and non neurological symptoms if diagnosed and treated early.

As of now only 300+ cases are reported worldwide we are interested in presenting to WCS

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Disclosure of Interest: None declared

PE010

THINGS HAPPEN WHEN YOU FORGET ABOUT THEM: A RARE PEG-RELATED COMPLICATION WITH INTERNAL HERNIATION OF SIGMOID COLON.

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Introduction: Percutaneous endoscopic gastrostomy (PEG) has become a modality of choice to provide a long-term enteral nutritional access for patients with neurological disorders such as stroke and Parkinson's disease. Even though this procedure has been modified to date and is generally safe, PEG tube placement can be reportedly associated with potential complications such as injuries to the spleen, liver and bowel. The use of PEG has become restricted worldwide with the respect for such patients. However, PEG is still required and instituted in the most aging nation, Japan. We report a case with a rare PEG-related complication requiring emergency surgery.
Materials & Methods: Case report and literature review.
Results: A 78-year-old man with a history of stroke had emergency laparoscopic cholecystectomy for gangrenous cholecystitis 3 months before his re-admission to our hospital. During the hospital stay, he came to require nasogastric (NG) tube for his nutritional access because of his exacerbated dysphasia. He was transferred to another hospital for further rehabilitation. Unfortunately, his swallowing function did not improve and PEG was eventually placed on the patient a month before re-admission. He started complaining severe abdominal pain and vomited continuously after the PEG placement. He was referred to us for further treatment of suspected small bowel obstruction. On arrival, his abdomen was distended with generalized abdominal tenderness. Abdominal X-ray showed "coffee bean sign" which raised a concern for sigmoid colon volvulus. Contrast-enhanced CT scan revealed internal herniation of the sigmoid colon between abdominal and stomach wall at the gastrostomy site. Herniated sigmoid colon showed an ischemic change and emergency surgery was performed. Intraoperatively, the gastrostomy tube penetrated the sigmoid mesentery, which rotated around the gastrostomy tube and the sigmoid colon was herniated towards upper abdomen, thereby developing sigmoid volvulus-like condition. Herniated colon was reduced and Hartmann's procedure was performed. Then gastrostomy was reinforced adding sutures between abdominal wall and stomach. He had an uneventful postoperative course.
Conclusion: Despite its good safety record, PEG can be associated with significant complications. We experienced a rare PEG-related complication of internal herniation of sigmoid colon that penetrated through the sigmoid mesentery. Even though rare, such a complication should be shared with patients when considering establishing PEG.
Disclosure of Interest: None declared

PE011

HIGH RESISTANCE OF ENTEROBACTERIALES BACILLI ISOLATED FROM BLOODSTREAM INFECTION SECONDARY TO SURGICAL SITE INFECTIONS FROM ADULT SURGERY PATIENTS OF SOUTHERN POLAND

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Introduction: *Enterobacteriales* bloodstream infection (BSI) is one of the most frequently observed nosocomial infections and the most difficult to treat, especially in surgical patients. The importance of the problem is emphasized by drug resistance.
Materials & Methods: This multicenter (13 hospitals in southern Poland) evaluated adults diagnosed with BSI secondary to surgical site infection (SSI) hospitalized in 2015-2018 in surgical wards: general, urological and vascular or gynecological-obstetrics. 121 strains belong to *Enterobacteriales* bacilli were collected.
Results: The most common strain was *E.coli*, 61%, and *Klebsiella spp*., 27%. 30.6% of strains were resistant to ≥5 studied antimicrobial categories (Table). The highest drug resistance was reported with regard to ampicillin and its associated with sulbactam. High resistance also involved fluoroquinolones, 49%>73%. The studied strains demonstrated sensitivity only to carbapenems.
Table Drug resistance of *Enterobacteriales* bacilli from BSI secondary to SSIs

Antimicrobial category	**Antimicrobial agent**	**Antimicrobial agent**			
		E.coli **n=74 (61.1%)**	***Klebsiella* spp.** **n=33 (27.2%)**	**Others** **n=14 (11.5%)**	
Penicillins	Ampicilin	73 (98.6)	33 (100)	14 (100)	
	Ampicillin-sulbactam	72 (97.2)	33 (100)	13 (92.8)	
	Amoxicillin-clavulanic acid	34 (45.9)	20 (60.6)	5 (35.7)	
	Piperacillin-tazobactam	10 (13.5%)	11 (33.3)	3 (21.4)	
Cephalosporins	Ceftazidime	29 (39.1)	14 (42.4)	5 (35.7)	
	Cefotaxime	28 (37.8)	13 (39.3)	5 (35.7)	
	Cefepime	22 (29.7)	16 (48.4)	5 (35.7)	
	Cefoperazone-sulbactam	6 (8.1)	6 (18.1)	0	
Carbapenems	Ertapenem	0	1 (3.0)	0	
	Imipenem	1 (1.3)	0	0	
	Meropenem	0	0	0	
Fluoroquinolones		36 (48.6)	24 (72.7)	8 (57.1)	
Aminoglycosides	Gentamicin	19 (25.6)	7 (21.2)	5 (35.7)	
	Amikacin	11 (14.8)	13 (39.3)	2 (14.2)	
	Tobramycin	24 (32.4)	17 (51.5)	5 (35.7)	
Other	Trimethoprim-sulfamethoxazole	37 (50.0)	21 (63.6)	9 (64.2)	

Conclusion: The results indicate an very high level of drug resistance of *Enterobacteriales* associated with BSIs in operated patients. This situation may affect the risk of therapeutic failures in empirical therapy, the effective empirical therapy is possible only with cefoperazone-sulbactam or piperacillin-tazobactam in combination with aminoglycoside. This is an indication for the need to perform microbiological tests for conducting targeted therapy and the conducting of precise microbiological surveillance. Unfortunately, in Polish hospitals microbiology testing is underutilized and antibiotic consumption is one of the highest in Europe. On the other hand, measures are required to implement appropriate infection prevention and control procedures.
Disclosure of Interest: None declared

PE012

THE USAGE OF MESENCHYMAL STROMAL STEM CELLS DURING COSMETIC CONTOURING SURGICAL PROCEDURES IN POSTBARIATRIC SURGERY PATIENTS

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Introduction: We developed allogenic mesenchymal stem cells (AMSCs) enhanced techniques to addresses perioperative issues: decrease rehabilitation time, improve regeneration and wound healing, obtain better cosmetic result. AMSCs are multipotent progenitors with vast potential: local direct homing and paracrine effect (neoangiogenic, neocollagenogenic, immunomodulatory, anti-inflammatory), ability to differentiate into specialized cells that enables better survival and repair of damaged tissues.

Materials & Methods: 42 patients were operated on 8-18 months after BSPs and reached goal BMI of 33-37 kg/m2. BCS included: face and neck lift, thorsoplasty, abdominoplasty, thigh lift, brachioplasty, liposuction and combination of them. Surgical site specific protocols for allogenic MSCs enhanced techniques: 1) cell assisted lipotransfer with lipografts processed with standardized technique enriched with AMSC in proportion of $1x10^6$ of MSC for each 100 g of lipotransplant; 2) AMSC suspension injections of $2x10^6$ with 5.0 ml PRP. Allogenic MSCs culture was isolated from the umbilical cord and of healthy donor and processed at Deva Clinique. Follow-ups and evaluation were conducted 1, 6 weeks, 3, 6, 12 months postoperatively and compared to control group.

Results: Hospitalization was limited to exertion of surgical drains. All patients recovered without major complications. At 1, 6 week follow-ups macroscopically we did not observe significant difference in scar appearance. Evaluation of microscopic specimens, obtained with punch biopsy, showed major improvements: increased collagen and microvascular density, (20.4 vessels/cm^2 and 5.3 vessels/cm^2 control), decreased inflammation duration through reduction of activation/degranulation of mast cells count at surgical site microenvironment. At 3, 6 and 12 months respectively positive comparative changes were noted in wound cosmesis: decreases scar width, improved scar color and pliability, microscopic increased collagen fibers density and organization.

Conclusion: Compared to control group we observed downstream in inflammatory phase of wound healing, increased neo-microvascular density, close to normal collagen fibers organization. AMSC enhanced BCS, thus result in faster regeneration and reduction of scars width, improved wound cosmesis.

Disclosure of Interest: None declared

PE013

ACUTE APPENDICITIS IN ELDERLY POPULATION: HYPOTHESIS FOR THE INCREASING FREQUENCY

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Introduction: The aim of this study was to estimate rate of acute appendicitis in elderly population in Latvia and retrospectively assess any peculiarities in appendicular morphology for elderly vs young patients who had appendectomy for acute appendicitis.
Materials & Methods: People with diagnosis of acute appendicitis (2006-2017) were identified via the National Health Service and Central Statistical Bureau of Latvia. Retrospectively, consecutive cases of surgically treated and morphologically confirmed acute appendicitis were identified in the archives of a single university hospital. Two cohorts of patients were defined by age: young cases (70), diagnosed with appendicitis at the age between 18 and 35 years, and elderly group (53), including patients older than 65 years. Any combined pathologies were assessed (tumours, diverticula, mesothelial cysts). Descriptive and analytical statistics were carried out by SPSS23 (IBM), $p<0.05$ was considered statistically significant.
Results: In Latvia, the proportion of elderly patients within the total burden of acute appendicitis has increased from 9.8% to 11.2% between 2006 and 2017. Currently, there are 491.01 cases [95% confidence interval 468.1-514.05] of acute appendicitis in elderly every year. At the same time, the positive correlation with the expansion of elderly population was statistically insignificant: correlation coefficient 0.526, but $p=0.079$. Appendicitis in elderly patients was characterised by more frequent co-occurrence of tumours found in 30.2% [19.5-43.6] in contrast to 1.4% [0.0-8.4] in young patients; $p < 0.0001$. The tumours in old patients were represented by serrated (22.6% [13.3-35.7]) and villous adenomas (5.7% [1.4-16.0]) as well as a single case of carcinoma (1.9 [0.0-10.9]). In addition, there was a single case of multiple mesothelial cysts in the appendix (1.9 [0.0-10.9]). Among young patients, a single case of flat high-grade adenoma (1.4 [0.0-8.4]) was observed. Apical diverticula were present in 2.9% [0.2-10.4] of young and 13.21% [6.2-25.2] of elderly patients; $p=0.0383$.
Conclusion: The proportion of elderly patients among the total burden of acute appendicitis in Latvia corresponds to the global estimate of 10%. At higher age, epithelial neoplasms represent a frequent underlying pathology that can contribute to luminal obstruction facilitating the development of appendicitis. This finding might support surgical treatment of appendicitis in elderly. The diverse co-pathologies must be promptly diagnosed and appropriately managed.
Disclosure of Interest: None declared

PE014

PREDICTIVE FACTORS OF MORBIDITY AFTER OPERATION FOR HYDATID CYST OF THE LIVER.

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Introduction: Hepatic hydatid cyst is a common disease and a major health problem in endemic areas. Surgery remains the mainstay of his treatment. It is associated with high morbidity. However, morbidity of Hepatic hydatid cyst surgery is not well documented. The aim of our study was to evaluate morbidity of surgery of the Hepatic hydatid cyst and to highlight the risk factors.

Materials & Methods: A retrospective study was conducted from January 1, 2008 to December 31, 2016. A total of 210 patients who underwent surgical treatment for Hepatic hydatid cyst in the department of General Surgery “A” of the Rabta Hospital were evaluated retrospectively. The main outcome variable was the development of early and late postoperative morbidity.

Results: We studied 210 patients with a median age of 44 years and 63.3 % female. Recurrence was observed in 22 patients, representing an incidence of 10.5 %. The overall morbidity rate was 23.3%. About 14.8% suffered from specific complications, while 8.5 % suffered from non-specific complications. Predictors of morbidity in a univariate analysis included the presence of fever on admission, and an open cyst in the bile ducts. After multivariate analysis, only the rupture in the Biliary Tract was an independent predictive factor of morbidity (OR 3.68 [95% CI, 1.67-8.11]).

Conclusion: Biliary fistulation from a hepatic hydatid cyst is its most frequent complication. It is the main factors of morbidity. This clinical predictor should be considered for management of hepatic hydatid cysts in order to choose the appropiate surgical technique that is associated with less morbidity.

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PE015
ILEOSIGMOID KNOTTING
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Introduction: Ileosigmoid knotting (ISK), a rare cause of intestinal obstruction, also known as compound volvulus or double volvulus, was first described by Parker in 1845. It is defined by an ileum wrap around the base of the sigmoid colon, forming a knot. This condition rapidly progresses to gangrene. Man at the fifth decade are mostly affected, this condition is more common at Asia, Africa and Middle East. The exact mechanism for developing the knot remains unclear, but anatomic and physiologic features serve as predisposing factos, such as an elongated mesentery (small bowel hypermotility); redundant sigmoid colon; ingestion of a high bulk diet, after a long fasting period (associated with Ramadan fasting, more frequent at the higher incidence areas). ISK presents as a rapidly progressive intestinal occlusion. It can rapidly progress to gangrene and lead to resection of all involved intestine. Generalized peritonitis and sepsis is the main cause of poor outcome, and responsible for the high reported mortality rate (35,5%). Internal hérnia and sigmoid volvulus are the main differential diagnosis. Preoperative diagnosis is difficult because of its infrequency and atypical radiographic findings. It is essential to differentiate ISK from sigmoid volvulus because endoscopic reduction is a contraindication in ISK. Surgical exploration is the treatment.
Materials & Methods: A 66-year-old, with a previous unilateral inguinal hernia repair, presented at the emergency room complaining of abdominal pain and anorexia within 12 hour. The patient was pale and diaphoretic, the abdominal examination revealed diffuse abdominal distension, tenderness, and guarding. CT scan revelled luminal thickening of ileum, free intra-abdominal fluid, mainly at the left lower quadrant, secondary to ischemia, most probably na internal hérnia. Exploratory laparotomy was performed.
Results: On laparotomy, there was hemorrhagic fluid and the ileum and sigmoid colon was found to be gangrenous with a 360° clockwise twist of the ileum around the sigmoid colon. There was gangrene of 150 centimeters (cm) of ileum and 15cm of sigmoid colon, as well. Following a 100-cm resection of gangrenous ileum and sigmoid colon, a primary anastomosis of the small gut and colon was carried out. The patient was discharged at the 4th day after surgery.
Image:

Conclusion: The key management of ISK is t's differentiation from sigmoid volvulus, because endoscopic reduction is a contraindication. Generalized peritonitis and sepsis is the main cause of poor outcome.
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Disclosure of Interest: None declared

PE016

SPECTRUM OF CLINICAL FINDINGS, DIAGNOSES AND THERAPEUTIC DECISION-MAKING AS WELL AS THEIR INFLUENCING FACTORS OF ATTENDING'S CONSULTATION WORK IN GENERAL AND ABDOMINAL SURGERY FOR OTHER MEDICAL DISCIPLINES AT A TERTIARY CENTER OVER 10 YEARS

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Introduction: To analyze the spectrum of diagnoses & surgical decision-making as part of surgical attending's consultation work over a defined time period.
Materials & Methods: All consecutive patients were documented as part of a clinical systematic, prospective unicenter observational study at a university hospital center using a computer-based registry.
Results: … (corner points):
- From 10/01/2006–09/30/2016, overall 549 cases were documented (sex ratio, m:f=321:228 [1.41:1]; mea nage, 63 [range, 15-98] years).
- Predominating medical discipline in asking for surgical consultation was cardiology (*n*=109/549; 19.9%) followed by surgical disciplines (*n*=65/549; 11.8%) & gastroenterology (*n*=62/549; 11.3%).
- The spectrum of consultation reasons comprised (according to the value in the clinical approach): **A)** rather clinically oriented: "Additional assessment", 69.8% (*n*=383/549); "Therapeutic recommendation", 14.4% (*n*=79/549); "Follow-up", 16% (*n*=88/549); "Repeated clinical assessment", 2.4% (*n*=13/549), B) Associated with surgical intervention: Operative indication, 24.4% (*n*=134/549); postoperative clinical assessment, 6.9% (*n*=38/549).
- Disturbances of wound healing predominated the diagnostic profile (*n*=39/549; 7,1%).
- In 13.3% (*n*=73/549) of patients, indication for immediate (emergency) surgical intervention was derived whereas in 10.6% (*n*=58/549), elective surgical intervention was recommended.
- Conformity rate of suspoicious & definitive diagnosis was 55.2% (*n*=187/339).
- Comparing sexes with regard to the definitive spectrum of diagnoses, ischemia was diagnosed more frequently in women (*n*=9/13; *p*=0,048).
- Comparing age gropups, patients older than 66 years (*n*=280) had a higher risk to develop a manifest pneumonia (*n*=9/10; *p*=0,021).
- Not unexpected, the definitive diagnoses "Hernia" (*p*=0.049), "Abscess/phlegmon" (*p*=0.001) & "Cholecystholithiasis" (*p*=0.009) resulted in the recommendation of an elective surgical intervention while "Acute abdomen" (*p*=0.000), "Abscess/phlegmon" (*p*=0.018) & "Cholecystholiasis" (*p*=0.003) led to an immediate surgical intervention.
Conclusion: The study on the surgical attending's consultation work aims at
i) surgical quality assurance in clinical care of patients with need of additional interdisciplinary, i.e., clinical care in daily practice of general & abdominal surgery as contribution to research on clinical care (and)
ii) clinic marketing.
Data reflect vividly daily work load of an attending in general & abdominal surgery in a high registration rate of the selected parameters.
Disclosure of Interest: None declared

PE017

WHAT DOES A (GENERAL AND ABDOMINAL) SURGEON NEED TO KNOW ON PLASTIC SURGERY?

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Introduction: Aim: To summarize the basic potential, technical options & novel aspects of plastic surgery, which are relevant for the common interdisciplinary surgical strategies of plastic & general/abdominal surgery in clinical practice.
Materials & Methods: Short & compact review based on **i)** a selection of relevant references from the medical scientific literature & **ii)** surgical experiences obtained in daily work.
Results: (selected corner points): **1)** *Biological protection procedures in vascular surgery* by flap coverage after meticulous debridement w/ or w/o autogenic vascular reconstruction are used to overcome infection of a vascular prosthesis.
2) *Fistula treatment* for aorto-tracheal/-duodenal fistulas, a big challenge for the referring general surgeon, can be treated by flap coverage, such as by using the interposition of a pectoralis-major flap & the omentum-majus flap, resp.
3) W/ regard to *nerve surgery*, encouraging results after early microsurgical recurrent laryngeal nerve repair with improved subjective voice quality or concerning reconstitution of respiratory capacity in diaphragmatic palsy has been reported.
4) *Lymphatic surgery* for lymphedema can be indicated, e.g., for surgical repair of the lymphatic pathway by the **i)** interrupted lymph system can be reconstructed by an interposition, or **ii)** lymphatic fluid can be drained extraanatomically (e.g., by a lymphatico-venous anastomosis).
5) *Mass reduction* such as dermolipectomy w/ subsequent split-thickness is a valuable option, which provides excellent volume reduction.
6) *Defect coverage*: **A.** Split- or full-thickness skin grafts are a common method of defect coverage in case that the wound bed is clean & well-vascularized.
B. Further methods are local & free fascio- & musculocutaneous flaps, e.g., after abdomino-perineal rectum extirpation using the vertical rectus-abdominis myocutaneous flap (VRAM) or propeller flaps according to the “angiosome”.
7) *Abdominal wall hernia closure* w/ instable skin coverage, flap closure, either alone or in combination w/ mesh is superior to mesh closure only.
8) *Free flaps*: If there is no option for a local or pedicled flap availabe, free flaps can be well used for abdominal wall defect closure (complication rate in experienced hands, low).
Conclusion: Plastic surgery is an indispensable partner for specific surgical problems & clinical situations of general & abdominal surgery w/ its great options & surgical techniques, which modern plastic surgery can provide to achieve best outcome & quality of life for the patients.
Disclosure of Interest: None declared

PE018
PERCUTANEOUS TREATMENT OF LIVER ABSCESS – OUTCOMES.

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Introduction: Mixed bacterial flora is responsible for the development of numerous abscesses, particularly those which are a consequence of a systemic infection (septicaemia) originating from pathologies within abdominal organs or biliary ducts. The number and volume of abscesses may vary, which influences the method of treatment.
Materials & Methods: A total of 37 patients were treated for liver abscess in the years 2007-2018. The treatment involved sonographically guided percutaneous drainage of liver abscess.
Results: A total of 35 patients with a solitary abscess were successfully cured with minimally invasive percutaneous drainage.. Two patients with abscesses volume > 20cm3 were treated surgically after an ineffective percutaneous drainage.
Conclusion: Percutaneous drainage is effective in the treatment of solitary liver abscesses volume <5 cm3.
Irregularly shaped abscesses are effectively drained with multisite drainage.
Hybrid drainage (endoscopic and percutaneous) is a method of choice in the treatment of abscesses resulting from biliary duct obstruction.
Statistical significance regarding inflammatory markers was found only for CRP, as it correlated with the effectiveness of drainage, i.e. the possibility of drainage effectiveness decreased with the increase in CRP values.
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Disclosure of Interest: None declared

PE019

CASE REPORT: A RARE CASE OF A SPONTANEOUS MESENTERIC HEMATOMA FROM SUPERIOR MESENTERIC ARTERY BRANCH

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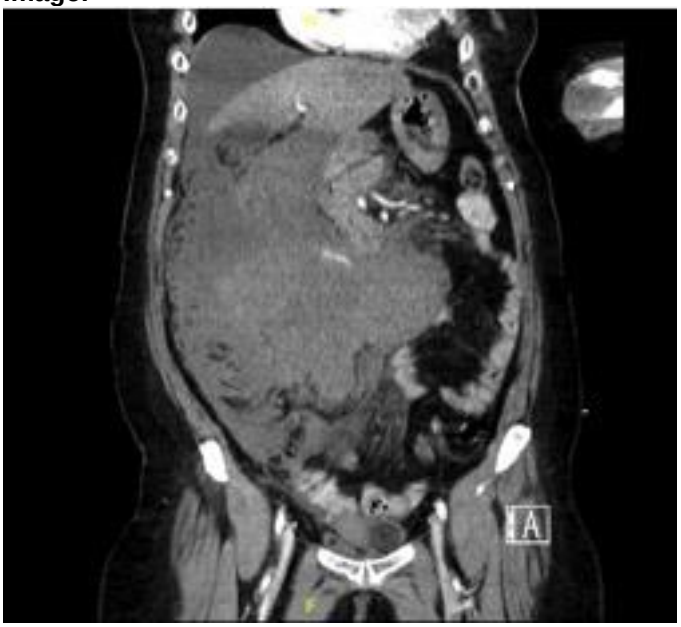
Introduction: Spontaneous mesenteric hematoma is a rare occurrence with only 110 cases being reported in the literature. Common causes include trauma, coagulopathies, pancreatitis and connective tissue disorder. In recent years, cases of spontaneous mesenteric hematoma secondary to oral anticoagulants have been reported. Common presenting complaints include abdominal pain, mass or distension. Management is challenging and can either be conservative in a hemodynamically stable patient or intervention with either angioembolisation or surgery in an unstable patient.

Materials & Methods: We present a case of a 60-year-old Chinese female, known to have atrial fibrillation on rivaroxaban, who presented with acute onset of generalized abdominal pain. She was a transient responder and investigations showed metabolic acidosis, raised lactate and an acute drop of hemoglobin. CT abdomen and pelvis *(Fig 1)* showed a large intraabdominal hematoma with active 'blush' seen. She was resuscitated with massive transfusion protocol. Her coagulopathy was corrected with prothrombin complex concentrate. She underwent angioembolisation and the bleeding vessel, an unnamed branch of superior mesenteric artery, was successfully embolised. This was complicated by infection of the hematoma 10 days later for which she underwent laparotomy and evacuation of infected hematoma. She was discharged well 1 month later.

Results: Management of mesenteric hematoma can be conservative or for intervention. Options for intervention depend on hemodynamic stability. If unstable and patient does not respond to resuscitation, laparotomy may be indicated. If however, patient is stable or responds to resuscitation, angioembolization maybe a preferred and highly effective alternative. However, surgery may still be warranted if complications such as infection of hematoma or bowel ischemia develop

Image:



Conclusion: Mesenteric hematoma is rare but potentially life threatening. Close monitoring, correction of inciting factors including coagulopathy, aggressive resuscitation and early intervention is required in patients with suspected ongoing bleeding.

Disclosure of Interest: None declared

PE020

LAPAROSCOPIC INGUINAL HERNIA SURGERY USING PROGRIPTM MESH IN 589 PATIENTS – A TWO SURGEON EXPERIENCE

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Introduction: Background:
Laparoscopic inguinal hernia repair (LIHR) is one of the most common general surgical procedures performed worldwide and is largely accepted as the current standard of care (1). LIHR with self-gripping mesh has been shown to be safe and effective (2). Negative case-based examples of poor mesh outcomes have sparked media controversy about the safety of surgical mesh. The accuracy of these claims in the context of general surgery needs to be addressed.
The aim of this study was to assess outcomes from composite, self- adhesive mesh in LIHR and thus provide context regarding the negative publicity surrounding surgical mesh in the media. We also suggest a framework for a future clinician led mesh registry
Materials & Methods: This study is a retrospective audit of the use of ProgripTM mesh for LIHR by two experienced surgeons in the public and private sectors. Data were collected by screening digital clinical notes and surgeon records. A sample of patients were contacted directly for quality of life assessment using the Carolinas Comfort Scale (CCS) (3). Statistical analysis was performed in Microsoft Excel.
Results: A total of 589 patients received unilateral or bilateral inguinal hernia repairs using ProgripTM mesh in the five-year audit period.The were no conversions to open surgery. Two patients returned to theatre for minor bleeding. There were no recurrences, adhesion-related admissions or mesh explant procedures.
The essential CCS criteria showed the following:
-No “sensation of mesh presence” (94%)
-No pain (94%)
-No movement limitation (99%)
-No patients reported severe or disabling symptoms
Conclusion: LIHR with ProgripTM has shown no recurrence to date and high patient satisfaction in this cohort. Public perception of mesh based on media reports of complications may not be relevant for this operation. The data collection utilized in this study could serve as a platform to develop a mesh registry.
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Disclosure of Interest: None declared

PE021

TWITTER PRESENCE OF TOP-RANKED SURGERY RESIDENCY PROGRAMS IN THE US

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Introduction: Social media has emerged as a powerful tool for dissemination of knowledge, engagement, and collaboration. Twitter use among surgery residency programs in the US merits evaluation to determine popularity and extent of use.
Materials & Methods: The top twenty surgery residency programs in the US (per US News and World Report and Doximity Residency Navigator) were assessed for presence of a Twitter account, age of Twitter account, number of followers, number following, and size of program.
Results: Of the top twenty residency programs, sixteen had a Twitter handle pertaining to their surgery program. Two had one handle for the surgery program and another for the surgery residents in the program. For four programs, no twitter account could be found relating to the surgery program, although accounts existed for the associated medical center/university. For one program the Twitter account was protected. Program size varied from 36 – 83, with a mean of 57.3. Number of followers ranged from 9 to 5116 with an average of 1937. Number following ranged from 15 to 3131 with an average of 760. Length of time an account had been open on Twitter was from 7 to 114 months with an average time of 47.6 months. Length of time on Twitter and size of program did not correlate with number of followers.
Conclusion: Twitter could be used to a greater extent by surgery residency programs for visibility and amplification. Lack of a Twitter account impairs program visibility in the social media era. Increased Twitter activity can be an opportunity to enhance communication, disseminate good information, promote research achievements, and enhance surgery programs.
Disclosure of Interest: None declared

PE022

WE ARE THE ROBOTS: HISTORY AND LITERATURE BACKGROUND OF REAL SURGICAL ROBOTS

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Introduction: Surgical robots have been helping surgeons at work since 1985, and in Poland since 2014.
But is the name fully compatible with the definition and common imagining of a robot, well rooted in the world culture thanks to science-fiction literature nad film? And is there any risk that robots will take our jobs from us surgeons?
Materials & Methods: The author presents the historical and literary background of people's dream of robots, with particular regard of their role in medicine, from the times of Leonardo da Vinci, Wolfgang von Kempelen, Karel Capek, Isaac Asimov and Stanislaw Lem until Star Wars.
Results: The detailed analysis of the vision of medical robots has been confronted with their real life medical practice and an attempt at look into the future.
Conclusion: What we call surgical robots are, to be exact, very advanced precise tools, telemanipulators greatly enhancing the surgeon's possibilities. Anyway, true A.I. surgical robots have already started to be designed, which might someday approach the classical sci-fi ethical problem of machines overcoming mankind (see "Terminator")...
Disclosure of Interest: None declared

PE023

CHRONIC BLEEDING OF UNKNOWN ORIGIN AFTER BARIATRIC SURGERY – A CASE REPORT.

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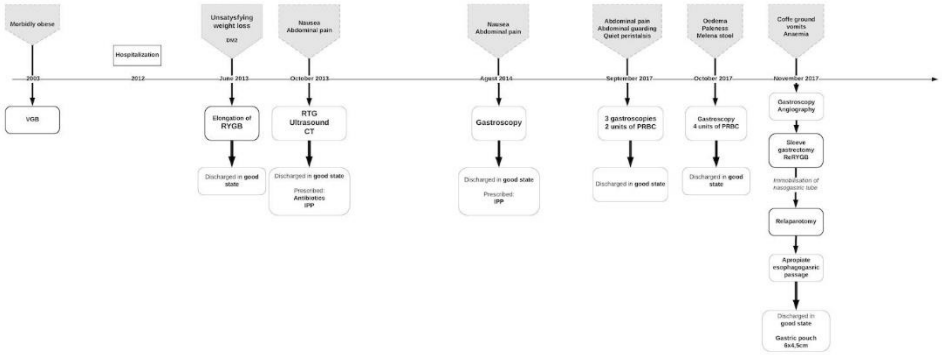
Introduction: Obesity has become a global health problem and multiple bariatric surgeries have emerged to combat it. Vertical banded gastroplasty (VBG) used to be a popular technique however after disappointing long-term weight loss effects and recurring post-operative complications such as hemorrhage it has been replaced with newer, safer and more effective methods.

Materials & Methods: We present a case report of a 68-year-old male patient who was hospitalized in 2017 underwent VBG in 2003 to treat morbid obesity. 10 years later he required revision bariatric surgery due to unsatisfactory weight loss and gastric band erosion. In the 4 years leading up to his latest hospitalization, the patient regularly returned to hospital with symptoms of subileus. In 2017 he was admitted to our Department presenting coffee-ground emesis, melena stool and severely low haemoglobin levels (Hb 6.4mg%).

Results: Despite various diagnostic procedures (CT scan, ultrasound, gastroscopies, angiography) the source of bleeding remained unidentified. Ultimately upon patient's consent laparotomy was performed. Multiple ulcers in upper and lower stomach chambers were identified as the source of bleeding. Sleeve gastrectomy was performed. After a 12-day post-operative observation period patient was discharged home in good general state without signs and symptoms of active bleeding.

Image:



Conclusion: To our knowledge there are few descriptions of such a patient. Gastrointestinal haemorrhage after bariatric procedures such as VBG is difficult to identify due anatomical variations and other multiple possible reasons that normally do not exist in healthy individuals. Patients with anatomical variations can have a prolonged diagnostic process due to haemorrhage which causes frequent returns to hospital.

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Disclosure of Interest: None declared

PE024

"WORLD RECORD" AN EXTRA-ORDINARY CASE OF HIGHEST NUMBER OF HYDATID CYST IN A SINGLE INDIVIDUAL HUMAN ARISING FROM THIGH- A RARE UNUSUAL SITE .

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Introduction: Hydatid disease is a parasitic disease, endemic in many parts of the world. Our article presents an unusual case of primary muscle hydatid cyst in the lateral side of the left thigh which accounts for less than 1% of hydatid cysts location according to our world literature search. Clinical symptoms are insidious and non-specific causing a delay in diagnosis. Intramuscular hydatid disease can cause a variety of diagnostic problems. Magnetic Resonance Imaging (MRI) is very much helpful in the diagnosis, since it reveals the most suggestive aspect and also demonstrates the relationship between cysts and adjacent structures. Treatment is based on surgery, which is completely curative with the lowest risk of local relapse if resected completely without rupturing.
Materials & Methods: We present a case of 61 year old female of Indian origin presented with Pain and Swelling after years of symptoms in the lateral side of left thigh, MRI revealed a voluminous mass with presence of small cysts inside the mass was highly suspicious of hydatid cyst. Surgical excision confirmed the diagnosis, A total of 681 *hydatid* cyst were removed successfully without rupturing a single cyst.
Results: This is an interesting case as this is the world *first case to be recorded in literature* as the highest number of hydatid cyst removed from thigh from an individual in the world literature till date. We have also applied for "*Guinness Book of World Record*" however Confirmation is awaited. m
Conclusion: Hydatid Cyst can also be present at unusual site. Thorough Radiological Investigation is must to come to a diagnosis and Surgery is ideally the choice of treatment and last but not the least we have created the world proud my surgically excising the highest number of hydatid cyst in a single individual human by making the World Record.
References: Hydatid Cyst, Thigh Cyst, Rare cyst site, World Record for hydatid cyst.
Disclosure of Interest: None declared

PE025

A RARE CAUSE OF INTRA-ABDOMINAL MASS

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Introduction: An intra-abdominal mass can pose as a challenging diagnose for the surgeon. Usually the initial diagnose can't be made prior to the resection.
Materials & Methods: 84 year-old woman without previous surgical history presenting food refusal and recent weight loss. At physical examination with a palpable abdominal mass in the lower quadrants.
Abdominal ultrasound showed a solid mass about 11 cm wide close to the uterus.
Gynecological examination and endovaginal ultrasound showed no alterations. The mass was not visible at the endocavitary ultrasound.
CT-scan revealed two adjacent masses about 13x9cm and 12x13cm, one of them cystic and the other with a solid component; no other relevant data.
Patient was proposed a surgical approach that she accepted.
During surgery we found a two-component abdominal mass: a cystic and solid in direct contact with the ileum.
We performed an enterectomy of the ileum involved by the tumor.
Results: Histopathology revealed a biphasic high-grade malignant neoplasm developed in small bowel subserous – immunohistochemistry and morphology corresponding to carcinosarcoma.
Conclusion: Carcinosarcoma is a high-grade malignant neoplasm that usually arises from epithelium. With this case we present a cryptogenic etiology because histopathology couldn't find any other primitive cellular line as the tumor origin.
References: Radi, M.; Carcinosarcoma of ileum in regional enteritis, Human Pathology, Vol 15, 5, pp 385-387 (1984)
Disclosure of Interest: None declared

PE026
LARGE UPPER THIGH LIPOSARCOMA: CASE REPORT

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Introduction: Sarcomas are rare malignant tumors of mesenchymal origin that account for less than 1% of all adult malignancies. Soft tissue sarcomas (STS) comprise approximately 80% of all sarcomas and liposarcomas are most common STS subtype (approximately 20%).
Materials & Methods: Analysis of a clinical case of large upper thigh liposarcoma and literature review.
Results: A 53-year-old female was admitted with complaints of profuse bleeding from large right upper thigh mass that had started on the same day. The patient first noticed the mass approximately year ago and it had increased in size gradually.
Blood tests showed slight anemia with a hemoglobin level of 11.1 g/dl.
A contrast-enhanced CT scan of right thigh was obtained showing well defined heterogenous tumor measuring 21.2 cm (craniocaudal) by 13.5 cm (laterolateral) with no signs of invasive growth. Tissue densitometric values indicated adipose tissue presence.
Patient underwent surgical excision of the tumor and histological examination of the specimen revealed liposarcoma diagnosis (myxoid cell liposarcoma, histologic grade G2), excision performed with clean margins. Additional testing showed no signs of distant metastatic disease. Patient was discharged and referred to an oncologist for further treatment and surveillance.
No additional treatment modalities were administered. Two years after initial surgery a new mass (2 cm in diameter) was discovered in right upper thigh suggesting local tumor recurrence with no signs of distant spread of disease. Specimen histology confirmed liposarcoma recurrence. After surgery patient was referred to an oncologist and additional radiotherapy is planned.
Conclusion: Although rare, soft tissue sarcomas should be suspected in any patient with large and rapidly growing soft tissue lesion. Recurrence is common with large tumors and combined therapy involving surgery and radiation needs to be considered for successful treatment,
Disclosure of Interest: None declared

PE027
LIMBERG FLAP IN THE MANAGEMENT OF PILONIDAL SINUS DISEASE-OWN OBSERVATIONS.

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Introduction: Pilonidal sinus disease is a common condition usually seen in young adults .Many methods have been employed for its management but are also associated with high complications.The study aims is to evaluate the efficacy of Limbergr flap as a treatment .
Materials & Methods: From January 2013 to 2018, 80 patients were operated for pilonidal sinus but 12/15.0%/ of them by rhomboid excision with Limberg flap reconstruction .One patient presented recurrence cyst.. 9 were male and 13 were females . The mean age of presentation was 28 years (range 16–44 years).
Results: The mean operative time was 45 minnutes and all patients successfully underwent surgery as planned procedure,They felt minimal postoperative pain.Two patients developed mild wound infection.None patient developed necrosis of the flap nor massive wound infection.Hospitalization ranged from 3-5 days, drains were removed on postop day 2/3. Closing stitches were put subcutaneously
Conclusion: In our observation we noticed no recurrences with good cosmetic result and acceptable patient satisfaction .Technique is easily performed.
Disclosure of Interest: None declared

PE028

MICROBIOLOGICAL ANALYSIS OF SURGICAL SITE INFECTIONS IN SELECTED SURGICAL PROCEDURES IN THE SURGICAL WARD.

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Introduction: Surgical site infections (SSIs) are among the most common Healthcare-associated infections. The percentage of SSIs per 100 surgical procedures varied from 0.6% to 9.5% and it is linked to the type of procedure and to the type of surgical wound.
The aim of the study was to analyze the etiology of SSIs.

Materials & Methods: The retrospective analysis was conducted of the microbiological test results of the 1309 patients operated on the Surgical Ward of the Public Hospital in Jasło in the years 2017-2018. The material includes six types of surgical procedures: hernioplasty-422(32.2%)pts,cholecystectomy-367(28.3%)pts, appendectomy-154(11.8%)pts, operations on colon-129(9.8%), pancreatitis and biliaty tract procedures (biliary by-pass, T drainage, pancreatic cyst)-119(9.1%)pts, amputations of extremities- 118(9.1%)pts. The SSIs were diagnosed durnig mean 5-7 days hospital stay.

Results: The symptoms of infection of a surgical wound occurred in the case of 108 patients who had been operated on, which accounts for 4,1%. The microorganisms most commonly isolated from post surgical wounds (of SSI) were: Gram-negative bacilli Enterobacteriaceae -100 isolates(52,4%), including E.coli -55(28,8%) and P.mirabilis -20(10,5%); enterococci -51(26,7%), including E.faecals -35(18,3%); S.aureus- 12(6,3%); fungi of the genus Candida -10(5,2%), including C.albicans -6(3.1%). Non-ferment Gram-negative bacilli (4 isolates of Ps.aeruginosa and 6 isolates Acinetobacter baumannii) represented 5.2% of the cultured bacteria (abdominal cavity). Anaerobic bacteria -1%: Bacteroides fragilis (hernia), Prevotella oralis (abdominal cavity). Staphylococcus aureus -6 isolates(amtutations), 3 isolates (hernia). 20 MDR strains (10.5%) were isolated: 3 isolates Acinetobacter baumannii MDR(carbapenem resistant), 7 isolates Enterobacteriaceae ESBL+, 4 isolates MRSA and 6 isolates Enterococcus spp. HLAR. Most frequent etiological factors of SSI after operations on abdominal cavity and on colon are pathogenic Gram-negative bacilli and enterococci – species of intestinal microflora.

Conclusion: A relation was observed between the surgical site and the isolation frequency of the selected pathogens from wounds. The most frequent etiological factors of SSI were Escherichia coli and Enterococcus spp. A large percentile of enterococci in surgical wounds. A short period of a patient's stay in a hospital may cause the SSI to be less frequently detected.

Disclosure of Interest: None declared

PE029

RECURRENT OVARIAN CANCER WITH SUPRACLAVICULAR LYMPH NODE METASTASIS: A REPORT OF TWO CASES AND LITERATURE REVIEW

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Introduction: Recurrent ovarian cancer is always accompanied by lymphatic metastasis and supraclavicular lymph node (SCLN) is one of the rare metastasis sites. Few studies have answered to the question whether local debulking surgery should be done in recurrent ovarian patients with SCLN metastasis. We report two cases of these patients, review published literature and try to explore the feasibility of surgical treatment for this rare population.
Materials & Methods: We retrospectively analyzed and found 2 cases of ovarian cancer with SCLN metastasis since the establishment of our hospital. A comprehensive search in the PubMed, Embase, and Cochrane databases was performed to have a literate review on these patients.
Results: Case 1: A 57-year-old woman was found recurrent ovarian cancer nine years after initial treatment. Her left SCLN was found enlarged (a maximum mass of 2.8x2.2cm, confirmed metastasis by pathology) with the symptom of local compression for 6 months. Ca125 was 22.18U/mL and ultrasound showed hepatic portal lesions at the same time. SCLN metastases continued to increase during the following salvage chemotherapy and left cervical lymphadenectomy was performed to relieve neck compression. With chemotherapy continued, the abdominal metastases still progressed and obstructive jaundice developed. Finally, the patient died of hepatic hilar metastasis 6 months after the surgery.
Case 2: A 73-year-old woman was found recurrent ovarian cancer two years after initial treatment. Her right SCLN was found enlarged (a maximum mass of 8x6cm, confirmed metastasis by pathology) in 2 months and Ca125 was 1020U/mL without any other organ metastasis. She was treated with salvage chemotherapy but the neck mass was still progressively enlarged and the local skin almost ruptured. Right cervical lymphadenectomy was performed and Ca125 decreased to 108.70U/ml after surgery. Postoperative chemotherapy was delayed 2 months because of the complications. At present, 6 months after surgery, the patient lives well without any recurrence and Ca125 reduces to 19.20U/mL.
Literate review of ovarian cancer with SCLN metastasis is summarized in the Table 1, only one study describes the efficacy of SCLN resection in recurrent ovarian cancer.
Image:

Table 1 Cases of ovarian cancer with supraclavicular lymph node metastasis

Author	Publication year	Country	Onset age(y)	Pathological type	Initial stage	Initial therapy	Regimen	Ca125 at metastasis(U/mL)	Possition of SCLN	Diameter(cm)	Sequential therapy	Ca125 after therapy(U/mL)	Lymphadenotomy	Prognosis
Mayadivi S	2005.07	UK	55	serous cystadenocarcinoma	IV（occult cancer）	radiotherapy	N/A	900	right	N/A	surgery+ACT(carboplatin)	100	N	5y no recurrence
Fanti S	2006.06	Italy	51	poorly differentiated cancer	IV	surgery+ACT	TC+topotecan	273	left	N/A	N/A	14	N	N/A
			65	serum-papillary carcinoma	IV	surgery	N/A	N/A	left	N/A	N/A	N/A	N	N/A
Cebesoy FB	2008.02	Turkey	64	serous adenocarcinoma	VI	surgery+ACT	TC	650	left	4	N/A	N/A	N	N/A
Tanaka T	2012.07	Japan	65	serous adenocarcinoma	Ib	surgery+ACT	TC	69.6	right	1.5	wTC*5+Lympadenectomy+wTc*4	normal	Y	20m no recurrence
Rahman M	2012.11	Japan	49	serous carcinoma	IV	surgery+ACT	TC	387	left	3	second line chemotherapy（CPT-11/Gemcitabin）	N/A	N	PFS 6m,OS 2y
Hong L	2018.05	China	43	serous carcinoma	IV	NACT+surgery+HIPEC+ACT	TC/TP	290.4	left	N/A	N/A	14.6	N	3y no recurrence

SCLN: supraclavicular lymph node; UK: United Kingdom; N/A: not available; ACT: adjuvant chemotherapy; TC: paclitaxel plus carboplatin; wTC: weekly paclitaxel plus carboplatin; PFS: Progressives Free Survival; OS: overall survival; NACT: neoadjuvant chemotherapy; TP: paclitaxel plus platinum

Conclusion: It's probably an effective way to have local debulking surgery for recurrent ovarian patients with SCLN metastasis, especially for the one of isolated lesions. More clinical data should be accumulated in the future.

Disclosure of Interest: None declared

PE030

OUTCOMES OF STEREOTACTIC BODY RADIOTHERAPY FOR HEPATOCELLULAR CARCINOMA BELOW 5CM – A SYSTEMATIC REVIEW AND QUANTITIVE ANALYSIS.

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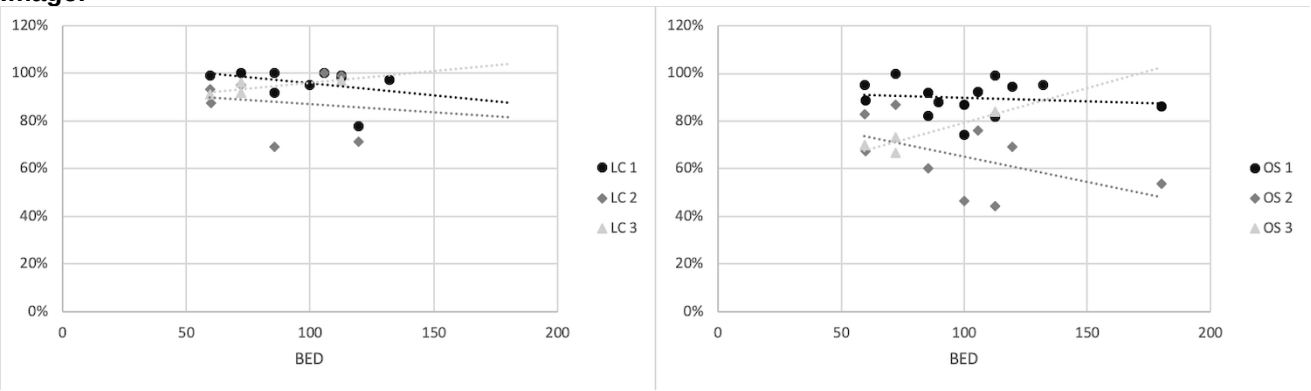
Introduction: Hepatocellular carcinoma (HCC) incidence is raising world-wide with an increased detection of early-stage or small-sized tumors. Still most of the patients are not qualified to surgical resection at diagnosis due to the localization of the tumor or medical condition of the patient comorbidities. Stereotactic body radiotherapy (SBRT) is a radiotherapy modality which can deliver a high dose of radiation to the target tissue with a high degree of precision. It shows promise in terms of efficacy and morbidity. The aim of this systematic review was to summarize current knowledge on patient-specific outcomes of SBRT for small HCC including overall survival, local control, the effect of radiation dose and the toxicity of the treatment.

Materials & Methods: The systematic review was performed according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). MEDLINE (PubMed) database was searched for literature published until May 30, 2018. We used following query: "(stereotactic OR SBRT OR SABR)) AND (HCC OR hepatocellular OR liver cell cancer OR hepatic cell)" to identify studies on SBRT for small HCC. Unpublished literature and articles written in languages other than English were not searched. Additionally, ClinicalTrial.gov was checked for trials on the subject.

Results: After comprehensive database search 16 studies (973 patients with 1034 lesions) were included into qualitative and quantitative analysis; 14 of them were retrospective. Average tumor diameter was 23 mm and 95% of patients were in good general condition (ECOG 0 and 1). Median BED10 (biologically equivalent dose) was 100 GyE (range 59.5-180 GyE). Mean weighted overall survival across studies was 90.94%, 67.48% and 73.36% at 1, 2 and 3 years, respectively. Mean weighted local control was 94%, 92% and 93% at 1, 2 and 3 years, respectively. G1-2 toxicities occurred in 17.5% whereas ≥G3 in 5.3% of patients. There was no treatment-associated mortality.

Image:



Conclusion: SBRT offers high local control with overall survival that is comparable with RFA and surgery. Quality of findings, especially on toxicities, is decreased by incomplete reporting and retrospective designs of published studies. In summary the evidence to support role of SBRT in HCC is growing, however there is still a need for well-designed and well-reported prospective studies including randomized controlled trails.

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Disclosure of Interest: None declared

PE031

MASSIVE LOWER LEG BASAL CELL CANCER (BCC) TREATED WITH CONTACT BRACHYTHERAPY – A THERAPEUTIC CHALLENGE.

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Introduction: In non-melanoma skin cancer (NMSC) radiotherapy is a therapeutic option for patients refusing or not fit for surgery. We would like to present a case of massive lower leg basal cell cancer treated with contact brachytherapy (BRT) as a therapeutic challenge.
Materials & Methods: 86 year old male, was admitted to Lower Silesian Oncology Center Brachytherapy Department for a consult after refusing surgery concerning broad ulcerous lesion of his right lower leg, already BCC confirmed. We revealed that the lesion had been slowly growing within the injury scar that took place 21 years ago. At the admission ulceration measured 7x12 cm with signs of bacterial infection which we verified with a swab and treated with antibiotics. After confirming the ulceration depth of below and equal 5 mm we prepared a flap with 11 applicators and another CT for planning purposes was performed. The flap was positioned with tattoos and attached to the limb with tape to avoid air gaps. The ulceration was wire delineated prior to CT. We contoured the wired area as a PTV. We delivered 54 Greys in 18 fractions. Due to patient's mobility and social issues we delivered each fraction every second day. Enoxaparin sodium was administered to prevent vein thrombosis.
Results: Throughout the treatment we observed surrounding skin acute reaction RTOG grade 2. The ulceration percolated and required dressing exchange at least every 48 hours. In the 4th week after the treatment we observed fiber and granulation progression over the ulceration which we debrided with manuka honey dressings. 6 weeks after the treatment we observed objective lesion shrinkage and percolation decrease. Unfortunately patient’s social background and attitude towards wound healing guidelines led to bacterial infection and necrosis formation. Patient refused surgical debridement and further treatment within surgical department. Until now he is followed up in outpatient clinic where he gets the dressings changed. The process of healing and relapse has been documented with photographs.
Conclusion: We feel that treating extensive NMSC with brachytherapy is a therapeutic challenge and requires a team of specialists including radiation oncologists, surgical oncologists, medical physicists, radiographers and tissue viability nurses and most of all good communication and cooperation with the patient.
Disclosure of Interest: None declared

PE032

A CURIOUS TALE OF METZENBAUM

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Introduction: Metzenbaum scissors are widely used in operating theatres all across the world. They are designed for blunt dissection and cutting delicate tissue. Not many surgeons and trainees know of the man behind this pair of scissors. This is a brief discussion on the history and curious tale of a surgery giant with small hands, Dr Myron Metzenbaum. The main intent and purpose of this review is to foster interest in the history of surgical instruments and to encourage innovation in the field of surgery.
Materials & Methods: A thorough review of the academic literature on Metzenbaum scissors and Dr Myron Metzenbaum was performed.
Results: Interestingly, little has been written on Dr Myron Metzenbaum and his contributions to the field of surgery, including the Metzenbaum scissors. The key events and significant contributions of Dr Myron Metzenbaum to the field of surgery were summarised.
Conclusion: The tale behind the Metzenbaum scissors, as with many important surgical instruments, has been diluted by the sparse historical texts that were written. This review shares the tale of a surgery giant whose inventions are used daily for our patients. Appreciating the life stories of inventor surgeons like Dr Myron Metzenbaum will allow us to deepen our understanding of the history of our profession and encourages us to practise innovation in the field of surgery.
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Disclosure of Interest: None declared

PE033

ACRAL NODULAR MELANOMA IN THE FOOT. CASE REPORT.

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Introduction: Melanoma malignum is a cancer with many faces. Acral nodular melanoma is a rare form of melanoma. Diagnostic problems can lead to inappropriate treatment. Rapid surgical treatment in our case allowed for full recovery.
Materials & Methods: This is a case report about a 57 year old lady with a three-month history of a rapidly growing fleshy plaque on the medial edge of the left foot. Two months earlier she was consulted at the dermatology department. Skin keratosis was diagnosed. Due to the lack of improvement and the enlargement of the change, she was consulted again in the dermatological clinic.
Results: A surgical treatment was recommended. The lesion with using a clinical margin of 1 cm was excisioned . Acral nodular melanoma was diagnosed. The margin was not total. Another excision with total, clear margin was made. The results of immunohistochemical staining were Melan A (+) and Ki67 (+) 80%. IM : 5/1mm2. The stage II B (T3bN0m0) was diagnosed.The patient was consulted at the oncology clinic. Imaging examinations were performed. No additional treatment was required.
Image:

Conclusion: Rapid surgical treatment allowed for full cure of the patient. During the two-years follow-up, there was no recurrence in the scar area after excision of the lesion.The patient remains under the control of the oncological clinic.
Disclosure of Interest: None declared

PE034

ABDOMINAL TRAUMA IN HOMER S ILIAD: A TRAUMA REGISTRY IN THE DAWN OF HISTORY

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Introduction: To remember the excellent descriptions abdominal trauma that create in total a trauma registry in the dawn of the history (8th century b.c)

Materials & Methods: The study of all descriptions in abdominal trauma and correlation with weapons and outcome

Results: There are 31 cases of abdominal trauma presenting in the following tables:Table 1 Topography ,2 Weapons used 3. Outcome

Conclusion: The study of the abdominal trauma in Homer s Iliad **shows these characteristics**:1.is mainly at the region **below umbilicus 87%** 2.has great **mortality 87%** 3.the **spear** was the main **weapon 84.3%** and **reveals a** .the **inadequate protection** of under umbilicus abdomen, **b**. the **meticulous knowledge of anatomy** in ancient Greeks and **c**. the application of these knowledge to provoke lethal injuries.

Disclosure of Interest: None declared

PE035

HYDATID DISEASE OF THE LIVER :PRESENTATION OF FOUR CASES AND REVIEW OF LITERATURE

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Introduction: Ecchinococcus Granulosis (EG) infects approximately 13/100000 people in Greece .65-70% of echinococcal cysts are found in the liver whereas multiple hepatic localization are in 25-30% of the cases.

Materials & Methods: We reviewed our files in a 5 year period (2014-2018) and we found four patients operated because of liver hydatid disease: one with ruptured abscess of the cyst, one with rupture in the bile ducts and two unrupted

Results: First patient a 32 y.o. woman with three large echinococcal cysts between 10-13 cm in different sections of the liver and pressure findings around the stomach and the gallbladder. The other three patients (two males 54 and 73 y.o. respectively and one female 57 y.o.) with similar presentations: echinococcal cysts were found in the right lobe of the liver and one of them also in the left. The first male patient ,73 y.o., had an echinococcal cyst of 11x13 cm with rupture in the perirenal space. The second male patient had also presented with obstructive jaundice due to the rupture of the echinococcal cyst in the biliary tree. In the case of the female patient the echinococcal cysts that were found under the diaphragm in both left and right hepatic lobes were calcified. All patients were operated(sterilization and evacuation and removal of cyst with epiplooplasty and drainage) received postoperative chemotherapy except one female patient due to hepatic malfunction. The two male patients underwent drainage of the cysts and had treatment with Albendazole (one had four sessions and one had seven sessions. One of the female patients 57 y.o. underwent three operations for drainage (two transthoracic and one transabdominal).The treatment was not feasible due to hepatic malfunction. The drainage tubes were in place for 2-12 months postoperatively

Conclusion: The hydatid disease is a zoonosos eliminated in Greece in the last 50 years, but there are still some cases that produce a great amount of morbidity mainly because of postoperative complications and recurrences.

It is generally unknown to young surgeons in developed countries and requires a great amount of patency for surgeons and patients for better outcomes.

Disclosure of Interest: None declared

PE036

HOW TO TEACH SURGERY

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Introduction: Surgeon employed in clinical hospital of Warsaw Medical University sooner or later will face the necessity of teaching to the students of first faculty of medicine. Natural predisposition to teach is not freaquent. Employment procedure does not consist of didactic skills training.
Materials & Methods: Methods of teaching used in the Department were defined and evaluated by faculty and students. The results of final examinations and organisation issues were taken into consideration.
Results: Training at the bedside is most efficient if one teacher is followed by one to three students.
For handing over theoretical issues the students expect the increased use of e-learning and digital technologies.
Participation of students in procedures in operation theathre is irreplaceable.
Conclusion: Economising on teaching does impact the quality. The investments in digital technologies and equipmnet for high-fidelity simulations is necessary. The mentor-trainee relationschip and contact with real patient remains a great value to the students and cannot be totaly replaced.
Disclosure of Interest: None declared

PE037

ONE STAGE PROLAPSING TRANSANAL ENDORECTAL PULL THROUGH (OPTEPT) FOR HIRSCHSPRUNG'S DISEASE: OUR EXPERIENCE

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Introduction: One Stage Prolapsing Trans anal Endorectal Pull Through (OPTEPT) is one of the easy modification of Trans anal Endorectal Pull Through (TEPT) in the treatment of Hirschsprung's disease to avoid perianal excoriation and anal incontinence .The sigmoid colon was prolapsed by gradual traction of the anorectal mucosa and sub mucosa transanally. This is a prospective study done in the Department of Paediatric Surgery, Bangabandhu Sheikh Mujib Medical University (BSMMU) and in different Private Hospital in Dhaka City since January 2010 to December 2018.
Materials & Methods: One hundred and seventy six (176) children (104 male and 72 female) age range from 1 month to 15 years underwent OPTEPT over the last 10 years. Median follow up was 9 years (range 3 months to 9 years). Each patient were evaluated with regards to age, sex, radiological diagnosis, operating time, per operative bleeding, tearing of the colonic wall, length of the excised segment, postoperative anastomoic leakage, retraction, perianal infection, perianal excoriation, soiling and incontinence, anastomotic stricture and constipation in details.
Results: Mean operating time was 60 minutes (range 45 to 90 minutes), average length of the resected bowel segment was 30 cm (range 20 to 50 cm). Two patient required laparotomy, of which one had morbid adhesion due to pervious colostomy and other had colonic tear and preoperative uncontrolled bleeding. Prolapsing of the rectosigmoid is very easy and easiest in children below three years. Peroperative bleeding, retraction and tearing of the dissecting colon is not a significant problem. No anastomotic leakage, disruption, retraction, perianal infection and excoriation on discharge. On subsequent follow up four female patients (2.27%) developed fecal leakage through the vagina, five patients (2.84%) developed constipation, two patients (1.13%) developed anal stricture, 2 patients (1.13%) noticed perineal soiling and six patients (3.6%) developed recurrent enterocolitis. All these patients were managed by regular anal dilatation, dietary manipulation, oral purgatives and hipbath.
Conclusion: One stage prolapsing transanal endorectal pull through (OPTEPT) is technically easy, time saving, safe and effective procedure for recto-sigmoid Hirschsprung's disease. This procedure can easily be learned and practiced by the junior surgeons with less chance of peroperative bleeding and sphincter injury. This procedure offers the excellent clinical results in our practice.
Disclosure of Interest: None declared

PE038

MODERN MANAGEMENT OF ARTERIO-VISCERAL/-LUMENAL FISTULAS – SELECTION OF REPRESENTATIVE CLINICAL SITUATIONS AND CASES

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Introduction: The treatment of arterio-visceral/-lumenal fistulas is usually characterized by a non-evidence-based/interdisciplinary single-case treatment.
Materials & Methods: Presentation of the successful, interdisciplinary treatment of rare arterial fistulas to GI pathologies based on acquired clinical experiences in clinical & periinterventional management & selective literature references.
Results: 1) A 70-yr-old patient with AEG-type-II tumor lesion (extending intramurally within esophageal wall) underwent gastrectomy, splenectomy & esophageal resection with colonic-segment interposition. Anastomotic insufficiency & aorto-esophageal fistula were treated by implantation of a self-expanding aortic stent.
2) 79-yr-old patient with hematuria/bladder tamponade (former neoadjuvant radiochemoTx of a suprasphincteric rectal cancer(Ca) & subsequent rectum extirpation) due to a uretero-iliac fistula. Treatment: Combination of **i)** an AMPLATZER™ insertion into the right internal iliac artery & **ii)** right-common-iliac-artery stenting.
3) A 70-yr-old patient with an "aneurysma spurium" of the distal anastomosis of an aorto-aortic prosthesis was approached by bi-iliac EVAR. Because of recurrent infectious episodes, the prosthesis was finally explanted & a subclavio-bifemoral bypass was implanted. Intraoperatively, a paraprosthetic fistula to the duodenum was to be determined. The primarily not intended bridging with EVAR provided a suitable interims solution to prevent an imminent aortointestinal fistula or rupture associated with severe bleeding prior to definitive care.
4) A 72-yr-old patient with unresectable T4-rectal Ca imposed with recurrent bleeding episodes out of the descendostoma. Angiography revealed bleeding out of the AIE (àstenting) & AMI (à coiling). A sinking abscess originating from perforated rectal Ca leading to: **i)** Ca-surrounding cavity was oppened & drained & **ii)** the iliaco-(later: mesenterico-)enteric fistula was excised (including iliac stent removal & vascular ligation).
5) A 46-yr-old male with an **acute** necrotizing pancreatitis developed an upper GI hemorrhage (bleeding into a pseudocyst) leading to minimally invasive CT-guided percutaneous thrombin instead of supraselective catheterization & coiling due to simultaneous aortic dissection.
Conclusion: The appropriate management of arterial fistulas to GI pathologies is extremely demanding & requires the interdisciplinary expertise of a tertiary vascular medical center combining various treatment modalities.
Disclosure of Interest: None declared

PE039

VENOUS THORACIC-OUTLET SYNDROME WITH ACUTE THROMBOSIS OF SUBCLAVIAN VEIN (PAGET-VON-SCHROETTER'S SYNDROME) – CASE REPORT AND CURRENT LITERATURE

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Introduction: Paget-von-Schroetter's syndrome is the acute thrombotic occlusion of the subclavian or axillary vein. It results from microtrauma or intimal tears of the vein and presents clinically with venous swelling, prominence of the upper arm veins as well as infraclavicular or axillary pain. Chronic pathological changes of the axillary and subclavian veins due to anatomical changes in the upper thoracic aperture are referred to as venous thoracic outlet syndrome (TOS).
The aim of this scientific case report is to investigate the rare case of a PSS with the individual case-specific clinical symptom severity based on relevant references from the scientific medical literature and the gained experience in the diagnostic and therapeutic case management including the outcome and prognostic evaluation.
Materials & Methods: A 30-year-old hobby athlete complained of swelling and pain in the right arm which had suddenly appeared the day before, with a slight bluish-livid discoloration of the skin. Duplex ultrasonography, CT and MR angiography as well as venography revealed thrombosis of the right subclavian vein in case of thoracic outlet syndrome. Due to the acute event, indication for drug-induced intravenous thrombolysis with Actilyse® (alteplase; Boehringer Ingelheim Pharma GmbH & Co. KG, Ingelheim/Rhein, Germany) was seen, which was locally applied via a catheter through brachial vein, Residual thrombi in the subclavian vein and obstruction to the subclavian vein were detectable, which was dilated with image-guided balloon. Anticoagulation was initiated with Xarelto® 20 mg daily (rivaroxaban, Bayer AG, Leverkusen, Germany).
Results: Control investigation after 3 months revealed a significantly reduced symptomatology. The conservative therapy will be continued with reduction of sports activities and additional rivaroxaban for at least 6 months. As a possible cause, a hard and repeated activity of the upper extremities due to extensive work-out was found.
Conclusion: Paget-von-Schroetter's syndrome is a very rare disease. It can be treated conservatively, interventionally and with surgical intervention. In acute severe thrombosis, fibrinolysis should be performed with plasminogen activators. In severe cases of compression, a surgical correction should be discussed.
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Disclosure of Interest: None declared

PE040

THE PULSATILITY INDEX (PI) IS SUPERIOR TO ANCLE-BRACHIAL INDEX (ABI) AND RESISTANCE INDEX (RI) IN PREDICTING APPROPRIATELY THE CLINICAL COURSE AFTER INTERVENTION IN PERIPHERAL ARTERIAL OCCLUSION DISEASE (PAOD)

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Introduction: Background/Purpose
The ankle-brachial index (ABI) cannot provide a high predictive accuracy for event-free survival in patients with peripheral arterial occlusion disease (PAOD).
Materials & Methods: This retrospective study aimed at evaluation of the predictive accuracy of other hemodynamic parameters (pulsatility index (PI), resistance index (RI)) for event-free survival (reintervention, major amputation). PI, RI and ABI measurements performed in consecutive patients with PAOD during the period from January 2012 to the end of December 2014 were assessed before and after treatment measures.
Results: In the study population (n=97 patients with PAOD), reintervention and major amputation free survival were significantly longer in those patients who had a posterior tibial artery PI < 1.2 before treatment and a PI > 1.2 after treatment compared to those patients whose PI was not relevantly changed by treatment (Logrank test, p = .001). AUC of ROC curves were significantly higher for PI than for ABI and RI.
Conclusion: PI has a higher predictive accuracy for reintervention-free survival than the ABI and should be considered for more objective assessment of the treatment success and clinical course prediction.
References:
Disclosure of Interest: None declared

PE041

THE APPLICABILITY OF NEGATIVE WOUND PRESSURE THERAPY IN THE TREATMENT OF COMPLICATED WOUNDS AFTER AMPUTATION OF THE LOWER EXTREMITIES IN PATIENTS UNDERGOING SURGERY DUE TO CRITICAL LIMB ISCHEMIA.

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Introduction: *The Negative Pressure Wound Therapy (NPWT) became a standard in the treatment of infected surgical wounds. NPWT in treatment of chronic and ischemic wounds is more frequently described in the literature. Patients who underwent amputation of the lower limbs due to ischemia are a group of particularly risk of wound infection and the difficulty in stumps treating. Aim of the study is to assess the effectiveness of NPWT in the treatment of difficulty wounds after lower limb amputation because of critical limb ischemia.*
Materials & Methods: *The study group consisted of 24 subjects (7 women, 17 men, mean age - 65 years) who in 2007-2012 were performed amputations at different levels: group I (4 patients) – transtibial amputations, group II (15 patients) – transfemoral amputations, group III (5 patients) - hip disarticulation. Preoperatively, the degree of vascular changes was assessed on the basis of ABI and imaging studies.*
Results: *Four amputations were the primary treatment of critical ischemic of the lower limb, and 20 procedures were secondary to performed earlier ineffective vascular surgery. NPWT was used in cases of non-healing wound or wound with infection of the stump. The duration of the therapy ranged from 7 to 26 days. Average number of dressing changes – 6. The results of treatment with NPWT: 18 patients – wound closed with primary suture, 2 patients - amputation at a higher level, 2 patients – wound closed with a skin-muscle flap, 2 patients – wound closed with a dermal graft. The complete healing or significant reduction of infected wounds were obtained in all patients.*
Conclusion: *NPWT give a opportunity to total or partial reduction of infection, improve the degree of tissue perfusion and the patient quality of life. NPWT may become the standard in the treatment of complicated amputation wounds, not only for vascular surgery departments, but also for general surgery departments.*
Disclosure of Interest: None declared

PE042

A PAINFUL GROIN TUMOR. AN UNUSUAL CASE REPORT

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Introduction: We report a case of a patient with painful tumor in the right groin. The first diagnosis made after imaging was a irreducible femoral hernia. During the operation it was found the presence of a large varicose of the outflow of saphenous vein with thrombus.
Materials & Methods: This is a case report about a 60-year-old patient, a truck driver. The patient was admitted to the hospital because of painful tumor in the right groin. The tumor appeared four days earlier after coughing. Medical past history was thrombosis of lower limbs.At the first examination in the right groin, just below the inguinal ligament was a painful palpation tumor with a slightly red skin. The ultrasound examination showed: a well-delineated spherical tumor with a heterogeneous echo, with fluid ; The first diagnosis was an image of a femoral hernia with a trapped greater omentum and fluid in a sack. The patient was qualified for the urgent operation.
Results: During the operation it was found the presence of a large varicose of the outflow of saphenous vein with thrombus . Doppler ultrasound was performed intraoperatively confirming the presence of a thrombus in a saphenous and femoral vein. A varicose vein was excised and the thrombus was removed. In sonographic control after excision of a varic with thrombus , there was no stenosis of the femoral vein or presence of thrombus in a lumen of the vein. After the procedure, the patient had a slight swelling of the right lower limb, which was quickly reduced. The wound was healing properly.
Conclusion:

1. Before the operation of a irreducible femoral hernia has to be take into account the varic with thrombus of saphenous vein outlet.
2. Computer tomography examination may be useful in case of uncertain diagnosis during ultrasound examination.

Disclosure of Interest: None declared

PE043

PERSISTENT HYPERTENSION FOLLOWING SURGICAL CURE IN PHEOCHROMOCYTOMA: A CORRELATION WITH PATTERN OF BLOOD PRESSURE, PERIOPERATIVE PARAMETERS AND FOLLOW UP 2D ECHOCARDIOGRAPHY

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Introduction: Pheochromocytoma(PCC) can cause secondary hypertension(HT), though the pattern of blood pressure(BP) can be varied. PCC amenable to surgical cure may result in cure of HT post surgery, although not in all cases. Persistent HT following surgical cure for PCC could be a result of preoperative BP pattern, perioperative parameters, disease recurrence, long standing vascular or cardiac changes, etc. In this retrospective analysis of prospectively collected data, we analysed various BP patterns in PCC and correlated persistent HT with perioperative parameters and prospectively performed 2Dechocardiography(ECHO), flow mediated vasodilation(FMD) in follow-up.
Materials & Methods: Patients who underwent surgical management for PCC between December 1990 and February 2017, and whose records, including minimum one-year follow-up were available were included in the study. BP status (normotensive/hypertensive) and patterns of HT were recorded, and correlated with demographics, other symptoms, and preoperative urinary metanephrines(UMN) and normetanephrines(UNMN). Factors associated with persistent/new onset HT in follow-up were determined. Follow-up data for patients willing for UMN, UNMN collection, FMD and ECHO was done prospectively, a minimum of one year following surgery.
Results: Out of 241 patients identified, details on preoperative BP pattern were available in 235, of which 18.7% were normotensive, 18.3% only paroxysmal HT, 28.5% sustained HT and 34.5% had sustained HT with paroxysms. Persistent HT(seen in 50 of 163 patients with follow-up data) had correlation with different preoperative BP patterns($p=0.037$). Male gender was significantly associated with persistent HT($p=0.014$), but not age($p=0.718$) or duration of HT preoperatively($p=0.101$). Lower fluctuation in intraoperative systolic BP was significantly associated with persistent HT in follow-up($p=0.008$) so was preoperative UNMN level($p=0.008$). Follow-up UNMN, though within normal range, were significantly higher in those with persistent HT($p=0.006$). ECHO(done in 32 patients) parameters such as end diastolic and systolic indices, left ventricular mass, ejection fraction, fractal shortening etc and FMD did not vary between those with and without persistent HT in follow-up.
Conclusion: Persistent HT post curative surgery in PCC varied significantly with different preoperative BP patterns, gender, preoperative and follow-up UNMN, and intraoperative systolic BP. ECHO parameters and FMD did not differ amongst those with and without persistent HT.
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Disclosure of Interest: None declared

PE044

POSTERIOR RETROPERITONEOSCOPIC VERSUS LAPAROSCOPIC TRANSABDOMINAL ADRENALECTOMY: PROSPECTIVE RANDOMIZED TRIAL

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Introduction: Aim of the study was to compare results of laparoscopic transabdominal (LA) and posterior retroperitoneoscopic (RA) adrenalectomy.
Materials & Methods: From 2013 to 2017 years 86 patients with adrenal tumors were randomized in two groups: 44 patients with LA (group I), and 42 patients with RA (group II). Both groups were comparable with regard to demographic and clinical parameters, comorbidities, and size of tumors. Laparoscopic transabdominal adrenalectomy was performed employing the Gagner's technique. Retroperitoneoscopic adrenalectomy was performed using the Walz's technique.
Results: There were no serious complications and mortality in both groups. Conversions were done in 4 cases (9.0 %) in group I, and in 1 case (2.3%) in group II due to size of tumors and technical difficulties. Operative time, time to first intake, analgesic requirements, length of hospital stay, postoperative complications were all significantly lower in the RA group.
Conclusion: RA provides better perioperative outcomes compare to LA. RA is the preferred operation for not large adrenal tumors.
Disclosure of Interest: None declared

PE045

ADRENAL SURGERY WITHOUT ALPHA BLOCKING THERAPY PREOPERATIVELY (ASAP) – A FEASIBILITY STUDY AT SAHLGRENSKA UNIVERSITY HOSPITAL

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Introduction: Alpha adrenoceptor blockade (AAB) prior to pheochromocytoma (pheo) surgery has been considered state of the art as a means to decrease perioperative morbidity and mortality since it was introduced in the 1950's. Increased detection of pheos at a less severe stage as adrenal incidentalomas and development of safer anesthesiologic and surgical techniques has put the need for AAB in contemporary pheo management in question. Refraining from AAB has the potential to shorten the time to surgery and spare the patient from unwanted side effects. The aim of this pilot study was to evaluate hemodynamic stability and postoperative outcome in pheo patients operated without preoperative AAB.
Materials & Methods: From April 2017 all consecutive patients with pheo have been assessed for elegibility. Surgery was performed as soon as possible after inclusion and without previous AAB. Episodes and duration of peri- and postoperative hyper- and hypotension (systolic BP > 200 or < 70 mmHg) and the use of drugs affecting hemodynamics were registered. 24h blood pressure registration (24hBP) and ultrasonic cardiograms (UCG) were performed prior to surgery. At 30 days postoperatively a clinical control including plasma metanephrines, 24hBP, UCG and evaluation of complications (according to Clavien-Dindo) was performed. All included patients have been compared to age–matched historical controls (1:1).
Results: By January of 2019 eight patients (50% female, mean age 50 years) have been included. Mean tumour size was 4.4 cm (range 1.5-7.5). No episodes of systolic BP > 200mmHg or < 70mmHg during surgery were registered and only two patients have required small doses of norepinephrine post operatively. The median time of surveillance in the post op ward was 6 hours and median duration of hospital stay one day, as opposed to 21 hours and four days respectively in the control group. All patients had normalized BP and plasma metanephrine levels at follow up and no complications have been noted.
Conclusion: This feasibility study indicates that operating pheo patients without previous AAB is safe and may shorten postoperative surveillance and hospital stay, and provides valuable data to guide further studies. A randomized trial comparing pheo surgery with and without AAB is warranted.
Disclosure of Interest: None declared

PE046

MIR-431 AS A CHEMOSENSITIZER IN ADRENOCORTICAL CARCINOMA VIA REVERSAL OF EPITHELIAL MESENCHYMAL TRANSITION

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Introduction: Adrenocortical carcinoma (ACC) is a rare endocrine cancer with treatments limited in efficacy for metastatic disease. New molecular targeted therapies in clinical trials have yet to improve patient outcomes. In contrast, established treatment regimens of adrenolytics and chemotherapy have demonstrated treatment benefit, however, only a minority of patients experience sustained benefit. Drug side effects also prevent patients from achieving therapeutic dosing shown to confer survival benefit. Identification of microRNAs (miRNAs) in patients responsive to adjuvant therapy may offer a means to sensitize patients with progressive disease to existing adjuvant regimens.
Materials & Methods: Samples from primary ACC tumours of ten Stage 4 discovery cohort patients were examined for differentially expressed miRNAs between those “sensitive” and those “resistant”. Candidate microRNAs were identified, and a miRNA underexpressed in the resistant group versus sensitive were restored via transfection in two functional ACC cell lines. Gain of function was assessed, along with effects on apoptosis and cell cycle.
Results: microRNA-431 (miR-431) was under-expressed in ACC patients with progressive disease whilst undergoing adjuvant therapy. Restoration of miR-431 *in vitro* decreased the half maximal inhibitory concentrations (IC_{50}) of doxorubicin and mitotane, with markedly increased apoptosis observed for both. We found a reversal of epithelial mesenchymal transition (EMT) underlies the action of miR-431 in combination with doxorubicin, with *Zinc Finger E-Box Binding Homeobox 1*(*ZEB1*) implicated as the molecular target of miR-431 in ACC.
Conclusion: This is the first study examining the potential of miRNA therapy to sensitize ACC to current established adjuvant therapy regimens, which may mitigate the resistance underlying treatment failure in patients with advanced ACC. Effective and well-studied methods of targeted miRNA delivery in existence hints at the imminent translatability of these findings.
Disclosure of Interest: None declared

PE047

OUTCOMES OF PATIENTS UNDERGOING SURGICAL RESECTION FOR ADRENOCORTICAL CARCINOMA: AN ANALYSIS OF THE NATIONAL CANCER DATABASE

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Introduction: Adrenal tumors are common, affecting between 3-10% of the population; however, adrenocortical carcinoma (ACC) is a rare form of adrenal cancer with a poor prognosis. Prognostic factors continue to be ill defined. In order to better understand outcomes, we reviewed the National Cancer Database (NCDB) to evaluate current treatment utilization in the United States, and describe factors impacting outcomes after resection of ACC.
Materials & Methods: A retrospective review of patients undergoing surgical resection for ACC was performed using the NCDB from 2004 to 2014. Patient demographics, tumor characteristics, operative histopathology, and perioperative course were analyzed. All included patients had resection for curative intent. Patients were excluded if they did not undergo surgery, had missing data, or underwent palliative surgery. Kaplan-Meier survival was calculated. Log-rank statistics were used to test the association of clinical variables with OS. Multivariable Cox proportional hazard model included only clinical variables that were associated with OS.
Results: A total of 1714 patients with ACC met inclusion criteria. Median age at diagnosis was 52.8 years (SD=15.1). Average tumor size was 11.5 cm (SD=6.2). Median overall survival was 49 months (95% CI 43-56). 76% of patients had a Charlson-Deyo score of 0. Most patients were female (61%). Majority of ACC were grade 3 (46%). A total of 31.7% had margin-positive resections. 46.3% of patients were discharged between postoperative days 4-7. Univariate analysis demonstrated significantly increased risk of death with increasing age (p=0.0001), higher grade (p<0.0001), positive margins (p<0.0001), higher Charlson-Deyo score (p<0.0001), and increased length of stay (LOS) (p<0.0001). Age (p=0.0023), grade (p<0.0001), margin positivity (p=0.0001), and increased LOS (p=0.0004) were all associated with increased risk of death, while Charlson-Deyo score had no impact on multivariate analysis.
Conclusion: ACC portends a poor prognosis. Size is not statistically significantly associated with overall survival; however, increasing age, higher grade, positive margins, and increase in number of postoperative days in the hospital is statistically significantly associated with poor survival.
Disclosure of Interest: None declared

PE048

INCIDENTAL ADRENAL LESIONS IN MULTIPLE ENDOCRINE NEOPLASIA TYPE 1 (MEN1)

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Introduction: Patients with multiple endocrine neoplasia type 1 (MEN1) frequently undergo cross sectional imaging during follow up, and incidental adrenal lesions are often detected. The spectrum of adrenal pathology identified in patients with MEN1 is not well described, making management of these lesions unclear. The purpose of this study was to examine the incidence and outcome of adrenal lesions found in patients with MEN1.
Materials & Methods: We conducted a retrospective chart review of all patients with multiple endocrine neoplasia type 1 treated at our center from January 1993 to December 2015. Presence of an adrenal lesion was determined based on imaging performed at any time from presentation to conclusion of follow-up.
Results: The MEN1 database contained 255 patients. We identified 71 (27.8%) patients who had adrenal findings on imaging. Median age at detection of an adrenal abnormality was 49 years (range 17-73 years). Thirty-eight (53.5%) of the patients with adrenal imaging findings had minor abnormalities (isolated hyperplasia, sub-centimeter nodularity, or glandular prominence without a discrete nodule) and thirty-three (46.5%) patients had at least one discrete nodule or mass. With a median follow up of sixty-three months (4-268 months), all the patients with minor abnormalities had stable disease and none had biochemical evidence of function. Amongst patients with a discrete mass, median tumor size was 2.3 cm (range 1.0-8.0 cm), and 2 (6.1%) were functional: 1 secreted cortisol and 1 was a pheochromocytoma. Ten patients underwent adrenalectomy. Indications for adrenalectomy included pheochromocytoma (1), adrenocorticotropic hormone (ACTH)-dependent Cushing's syndrome (2), ACTH-independent Cushing's syndrome (1), tumor size (1), tumor growth (1), invasion by adjacent pancreatic neuroendocrine tumor (PNET, 1), and unknown reasons at other institutions (3). On final pathology, six represented benign adenomas or hyperplasia, one each was a pheochromocytoma, invasive PNET, benign cyst, and pathology was unavailable for one. All patients who underwent resection were stable and without evidence of adrenal pathology over the course of follow up.
Conclusion: Patients with MEN1 frequently present with adrenal findings on imaging. Radiographic or clinical progression of minor abnormalities is uncommon. Pheochromocytomas and functioning adrenal cortical adenomas occur occasionally. Primary adrenal cancers and aldosteronomas were not encountered in this series and appear to be very rare.
Disclosure of Interest: None declared

PE049

UNILATERAL ADRENALECTOMY AS INITIAL MANAGEMENT OF CUSHING'S SYNDROME SECONDARY TO BILATERAL MACRONODULAR HYPERPLASIA

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Introduction: The management of Cushing's syndrome due to primary bilateral macronodular adrenal hyperplasia (PBMAH) poses a treatment dilemma andconsensus regarding optimal strategy is lacking. Unilateral adrenalectomy is associated with uncertainty in both determining which gland to resect and duration of cure. Medical therapy has serious potential side effects. Bilateral adrenalectomy results in adrenal insufficiency requiring life-long steroid supplementation. We sought to examine the role of unilateral adrenalectomy in treating this rare disease.
Materials & Methods: Under IRB approval, a retrospective review of patients with ACTH independent Cushing's syndrome due to PBMAH treated at a single tertiary care referral center between January 1, 2004 and October 22, 2018 was performed. Data collection included demographics, laboratory evaluation, imaging, operative reports, pathology, and clinic notes. Descriptive statistics were used to investigate sample characteristics. A time to event analysis was utilized to determine risk factors for recurrence.
Results: We identified 14 patients with ACTH-independent Cushing's syndrome due to PBMAH. The majority were female and white. Median age at presentation was 57 and average BMI was 36.7. Four patients presented with subclinical disease. Management strategies consisted of unilateral adrenalectomy of the gland harboring the largest nodule(s) in 10 patients, unilateral adrenalectomy guided by AVS in 2 patients, bilateral adrenalectomy in one patient, and medical management in one patient. Of the 2 patients who underwent AVS, one lateralized to the dominant gland and the other patient had similar sized glands. Mean duration of follow up was 48 months. All patients who underwent unilateral adrenalectomy had initial reduction in cortisol and symptomatic improvement. Of those, 3 required reoperation at an average of 41 months to remove the contralateral adrenal gland. Kaplan Meier analysis demonstrated no significant difference in demographic variables or use of AVS for re-operation.
Conclusion: Our cohort of patients with Cushing's syndrome due to PBMAH with mean duration of follow up of 4 years demonstrates that unilateral adrenalectomy of the dominant gland can provide symptomatic improvement in patients, sparing the need for AVS or the morbidities associated with bilateral adrenalectomy.
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Disclosure of Interest: None declared

PE050

MET AS POTENTIAL TARGET FOR MOLECULAR FLUORESCENCE GUIDED SURGERY IN PAPILLARY THYROID CARCINOMA

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Introduction: There is no diagnostic tool to select patients with papillary thyroid carcinoma (PTC) who may benefit from a prophylactic central lymph node dissection (PCLND) to prevent local recurrence. Molecular fluorescence guided surgery (MFGS) might improve patient selection by visualizing central lymph node metastases. This study aims to identify potential target antigens in PTC for clinically available, near infrared fluorescent (NIRF) tracers currently used for MFGS.
Materials & Methods: Functional Genomic mRNA (FGmRNA) profiling was applied to microarray expression data from the public domain of PTC and normal thyroid tissue (NTT).[1] Class comparison followed by multivariate permutation testing (MVP) between PTC and NTT FGmRNA-expression profiles was performed to identify significantly upregulated genes. 12 clinical available NIRF tracers where identified from literature.[2] Protein expression of the most significantly expressed gene targeted by these tracers was validated by immunohistochemistry (CST8198S antibody) using a tissue microarray (671 PTC/108 NTT cases). An H-score was calculated per patient from available cores and compared between PTC and NTT. The relation between H-scores and PTC recurrence rates was assessed.EMI-137 selectivity and binding was validated using immunofluorescence (CST8198S) in B-CPAP (PTC), Nthy-ori 3-1 (NTT) and LNCaP (negative control) cell lines.
Results: Class comparison between FGmRNA expression profiles of 97 PTC and 80 NTT samples identified 1,702 significantly upregulated genes in PTC after MVP (false discovery rate 5%, confidence interval 80%). Within these significantly upregulated genes we identified 5 genes that are targeted by one of the twelve clinical available NIRF tracers: MET (ranked 11; target of EMI-137), PSMA 7 & PSMA 1 (ranked 685 & 1070; targets of MDX1201-A488), CTSK and CTSH (ranked 668 & 1672; targets of LUM015). IHC validation for MET (figure 1) showed that the H-score was significantly higher in PTC compared to NTT ($p<0.0001$). 76% of PTC samples and 3% NTT samples stained positive for MET. Higher H-scores were associated with a higher risk of PTC recurrence rates ($p=0.001$). Selective binding of EMI-137 to MET was confirmed *in vitro* in B-CPAP cell lines.
Image:

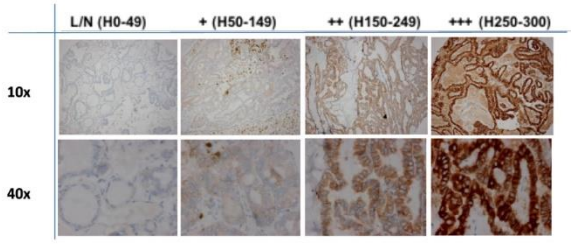

Figure 1
Overview of Cell Signaling 8198S staining intensities in PTC tissue. Staining intensities are provided at 10x and 40x magnifications (L/N = low/negative).

Conclusion: Based on FGmRNA expression level, protein overexpression, association of increased H-scores with PTC recurrence, *in vitro* selective binding of EMI-137 in the BCPAP cell line and the clinical availability of EMI-137, MET is an interesting target for MFGS in PTC.
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Disclosure of Interest: None declared

PE051

A SIMPLE TOOL TO IMPROVE THE VOCAL CORDS VISUALIZATION ON TRANSLARYNGEAL ULTRASOUND IN MALE PATIENTS.

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Introduction: Laryngeal ultrasound has been increasingly used for evaluation of the vocal cords mobility after thyroid and parathyroid surgery. The sensitivity and positive predictive value of the method are reported being higher than 80%. Nevertheless, the visualization rate in male patients remains low, therefore ultrasound is not attractive for the perioperative work up in those patients. In the present study we evaluate the ability to improve the visualization rate by using a gel pad as an interface between the skin and the ultrasound probe.
Materials & Methods: Between December 2018 and January 2019, 92 male patients (mean age 49 years; range: 20-80) referred to our hospital with different thyroid pathologies and seen in an ambulatory setting have been submitted to laryngeal ultrasound first without (TLUS) and subsequently with gel pad (G-TLUS). TLUS was performed by B-scan (probe 5-13 MHz, aperture 40 mm). The data were prospectively collected. Statistical analysis was performed by a commercially available program (Prism 5, GraphPad ®); categorical data were analyzed by the Fisher's exact test. Statistical significance was set at $p<0.05$.
Results: The visualization rate in the TLUS-Group was 35% (32 out of 92 patients). The use of the gel pad could increase the rate to 78% ($p<0.0001$). In 20 patients vocal cords could not be visualized either by standard TLUS nor by using the gel pad because of diffuse thyroid cartilage calcification. Age is an independent factor influencing the sensitivity of the method. By dividing the patients by age (£50 years vs. >50 years) the visualization rate decreases from 45% to 25% in the TLUS group and from 82% to 75% in the G-TLUS group.
Conclusion: The gel pad significantly improves the vocal cord visualization rate and should be routinely used if visualization is not possible at standard TLUS. Nevertheless, direct laryngoscopy still remains a referential method for the perioperative vocal cords check-up in patients where the TLUS is ambivalent.
Disclosure of Interest: None declared

PE052

SURGEON QUALITY OF LIFE AMONG THE MEMBERSHIP OF THE INTERNATIONAL ASSOCIATION OF ENDOCRINE SURGEONS

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Introduction: In recent years, interest in surgeon job satisfaction and quality of life (QoL) has been increasing in both the media and the literature. Health-related QoL in endocrine surgeons has yet to be explored and is particularly interesting given the small-sized operative fields and complex ergonomics that characterize many endocrine procedures. We aimed to examine how practice-related and geographic factors may contribute to QoL and practice-related pain in endocrine surgery.
Materials & Methods: After multi-institution IRB review, an anonymous English-language survey was distributed electronically to the membership of the International Association of Endocrine Surgeons (IAES). The survey included the validated Short Form 36 (SF 36) health-related QoL scale plus an original demographic and practice-related pain questionnaire. Responses were assessed for associations between geography, types and length of operations performed, pain, and QoL outcomes.
Results: Among the 79/426 respondents (18.5% response rate), 70.5% were male, 77.5% Caucasian, and 62.8% between the ages of 36 and 55. 34.2% were from North America, 25.0% were from Asia, 23.7% from Europe, 10.5% from Australia/New Zealand, and 6.6% from Central/South America. QoL scores for all SF 36 domains were within one standard deviation of previously reported population controls. A high proportion (40.5%) of respondents reported pain attributed to surgical practice, with 38.0% reporting prior practice-related pain that has since resolved. Most (68.35%) of those reporting pain identified it to occur in the neck, shoulders, and/or back. For those who reported it, pain altered their behavior at home or at work for a mean of 1.8 days per week with a mean symptom duration of 38.0 months; 42.9% sought treatment with 93.9% experiencing temporary relief, and 39.4% achieved permanent relief. Physical therapy (69.7%) and massage (48.5%) were the most commonly used treatment modalities. 15.2% underwent surgery. No associations were identified between pain or QoL and geographic or practice-related factors.
Conclusion: Chronic practice-related pain is a common problem among endocrine surgeons across the world, and is associated with altered behavior at home and at work. Of those seeking treatment, at least temporary pain relief is common. Practice-related factors were not associated with either pain or QoL outcomes, although given the low survey response rate, these results should be interpreted with caution.
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Disclosure of Interest: None declared

PE053

EVALUAION OF MULTIDISCIPLINARY TREATMENT FOR ADVANCED PANCREATIC NEUROENDCRINE TUMOR

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Introduction: Pancreatic neuroendocrine tumor (P-NET) is recognized as rare type of pancreatic neoplasms. Surgical resection has played a central role in the treatment. Whereas, metastatic and unresectable tumor lesions especially to liver is so fatal as to treat with multidisciplinary treatment. The aim of this study is to evaluate multidisciplinary treatment for advanced PNET with liver metastasis.
Materials & Methods: Total 220 patients diagnosed pathologically with P-NET was analyzed retrospectively from August 1998 to March 2018 in our institute. We examined the outcomes of surgical procedures and multidisciplinary treatments as well as survival and prognosis.
Results: Among these patients, 65 cases (29.5%) have developed liver metastasis at first visit to our institute. Those patients with liver metastasis were 5 cases of NET-G1 (5/93 of total NET-G1: 5.4%), 36 of NET-G2 (36/87 of total NET-G2: 41.3%), 18 of NET-G3 (18/24 of total NET-G3: 75%), 6 of NEC-G3 (6/16 of total NEC-G3: 37.5%). Those liver lesions were simultaneous or liver recurrence after previous surgery. Mean observation time were 36.4 months. Surgical resection, systemic chemotherapy, or intra-arterial therapy (TACE) have been determined for the treatment of liver metastatic P-NET. Upfront surgery was performed in 7 cases (9.2%). Most of the cases (58 cases, 90.8%) were judged to be unresectable. After following systemic chemotherapy, conversion surgery could be performed in 12 cases (20%). Comparing the background of upfront surgery and conversion surgery, there was no significant difference in the proportion of G3 patients between upfront surgery (2/7, 28.5%) and conversion surgery (3/12, 25%). However, in terms of outcomes between upfront and conversion surgery, the result of conversion surgery seemed to be much better. R0 resection was achieved in one lesion (14.3%: 1/7) in upfront surgery and 6 lesions (50%: 6/12) in conversion surgery group. Furthermore, the overall survival of conversion surgery was significantly better than upfront surgery (p=0.032).
Conclusion: Multidisciplinary treatments with surgical resection following therapy with systemic chemotherapy is useful strategy for the treatment of advanced PNET representing liver metastasis.
Disclosure of Interest: None declared

PE054

PREOPERATIVE IMAGING IN PATIENTS WITH TERTIARY HYPERPARATHYROIDISM

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Introduction: Tertiary hyperparathyroidism following kidney transplantation is most commonly characterized by 4-gland hyperplasia, but single and double adenomatous disease has been demonstrated in this population as well. It is unknown whether pre-operative imaging can assist in identifying patients who may qualify for focused surgery for adenomatous disease.
Materials & Methods: We performed a retrospective review of our patient database from 1998-2018 for patients with tertiary hyperparathyroidism following renal transplant. Patient charts were reviewed for patient demographics, laboratory values, pre-operative imaging, operative findings, pathology, and complications.
Results: We identified 109 patients with tertiary hyperparathyroidism following renal transplant who underwent parathyroidectomy. There were 48 females and 61 males with a mean age of 52.3 ± 13.1 years. Median pre-operative calcium and PTH were 10.7 mg/dl (IQR 10.3-11.2) and 178 pg/ml (IQR 118-305). Pre-operative ultrasound was performed in 60 patients. Of these, 12 (20%) were negative, 38 (63%) showed 1-2 adenomas, and 10 (17%) showed ≥3 adenomas. 99mTc-sestamibi parathyroid scintigraphy was performed in 98 patients. Of these, 11 (11%) were negative, 60 (61%) showed 1-2 areas of discordant sestamibi uptake, and 27 (28%) showed ≥3 areas of discordant uptake. Of the 66 patients with imaging suggesting 1-2 gland disease, 45 (68.1%) were found to have multigland disease instead. Ultimately, 16 (15.5%) patients had a single adenoma removed, 12 (11.7%) had 2 adenomas removed, and (72.8%) had multigland disease. There were 26 ectopic glands found in 21 patients, 42.3% of which were identified on preoperative imaging. 94.1% of patients were eucalcemic at last follow-up, mean (± SD) 5.8 ± 3.6 years. Adenomas that were visualized on ultrasound were larger on pathology than those non-visualized (997±120 mg (mean ±SE) vs. 388±109 mg, p=0.0003). This was also true for parathyroid scintigraphy (647±41 mg vs. 355±51 mg, p=0.0001).
Conclusion: In patients with tertiary hyperparathyroidism, pre-operative imaging predicts which patients will have 1-2 gland disease 31.9% of the time. In patients with 1-2 gland disease on congruent ultrasound and nuclear medicine imaging studies, the accuracy increases to 63%. Pre-operative imaging can help identify ectopic glands. Larger adenomas are more likely to be identified on both imaging modalities.
Disclosure of Interest: None declared

PE055

OSTEOCALCIN IS AN INDEPENDENT PREDICTOR FOR HUNGRY BONE SYNDROME AFTER PARATHYROIDECTOMY

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Introduction: Hungry bone syndrome is characterized by prolonged and severe hypocalcemia following parathyroidectomy. Previously we identified that preoperative alkaline phosphatase (ALP) is a major factor predicting prolonged hospital stay. Nonetheless, some patients with low ALP levels presented with hungry bone syndrome, suggesting that additional factors may play a role.
Materials & Methods: From September 2010 to December 2017, 260 consecutive dialysis patients who underwent parathyroidectomy for secondary hyperparathyroidism were analyzed.
Results: The median postoperative hospital stay was 3 days, and 68 (26%) patients had a stay longer than 3 days. A prolonged stay was negatively associated with patient age and positively associated with parathyroid hormone (PTH), ALP, and osteocalcin levels. The median osteocalcin level significantly increased from 264 to 478 ng/mL after parathyroidectomy ($P < 0.001$). At multivariate analysis, age (odds ratio [OR] = 0.964), ALP (OR = 1.003), and osteocalcin (OR = 1.001) were independent predictors for a prolonged hospital stay.
Conclusion: Apart from the young age and high ALP, osteocalcin is an independent predictor for hungry bone syndrome after parathyroidectomy.
Disclosure of Interest: None declared

PE056

HOW MUCH DO WE IMPAIR TOTAL PARATHYROID FUNCTION BY PERFORMING A TOTAL THYROIDECTOMY: AN ANATOMICAL AND FUNCTIONAL PILOT STUDY BY THE USE OF NEAR INFRARED FLUORANGIOGRAPHY?

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Introduction: Real-time intraoperative identification and functional maintenance of parathyroids are of major importance in thyroid surgery, with a critical role in clinical outcomes and patients' quality of life. Recently, intraoperative imaging with indocyanine green enhanced fluorangiography (ICGFA) has taken the forefront, bringing promising results in clinical trials.ICG acts as a real-time contrast agent for perfusion assessment and detailed identification of hyper- or hypo-perfused anatomical structures.We previous demonstrated that the parathyroid secretory capacity after total thyroidectomy (TT) is impaired. This can be caused by injury, devascularization, stretching, compression, or ischemia and unintentional excision of parathyroid glands.

The present study is aiming to evaluate the correlation between ICG and the post-operative PTH and calcium levels.

Materials & Methods: 30 consecutive patients that underwent TT were included in the present prospective pilot study. The status of the parathyroids was evaluated using three parameters: (i) intraoperative ICGFA and (ii) PTH, calcium and phosphorus levels at 24 hours.All parathyroid glands were scored visually from grade 0 to grade 3 according to the vascularity of the parathyroid after TT. Then parathyroid glands were scored from score 0 to score 3 according to the ICGFA illumination. Finally, PTH levels at 24 hours were measured.

Results: No statistical significant significance was found when ICG score and the difference between preoperative and postoperative PTH (p=0.81), calcium (p=0.62) and phosphorus (p=0.54) levels were correlated. There was no difference in ICG score results between male and female patients. Furthermore, only a trend for statistical significance was found in the correlation of ICG score and pathology findings (in cases of thyroid malignancy) (p=0.06).

Conclusion: In this study, we concluded that ICG score was not a prognostic factor for postoperative PTH and calcium levels. ICG fluorangiography is a safe, easy and feasible way for the intraoperative localization of parathyroid glands. This is a pilot study with small sample and we remain for further results when the recruitment of participants is completed.

Disclosure of Interest: None declared

PE057

PARATHYROIDECTOMY DURING PREGNANCY IS SAFE AND LOCALISATION WITH ULTRASOUND IS ADEQUATE: A TALE OF TWO CITIES.

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Introduction: The prevalence of primary hyperparathyroidism (pHPT) in women of reproductive age is now known (1) and is likely to increase as the duration of female reproductive years is expanded by novel fertility treatments (2). Newly diagnosed or untreated pHPT in pregnancy presents well-documented risks to mother and foetus. However, concern remains regarding its surgical management during pregnancy. This study sought to compare outcomes of surgery in two tertiary referral centres in the UK and Australia.
Materials & Methods: A retrospective review was undertaken of the surgical databases of two units of endocrine surgery in London, UK (group A) and Sydney, Australia (group B). Demographic, biochemical, imaging, operative and outcome data were compared. Primary endpoints were cure of pHPT and safe completion of pregnancy.
Results: Twenty-eight pregnant women with pHPT were referred for surgery (17 in group A, 11 in B) from 2007 to 2018 inclusive. Median age was 35 years vs 33 (P=0.053), serum calcium 2.89mmol/l vs 2.78 and PTH 15.9pmol/l vs 10.1(p=0.67, 0.95) (table 1). Strategy in both groups was to monitor and control hypercalcaemia until parathyroidectomy(PTx) in the 2nd trimester(T2). 10 (35.7%) required admission for control of hypercalcaemia pre-operatively. One miscarried prior to T2, one chose to defer (both group A), leaving 26 operated in pregnancy (15 vs 11). All underwent ultrasound localisation which was correct in 8(43%) vs 4(36%). SestaMIBI/CT was not performed in any pregnant patient (6 in A and 1 in B had been diagnosed and imaged pre-pregnancy, 2{33%} vs 1{100%} were correct). PTx was performed under general anaesthesia (25 in T2 and 1 in week 28 {patient choice}) with foetal monitoring pre- and post-surgery. Operative approach was bilateral exploration in 21 (13 vs 8) and minimally invasive in 5 (p=0.063). Multigland disease was seen in 27% vs 0 (p=0.09). No adverse pregnancy outcomes resulted. There was no persistent pHPT.
Image:

	Group A (n=17)	Group B (n=11)
Age in years (median, range)	35 (25-52)	33 (23-39)
Sporadic disease?	16 sporadic / 1 MEN1	11
Median pre-op serum corr Ca (mmol/l)	2.89 (2.56-3.3)	2.78 (2.65-3.0)
Median pre-op serum PTH (pmol/l)	15.9 (6-32)	10.1 (5.8-11.6)
USS localisation positive	8 (43%)	4 (36%)
SestaMIBI positive	2/6 (33%)	1/1 (100%)
Type of operation **Bilateral exploration** **Minimally invasive approach**	(of 15 operated in pregnancy) 13 (87%) 2 (13%)	 8 (72.7%) 3 (27.3%)
Pathology **Single adenoma** **Multi-gland disease**	(of 15 operated in pregnancy) 11 (73%) 4 (27%)	 11 (100%) 0
Outcome	17 cured / 0 persistence / 1 recurrence at 5 years	11 cured

Table 1. Demographics, biochemical, imaging and operative data for patients in group A (London) and Sydney (group B)

Conclusion: Surgical experience of pHPT in pregnancy between two hemispheres did not differ: disease severity was similar, cure was achieved without the need for imaging with ionising radiation and no adverse pregnancy outcomes resulted from intervention. The only notable difference was delayed referral in six UK patients diagnosed pre-pregnancy. PTx in moderate-severe disease in T2 is justified. Non-surgical management of mild disease may be appropriate but was not seen in this cohort. Factors resulting in delayed referral of UK patients require further study.
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Disclosure of Interest: None declared

PE058

PREVENTING BLIND THYROID LOBECTOMY IN PATIENTS WITH INTRATHYROIDAL HYPERFUNCTIONING PARATHYROID GLANDS WITH RADIOGUIDED ENUCLEATION

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Introduction: Hyperfunctioning intrathyroidal parathyroid glands are rare and often result in blind thyroid lobectomy without intraoperative visualization of the ectopic parathyroid gland. Radioguided techniques have been shown to accurately localize intrathyroidal parathyroids permitting radioguided enucleation of these lesions without the need for thyroid resection. This study examined the utility of radioguided surgery to guide enucleation of intrathyroidal parathyroids.

Materials & Methods: Between December 2002 to March 2018, 2291 patients underwent parathyroidectomy by one surgeon for primary hyperparathyroidism. Of these patients, 74(3%) were identified to have an ectopic intrathyroidal parathyroid gland. All patients underwent radioguided parathyroidectomy with preoperative injection of 10 mCi of TC-99m sestamibi. Ex vivo radionuclide counts were used to confirm parathyroid excision with specimen radioactivity of >20% of the background level.

Results: The mean age was 60 ±2 years with 80% of the patients being female. Mean preoperative calcium was 10.9 ± 0.1ml/dL and the mean preoperative parathyroid hormone level was 152 ± 20pg/mL. The mean background radionuclide count on the thyroid was 207±11 and mean in vivo radionuclide counts of the intrathyroidal parathyroid glands were 234±15, with 100% of intrathyroidal parathyroids localized with the gamma probe. The in vivo radionuclide count of the intrathyroidal parathyroid ranged from 105-289% of the thyroid background, with a median of 147%. In vivo radionuclide counts were above 120% of the background in all but three patients. All intrathyroidal parathyroids were enucleated with the guidance of the gamma probe without the need for thyroid lobectomy. The mean ex vivo parathyroid radionuclide count was 157±16, with 100% of ex vivo counts of removed glands >20% in all patients.

Conclusion: Radioguided surgery is useful for intraoperative identification of ectopic hyperfunctioning parathyroid glands in the thyroid. Identification of an intrathyroidal parathyroid gland with this technique allows for enucleation of the abnormal parathyroid gland in 100% of patients, avoiding thyroid lobectomy and thereby preserving healthy thyroid parenchyma.

Disclosure of Interest: None declared

PE059

PATIENTS WITH PRIMARY HYPERPARATHYROIDISM AND BONE DISEASE ARE MORE LIKELY TO HAVE MULTI-GLAND DISEASE

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Introduction: Bone disease such as osteopenia, osteoporosis, and fractures occur in many patients with primary hyperparathyroidism. Parathyroidectomy has been shown to improve many of the side effects of hyperparathyroidism but has variable impact on bone density. To shed some light on this observation, we review our experience in patients with hyperparathyroidism and bone disease.
Materials & Methods: A prospective database of 2,012 patients surgically treated for primary hyperparathyroidism by two endocrine surgeons was reviewed. Bone disease was defined as patients with osteopenia, osteoporosis or pathologic bone fractures
Results: The median age was 61 years (range =9 to 94) and 77.8% were female. Of the 2,012 patients, 687 (34%) had bone disease. The median pre-operative calcium and parathyroid hormone (PTH) levels were 10.8 mg/dl and 109 pg/ml, respectively. Patients with bone disease were older (65 v. 59 years, p=<0.0001) and more likely to female than male (38.8 v. 17.4%, p=<0.0001). Median preoperative calcium levels were lower in the bone disease group (10.8 v. 10.9 mg/dl, p=0.0009). Median preoperative PTH was lower in patients with bone disease (100 v. 104 mg/dl, p=0.037). Patients with bone disease were more likely to have multi-gland disease compared to patients without bone disease (33 vs 27%, p=0.014).
Conclusion: The higher incidence of multi-gland disease in patients with primary hyperparathyroidism and bone disease may suggest that this may be a systemic disease. Since long term cure rates are generally lower for patients with multi-gland disease, this may explain the lack of improvement in bone density in some patients after parathyroid surgery.
Disclosure of Interest: None declared

PE060

INTACT PTH VALUES OBTAINED FROM BILATERAL FOREARM ARE USEFUL TO DETECT THE LOCALISATION OF THE CAUSATIVE PARATHYROID GLANDS FOR PERSISTENT AND RECURRENT SECONDARY HYPERPARATHYROIDISM AFTER TOTAL PARATHYROIDECTOMY AND FOREARM AUTOGRAFT

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Introduction: Persistent and recurrent secondary hyperparathyroidism might occur after total parathyroidectomy and forearm autograft. Enlarged autografted parathyroid glands or remnant parathyroid glands in the neck or mediastinum might be the causative parathyroid glands. For the reoperation, it is important to detect the localisation. However, imaging studies of both autografted forearm and neck or mediastinum are expensive and impossible in the local clinics. We investigated the simple method to detect the localisation of causative parathyroid glands.
Materials & Methods: 173 patients who underwent reoperations for persistent and recurrent secondary hyperparathyroidism after total parathyroidectomy and forearm autograft between January 2000 and July 2016 were included in this study and classified into two groups according to the localisation of causative parathyroid glands (autografted forearm group and neck or mediastinum group). Intact PTH values were measured in the blood samples obtained from both forearms after 5 minutes avascularization of the autografted forearm. We investigated the cutoff values of intact PTH ratio (intact PTH value obtained from non-autografted forearm / intact PTH value obtained from autografted forearm) with ROC curves to detect the localisation of causative parathyroid glands.
Results: Causative parathyroid glands existed in the autografted forearm in 130 patients and in the neck or mediastinum in 43 patients. Significant difference was identified in the intact PTH ratio between both groups (0.251 in autografted forearm group and 0.676 in neck or mediastinum group, $P<0.001$) ROC curve demonstrated the cutoff values of intact PTH ratio to detect the localisation of causative parathyroid glands. The ratio < 0.321 could predict the causative parathyroid glands in the autografted forearm and the ratio > 0.849 could predict the causative parathyroid glands in the neck or mediastinum (diagnostic accuracy were 75.2% and 84.1%, respectively).
Conclusion: Intact PTH values from bilateral forearm are useful to detect the localisation of causative parathyroid glands for persistent and recurrent secondary hyperparathyroidism after total parathyroidectomy and forearm autograft without imaging study
Disclosure of Interest: None declared

PE061

THE CLINICAL SIGNIFICANCE OF HISTOLOGICALLY "LARGE NORMAL" PARATHYROID GLANDS IN PRIMARY HYPERPARATHYROIDISM

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Introduction: The causes of Primary hyperparathyroidism (pHPT) include parathyroid adenoma, hyperplasia and carcinoma[1]. The histological diagnosis of adenoma or hyperplasia is not straightforward and features such as fat depletion, hypercellularity and nodularity are used by the pathologist to ascertain a diagnosis[12]. Large normal parathyroid (LNP) glands do not have any of these histological features apart from being macroscopically larger than normal parathyroid glands.
We investigated outcomes in a cohort of patients with a biochemical diagnosis of pHPT undergoing surgery for asymptomatic disease or target organ damage, where a focussed or 4-gland operation was undertaken and the histopathology only reported a LNP gland.
Materials & Methods: Patients subjected to a parathyroidectomy for pHPT between 2012-2018 with a pathology of LNP were included. Only patients without fat depletion and no additional histological features of adenoma or hyperplasia in any of the resected glands were included. This LNP group was compared to 50 consecutive patients with the histological finding of adenoma or hyperplasia during the same study period. The primary outcome was biochemical normalisation of pHPT following parathyroidectomy.
Results: Forty-eight LNP patients (2% of all parathyroidectomies) were included in the study group with 50 matched controls. LNP patients had a lower biochemical cure (81% vs. 98% of controls P<0.05). LNP patients also had higher risk of recurrence (10% vs. 0%, P=0.06). LNP had a milder form of pHPT (Ca^{2+} 2.63 vs. 2.68 P<0.05) with a smaller PTH and Ca^{2+} drop post-operatively. Although multi gland disease was more common in LNP patients, the majority of LNP patients had single gland disease. For LNP patients with failure, a definite additional cause of pHPT was found in only 2 patients- a missed adenoma found at reoperation and the other had diagnosis of FHH on genetic testing.
Image:

Table 1: Patient characteristics, operative details and rates of failure

Characteristics	Large normal (LNP)	Adenoma/hyperplasia	P
Female (%)	36 (75%)	42 (84%)	*0.269*
Age, mean (SD), yr	61.5 (13.8)	62.3 (14.6)	*0.782*
Pre-op PTH, median (IQR), ng/L	8.4 (6.5 – 11.9)	8.8 (7.0 – 12.2)	*0.244*
Post-op PTH, median (IQR), ng/L	5.0 (2.8 – 6.9)	1.4 (0.4 – 4.3)	*<0.001*
6-months post-op PTH, mean (SD), ng/L	6.4 (3.9 – 8.2)	5.4 (4.5 – 6.7)	*0.488*
Pre-op calcium, median (IQR), mmol/L	2.63 (2.46-2.74)	2.68 (2.61-2.77)	*0.048*
Post-op calcium, median (IQR), mmol/L	2.44 (2.35-2.51)	2.39 (2.33-2.42)	*0.031*
6-months post-op calcium, mean (SD), ng/L	2.42 (2.34 – 2.55)	2.38 (2.32 – 2.42)	*0.008*
Normocalcaemic vs hypercalcaemic HPT			*0.025*
Normocalcaemic	13 (27.7%)	5 (10.0%)	
Hypercalcaemic	34 (72.3%)	45 (90.0%)	
Type of surgery			*<0.001*
Focussed	8 (16.7%)	32 (64%)	
Open 4-gland exploration	40 (83.3%)	18 (36%)	
Single vs. multi gland disease			*0.005*
Single	27 (56.2%)	39 (83.0%)	
Multi-gland	21 (43.8%)	8 (17.0%)	
Weight of glands resected, median (IQR), mg	167.0 (117.8 – 321.0)	275.0 (163.8 – 529.8)	*0.005*
Biochemical Persistence	9/47 (19.1%)	1/50 (2.0%)	*0.006*
Biochemical Recurrence (>6months)	3/30 (10.0%)	0/35 (0%)	*0.059*
Total	48	50	

Conclusion: This study highlights a controversial area in pHPT and reports LNP as a cause of pHPT. The biochemical analysis of this LNP group supports a benefit in resection in the setting of pHPT, although the risk of failure (persistence/recurrence) is higher than those with adenoma or hyperplasia on histology, and a stricter follow-up of these patients should be considered.
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Disclosure of Interest: None declared

PE062

PARATHYROIDECTOMY FOR RENAL HYPERPARATHYROIDISM – IS IT NECESSARY TO CHASE ALL 4 GLANDS?

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Introduction: Current standards of treatment for renal hyperparathyroidism include total parathyroidectomy with auto-implantation and subtotal parathyroidectomy (3 and a half gland excision). Ectopic parathyroid glands are found in 10-20% of patients(1), and intra-op localization often necessitate extensive bilateral neck exploration and thymectomy. Most surgeons opt to close the neck with subsequent imaging if these maneuvers prove unsuccessful in localizing the parathyroid gland.

Materials & Methods: We conducted a retrospective review from a prospectively collected database of patients who underwent parathyroidectomy for renal hyperparathyroidism in a tertiary surgical unit from January 2007 - December 2015. Patients who had total parathyroidectomies were excluded. Patient demographics, dialysis vintage, biochemical markers including parathyroid hormone (PTH), calcium, phosphate and alkaline phosphatase levels, recurrence and mortality were studied. Biochemical recurrence is assumed when PTH levels increases more than 3 times above the normal upper limit more than 6 months after parathyroidectomy.

Results: Over a period of 9 years, 116 patients with end stage renal failure underwent parathyroidectomy for renal hyperparathyroidism, of which 30 patients had subtotal parathyroidectomy. The median age of patients was 53.5 years (range 24-75), and the median number of parathyroid glands removed were 3 (range 2 – 3.5). All patients underwent hemodialysis, with a median dialysis vintage of 7 years (range 1-18 years).

At 3-year follow up, 5 (16.6%) patients developed biochemical recurrence, with a median time to recurrence of 16.3 months (range 12.2 – 19.8). There were 2 (6.7%) patients who had persistently elevated PTH that failed to normalize after surgery. None of the patients underwent repeat surgery. 6 patients (20%) subsequently underwent renal transplantation. Overall mortality was 13.3% (n=4) from unrelated causes.

Conclusion: Subtotal parathyroidectomy is a reasonable option for control of symptoms for renal hyperparathyroidism in the medium term, with comparable recurrence rates and mortality.

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Disclosure of Interest: None declared

PE063

UNEXPECTED FINDINGS ON SPECT-CT TC-99 SESTAMIBI IMAGING FOR PRIMARY HYPERPARATHYROIDISM

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Introduction: 99mTc-sestamibi SPECT with CT acquisition/fusion (SPECT-CT) is a valuable tool for parathyroid localization in primary hyperparathyroidism (PHP). However, enhanced sensitivity can lead to unexpected and significant clinical findings. Our aim was to characterize the frequency and types of non-parathyroid abnormalities identified with SPECT-CT during evaluation of PHP.

Materials & Methods: With institutional approval, we retrieved all SPECT-CT studies performed for PHP from 10/12 to 8/18. Each report was reviewed for non-parathyroid abnormalities and the electronic medical record was examined for details about the type, evaluation, and outcome of previously unidentified lesions.

Results: Among 2317 patients with 2413 SPECT-CT studies, 652 (27%) had 677 (28%) non-parathyroid findings. The most common finding was 1 or more thyroid nodule(s)(331/677, 49%) of which 47 (6.9%) proved to be previously unrecognized tumors(ranging in size from 0.4 to 6.9 cm) in the spectrum of thyroid malignancy; 40 papillary cancers, 5 follicular cancers, 1 medullary cancer, and 1 NIFTP. Pulmonary nodules were identified in 177 patients (26%) who were subsequently diagnosed with 8 primary carcinomas (6 non-small cell, 1 small cell, 1 carcinoid tumor) and 1 pulmonary sequestration; 160/177 (90%) additional pulmonary nodules are being monitored according to Fleischner guidelines. Hiatal hernia was identified in 20 (3%) patients. Breast abnormalities were seen in 14 patients (2.1%), including 3 new breast cancers and an undiagnosed ruptured prosthesis. Aortic aneurysms were found in 13 patients (1.9%). Metastatic cancer was newly discovered in 9 patients (1.3%) in the lungs (4), bones (3), and mediastinum (2), and an additional patient was diagnosed with follicular lymphoma. Two (0.3%) intracranial tumors (1 meningioma, 1 pituitary macroadenoma), and 1 case of dysplastic Barrett's esophagitis (0.1%) were also identified. In all, 69/677 (10.2%) PHP patients, comprising 3% of the entire imaged group, exhibited unexpected non-parathyroid SPECT-CT findings that were malignant or premalignant.

Conclusion: Patients undergoing localization for primary hyperparathyroidism with 99mTc-sestamibi SPECT-CT often have non-parathyroid findings (28%) that can be clinically significant, leading to newly diagnosed malignant or premalignant lesions in at least 3% of patients to date. Appropriate recognition and assessment of non-parathyroid findings is clinically essential.

Disclosure of Interest: None declared

PE064

USEFULNESS OF MODIFIED INTRAOPERATIVE PTH ASSAY FOR PRIMARY HYPERPARATHYROIDISM IN A RESOURCE-LIMITED SETTING

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Introduction: Primary Hyperparathyroidism (PHPT) presentation in LMICs is usually more symptomatic, with advanced disease occurring commonly. Frequently, Intra Operative Parathormone (IOPTH) assays are used at varying intervals before and after gland excision, and require multiple samplings, which add to the overall cost of treatment. We propose using a single sample IOPTH taken 10 minutes after excision, to be compared with the pre-operative PTH value.
Materials & Methods: The study was performed from 2015 to 2018 in a tertiary care referral hospital, and was a retrospective analysis of a prospectively maintained database. Patients of PHPT who had a pre-operative PTH done in our institute 1 week prior to surgery, and a 10-minute post excision IOPTH value; and with 6 months of follow-up were included. Optimal cut-off percent fall for PTH and sensitivity were calculated.
Results: Of the 83 cases operated in this timeframe, 7 had multigland disease (MEN1) and 4 had parathyroid carcinoma. Of the remaining 72 patients with single gland benign disease, 61(84.7%) were symptomatic. Demographic data are shown in Table 1. Sensitivity of the assay in single gland disease was 97.1% for a 50% fall, and 94.2% for a 60% fall. Sensitivity was 100% in MEN1 and parathyroid carcinoma, for a fall of 50% and 60%.

Table 1 Demographic details, Parathormone values and Sensitivity

Parameter	**Parathyroid adenoma n=72**	**Parathyroid CA n=4**	**MEN n=7**
Age (years, Mean±SD)	43.8±15.9 (22-73)	50±15 (31-69)	32.0±15.36 (7–59)
Sex	63.9% female	75% female	14.3% female
Mean Tumor Size (cm, Range)	2.6±1.3 (0.6-5.5)	3±0.7 (2.5-4.0)	3.1±1.0 (2.4-5.3)
Weight (g, Range)	3.93±5.0 (0.65-20)	11.45±12	19.75±20
Pre op calcium (mg/dl, Mean±SD)	12.15±0.95 (9.9-13.4)	13±1.8	11±0.36
Pre-op PTH (pg/ml) Median(IQR)	1010(1363)	2330±1335	175±21
10mins IOPTH (pg/ml) Median(IQR)	174.5(323)	213±156	25±4
% fall Mean±SD	74.75±15.15(46.9-93.3)	91±2.89	85±18.2
50% fall Sensitivity	97.2%, n=70 97.1%(68/69)	100% 100%(4/4)	100% 100%(7/7)
60% fall Sensitivity	91.7%, n=66 94.2%(65/69)	100% 100%(4/4)	100% 100%(7/7)
70 % fall Sensitivity	84.7%, n=61 88.4%(61/69)	75%, n=3 75%(3/4)	85.7%, n=6 85.7%(6/7)

Conclusion: PHPT, in LMIC settings is more often symptomatic, with more aggressive disease even in the setting of MEN1. Single shot 10-minute post excision IOPTH assay, done with a lone venepuncture, offers a sensitivity of 94.2% in single gland benign disease, with 100% sensitivity for parathyroid carcinoma and MEN1 disease for a 60% fall. Cost of the modified assay may lead to to as much as 15% reduction in total surgery-related costs.
Disclosure of Interest: None declared

PE065

THE EFFECT OF PARATHYROIDECTOMY ON URINARY CALCIUM EXCRETION IN PATIENTS WITH PRIMARY HYPERPARATHYROIDISM

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Introduction: Hypercalciuria is a controversial indication for intervention in patients with primary hyperparathyroidism (PHPT). Some recent reports have questioned the effect of parathyroidectomy on hypercalciuria, reporting a significant incidence of persistent hypercalciuria after surgery.
Materials & Methods: Retrospective review of patients who underwent first time parathyroidectomy for PHPT at our institution between 2007 and 2017 was performed. All patients underwent curative surgery based on the intraoperative PTH and normocalcemia at the time of postoperative urinary Ca (Uca) measurement. Patients who had both preoperative and postoperative 24 h urine calcium (Uca) excretion documented were identified. The values were compared to determine the effect of surgery on 24 h UCa excretion and identify factors predictive of a favorable outcome.
Results: Postoperative 24 h UCa excretion was documented for 110 patients, after the median time of 17 months (range 1-110). There were 87 females and the median patient age was 62±13 years. Hypercalciuria (excretion of >400 mg/day) was detected in 28 patients (25%), and this was associated with preoperative serum Ca level: hypercalciuria occurred in 23 patients (37%) with preoperative Ca ≥10.7 compared to 5 patients (10%) with preoperative Ca level <10.7 ($p<.01$). Among patients with preoperative hypercalciuria, 26 patients (93%) had at least 20% decrease in 24 h UCa, and 23 patients (88%) had postop UCa <300 mg/day. Preoperative 24 h UCa cutoff of 365 mg/day or more predicted the decrease in urine Ca excretion of at least 20% with specificity of 90%.
Conclusion: Parathyroidectomy results in decrease of urine Ca excretion in >90% of patients with primary HPT and hypercalciuria, with normalization of 24 h UCa in the majority of hypercalciuric patients.
References: .
Disclosure of Interest: None declared

PE066

THE UTILITY OF INTRAOPERATIVE PARATHYROID HORMONE MONITORING IN SURGERY FOR PARATHYROID CANCER

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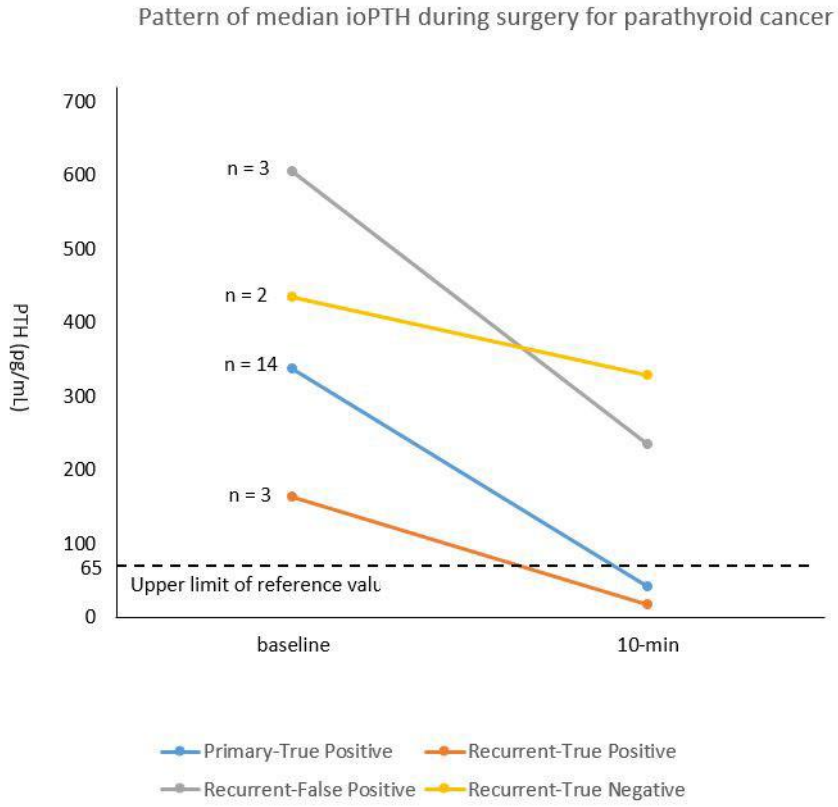
Introduction: Intraoperative parathyroid hormone (ioPTH) monitoring allows assessment of biochemical cure during surgery for primary hyperparathyroidism, but its value in the setting of parathyroid cancer is not well understood. We reviewed our experience with ioPTH monitoring during parathyroidectomy for parathyroid cancer.
Materials & Methods: Patients with pathologically confirmed parathyroid cancer who underwent parathyroidectomy with ioPTH monitoring over a 20-year period at our institution were identified retrospectively. A sufficient decline in ioPTH was defined as a >50% drop from baseline within 10-minutes post resection (positive test). Persistence disease was determined by calcium and cross-section image of neck at 6 months post parathyroidectomy.
Results: There were 23 operations performed with ioPTH monitoring in 22 patients, including 15 for resection of primary tumors and 8 for disease recurrence. Amongst patients undergoing operation for primary disease, all had biochemical cure at 6 months and no evidence of disease during a median 23-month follow-up. 14 of 15 had sufficient drop in ioPTH (true positive), while 1 patient with multiple endocrine neoplasia I and parathyroid cancer had <50% drop (false negative). In contrast, amongst patients undergoing operations for recurrence, 3 of 6 who had intraoperative decrease in ioPTH > 50%, had persistent disease at 6 months (false positive). Patients with true positive had 10-min ioPTH level within normal reference range versus patients with false positive. All 2 patients without sufficient decline in ioPTH had persistence disease at 6 months. For all patients, the sensitivity, specificity, positive predictive value, negative predictive value, and accuracy were 94, 40, 85, 67 and 83%, respectively.
Image:



Conclusion: In primary surgery for parathyroid cancer, ioPTH has a high accuracy for predicting biochemical cure. However, based on the limited follow-up time, it is unknown whether it impacts long-term recurrence. In reoperation, an ioPTH drop of >50% is much less reliable; a drop to the normal reference range of the test may be required.
Disclosure of Interest: None declared

PE067

EVALUATION OF INTRAOPERATIVE RECOVERY OF LOSS OF SIGNAL MAY REDUCE PREVALENCE OF UNNECESSARILY STAGED THYROIDECTOMIES WITH NEUROMONITORING: RESULTS OF A RETROSPECTIVE COHORT STUDY.

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Introduction: The diagnostic accuracy of intraoperative recurrent laryngeal nerve (RLN) monitoring (IONM) remains controversial [1]. In particular, inconsistent data exist in literature regarding prevalence of false positive (FP) events leading to staged thyroidectomy [2]. The aim of this study was to test hypothesis that evaluation of intraoperative recovery of loss of signal (LOS) may aid in surgical decision making and reduce prevalence of unnecessarily staged thyroid operations.
Materials & Methods: This was a retrospective cohort study of patients who underwent thyroid operations with IONM and experienced intraoperative LOS after first lobe removal. The institutional database was searched for eligible patients. Patients were stratified into two groups: staged thyroidectomy with no attempts to assess amplitude recovery (Group A treated in 2008-2014) vs. amplitude recovery above 50% from baseline within 20min from LOS in whom planned total thyroidectomy was completed in the same session (Group B treated in 2015-2017). The primary outcome was added value to surgical decision making. Laryngoscopy was used to evaluate and follow RLN injury. The receiver operating characteristics were used for evaluation of IONM diagnostic accuracy.
Results: LOS after first lobe removal occurred in 90/1898 (4.5%) group A vs. 30/755 (4.0%) group B patients. Amplitude recovery above 50% from baseline occurred in 6/30 (20%) group B patients in whom staged thyroidectomy was avoided (added value to surgical decisions). Early RLN injury was diagnosed in 74/90 (82.2%) group A vs. 23/30 (76.7%) group B patients (p=0.72). Staged thyroidectomy was used in 90/90 (100%) group A (including 16 patients with FP result of IONM) vs. 24/30 (80%) group B patients (including 1 patients with FP result of IONM; p<0.001). None of the 6 patients with amplitude recovery of more than 50% from baseline had impaired vocal fold function postoperatively. Incorporation of recovery of amplitude into surgical decision making process increased positive predictive value from 82.2% in group A to 96.7% in group B with unaltered negative predictive value of IONM (99.9%).
Conclusion: Evaluation of intraoperative recovery of loss of signal may improve accuracy of surgical decision making. In case of intraoperative LOS after first lobe removal followed by amplitude recovery above 50% from baseline planned bilateral thyroid surgery can be safely completed in the same session.
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Disclosure of Interest: None declared

PE068

FASTER LEVOTHYROXINE DOSAGE ADJUSTMENT AFTER THYROIDECTOMY USING PK/PD MODELLING

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Introduction: Levothyroxine dosage adjustment remains a challenge, as the average time to achieve a euthyroid state can be 7-8 months or longer (Ojomo et al. 2013). Several dosage schemes has been proposed (Zaborek et al. 2019). We have developed software for pharmacokinetics/pharmacodynamics (PK/PD) modelling of levothyroxine for each individual patient, based on repeated blood sampling, aiming to reduce the time from thyroidectomy to successful dosage adjustment.
Materials & Methods: Participants were adults admitted for total thyroidectomy at four hospitals in Norway and Sweden. Levothyroxine were administered postoperatively according to clinical routine, normally 100-150 ug daily depending on weight and diagnosis. During the first two postoperative weeks, TSH, FT4 and FT3 were measured four times followed by early dosage adjustment by the endocrine surgeon. The patients were randomized in two groups to either let the clinician receive aid from the computer model, or to leave the clinician to interpret the results form the blood work herself. For each subject, the TSH target was either <0.1, 0.1-0.5, or 0.5-2.0 IU/L. Eight weeks after the surgery, we measured if the TSH target was reached. If not, participants were followed every six weeks until they reached the TSH target.
Results: Preliminary results from the first 79 of planned 150 included subjects have been analyzed. Eight weeks after the surgery, 8/11 goitre patients were euthyroid (TSH 0.5-4.0 IU/L) in the model group, compared to 1/8 in the control group (chi-square $p = 0.009$). In the cancer group, 12/18 patients reached their individual TSH goals after 8 weeks, compared to 3/18 in the control group (chi-square $p = 0.002$). The model failed to improve dosage accuracy for hyperthyroid subjects because they frequently had suppressed TSH during the initial weeks of blood sampling. Number of days to finish dose adjustment were lower in the model group than in controls for subjects with goiter (116 vs 175 days, $p = 0.03$) or cancer (63 vs 130 days, $p = 0.003$), but not for hyperthyroidism ($p= 0.38$).
Conclusion: In patients with measurable TSH levels after total thyroidectomy, frequent blood samples can allow early adjustment of levothyroxine dosage. A computer model outperforms experienced clinicians in dosage adjustment of levothyroxine.
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Disclosure of Interest: None declared

PE069

IS PAPILLARY THYROID MICROCARCINOMA A BIOLOGICALLY DIFFERENT DISEASE? A PROPENSITY SCORE-MATCHED ANALYSIS

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Introduction: Papillary thyroid microcarcinoma exhibits an indolent clinical course and could be candidates for active surveillance in the appropriate setting. It remains unknown whether papillary microcarcinoma is biologically different from papillary carcinoma larger than one centimeter.
Materials & Methods: We analyzed clinicopathological information and transcriptome data of papillary thyroid carcinoma samples from The Cancer Genome Atlas. Propensity-score matching was used to construct a matched cohort consisting of 29 microcarcinomas and 58 carcinomas. An unsupervised hierarchical cluster analysis was carried out to investigate the similarity of gene expression profile.
Results: After adjustment for differences in baseline clinicopathologic factors, transcriptome could be grouped based on tumor class (BRAF-like versus RAS-like) and whether the tumor was a microcarcinoma. Gene set enrichment analysis performed using MSigDB indicates that differentially expressed genes involve those encoding extracellular matrix and extracellular matrix-associated proteins.
Conclusion: Papillary thyroid microcarcinoma has a different global gene expression pattern from carcinoma. Tumor microenvironment may play a role in the microcarcinoma/carcinoma phenotype distinction.
Disclosure of Interest: None declared

PE070

NOVEL C-TERMINAL HSP90 INHIBITORS OVERCOME LENVATINIB RESISTANCE IN THYROID CANCERS BY TARGETING AND DOWNREGULATING KEY ONCOGENIC LONG-NON-CODING RNAS

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Introduction: While thyroid cancer rates increase yearly, approved adjuvant treatment for advanced disease (lenvatinib) has been limited by drug-resistance (LvR). Long noncoding RNAs (lncRNAs) play a critical role in thyroid tumorigenesis, including cell growth regulation, survival, and invasiveness. Recently, we developed novel C-terminal inhibitors of heat shock protein 90 (CT-Hsp90i) that effectively overcome LvR growth and invasion in thyroid cancers. Since Hsp90 inhibitors simultaneously target multiple kinase pathways through client protein inhibition, we hypothesize that our CT-Hsp90i generate their effect on LvR-DTCs through knocking down these resistant oncogenic pathways (and their lncRNAs) normally upregulated by LvR.

Materials & Methods: Validated DTC cell lines, WRO and WRO-LvR (maintained in 45 µM lenvatinib), were grown in 2D culture. IC50 values were evaluated by CellTiter Glow viability assay. Post treatment total RNA was isolated from WRO control, WRO-LvR and cells treated with KU711 and KU757 using Qiagen RNA mini kit and the purity was validated by nanodrop. cDNA was then synthesized and genomic DNA was eliminated from the RNA samples using a RT^2 First Strand Kit (Qiagen). Differentially expressed lncRNAs were expressed using qPCR (Qiagen RT^2 lncRNA PCR Array Human Cancer Pathway Finder) and analyzed using Qiagen Gene globe data analysis.

Results: While WRO-LvR cells had 5-fold higher IC50s compared to WRO lenvatinib treatment (20 vs 4µM) both lines showed equal and increased sensitivity to KU711 and KU757 over lenvatinib ($p<0.01$), indicating that novel Hsp90 inhibitors can overcome lenvatinib resistance. lncRNA analysis revealed that several oncogenic lncRNAs (Figure 1) that are involved in multidrug resistance, beta catenin pathway, and metastasis are upregulated in LvR vs WRO ($p<0.05$). KU711 and KU757 treatment of WRO and WRO LvR cells significantly down regulated most of these oncogenic lncRNAs (Figure1, $p<0.05$) and up regulated several tumor suppressor lncRNAs. NEAT1 (thyroid cancer lncRNA), is up regulated in WRO-LvR cells, but significantly decreased after CT-Hsp90i treatment. Both drugs targeted down regulation of oncogenic lncRNAs LUCAT1, UCA1 and LSINCT5 ($p<0.005$).

Image:

Oncogenic and tumor suppressor lncRNAs targeted with CT-Hsp90i in WRO cells

Oncogenic lncRNAs up regulated either after Lv treatment or with Lv Resistance (LvR)	LINC00963, LINC00152, SUMO1P3, SNHG16, PRNCR1, IPW, PVT1, MALAT1, HIF1A-AS1, AFAP1-AS1, MIR155HG, MIR17HG, TUG1, POUSF1P5	p<0.05 WRO vs LvR or WRO vs LV 45µM
Oncogenic lncRNAs down regulated by KU711 and KU757 treatment of IC50 values of drugs (24 h)	AFAP-1As, HIF1A-As1, LINC00963, POUSFP1 and SUMOIP3	p<0.05 CT-HSp90i IC50 treated vs untreated
Oncogenic lncRNAs down regulated by KU711 and KU757 treatment of 2IC50 values of drugs (24 h)	LINC00963, LINC00152, SUMO1P3, SNHG16, PRNCR1, IPW, PVT1, MALAT1, HIF1A-AS2, TUG1, POUSF1P5, MIR155HG, MIR17HG,	p<0.05 CT-HSp90i 2IC50 treated vs untreated or LvR
KU711 and KU757 (2x IC50) significantly up regulated the LvR down-regulated tumor suppressor genes	TERC, PTCSC3, PTENP1, GACAT1, LINC00312, TUSC7	p<0.01 CT-HSp90i 2IC50 treated vs untreated or LvR

Conclusion: Novel C-terminal Hsp90 inhibitors overcome lenvatinib resistance in thyroid cancers by targeting and downregulating several important oncogenic lncRNAs. Further translational validation studies in vivo are warranted to define the clinical potential for these exciting new compounds.

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PE071

CHANGE IN GROWTH ACTIVITY OF PAPILLARY THYROID MICROCARCINOMA AFTER ENLARGEMENT

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Introduction: Active surveillance (AS) is a viable management option for papillary thyroid microcarcinoma (PMC). However, a minority of PMCs enlarge during AS and conversion surgery is considered in such cases. We define enlargement as an increase in maximal tumor size (MTS) of ≥3 mm, while some term it as an increase of ≥50% in tumor volume (TV). Here, we studied which of these is appropriate for AS management and whether and how growth activity of PMC changes after enlargement.
Materials & Methods: We enrolled 824 PMC patients who underwent AS between 2005 and 2011 (median follow-up period: 6.04 years). Tumor size was evaluated via serial ultrasounds; using MTS to evaluate the change in size, and two or three dimensional TV measurement for the change in volume. Point of enlargement (PE) was defined as the time point when the MTS increased by ≥3 mm (PE1), or TV increased by ≥50% (PE2). We compared the doubling rates (DRs, an inverse of the doubling time of MTS or TV) of tumor size and volume between pre- and post-PEs. Two- or three-dimensional sizes of the PMCs of all patients were measured at least three times before and after each PE.
Results: The resulting 10-year enlargement-free survival rates based on the MTS and TV were 94.2% and 54.9%, respectively. To date, PMCs in 38 and 333 patients extended to PE1 and PE2, respectively. Among these, 30 (78.9%) and 291 (87.4%) patients underwent continuous AS thereafter, revealing significantly lower median DRs post-PEs than those pre-PEs [-0.1062 *vs*. 0.6090 ($p < 0.01$) for PE1; and -0.0588 *vs*. 0.3750 ($p < 0.01$) for PE2]. PMCs in only 7 (23.3%) and 12 (4.1%) patients enlarged constantly even after PE1 and PE2 because their DRs after PEs were larger than 0.5. Contrastingly, after enlargement, PMCs in 15 (50%) and 106 (36.4%) patients shrank because their DRs after PE1 and PE2 were less than -0.1, and PMCs in 5 (16.7%) and 138 (47.4%) patients became stable because their DRs after PE1 and PE2 ranged between 0.1 and -0.1, respectively.
Conclusion: It is hasty to perform surgery immediately after tumors reached PE, as growth activity of PMCs significantly decreased and PMCs even shrank in high incidence after they once enlarged. Also, the definition of PMC growth as a TV increase of ≥50% is overly sensitive as only 4.1% of patients showed continuous growth after PE2.
Disclosure of Interest: None declared

PE072

ADJUVANT RADIOTHERAPY REDUCES LOCAL RECURRENCE IN POORLY DIFFERENTIATED THYROID CARCINOMA

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Introduction: Poorly differentiated thyroid carcinoma (PDTC) is an aggressive subtype of thyroid malignancy. PDTC accounts for only 5% of all thyroid cancers, however a large proportion of thyroid cancer related deaths. The optimal treatment approach for PDTC is not clear. The aim of this study is to evaluate the effect of radiotherapy on local recurrence in PDTC patients with positive resection margins.

Materials & Methods: A retrospective cohort study of consecutive patients with PDTC according to the Turin criteria was undertaken. The primary outcome measure was local recurrence in the thyroid bed of patients with microscopic (R1) or macroscopic (R2) involved resection margins. Secondary outcome measures included patient, treatment and tumor characteristics (AJCC Cancer Staging 8th edition). Overall survival (OS) was assessed, with subgroup analysis of patients with distant metastases. Survival analysis was undertaken using proportional hazards regression. SPSS was used for statistical analysis and $p<0.05$ was considered significant.

Results: 38 patients were diagnosed with PDTC from 1997 to 2017. PDTC patients had a mean age of 64 years (range 20-95 years) at diagnosis and the majority was female (n=21). Treatment modalities utilized included surgery (n=38), radioactive iodine (n=37), adjuvant radiotherapy (n=7), surgery for recurrent or distant disease (n=14), palliative locoregional radiotherapy on neck or metastases (n=16), chemotherapy (n=4) and tyrosine kinase inhibition (n=5). Adjuvant radiotherapy (mean dosage 61 Gray, range 55-66) was utilized in 7 out of 17 patients with positive resection margins and reduced local recurrence in the thyroid bed from 86% to 0% (p=0.02, figure 1) during a follow-up of 5 years. Patients with positive resection margins undergoing radiotherapy (mean 58 years, range 44-66) were younger ($p<0.05$) than patients not treated with radiotherapy (mean 70 years, range 56-81), whereas pT stage between both groups was similar. Mean follow-up time was 44 months (range 3 – 128), with a 5-year OS of 66%. 23 patients (55%) presented with distant metastasis (M1) and another 5 patients (13%) progressed to M1 during follow-up. 5-year OS for M0 and M1 patients was 100% and 56% respectively (p=0.06).

Image:

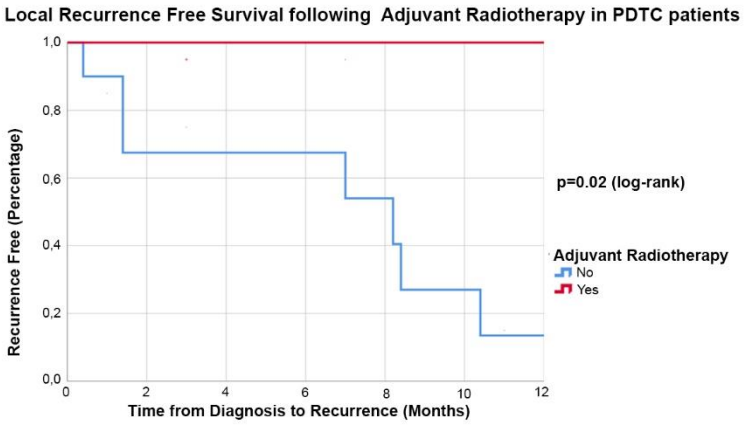

Figure 1 *Time from diagnosis to development of local recurrence of patients with (red line) and without (blue line) adjuvant postoperative radiotherapy on the thyroid bed*

Conclusion: Adjuvant postoperative radiotherapy in PDTC patients with involved resection margins reduces local recurrence in the thyroid bed.

Disclosure of Interest: None declared

PE073

MULTI-MODALITY TREATMENT OF ANAPLASTIC THYROID CANCER: OUTCOMES OF YONSEI PROTOCOL

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Introduction: Anaplastic cancer is a rare variant of thyroid cancer. It is one of the most aggressive and rapidly progressing malignant human neoplasms with a grave prognosis. An aggressive treatment may be attempted for tumors at an early stage, but the optimal management of this disease remains controversial especially for cancer at advanced stage with distant metastasis. In this study, we report the outcome of multi-modality treatment protocol of Yonsei University Medical College (YUMC) in 46 cases of anaplastic thyroid carcinoma.
Materials & Methods: From January 2015 to October 2018, 46 patients of ATC who were treated at the Thyroid Cancer Center, Gangnam Severance Hospital, Yonsei University College of Medicine were enrolled in this study. The patients were treated according to the YUMC protocol as follows: two cycles of chemo-radiotherapy of paclitaxel and radiation of 60Gy/30fx were conducted, followed with resectability evaluation. If the cancer was resectable, surgery was performed, if not, more cycles of chemotherapy were continued. These patient's records were retrospectively analyzed with respect to clinical manifestations, extent of disease, distant metastasis, treatment modality and cause of death.
Results: 46 patients (28 females, 18 males, mean age 63.6 years) with histologically proven ATCs were enrolled. There were 12 (26.1%) stage IVb patients, and 34 (73.9%) stage IVc patients.
Complete resection was possible in 14 (30.4%) patients. From the 46 patients, 17 (37%) were still alive. The median survival was 252 (58-1021) days. When complete resection was possible, the patients showed significant better median survival (281 (230-520) vs. 150 (148-259).
Conclusion: ATC is an aggressive cancer with advanced stage at time of presentation. Active multimodality treatment may be considered to prolong survival.
Disclosure of Interest: None declared

PE074

COMPLETION THYROIDECTOMY IS LESS COMMON FOLLOWING UPDATED 2015 AMERICAN THYROID ASSOCIATION GUIDELINES

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Introduction: The 2015 American Thyroid Association (ATA) guidelines recommended that low-risk, differentiated thyroid cancers (DTC) between 1-4 cm may be treated with lobectomy alone, a departure from the previous recommendation for total thyroidectomy. We sought to determine the effect of these guideline changes on the rate of completion thyroidectomy for low-risk DTC identified on initial lobectomy as well as factors influencing surgical decision-making.
Materials & Methods: All patients from 2014-2018 who received an initial thyroid lobectomy at our institution with final pathology demonstrating DTC were included in the study. Microcarcinomas <1 cm were excluded as updated guideline recommendations did not change for this group. Patients were divided into pre- and post-guideline cohorts (2014-2015 and 2016-2018, respectively). The rate of completion thyroidectomy was compared between the two cohorts. Patient demographics and tumor characteristics in each time period were examined for association with completion thyroidectomy.
Results: A total of 303 patients underwent thyroid lobectomy for malignancy during the time period, and 163 patients met study criteria: 63 patients in the 2014-2015 (“pre”) and 100 in the 2016-2018 (“post”) group. In the “pre” period, 41 (65.1%) patients received completion thyroidectomy, compared to 43 (43.0%) in the “post” period ($p<0.01$). In the “post” period, pathologic subtype, aggressive histology, lymphovascular invasion, extrathyroidal extension, and multifocality were associated with completion thyroidectomy ($p<0.05$ for all). Gender, race, age, tumor size, and positive lymph nodes did not affect decision to undergo completion thyroidectomy. Of low-risk patients with DTC between 1-4 cm in size, 17/35 (48.6%) received completion thyroidectomy in the “pre” period, compared to 15/60 (25.0%) in the post period, a 48.6% decrease in the rate of completion surgery ($p=0.02$). Greater tumor size ($p=0.03$), capsular invasion ($p<0.01$) and subcentimeter multifocality ($p<0.01$) were associated with completion thyroidectomy in low-risk “post” guideline patients.
Conclusion: The rate of completion thyroidectomy decreased significantly by 48.6% for low-risk patients with DTC between 1-4 cm, demonstrating gradual adherence to the 2015 ATA guidelines. However, 25% of these patients underwent completion thyroidectomy, suggesting additional factors influencing the decision for further treatment.
Disclosure of Interest: None declared

PE075

PROGNOSIS OF THYROID CANCER IN PATIENTS WITH GRAVES' DISEASE

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Introduction: There is an ongoing debate about the aggressiveness of thyroid cancer associated with Graves' disease. The aim of this study was to investigate the recurrence of papillary thyroid carcinoma (PTC) in patients with Graves' disease, compared with matched control patients.

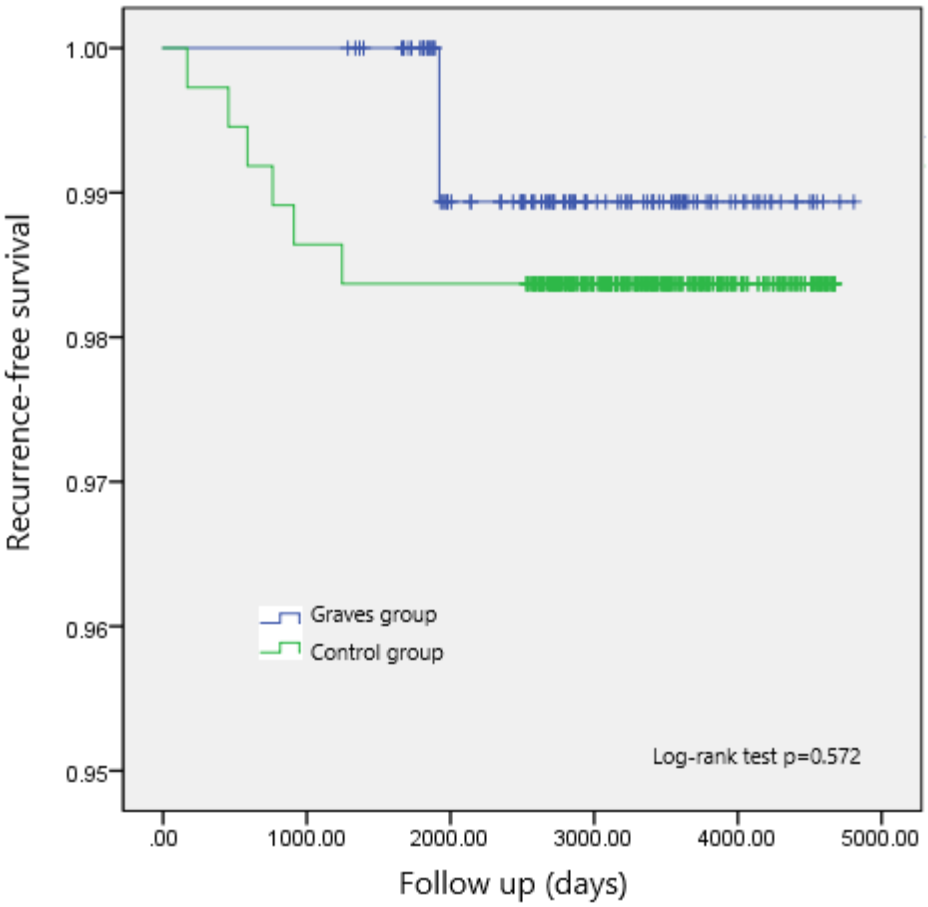
Materials & Methods: From January 2006 to June 2014, 3,628 patients underwent total thyroidectomy for PTC. Of those, 114 patients had Graves' disease with non-occult PTC (GD group). Recurrence rates were analyzed between GD group and 1:5 matched euthyroid patients (control group), after propensity score matching according to age, gender, and pathological features including tumor size, extrathyroidal extension, resection margin involvement and lymph node metastasis.

Results: The matched cohorts did not differ in age, gender, body mass index, pathologic features. Recurrence was found in 1 patient (0.9%) in the GD group after median follow-up of 94.1 months, whereas 6 patients (1.6%) experienced recurrences in the control group. No difference was found on 5-year recurrence-free survival between GD group and control group (100% vs. 98.4%, *P* = 0.572). The Cox proportional hazard analysis indicated that only age was a prognostic factor for predicting disease-free survival (hazard ratio 0.898, 95% CI 0.832-0.969, *P* = 0.006).

Table 1. Patient demographics and pathologic features after propensity-score matching

Characteristics	PTC with Graves disease (n=114)	PTC without Graves disease (n=570)	P value
Gender (male:female)	15:99 (13.2%:86.8%)	84:486 (14.7%:85.3%)	0.662
Age (years)	46.3 ± 12.9	46.3 ± 12.1	0.960
Body mass index (kg/m^2)	23.8 ± 3.1	23.5 ± 3.1	0.422
Pathologic features			
Tumor size (cm)	0.8 ± 0.5	0.7 ± 0.4	0.386
Extrathyroidal extension			0.959
No	59 (51.8%)	290 (50.9%)	
Microscopic	51 (44.7%)	257 (45.1%)	
Gross	4 (3.5%)	23 (4.0%)	
Lymphatic invasion	2 (1.8%)	10 (1.8%)	1.000
Vascular invasion	0 (0.0%)	0 (0.0%)	NA
Resection margin involvement	1 (0.9%)	5 (0.9%)	1.000
LN metastasis			0.648
N0	80 (70.2%)	412 (72.3%)	
N1a	34 (29.8%)	158 (27.7%)	
N1b	0 (0.0%)	0 (0.0%)	
Follow up (days)	2945.7 ± 896.7	2859.4 ± 949.9	0.894
Recurrence	1 (0.9%)	6 (1.6%)	0.557

Image:



Conclusion: Papillary thyroid cancers in patients with Graves' disease showed an excellent prognosis and comparable disease-free survival than those with euthyroid states.

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Disclosure of Interest: None declared

PE077

ROLE OF COMPLETION THYROIDECTOMY IN PATIENTS UNDERGOING LOBECTOMY FOR INDETERMINATE AND HIGH RISK NODULES: IMPACT OF INTRA-OPERATIVE FINDINGS AND FINAL PATHOLOGY

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Introduction: Current guidelines increasingly suggest the use of thyroid lobectomy for indeterminate (Bethesda 3 and 4) and high risk (Bethesda 5 and 6) thyroid nodules. The decision to perform a total thyroidectomy (TT) may be made;

1) pre-operatively: bilateral nodules, nodule >4cm and other patient factors
2) intra-operatively: identification of metastatic lymph nodes
3) post-operatively: aggressive histology, gross extra-thyroidal extension, recommendation for radioactive iodine ablation (RAI)

Materials & Methods: The aim of this study was to determine the rate of completion thyroidectomy (CTx) for indeterminate and high risk thyroid nodules which are preoperatively classified as suitable for unilateral resection (lobe eligible) based on current guidelines. 700 consecutive patients with thyroid nodules and FNA cytology over four years (2015-2018) were reviewed.

Results: Distribution of the dominant nodules by Bethesda was: non diagnostic 3.9%, benign 28.1%, atypia of unknown significance 19.0%, follicular neoplasm 23.6%, suspicious for malignancy 6.1% and malignancy 19.3%.

Of 298 indeterminate nodules, 68.8% (205/298) had independent indications for a TT and the remainder were candidates for unilateral lobectomy (UL). For these lobe eligible patients, the overall risk of needing a CTx was 19.4% (28/93), comprising 4.3% (4/93) from intraoperative findings and 15.7% (14/89) from final pathology. Similarly, of 170 high risk nodules, 63.5% (108/170) had independent indications for a TT and the remaining 62 nodules were lobe eligible. Of the patients taken to the operating room for a UL, 21.0% (13/62) were upgraded to a TT intra-operatively and 26.5% (13/49) post-operatively. For this high risk subgroup who are lobe eligible, the overall rate of ultimately requiring a TT was 41.9%

Conclusion: Almost one in five patients with indeterminate nodules and two in five patients with high risk nodules, who are eligible for a UL will ultimately require complete removal of their thyroid gland if current guidelines are adhered to. In counselling a patient for surgery, the risk of needing a more radical initial procedure or second surgery needs to be accurately explained. In addition to clinical factors, the patient's personal value judgement in wanting an initial TT to avoid the risk of a second procedure should be taken into consideration.

Disclosure of Interest: None declared

PE078

A PROSPECTIVE STUDY ON THE INFLUENCE OF GRADE OF TUBERCLE OF ZUCKERKANDL ON SURGICAL OUTCOME IN 604 PATIENTS AT A TERTIARY CARE REFERRAL CENTRE

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Introduction: The relationship of tubercle of Zuckerkandl(TZ) with recurrent laryngeal nerve(RLN) and parathyroid glands has been extensively studied.The implications of this intricate relationship in surgical management have not been adequately addressed.This study evaluates the delicate relationship of different grading of TZ,RLN & its influence on postoperative morbidity in total thyroidectomy(TT) patients

Materials & Methods: A prospective observational study of 604 patients,undergoing TT for benign thyroid disorders in a dedicated Endocrine surgery center between Aug 2013 &January 2018.The presence of TZ in 1208 thyroid lobes in 604 TT patients,its relationship with RLN and Parathyroid glands were documented in detail.The cases were sub classified into two groups based on presence of TZ.Various parameters involving grading of TZ & its relationship with volume of each lobe(standard WHO correction-length x breadth x depth x 0.479),post-operative hypocalcemia & vocal cord (VC) palsy were analyzed.

Results: In 604 cases (1208 lobes),the prevalence of TZ was 512/1208(42.4%),324/512(63.3%) right lobe & 186/512(36.3%) on left lobe.In 512 TZ, grade I was seen in 168/512(32.8%), grade II in 284/512(55.5%) & grade III in 60/512(11.7%).RLN branching was present in 40/604(6.6%) on right side and 38/604(6.2%) on left side. RLN was posterior to TZ in 524(86.8%) & anterior to TZ in 80(13.2%) on right side & 536(88.7%) posterior &68(11.3%) anterior on left side. Temporary VC palsy was found in 58/1208 RLN (4.8%). In lobes with TZ, 52(4.3%) temporary nerve palsies & 8(0.7%) had permanent VC palsy. Temporary hypocalcemia was observed in 298/604(49.3%) patients. 260(43.1%) & 8(1.3%) with TZ had temporary & permanent hypocalcemia respectively. The RLN branching and its relation with TZ no statistical significance on post-operative VC status. Grade 3 TZ had larger lobe volume, with higher proportion of temporary hypocalcemia and temporary VC palsy in comparison with Grade1and 2 TZ.

VARIABLES	**TZ present (n=256 lobes)**	**TZ absent (n=348 lobes)**	**p value**
Gland Volume (>50 cc)	104(20.3%)	36(5.2%)	<0.001
Transient VC Palsy	52(10.2%) Right -34(65.4%)	6(0.86%) Right- nil	<0.001
Permanent VC Palsy	8(1.56%)	0	<0.001
Transient Hypocalcemia	312(60.9%)	132(18.9%)	<0.001
Permanent Hypocalcemia	4(0.78%)	4(0.57%)	0.32

Conclusion: Large goiters had higher incidence of grade 3 TZ. Presence of TZ predisposes to temporary hypocalcemia in TT patients but the incidence of permanent hypocalcemia is comparable whereas the rate of permanent nerve palsy was significant.

Disclosure of Interest: None declared

PE079

REGULARIZED LOGISTIC REGRESSION IDENTIFIES RNA-SEQ GENE EXPRESSION SIGNATURE OF LYMPH NODE METASTASIS RISK IN PAPILLARY THYROID CANCER

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Introduction: Papillary thyroid cancer (PTC) often spreads to the regional lymph nodes. The frequency of central neck metastases is high, but the impact of such metastases is controversial. In addition, they are frequently undetectable on pre-operative imaging studies, so many centers perform routine “prophylactic” central neck dissections (CND). However, many patients who undergo CND are subjected to the additional risks of the procedure without any of the benefits, as a significant fraction will not be found to have central neck metastases. Our group explored whether the RNA-seq gene expression profile can be used to identify patients who are at higher risk of PTC lymph node metastasis and therefore most likely to benefit from CND.
Materials & Methods: Global gene expression (from RNA-seq) data and clinico-pathological parameters of 501 primary papillary thyroid cancers were obtained from The Cancer Genome Atlas (TCGA). Cases were randomly divided into training (75%) and validation (25%) cohorts. On the training set, an elastic-net regularized logistic regression model was trained to predict the binary outcome of lymph node metastasis using the expression levels of 20,531 genes. The model was then evaluated on the validation cohort.
Results: Out of 501 primary tumors, 165 patients had no tumor in the lymph nodes by pathological analysis, while 220 had one or more lymph node positive. No lymph nodes were examined in 116 cases. The trained logistic regression model consisted of 24 genes with non-zero regression coefficients. Evaluating this model on the held-out validation set revealed an area under the curve of 0.79.
Conclusion: Using RNA-seq gene expression data for 24 genes, the model is able to delineate a higher-risk and lower-risk set of patients for lymph node metastasis in PTC. Translating this risk modeling approach to the clinic could permit selection of higher-risk patients for prophylactic central neck dissection, while helping to avoid the additional morbidity of the procedure for those less likely to benefit.
Disclosure of Interest: None declared

PE080

VALPROIC ACID IN THE NOVEL TREATMENT OF ANAPLASTIC CARCINOMA OF THE THYROID

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Introduction: Anaplastic carcinoma of the thyroid (ATC) is one of the most malignant cancers known to man. Although some new treatment modalities have recently been introduced, effective treatments are still sorely needed. Oral valproic acid (VA) can enhance the efficacy of conventional chemotherapy. Here we report 22 cases of confirmed ATC treated with oral VA in combination with doxorubicin (DXR), cisplatin (CDDP), and surgery.

Materials & Methods: Since 2006, 22 patients have agreed to undergo this treatment. Although the regimen initially varied due to trial and error, it eventually settled on 1200mg of oral VA daily with 37.5mg/m^2 of DXR and 75mg/m^2 of CDDP administered at 4 week intervals. Two courses of this regimen was performed before surgery and once after, to a total of 112.5mg/m^2 of DXR and 225mg/m^2 of CDDP. 40Gy of external beam radiation was administered post-surgery where applicable.

Results: Of the 22 patients who underwent the treatment 18 reached surgery out of which 6 cases had curative surgery. The median survival is 213 days, and the median survival of those who reached surgery 325 days. All 6 patients who had curative surgery have lived without treatment and without disease for over a year, the longest surviving over 11 years disease free until death from unrelated cause.

Conclusion: The use of oral VA in combination with DXR and CDDP has significantly improved survival and quality of life for patients of ATC with substantially smaller doses of cytotoxic agents. VA, DXR, and CDDP are patent free substances and the combined use of these agents for ATC is public domain.

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Disclosure of Interest: None declared

PE081

MULTIFOCAL PAPILLARY THYROID CARCINOMA – IS COMPLETION THYROIDECTOMY NECESSARY TO IMPROVE THE PROGNOSIS?

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Introduction: It is a distress for a surgeon whether she should perform completion thyroidectomy (CT), when unexpected multifocus was revealed pathologically in presumed unifocal papillary thyroid carcinoma (PTC). Efficacy of CT for improving the prognosis of multifocal papillary thyroid carcinoma (MPTC) remains to be resolved. The aim of this study is to evaluate the disease specific (DSS) and disease free survival (DFS) of MPTC patients who treated less than total thyroidectomy (LTx) and to investigate whether CT is mandatory for MPTC.
Materials & Methods: Medical records of 673 PTC patients that were operated from 2010 to 2017 were studied. Of the 514 patients clinically diagnosed as unifocal, 104 (20.2%) patients were pathologically diagnosed as MPTC. Eighteen patients with tumor over 4cm or gross extrathyroidal extension were excluded. Kaplan-Meier method and Log-Rank test was used for statistical analysis.
Results: The operative procedure was LTx for 60 patients and total thyroidectomy (Tx) (including 2 patients performed CT immediately after initial surgery) for 26 patients. Mean preoperative tumor size was significantly larger in Tx group than LTx group, 19.7 mm vs 13.2 mm (p<0.001). The incidence of preoperative lymph node metastasis was higher in Tx group than LTx group, 26.7% vs 80.8% (p<0.001). Radioiodine therapy was performed in 19 of Tx patients. Clinically undetected cancer in bilateral lobe was found in 15 (58%) of Tx patients. Five-year DFS rate of LTx and Tx were 92.5% and 78.1%, respectively. (p>0.05). Recurrence site was lymph nodes in 3 of LTx patients and 4 of Tx patients. One of the Tx patients developed local recurrence. None of the LTx patient developed PTC in the remnant thyroid. Neither distant metastasis nor death due to PTC occurred. Post-operative levothyroxine was replaced in 8 (13.3%) of LTx patients. Post-operative hypoparathyroidism occurred in 4 (15.4%) of Tx patients.
Conclusion: DSS and DFS of MPTC treated with LTx was not inferior to those of MPTC treated with Tx. Though microscopic PTC may exist in the remnant thyroid with high probability, it did not worsen the prognosis of the LTx patients without high risk features. LTx is a feasible operative procedure to maintain post-operative thyroid function and avoid hypoparathyroidism. LTx without CT immediately after the initial operation is acceptable surgical procedure for non-high risk MPTC.

Disclosure of Interest: None declared

PE082

GENETIC ALTERATIONS IN ANAPLASTIC THYROID CARCINOMA

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Introduction: Anaplastic thyroid cancer(ATC) is rare but fatal thyroid cancer responsible for majority of thyroid cancer related mortality. ATC may originate de novo or from preexisting differentiated thyroid cancer. Complex interaction between different gene mutation has been suggested to be the main causative factor for origin of ATC

Materials & Methods: Clinico-pathological data of 34 ATC patients were collected retrospectively and Formalin Fixed Paraffin Embedded (FFPE) blocks were taken out for genetic analysis. DNA was isolated from FFPE tissues. BRAF V600E mutations were screened by RFLP PCR method and confirmed by sequencing. RET/PTC , RAS , PIK3CA and p53 mutations were screened by sequencing.

Results: A total of 34 patients were studied: Mean age 58.6± 11.6 years with a F:M- 1.8:1. 60% had the history of previous goiter. Most common presenting symptom was rapidly growing thyroid mass followed by dyspnea, dysphasia and hoarseness of voice. Extent of disease was local, locoregional and metastatic in 32, 35 and 33% respectively. FNAC was suggestive of ATC only in 52.9% cases. 15 (44%) were operated. BRAF V600E mutations were observed in 10/34 (29.4%). Interestingly, all three ATC patients with DTC components had previous history of goiter with rapid increase in size and BRAF V600E mutation, while BRAF was positive only in 7/31 (22.5%) of patients with no DTC component. Mean survival was 3.5 months in BRAF positive cases in comparison to 5.5 months in BRAF negative ATC. RAS mutations were found to be positive in 5.8%, and none had RET-PTC/PI3CA mutations. P53 IHC was positive in 7 patients.. Multiple mutations were present in 4 patients including 3 patients with BRAF and p53 mutation and one patient with RAS and p53 mutation.

Conclusion: BRAF V600E was the commonest mutation followed by p53 . BRAF was more common in patients with previous history of longstanding goiter or those with a component of differentiated thyroid cancer. This provides an indirect evidence of neoplastic transformation of PTC to ATC.

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Disclosure of Interest: None declared

PE083

SENTINEL LYMPH NODE BIOPSY USING METHYLENE BLUE DYE IN CLINICALLY N0 PAPILLARY AND MEDULLARY THYROID CARCINOMAS FOR DECISION ON ONE-TIME LATERAL NECK DISSECTION

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Introduction: Surgical management of clinically N0 (cN0) patients with thyroid carcinomas remains debatable due to various reported frequencies of lymph node (LN) metastases. The aim of this paper was to present usefulness of sentinel lymph node biopsy (SLNB) of jugulo-carotid regions after methylene blue dye (MBD) mapping in intraoperative selection of cN0 patients with papillary and medullary thyroid carcinomas for one-time lateral neck dissection (LND).
Materials & Methods: We present results of three studies from our Surgical Oncology Clinic that analyzed usefulness of *Dzodic's original SLNB method for LN staging in thyroid carcinomas* (published in *Word J Surg, 2006*): the first with 153 cN0 papillary thyroid carcinomas (PTC), the second with 111 cN0 micro-PTCs and the third with 17 cN0 medullary thyroid microcarcinomas (micro-MTC) with serum calcitonin levels <1000pg/ml. All patients underwent injection of 1%>MBD subcapsullary in both lobes, total thyroidectomy, prophylactic central neck dissection and SLNB of jugulo-carotid regions. All sentinel-LNs were examined by frozen section analysis (FSA). One-time LND was performed only in patients with sentinel-LN metastases on FSA. Otherwise, surgery was not extended.
Results: None of the patients had allergic reactions to MBD. LN metastases were histologically verified in 40.9% of cN0 PTCs and 25% of cN0 micro-PTCs. Only one patient with hereditary micro-MTC had LN metastases in central and both lateral regions. *Dzodic's SLNB method* enabled detection of LN metastases in lateral neck compartments in 21% of patients. Skip metastases were detected in about 4% of patients with PTCs and micro-PTCs, while there were no skip metastases in micro-MTCs. Method's overall accuracy was high in all studies, but the highest in the study with micro-MTCs (100%).
Conclusion: *Dzodic's SLNB method* with MBD mapping and FSA of sentinel-LNs from jugulo-carotid regions is accurate in detection of lateral LN metastases in cN0 patients with papillary and medullary thyroid carcinomas and microcarcinomas. It prevents over-treatment of patients without metastases in sentinel-LNs and helps in decision for one-time LND in patients with histologically proven sentinel-LN metastases. This method additionally facilitates central neck dissection and diminishes the possibility of accidental removal of parathyroid glands (that remain non-colored), even in less experienced surgeons' hands.
Disclosure of Interest: None declared

PE084

QUESTIONNAIRE SURVEY ON TREATMENT STRATEGY FOR ADULT PATIENTS WITH ASYMPTOMATIC PAPILLARY THYROID MICROCARCINOMA IN JAPAN

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Introduction: Since the 1990s, two Japanese institutions have initiated prospective trials of active surveillance (AS) for adult patients with asymptomatic papillary thyroid carcinoma ≤1 cm (cT1aN0M0 PTMC). These trials verified that the vast majority of tumors did not progress during AS and outcomes were unaffected with conversion surgery performed when they showed progression signs. The strategy is getting accepted as an alternative to immediate surgery for asymptomatic PTMCs. However, even in Japan, actual approaches to the tumors in clinical practices are unknown.
Materials & Methods: We conducted a questionnaire survey on actual treatment patterns for adult patients with asymptomatic PTMCs. Subjects were representative doctors for each institution that belongs to Japan Association of Endocrine Surgery (JAES) or Japanese Society of Thyroid Surgery (JSTS). Responses were obtained from 134 representative doctors.
Results: For suspicious tumors on ultrasound, 18 doctors (13%) conduct cytological examination routinely, while 69 (51%) and 40 (30%) conduct it only for tumors > 5 mm and > 10 mm, respectively. After the diagnosis, 42 doctors (32%) recommend AS, 36 (27%) recommend immediate surgery as the management, and 52 (32%) let patients make their own decisions. The present doctors tended to recommend surgery for PTMCs that were located adjacent to the dorsal surface of the thyroid, were multiple, or were approaching 10 mm in size. At these institutions, 1,175 patients with PTMC underwent surgery in 2017, accounting for 18% of surgeries for papillary thyroid carcinoma. During optional three months, 343 of 635 (54%) PTMC patients underwent AS. The treatment strategies did not differ whether the institution is surgery or otolaryngology and whether JAES certificated institutions or not. The institutions that have six or more staff surgeons or were located in the metropolitan areas performed AS more actively.
Conclusion: At present, more than half of asymptomatic PTMC undergo AS in Japan. However, there are great variations in indication and recommendation of AS according to institutions. For further implementing this management modality, development of knowledge among both doctors and patients as well as improvement of socio-medical environment is essential.
Disclosure of Interest: None declared

PE085

PATIENT PREFERENCES FOR SURGICAL APPROACHES TO THYROIDECTOMY: A DISCRETE CHOICE EXPERIMENT

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Introduction: Transoral approaches to thyroidectomy aim to avoid scars in the neck to maximize cosmetic outcomes. We conducted a discrete choice experiment (DCE) to identify and evaluate the factors most affecting patients' decision-making processes when choosing among thyroidectomy approaches, and assess how cosmetic concerns may influence patients' choices.

Materials & Methods: The DCE was designed in three phases. First, a mixed analysis of expert and patient focus groups was performed to identify the most important attributes driving patient preferences in surgical approach. Second, discrete graded "levels" (or choices) were assigned to each of the attributes based on literature review and expert panels. Third, using the data from the first two phases, a DCE survey was conducted in 55 patients who were candidates for thyroid lobectomy for non-cancerous thyroid disease. In the survey, patients chose their preferences among hypothetical scenarios constructed from a randomized set of attribute-level combinations. Survey analysis was performed using a mixed logit regression model.

Results: The major attributes identified in phase 1 were 1) risk of recurrent laryngeal nerve (RLN) injury, 2) risk of mental nerve injury, 3) travel distance for surgery, 4) out-of-pocket cost, and 5) site of incision. The risk of having RLN or mental nerve injury, travel distance, and cost were the most significant attributes overall. On willingness-to-pay analysis, patients were willing to pay $4,116 and $907 USD for every 1% reduction in the risk of RLN injury and mental nerve injury, respectively. There was a significant interaction between age <60 years and a preference for no incision scar in the neck, indicating that younger patients were more likely to be influenced by cosmesis when choosing their preferred treatment.

Attributes and levels	**Mixed logit coefficient**	**p-value**	**Willingness-to-pay threshold (USD)**
Incision site			
Conventional neck incision	--	--	
Submental incision	0.03	0.96	
No neck incision (scarless)	-0.19	0.63	
Interaction between incision site and patient age			
No neck incision and age	1.37	0.008	
Risk of mental nerve injury (%)	-0.22	<0.001	$907 / 1% risk reduction
Risk of RLN injury (%)	-0.98	<0.001	$4,116 / 1% risk reduction
Travel distance (miles)	-0.001	<0.001	$3 / 1 mile reduction
Out-of-pocket cost (USD)	-0.0002	<0.001	

Conclusion: The risk of complications remains paramount for patients when choosing among surgical approaches for thyroidectomy. Cosmetic implications influence decisions in patients under 60 years of age.

Disclosure of Interest: None declared

PE086

PGC1-ALPHA DOWNREGULATION AND GLYCOLYTIC PHENOTYPE IN THYROID CANCER

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Introduction: Increased aerobic glycolysis heralds unfavorable prognosis in thyroid cancer. The metabolic reprogramming likely results from defective mitochondrial activity and may promote cancer progression. Peroxisome proliferator-activated receptor γ coactivator 1α (PGC1α) plays a pivotal role in mitochondrial biogenesis and function. We aimed to evaluate the clinicopathological significance of PGC1α expression and the effects of PGC1α modulation.
Materials & Methods: The expression of PGC1α in thyroid cancer samples was evaluated using western blot and immunohistochemical staining. The biologic relevance of PGC1α was investigated by gain- and loss-of-function experimental studies.

Results: Compared with normal thyroid tissue, PGC1α expression was downregulated in thyroid cancer. PGC1α-negative papillary cancer was associated with BRAF V600E mutation, large tumor size, extrathyroidal or lymphovascular invasion, lymph node metastasis, and advanced stage. PGC1α expression correlated with oxygen consumption of thyroid cancer cells and was inversely related to AKT activity. PGC1α overexpression led to augmented oxidative metabolism and accelerated tumor growth, whereas PGC1α knockdown induced a glycolytic phenotype but reduced tumor growth in vivo.
Conclusion: PGC1α downregulation is associated with glycolytic metabolism and advanced disease in thyroid cancer. Nonetheless, manipulating PGC1α expression and metabolic phenotype does not necessarily translate into beneficial effects. It suggests that the metabolic phenotype is likely the consequence rather than the cause of disease progression in thyroid cancer.
Disclosure of Interest: None declared

PE087

THE FRAGILITY INDEX IN RANDOMIZED CONTROLLED TRIALS IN THE FIELD OF CLINICAL NUTRITION

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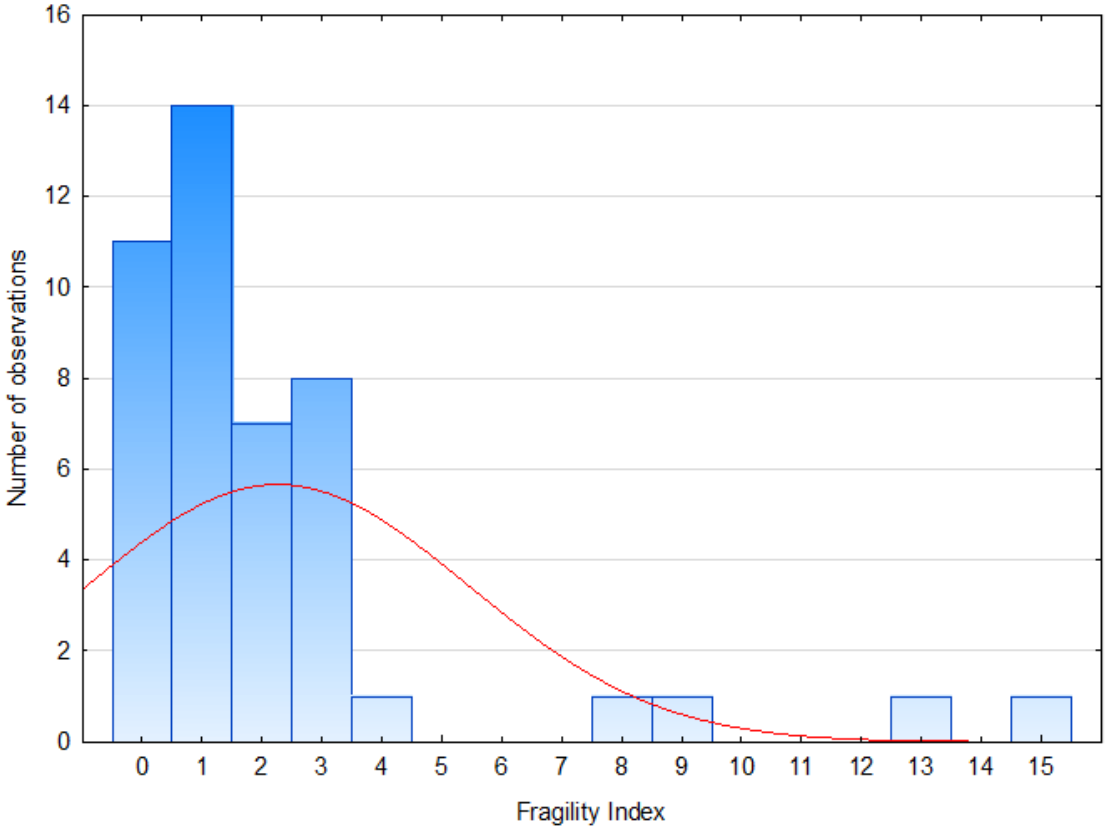
Introduction: Modern nutritional research (mostly randomized controlled trials (RCTs)) investigating various clinical nutrition formulas often shows benefitial in certain clinical situations. Recently, a new parameter called “Fragility Index” (FI) has been proposed. The FI is a number indicating how many patients would be required to convert a trial from being statistically significant to not significant (p≥0.05). FI measures how many events the statistical significance relies on. It is a valuable tool to establish the confidence in trial results - the lower the FI is, the more “fragile” the results of an RCT are and for this reason their interpretation has to be more careful. Our aim was to check Fragility Index of RCTs in clinical nutrition.

Materials & Methods: We conducted a systematic review searching for human clinical nutrition RCTs reporting statistically significant dichotomous primary outcome. We searched EMBASE, MEDLINE, Scopus databases, seeking for articles published in English. In order to allow Fragility Index calculation, the variable had to be dichotomous. We calculated FI of primary outcomes using Fisher exact test. We also checked correlations of FI with the number of randomized patients, p value of primary outcome, publication date, journal impact factor and number of patients lost to follow-up.

Results: The initial database search revealed 5790 articles, 45 of which were included in qualitative synthesis. Median (IQR) FI for all studies was 1 (1-3). Median trial size was 107.0 patients (IQR 57.0-206.0). Median number of centers participating in the study was 10 (IQR 6-17). Thirty-two studies (71.1%) had FI lower or equal 2. Out of all included studies in eighteen (40.00%) articles FI was lower than number of patients lost to follow up. FI has significant positive correlation in Spearman’s ranks with the number of randomized patients (p=0.020) and negative correlation with p value of primary outcome (p=0.016). No correlations were found between Fragility Index with the event ratio in experimental group, publication date, journal impact factor and number of patients lost to follow-up.

Image:



Conclusion: The results of RCTs in nutritional research often rely on a small number of events or patients. What is more, the number of patients lost to follow up is frequently higher than the calculated results of Fragility Index. Formulating recommendations basing on RCTs should be done with caution. More research on quality of the studies and their results should be performed.

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Disclosure of Interest: None declared

PE088

HOME PARENTERAL NUTRITION (HPN) AS A BRIDGING PROCEDURE FROM INTESTINAL FAILURE TO ENTERAL AUTONOMY

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Introduction: Home parenteral nutrition enables survival for patients with intestinal failure (IF) and in some cases is necessary for a life-time. IF type II and III require HPN until the function of the remaining bowel is sufficient for effective oral feeding. Weaning off parenteral nutrition can be achieved by intestinal rehabilitation or successful surgical treatment with a restoration of the bowel continuity.
Materials & Methods: We analyzed medical records of adults on HPN from 2010 to 2018 in the Home Nutrition Unit in Copernicus Hospital in Gdansk (Poland). Patients with non-neoplastic indications with fully restored bowel anatomy were selected. Age, gender, indications for HPN, duration of procedure and body weight were collected. Selected parameters of nutritional status were compared (total protein and albumin level) from the starting point of therapy and after HPN weaning.
Results: 17 patients were qualified for the analysis (F-9, M-8, Age from 22 to 78). The indications for HPN were: end-jejunostomy (76%, n= 13), short bowel syndrome (6%, n= 1), intestinal fistula (17, 3%, n= 3). IF was caused by: extensive resection of the intestine due to vascular necrosis (29, 4%, n= 5), surgical complications (35, 2%, n= 6), abdominal trauma (17, 6%, n= 3), mesenteric embolism (6%, n= 1), complications of Crohn's disease (11, 6%, n= 2). Surgical complications were associated with anastomosis leakage (30%, n= 5) or iatrogenic intestinal perforation (6%, n= 1). Among patients with end-jejunostomy syndrome, 47% (n=8) patients had end jejunostomy (80-120 cm from Treitz ligament), 35, 2% (n= 6) - loop ileostomy. The duration of HPN ranged from 5-15 months, an average of 9 months. Mean body weight prior to HPN was 58 kg, after weaning- 65 kg, the protein level increased from 60 to 67 g/l, albumin level from 33 to 40 g/l. During the procedure, 3 patients developed a catheter infection. In the majority of patients (88%, n= 15), complete enteral autonomy was accomplished with successful surgical treatment with the restoration of the bowel continuity and in 12% (n=2) as a result of intestinal adaptation.
Conclusion: HPN improves the nutritional status of patients with intestinal failure which enables to prepare for planned and successful surgical treatment restoring bowel continuity. It is essential for intestinal rehabilitation process giving a possibility to regain full enteral autonomy.
Disclosure of Interest: None declared

PE089

REPLACEMENT OF A FIFTEEN YEARS TRANSHEPATIC CENTRAL CATHETER: AN OPTION IN HOME PARENTERAL NUTRITION IN END-STAGE VENOUS ACCESS

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Introduction: Central venous catheter (cvc) placement is indicated in patients requiring long-term parenteral nutrition or fluidotherapy. The first choice to cvc placement is upper vena cava via internal jugular vein or subclavian vein. When these sites become exhausted we must consider an alternative approach such femoral vein, azygous vein, a translumbar or transhepatic approach and, as a last resort, direct placement via thoracotomy.
In cases of intestinal failure the intravenous supplementation or replacement is essential and the accesses sites can be a problem. In fact, the absence of central accesses is one of the indications for intestinal transplantation.
Materials & Methods: We present a case of a man with type 3 intestinal failure due to short bowel syndrome with end-stage venous access, who required transhepatic replacement of his central catheter.
A 37 years old male, with short bowel syndrome since his 8 years old because an intestinal malrotation tipe A, under parenteral nutrition for the last 29 years, being that the last fifteen years was due to a transhepatic central catheter.
The patient was previously submitted to multiple interventions such as Bianchi operation, small bowel transplantation and posteriorly transplant removal due to late rejection. With at least fourteen central venous access in the firsts 8 years, his common venous sites becomes impossible.
In 2004, a percutaneous thranshepatic Broviac catheter was placed in our institution and remained functional over the last fifteen years.
Results: Early these year, this catheter developed a leak and it was replaced using the Seldinger technique with image control. The end-of-catheter culture was negative. The patient restarted his parenteral nutrition in the same day and was discharged in the next day.
Conclusion: A transhepatic approach demonstrated to be a reliable option in chronic intestinal failure in patients with end-stage central venous access.
Disclosure of Interest: None declared

PE090

EVALUATION OF NUTRITIONAL STATUS AND BODY COMPOSITION MEASURED BY BIOELECTRICAL IMPEDANCE IN PATIENTS WITH RESECTABLE PANCREATIC CANCER – THE PILOT STUDY.

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Introduction: Scientifically proven malnutrition can be found in patients with advanced, non-resectable pancreatic cancer (PC). Patients qualified for surgery appear to have better nutritional status (NS) than patients with unresectable tumor. Bioelectrical impedance analysis (BIA) is an easy-to-use and non-invasive method to assess the body composition. The aim of this study was to assess the NS and search for the association between the phase angle (PA), fat free mass (FFM), body cell mass (BCM) determined by BIA and undernourishment detected by Subjective Global Assessment (SGA), Nutritional Risk Screening 2002 score (NRS 2002), albumin and Body Mass Index (BMI).
Materials & Methods: A total of 45 patients were evaluated, most of them (91%) had histologically confirmed adenocarcinoma. More than a half (62.22%) had tumor located in the head of pancreas, 22.22% were diagnosed with tumor located within the pancreatic body and tail, 15.56% concerned ampulla of Vater cancer. The average age at admission was 64 years ±9.21. All discussed parameters were determined the day before surgery. Spearman correlation coefficient has been used to verify correlations.
Results: The average PA measured at frequency 50Hz was 7.65° ±1.53. Malnutrition or its high risk was detected in 38 and 31 patients using NRS 2002 and SGA. The average BMI score was 25.4 kg/m^2±4.78, and median FFM 70.49%. There was statistically significant correlation between BCM and arm circumference ($R=0.45$, $p<0.006$), weaker but also statistically significant ($p<0.02$) correlation was found between NRS and albumin ratio $R=-0.37$, as well as between PA and BMI ($R=0.30$, $p<0.05$). Average value of phase angle was the highest for patients with tumor located in ampulla of Vater (Av=8.49±1.73) and they had better NS.
Conclusion: Patients with resectable tumor presented in majority malnutrition or its high risk in NRS 2002 and SGA assessment. In general, they had better NS than patients with unresectable PC in comparison with data from the literature. At most cases BMI indicated proper NS and that is why this parameter should not be used to detect undernourishment in this patients**.** There was the association between malnutrition, albumin and body composition parameters. The albumin parameter and BIA can be useful in assessment in PC group. NS differed depending on the location of the tumor, but it was not significant (a pilot study). There is a need for further investigation in larger group of patients to evaluate subgroups according to more specific conditions
Disclosure of Interest: None declared

PE091

IMPACT OF COMPLIANCE TO THE ERAS PROTOCOL ON MORBIDITY AND LENGTH OF HOSPITAL STAY IN PATIENTS UNDERGOING BARIATRIC SURGERY.

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Introduction: Enhanced Recovery After Surgery protocol is a renowned method of perioperative care for patients. It has been proven for different surgical fields that the compliance to the protocol, that is adherence to elements that are involved in the programme, has an impact on the surgical outcomes. Available litearature in regard to ERAS compliance in bariatric surgery is scarce.
Materials & Methods: This observational study design was based on retrospective analysis of prospectively collected data in patients operated on for morbid obesity at a tertiary referral for general surgery, academic, teaching hospital. Guidelines of the Metabolic and Bariatric Surgery Section of the Polish Surgical Society were used as criteria for surgical treatment. In all patients, the 13-item ERAS protocol was applied. The primary outcomes were: morbidity and length of hospital stay.
Results: In our study we included patients operated in our department from April 2009 to November 2017. Analysis covered 764 patients operated for morbid obesity. The patients were divided into 2 groups according to compliance, group 1 compliance <80% group 2 >80%. The overall morbidity for the whole study group was 7.2%(55 cases). The groups differed significantly in the rate of complications 9.37% vs. 5.54% (G1 vs. G2), p=0.024. LOS did not differ between study groups, 3 (3-4) vs. 3 (2-4) p=0.234.
Conclusion: Compliance to the ERAS protocol in bariatric surgery has a significant impact on morbidity. Groups with different compliance do not differ in terms of LOS.
Disclosure of Interest: None declared

PE092

CLINICAL OUTCOME AND TISSUE CHANGES IN SCARS TREATED WITH AUTOLOGOUS FAT TRANSFER (AFT)

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Introduction: The overall survical rates after breast cancer (BC) treatment continue to improve. Therefore an increasing number of patients live for decades after breast conserving therapy, mastectomies or breast reconstruction. This focuses attention on the postoperative quality of life, pain- and scarmanagement as well as basic research in relation to this. The aim of our study is to evaluate the clinical out come and tissue changes induced by autologous fat transfer(AFT) in BC patients.

Materials & Methods: Ten consecutive BC patients treated for troublesome scars by AFT were enrolled in this study. Clinical and demographic data was retrieved from patient records. The quality of the scar was assessed using the POSAS preoperatively and 6 months postoperatively. The instrument comprises two separate scales, one completed by the patient and one completed by the observer. Both scales consist of six items scored on 10-point numeric rating scales with 1 representing normal skin and 10 representing the worst possible scar. The patient and the observer scale are summated into two separate scores ranging from 1-60 with lower score indicating better scar quality.

With written informed consent from the patients 2 skin punch (4mm) biopsies were taken preoperatively and 6 mo postoperatively from the scar and from healthy skin of each patient. One scar and one control biopsy was fixed in formalin, paraffin embedded , cut and prepared for basic histology and immunohistochemistry. The other 2 biopsies were snap frozen in liquid nitrogen and stored in – 80 C to be prepared for RNA analyses.

Results: The pre-and postoperative POSAS score were compared for each patient, showing a clear, 32 % improvement in the score postoperatively. Patients and observers scores showed a wide variation, so that the observer graded the scars less severe than the patient. Interindividual comparison was not done, since every patients scar is individual and the POSAS scale is prone to subjectivity.

The histological and RNA analyses are still in progress. Thereafter tissue properties of each scar will be compared to the clinical data and outcome. The results will be reported at the ISS meeting.

Image:

Conclusion: Fat transfer for the management of troublesome and painful scars is a promising method but the mechanisms on a tissue level behind its positive effects (in the human in vivo) are not fully understood. Therefore the clinical outcomes should be reported in great detail and compared to tissue changes in a clinical setting.
Disclosure of Interest: None declared

PE093

THE EFFECTIVENESS OF SURGICAL SITE INFECTION (SSI) PREVENTION BUNDLE IN REDUCING THE INCIDENCE OF SSI POST MASTECTOMY AMONG BREAST CANCER PATIENTS IN UNIVERSITY MALAYA MEDICAL CENTRE (UMMC).

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Introduction: Surgical site infections (SSIs) are the commonest healthcare associated infection in low & middle income countries such as Malaysia, as reported by the World Health Organisation (WHO); even for mastectomies the incidence varies from 1-30%. This is significantly higher compared to the expected incidence of 2% for clean surgeries. The aim is to reduce the incidence of SSIs among breast cancer patients undergoing mastectomy at UMMC by implementing the surgical site infection prevention bundle & to identify possible risk factors of SSI in these group of patients.
Materials & Methods: The study was conducted from July 2017-June 2018 & it involved the implementation of the surgical site infection prevention bundle on all breast cancer patients undergoing mastectomy at UMMC. The surgical site infection prevention bundle consists of preoperative, intraoperative & postoperative preventive measures adapted from the Global Guidelines for the Prevention of Surgical Site Infection by WHO. The quality implementation framework for the implementation of the surgical site prevention bundle is made up of four phases with a total of 14 steps, one of which includes a retrospective analysis of the incidence of SSI pre-bundle implementation. Multivariate logistic regression was used to identify independent risk factors for SSI, utilising odds ratio (OR) & 95% confidence intervals (95% CI); with a p value <0.05 considered significant.
Results: The incidence of SSIs amongst patients undergoing mastectomy from July 2015 to June 2016 (pre-surgical site infection prevention bundle implementation) at UMMC was 23.1% (27 cases of SSIs, n=117). The incidence rate of SSIs post-surgical site infection prevention bundle implementation was 8.1% (10 cases of SSIs, n=124), demonstrating a 65% reduction in the SSI rates. Multivariate logistic regression analysis revealed that patients undergoing surgery without the surgical site prevention bundle (OR 4.55, 95% CI 1.47-14.04, p=0.008) or were obese (BMI ≥30) (OR 4.80, 95% CI 1.06-21.67, p=0.04) were significant risk factors of SSI.
Conclusion: The implementation of the surgical site infection prevention bundle is effective in reducing the incidence of SSIs amongst breast cancer patients undergoing mastectomy, which in turn reduces morbidity and consumption of hospital resources, ultimately improving the quality of care of surgical patients.
Disclosure of Interest: None declared

PE094

ONCOPLASTIC BREAST SURGICAL TECHNIQUES FACILITATE SAFE BREAST CONSERVATION FOR PATIENTS WITH LARGE BREAST CANCERS UNDERGOING PRIMARY OR POST-NACT BREAST SURGERY

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Introduction: Large tumors, re-operation for infiltrated margins and myths regarding safety lead to poor acceptance of breast conservation surgery(BCS) by Indian breast cancer(BC) patients. Oncoplastic breast surgery(OBS) techniques, neo-adjuvant chemotherapy(NACT) and intra-op frozen section(FS) margins assessment have helped us achieve safe, single stage breast conservation.

Materials & Methods: Stages I-III BC patients treated between 2009 & 2018 were reviewed from a prospectively maintained database. Demographics, TNM stage, pathology, OBS technique, margin re-excision, outcomes were evaluated, and compared with non-OBS BCS and mastectomy patients.

Results: Of 1884(Median age 50yrs, 59%post-menopausal, T3-18%,T4b-7%.) who underwent curative surgery, 1424(75%) underwent mastectomy. 460(24.4%) underwent BCS, of which 43% underwent OBS BCS. 52(26.6%) underwent post-NACT BCS, of which 27.5% had pCR. OBS performed was Vol. displacement in 169(86.4%) and vol. replacement(mini LD)/LD flap) in 29(13.6%); constituting Level-1 OBS in 33% and level-2 OBS in 66%. Procedures performed included round block /modified Benelli-10.6%, batwing mastopexy- 6%, wise pattern reduction mammoplasty+contralateral symmetrization-4%, and other procedures-9.5%(medial mammoplasty, inverted T/vertical scar mastopexy, J or L mammoplasty, parallelogram excision, Z plasty). Intraop FS histology could detect infiltrated margins in 11.6%, who were re-excised/converted to mastectomy in the same sitting. Two further patients had infiltrated margins detected on paraffin section histology, and were re-operated. In comparison, 17% patients who underwent non-OBS BCS had margin infiltration. Cosmetic outcomes and patient satisfaction were better in OBS BCS patients. Peri-op complications occurred in 17%> partial nipple necrosis, skin necrosis, seroma, wound dehiscence and infection. Ipsilateral breast tumor recurrence occurred in 4%, compared to 7% patients who underwent non-OBS BCS. Over 36 months median follow-up, stage-wise overall survival was similar of patients irrespective whether they underwent mastectomy, OBS BCS or non-OBS BCS.

Image:

Conclusion: Employing OBS techniques has enabled us offer BCS for EBC and large or locally advanced BC. These techniques facilitate safe BCS of patients undergoing primary or post-NACT Breast Surgery, with relatively lower margin

infiltration and local recurrence rates, comparable survival and higher patient satisfaction of their cosmetic outcomes, compared to patients undergoing mastectomy or conventional BCS.
Disclosure of Interest: None declared

PE095

THE IMPACT OF HISTOLOGICAL SUBTYPES ON BREAST CANCER OUTCOME IN MALAYSIA AND SINGAPORE; A COMPARISON BETWEEN INVASIVE LOBULAR AND INVASIVE DUCTAL BREAST CARCINOMA

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Introduction: Invasive Lobular Carcinoma (ILC) of the breast accounts for only 10% of total invasive breast cancer but it has its own unique patient demographics, tumour behaviour and clinical outcome. Many studies published earlier were mostly among Caucasian populations and very limited from Asian population.
Materials & Methods: 10 190 patients diagnosed with ILC and IDC were managed in University Malaya Medical Center (UMMC), University Malaya Specialist Center (UMSC) and National University Hospital (NUH), Singapore from 1985 to 2014. Retrospective cohort analysis using secondary data from Hospital-Based Breast Cancer Registry was performed. A descriptive analysis was used to analyse the patient demographics, tumour characteristics and treatment options. Kaplen-Meier analysis was used to evaluate the 5-, 10- and 20-year overall survival. Univariate and Multivariate Logistic Regression was used to determine the predictor for ILC and Multivariate Cox Regression analysis was carried out to assess the difference in survival between histopathological group by adjusting the confounders.
Results: From this study, more ILC patients were associated with older age group (>40 years old) (P= 0.002), ER positive (P=0.001), PR positive (P=0.001), HER-2 negative (P=0.001), more positive lymph nodes (P=0.02), negative lymphovascular invasion (P=0.002) and commonly subjected to hormonal treatment (P=0.001) compared to IDC. Older age group more than 40 years old (P = 0.003), ER positive (P= 0.001), HER2 negative (P = 0.001), more lymph nodes involvement (P = 0.003) and no lymphovascular invasion (P = 0.001) were the independent factors associated with ILC. Despite ILC was associated with some favourable prognostic factors, there is no difference in overall survival (OS) between ILC and IDC. Multivariate cox regression analysis proven histological subtype was not an important prognostic factor in determining the OS for invasive breast carcinoma patient (crude hazard ratio of 0.96, 95% CI 0.81-1.13; adjusted hazard ratio of 0.94, 95% CI 0.80-1.11, P = 0.49) but center where patient being diagnosed, age, ethnicity, year of diagnosis, tumour size, tumour hormonal status, number of involved lymph nodes, stage, metastasis disease and treatment option were proven to be the important prognostic factors for invasive breast cancer.
Conclusion: Conclusion: Histological subtype is not an important prognostic factor in determining the overall survival of patient with invasive breast cancer in Malaysia and Singapore.
Disclosure of Interest: None declared

PE096

TO ASSESS THE FEASIBILITY AND DIAGNOSTIC ACCURACY OF PREOPERATIVE ULTRASOUND AND ULTRASOUND GUIDED FINE NEEDLE ASPIRATION CYTOLOGY OF AXILLARY LYMPH NODES IN PATIENTS OF BREAST CARCINOMA.

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Introduction: The presence of lymph node metastasis, in the absence of distant recurrence, is the single most important prognostic factor in breast cancer. Less invasive modalities such as Ultrasonography (USG), Colour Doppler, Mammography, computed tomography (CT) and dynamic contrast enhanced magnetic resonance imaging (MRI) have been increasingly attempted to stage an axillary lymph node preoperatively and to diagnose a malignant lymph node. Ultrasonography can detect non palpable axillary lymph nodes and it's sensitivity can be increased by association with fine needle aspiration cytology. FNA cytology can increase the specificity of the technique which makes the procedure very promising in detecting axillary metastasis in breast cancer patients.

Materials & Methods: This is a prospective study, conducted in the department of surgery, in Uttar Pradesh University of Medical Sciences, Saifai, Etawah, during January 2017 to July 2018 . A total of 50 patients of INCISIONAL/ TRUECUT BIOPSY PROVEN BREAST CANCER fulfilling inclusion & exclusion criteria, were included.

A total of 50 patients with proven breast malignancy underwent ultrasound of the breast and axilla, and data was recorded in the table form.

Each of these suspected lymph nodes seen on USG underwent USG guided FNA to confirm the USG findings**.**

After pre-operative USG and USG guided FNA, the patients was then operated according to their stage on elective procedure i.e. modified radical mastectomy and specimen was sent to pathology lab for detailed histopathological examination including histological subtype, tumour size, tumour grade and number of lymph nodes involved.

The final pathology report from axillary lymph node dissection was obtained and then correlated with Ultrasound guided cytology results.

Results: In our study the overall sensitivity and specificity of USG alone was 50.00% and 100.00 %. By adding USG Guided FNA, the sensitivity increased to 52.38% with 100.00% specificity.

Conclusion: Ultrasound can detect non-palpable axillary lymph nodes and FNAC can increase the sensitivity and specificity of this technique, which makes this procedure very promising in detecting axillary metastases in breast cancer patients.

Axillary Ultrasound and Ultrasound-guided FNAC is a rapid, non-morbid method of axillary staging in breast carcinoma patients.It can be useful in determining the choice of treatment for individual patients and estimating their prognosis, will spare many patients from undergoing SLND and unnecessary ALND.

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Disclosure of Interest: None declared

PE097

CIRCULATING MALE SEX HORMONE (TESTOSTERONE) AND TUMOR CHARACTERISTICS IN PRE AND POSTMENOPAUSAL BREAST CANCER PATIENTS: A CROSS-SECTIONAL STUDY FROM A TERTIARY CARE HOSPITAL IN INDIA

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Introduction: Breast cancer is frequently a hormone dependent cancer. Preclinical data indicate that testosterone has dual effects on breast tumorigenesis: a proliferative effect mediated by the ER and an antiproliferative effect mediated by the androgen receptor. The preponderance of observational epidemiological studies has reported strong associations between higher levels of estradiol and testosterone and an increased risk of postmenopausal breast cancer, especially ER-positive breast cancers. Role of androgens in development of breast cancer in premenopausal women is not well established. In this study we made an attempt to establish a relationship between serum testosterone levels and menopausal status in Indian women with breast cancer.
Materials & Methods: Between August 2016 and July 2017, n=67 patients with BC (premenopausal BC=19, postmenopausal BC=48); age-matched healthy controls=45 were enrolled in the study and serum testosterone levels were estimated after institutional ethical approval. Serum testosterone was assayed using electro-chemiluminescence immunoassay. Serum testosterone levels between the premenopausal and postmenopausal BC with control were correlated for the prognostic markers like TNM, AJCC stage and molecular subtypes. Statistical analysis was done using SPSS 17.0 software.
Results: Higher levels of serum testosterone are found in both pre ($p=0.25$) and postmenopausal ($p<0.001$) BC patients as compared to matched controls. Higher levels of serum testosterone are associated with larger tumor size, high lymph node burden, metastasis and increased overall stage in postmenopausal breast cancer patients (though statistically insignificant), no such trends are seen in premenopausal patients.
Higher levels of serum testosterone were seen in Luminal A subtype BC with low levels in triple negative BC in postmenopausal patients ($p=0.01$). Same pattern was observed in premenopausal patients though trend was not statistically significant.
Conclusion: The association of testosterone with tumor size implies that it is involved in tumor growth, especially in postmenopausal BC. The strong association of testosterone with luminal molecular subtypes contrasts with the weak association with triple negative BC and confirms testosterone as a marker of hormone-dependent tumors. These findings suggest that testosterone evaluation might be useful to better identify patients with hormone-dependent disease.

Disclosure of Interest: None declared

PE098

PROBABILITY CALCULATOR TOOL FOR THE ASSESSMENT OF AXILLARY SENTINEL LYMPH NODE METASTASIS IN BREAST CANCER PATIENTS

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Introduction: Axillary lymph node metastasis is the most important prognostic factor in breast cancer patients, which determines the survival rate and prognosis but also the oncological treatment of the disease.
Several big cancer centers worldwide are using different types of nomograms and predicting tools to assess the probability of lymph node metastasis in breast cancer patients.
The aim of the study was to create an event probability calculator using those parameters which can predict the appearance of axillary sentinel node metastasis.
Materials & Methods: 278 invasive breast cancer patients were included, in which malignancy was confirmed by preoperative tru-cut biopsy, and had no suspicious lymph nodes on axillary ultrasound.
In order to create the predicting tool, we used logistic regression. From the parameter analysis Pearson correlation was calculated. The result from these tests were used in logistic regression. Predictive performance was assessed using the area under the receiver operating characteristic (ROC) curve.
Results: Of the 278 patients, 79 (28.41%) cases had positive sentinel lymph node, 43 (15.46%) cases underwent axillary lymphadenectomy. Statistical analysis showed that tumor dimension and ER (estrogen receptor) expression were strong predictors for sentinel lymph node positivity. In the probability calculator tool we used patients age, BMI, tumor size, type, grade, ER, PR, KI67, Her2 and molecular profile as variables. The predictive performance of the calculator was 0.734 (area under the curve)
Conclusion: The present software is an application that can determine the probability of occurrence of axillary sentinel node metastases using primary breast tumor data and molecular profile with a reliable accuracy. In the next step, the program requires prospective validation to determine the accuracy of the calculations so that it can be used in everyday medical practice.
Disclosure of Interest: None declared

PE099

PREVALENCE AND RISK FACTORS OF CHRONIC PAIN AFTER BREAST CANCER SURGERY

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Introduction: Pain persistence is reported by many patients after breast surgery, of various intensity and type, even after many months from surgery. However, few literature is there about its incidence and characteristics. Therefore, this study aims to evaluate the prevalence and risk factors for chronic breast pain after breast cancer surgery.
Materials & Methods: We collected retrospective data about all women operated for breast cancer between January and December 2017. Data included patients and cancer characteristics, as well as the postoperative therapies received. During the postoperative follow up, which ranged between 6 and 12 months after surgery, they were asked to answer a questionnaire about pain and related symptoms. Data was then analyzed using R (v 3.5.2) and considering a significant $p<0.05$.
Results: Among 426 breast cancer cases treated in 2017, complete information was available for 218 patients. Persistent chronic somatic pain (VAS>0) after 6 months from surgery had a prevalence of 48.17% (105/218) (IC.95 41.62-54.77%), moderate to severe pain (VAS>4) had a prevalence of 16.97% (37 / 218) (IC.95 12.57-22.52%), and the use of analgesic drugs at the time of follow up had a prevalence of 32.43%. Neuropathic pain symptoms were present in even 64.68% of cases (141/218) (IC.95 58.13-70.72%), myofascial syndrome in 16.06% (35/218) (IC.95 11.78-21.51 %) and web syndrome in 2.29% (5/218) (IC.95 0.98-5.26%), whereas phantom breast syndrome affected 12.05% of patients treated with mastectomy (10/83) (CI.95 6.68-20.78%). Patients with VAS>4 had a higher prevalence of T2 tumors ($p=0.061$) and axillary dissections ($p=0.069$). Patients with neuropathic pain had a higher prevalence of surgical complications ($p<0.05$). The phantom breast syndrome correlated with greater weight in mastectomy specimens and with nodal involvement ($p<0.05$).
Conclusion: Persistent pain was present in almost half of patients between 6 and 12 months after breast surgery, being moderate to severe in about 17% of cases, and it seems to correlate with breast and axillary surgery extension. Moreover, symptoms of neuropathic pain affected even 65% of patients, being more prevalent among patients who experienced surgical complications. Finally, phantom breast syndrome after mastectomy was associated with greater weights of mastectomy specimens.
Disclosure of Interest: None declared

PE100

MASTECTOMY PREVALENCE TREND OVER TIME AND REVIEW OF MASTECTOMY INDICATIONS

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Introduction: Prior research suggested a recent shift toward increasing performance of mastectomy in breast cancer patients. We reviewed our breast surgery experience to examine mastectomy rates over time and mastectomy indications in the most recent period.
Materials & Methods: We performed a retrospective observational study considering a cohort of 5754 breast cancer patients operated between 2002 and 2018. Detailed data about mstectomy indications was collected for 146 consecutive cases operated in 2018. Data was then analyzed using R (v 3.5.2) and considering a significant $p<0.05$.
Results: Within the last ten years we observed a steady increasing incidence of mastectomy with an incident ratio of 1.37 (95% CI 1.12 to 1.68) ($p<0.05$). In addition, we found that women aged >75 years were constantly and significantly increasing during the last decade with an incident ratio of 1.47 (95% CI 1.08 to 2.01) ($p<0.05$). Among 146 women with well documented mastectomy indications, 94 had one indication, 37 cases had two indications, 14 cases had three indications, and 1 case had even four indications. The most common indication for mastectomy resulted the unfavorable rate between tumor and breast size (39.04%, 57/146), followed by multificality/multicentricity (28.08%, 41/146), advanced age at intervention (19.86%, 29/146), presence of comorbidity (15.75%, 23/146), and advanced TNM stage (14.38%, 21/146). Then, while assessing risk factors for mastectomy, among the considered period we found only 138 cases with complete data. An increased risk of mastectomy resulted associated with small breast size, locally advanced stage, multifocality/multicentricity, and unfavorable biomolecular subtypes (Luminal Her, Her enriched, and Basal-like).
Conclusion: Advanced age at diagnosis and small breast size were the key decision-making elements for the majority of mastectomy procedures. For what concerns age, we assisted to a progressive increase of mean age at diagnosis during the last ten years, probable expression of a progressive increase in mean survival expectancy. However, in our opinion, old age should not represent an absolute contraindication to conservative surgery. Taking into account breast size, our population resulted to have on average a normal BMI and small sized breasts, being consequently surely unfavored in the case of tumors greater than T1.
Disclosure of Interest: None declared

PE101

REVALUATION OF THE PROGNOSTIC PREDICTIVE ROLE OF MIB-1/KI-67 AND TUMOR GRADING: RETROSPECTIVE STUDY

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Introduction: The objective of this study is to evaluate the prognostic predictive capability of Mib-1/Ki-67 and tumor grading and their specific prognostic weight especially in cases of discordance between them.
Materials & Methods: We retrospectively collected data about 3408 patients affected by invasive breast cancer and operated between 2002 and 2017. We included in the study only patients for which both the nuclear grading and the value of Mib-1/Ki-67 expression were registered. We analyzed data using R (version 3.5.2) and considering significant $p<0.05$. Multivariate Cox regression analysis was also performed and a prediction monogram was developed.
Results: Grading resulted G1 in 13,67% of cases, G2 in 58,16% and G3 in 228,17%. Median Mib-1/Ki-67 was 15 (5-30). Early stage tumors (TNM I-II) represented the 82,86% of cases, while TNM stage III and IV were respectively 14,67% and 2,46%. Both tumor grading (HR 3.43, CI.95 2.63-4.49, <0.05) and Mib-1/Ki-67 (HR 1.02, CI.95 1.01-1.02, <0.05) resulted independently predictive for survival. Mib-1/Ki-67 was more predictive for survival as continuous variable than as dicotomic one using a threshold of 20% ($p<0.05$) The multivariate model with greater predictability resulted to be the one including Mib-1/Ki-67, tumor grading and TNM stage. In this multivariate model the tumor grading results to have a greater predictive weight compared to Mib-1/Ki-67. Thereafter, a prediction nomogram was build on the most predictive model.
Conclusion: We built a nomogram for prognosis prediction including Mib-1/Ki-67, tumor grading and TNM stage. It resulted particularly useful in understanding the personal survival probability, especially in those cases in which Mib-1/Ki-67 and grading are discordant, for example when a high Mib-1/Ki-67 corresponds to a low grading.
Disclosure of Interest: None declared

PE102

CHARACTERISTIC AND OUTCOME OF MALE INVASIVE BREAST CANCER: A RETROSPECTIVE COHORT STUDY

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Introduction: Male breast cancer accounts for less than 1% of all breast cancers and about 0.2% of all male malignancies. However, 1500 new cases of male breast cancer are diagnosed in the USA each year with a raising incidence, with a peak in the 6th decade. Invasive ductal carcinoma represents the more frequent histotype of male breast cancer. We reviewed our experience with male breast cancer and compared it to female breast cancer.
Materials & Methods: We collected retrospective data about patients operated at their breast for invasive breast cancer between 2002 and 2017 focusing on male breast cancer. Patients and tumor characteristics were taken into consideration, as well as treatments administered. Also overall and disease-free survival were considered. We analyzed data using R (version 3.5.2) and considering significant $p<0.05$.
Results: During the considered period 21 male subjects underwent surgery because of breast cancer and 18 were invasive ductal carcinomas (no microinvasive ductal breast cancer was observed). Mean age at diagnosis was 69.22 (±8.54) and thus significantly higher than the female counterpart ($p<0.05$). All subjects underwent mastectomy and 77.78% complete axillary lymph node dissection. The majority were Luminal B cancers (50%) and this prevalence was significantly higher than in the female counterpart ($p<0.05$). T4 tumors were significantly more prevalent in male than in female ductal invasive carcinoma. However, no significant differences were found between male and female ductal invasive breast cancer for what concerns tumor grading, Mib-1/Ki67 expression, presence of comedo-like necrosis, multifocality, extensive intraductal component, perivascular invasion, peritumoral inflammation, or extracapsular lymph node invasion. In addition, male invasive breast cancer had a significant lower overall survival than female ductal invasive cancer (5 year OS 87.84% (95% CI 73.37-100%) vs 96.07% (95% CI 95.39-96.74%), $p<0.05$).
Conclusion: Male breast cancer is rare and frequently diagnosed in a locally advanced stage, with lymph node macrometastases and hormone receptor expression. Therefore, our data suggests to pursue more attention to male breast cancer to allow earlier diagnosis (e.g. promoting auto-palpation, increasing awareness about male breast cancer,...).
Disclosure of Interest: None declared

PE103

EARLY POSTOPERATIVE PAIN PERCEPTION AFTER BREAST SURGERY

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Introduction: Few literature exists about pain incidence and perception after breast surgery. However, pain may significantly reduce women quality of life in the immediate postoperative period. The aim of our study is to characterize acute pain, defined as any type of pain arisen within thirty days from breast operation. In particular, we evaluated its prevalence, intensity, risk factors, and trend over time.
Materials & Methods: We collected data about all consecutive patients operated at their breast between May and June 2018, including patients and pathology characteristics. Patients were then submitted a questionnaire during their follow up at 1st, 7th, and 30th day from breast operation, in order to investigate the prevalence and intensity of pain, difficulties in domestic activities and sleep disorders.
Results: In the considered period, out of 46 patients with completed data, 41 answered compliantly to our questionnaire. Mean women age was 60.98 years (±14.81), and 78.05% of them was in menopause. There was a significant pain increase on the first postoperative day (VAS 4.02 ±3), which progressively decreased on the 7th postoperative day (VAS 2.24 ±2.58), to return practically the same of preoperative status on the 30th postoperative day (VAS 1.24 ±1.62). Consistently, there was a significant reduction in the analgesic assumption between the 7th and the 30th postoperative day (21.95% vs 2.44%, $p<0.05$). At 30 days of follow up, mastectomy ($p<0.05$) and eventual breast reconstruction (p 0.072) resulted the only predictive factors for pain after breast surgery. Finally, the sleep quality significantly worsens over time during the first postoperative month ($p<0.05$).
Conclusion: Postoperative pain after breast surgery showed a peak on the first postoperative day and a progressive reduction until the 30th postoperative day, when women undergoing mastectomy presented higher VAS values. On the other hand, within the first month of follow up, there was a worsening of sleep quality, probably due to the information about histological examination and the adjuvant therapies planned.
Disclosure of Interest: None declared

PE104

AN AUDIT WITH OUTCOME ANALYSIS OF LOCALLY ADVANCED BREAST CANCERS FROM A TERTIARY CARE CENTER IN NORTHERN INDIA

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Introduction: Breast cancer is the most common cancer in females worldwide. While the western world is witnessing over 80% of these as early breast cancers(EBC), the developing world still faces a large proportion of locally advanced breast cancers(LABC). We herein present the patient profile, tumor characteristics and outcome analysis of locally advanced breast cancer patients presenting in a single surgical unit of an apex medical and research institute in Northern India.

Materials & Methods: This is a retrospective study wherein the data of a single unit run breast cancer clinic (BCC) from 1993 to 2016 was analysed. The data is maintained in BCC files which have been maintained prospectively since the inception of the clinic. Details on demography, clinical and pathological profile, treatment and outcomes were recorded. All cases were restaged according to AJCC VIII TNM classification. LABC was defined as cases with either T3N1, T4 or N3 disease. Disease free survival (DFS) was calculated from the time of intervention to the time of first recurrence. Overall survival (OS) was calculated from the time to intervention till the time of death. A minimum follow up of 2 years was essential.

Results: There were 500 cases of LABC representing 33% of the total breast cancer patients. Mean age at presentation was 48.4 years. Mean tumor size was 6.92cm(1.5-25cm, SD - 2.66cm) and most common T stage at presentation was T4(63.4%) . 38.05% were ER/PR+ve and Her2neu -ve while 35.04% were triple negative. Modified radical mastectomy (MRM) was the most common procedure done while 11.5% of the operated patients opted for breast conserving surgery (BCS). The trend for BCS has been on the rise in this decade. Disease free survival (DFS) at 5 and 10 years was 66.5% and 55.2% while the Overall survival (OS) at 5 and 10 years was 69.1% and 54.5%. Univariate analysis revealed age at first childbirth, clinical and pathological staging and hormone receptor status to be significant predictors of survival. On multivariate analysis, clinical T stage and pathological nodal status were found to be significant predictors of survival. The type of surgery(BCS/Mastectomy) in suitably selected patients did not affect survival significantly.

Conclusion: LABC is a problem of developing nations with poorer outcomes as compared to EBC. Focus should be upon undertaking research affecting such subsets of patients. BCS may be offered in suitably selected patients without adversely affecting patient outcomes.

Disclosure of Interest: None declared

PE105

NEOADJUVANT CHEMOTHERAPY IN HONG KONG BREAST CANCER PATIENTS AND ITS CLINICAL IMPLICATIONS

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Introduction: Neoadjuvant chemotherapy (NAC) was first adopted in the 1980s for locally advanced breast cancers to reduce tumour size and enable surgery. It has now been extended to early operable disease with promising results. This facilitates breast-conserving surgery (BCS) in those whom mastectomy would otherwise be indicated. The aims of this study are: to investigate the use of NAC over time in patients registered with the Hong Kong Breast Cancer Registry (HKBCR); and to assess the effectiveness of NAC in terms of pathological complete response (pCR) and BCS rates.
Materials & Methods: Records from HKBCR on 12,763 women diagnosed with invasive breast cancer in 2006-2015 were retrieved. Based on the year of diagnosis, patients were divided into two groups, 2006-2010 and 2011-2015, for examining the changes in adopting NAC. Among them, 928 patients who received NAC were studied on the outcome of pCR and BCS rates. pCR was defined as no histological evidence of malignancies (ypT0) or only in-situ residuals in breast tissue (ypTis) and complete disappearance of lymph node metastasis (ypN0) after surgery.
Results: The median age of patients who underwent NAC was 48 years old (range: 21 – 80 years). The median invasive clinical tumour size was 4.0 cm (range: 0.3 – 20.0 cm). The proportion of patients treated with NAC was almost doubled from 4.8% in the period of 2006-2010 to 9.4% in 2011-2015 ($p < 0.001$). The increased use was most noticeable for stage IIB and stage III diseases ($p < 0.001$). Regarding biological subtypes, notable upsurge was found in triple negative, HER2 positive (ER and PR negative), and luminal B (HER2 positive) breast cancers ($p < 0.001$). One-fifth (19.4%) of patients achieved pCR. The best result was observed in HER2 positive (ER and PR negative) (48.6%), followed by triple negative (29.6%) and luminal B (HER2 positive) (28.0%) subtypes. In patients with clinically stage IIA disease, 52.9% underwent BCS after NAC, compared to 34.2% for all non-NAC patients with pathological stage IIA disease. Even for patients with clinically stage III breast cancer, 14.4% of them had BCS following NAC.
Image:

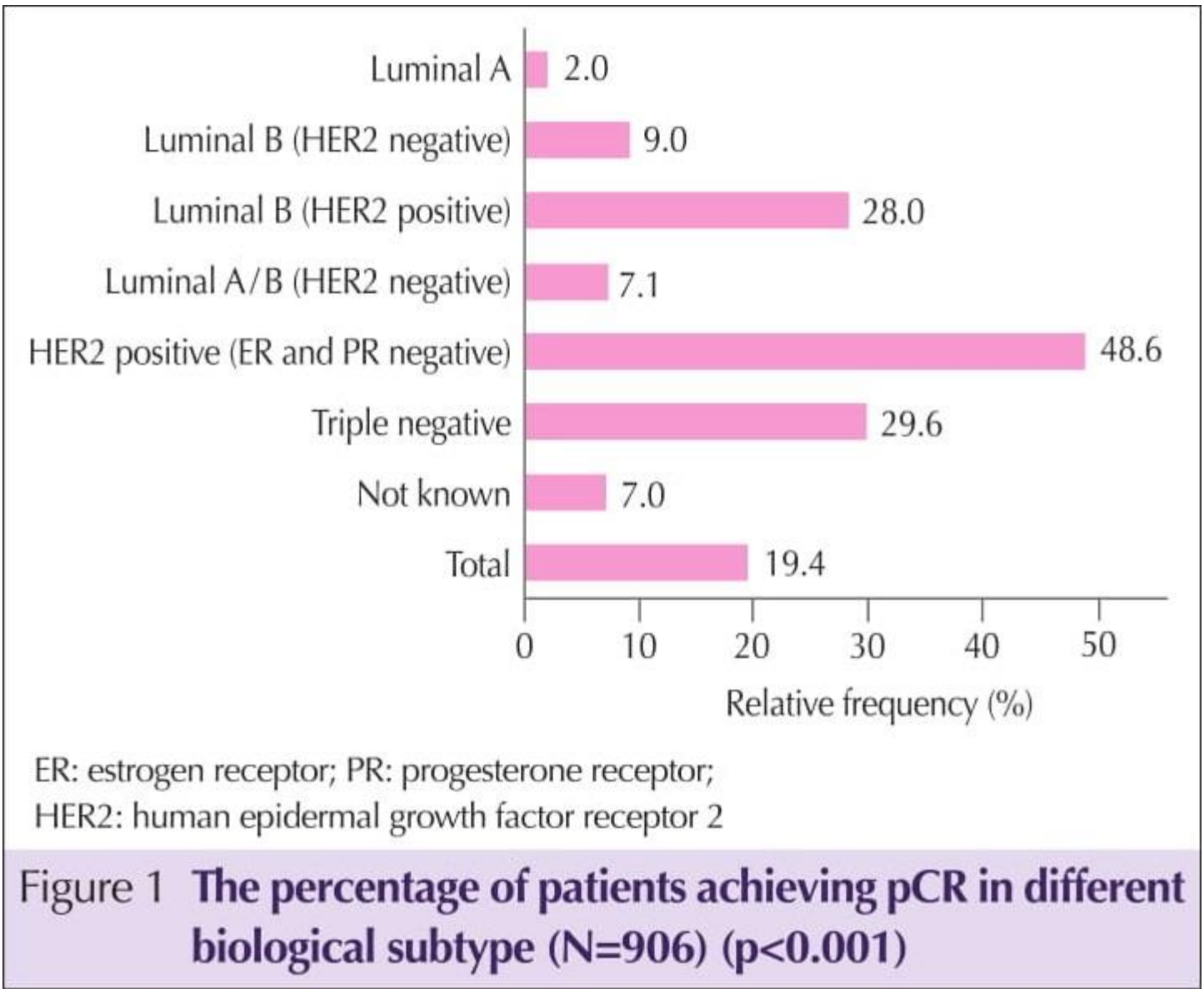

Figure 1 **The percentage of patients achieving pCR in different biological subtype (N=906) (p<0.001)**

Conclusion: Increased use of NAC was observed in Hong Kong breast cancer patients over the past decade. HER2 positive and triple negative subtypes showed higher pCR rates. A greater proportion of clinically stage II patients treated with NAC underwent BCS. Therefore, NAC should be considered in those with stage II or above diseases, and biological subtypes of HER2 positive or triple negative breast cancers.

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PE106

FINANCIAL REIMBURSEMENT AND NOT PSYCHOSOCIAL FACTORS REMAIN AN IMPORTANT FACTOR TOWARDS THE ADHERENCE OF BREAST CANCER TREATMENTS IN MALAYSIA

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Introduction: Breast cancer therapies have been progressively advancing to improve breast cancer survival over the last few decades. However, non-adherence to cancer treatments has shown to be associated with reduced treatment effectiveness, increased mortality, and increased health care costs. There has been little evidence in Malaysia and other parts of the middle-income countries on adherence to treatments. Hence, the aim of the study is to understand the determinants of adherence to breast cancer treatment in Malaysia.
Materials & Methods: This was a secondary analysis of the MyBCC cohort patients in University Malaya Medical Center (UMMC), from 1st February 2012 to 31st December 2015. Treatment options (surgery, chemotherapy, and radiotherapy), socio-demographic characteristics, clinical signs and symptoms, use of traditional and complementary medicine (CAM), psychosocial assessments measured using Hospital Anxiety and Depression Scale (HADS) and Multidimensional Scale of Perceived Social Support (MSPSS) at diagnosis were included. We defined surgical adherence as patient undergoing surgery within 30 days or 60 days if it is due to physician delay. Chemotherapy adherence is defined as patients who completed at least 4 cycles of chemotherapy. Radiotherapy adherence is defined as completion of recommended radiotherapy. Descriptive analysis and univariate and multivariate logistic regression for dependent variables were analysed using the SPSS Statistics Desktop, V20.0.0 for Windows.
Results: In total, 466 patients were analysed. The adherence rate to surgery was 76.1%, chemotherapy was 87.7% and radiotherapy was 89.3%. Duration of symptoms of more than 3 months was associated with nonadherence to surgery, adjusted OR 0.57 [95% CI 0.35, 0.93]. Radiotherapy adherence was associated with financial reimbursement, adjusted OR 3.24 [95% CI 1.31, 8.04], and breast-conserving surgery, adjusted OR 3.09 [95% CI 1.26, 7.57].
Conclusion: Our study confirms good adherence rates for breast cancer treatments in UMMC. Surgeons as the first point of contact for patients entering into treatments must consider improving counselling on treatments, and financial counselling on costs of treatments should be given early. Psychosocial support although not a factor in adherence should also be provided to improve patient satisfaction. More work need to be done in the community to reduce delay in presentation, as this may also reduce non-adherence to surgery.

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Disclosure of Interest: None declared

PE108

DELAYED PRESENTATION AND DIAGNOSIS OF MALE BREAST CANCER - A TWENTY-YEAR EXPERIENCE FROM A SINGLE TERTIARY CENTER IN HONG KONG

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Introduction: Male breast cancer is uncommon, it is often overlooked and many male breast cancer patients present late. Reasons for the late presentation is likely multifactorial and is being understudied.
Materials & Methods: Retrospective review of a 20-year prospectively-maintained database was performed. Patients were contacted for telephone interview on psychological feelings at the time of cancer diagnosis. Standardized questionnaire was used with level of emarrassement defined by Likert scale of 1 to 5. All interviews were performed by the same investigator to minimize inter-observer bias.
Results: From 1998 to 2018, there were 56 male breast cancer patients treated in our centre, accounting for 0.88% of all breast cancers treated during the same period of time. Median age of onset was 61 years old (Range: 33-95). 9(16.1%) patients had positive family history of breast cancer.
Median duration from symptom to first medical consultation was 12.5 months (Range 1 – 120 months). There were 5 ductal carcinoma in situ (DCIS), 44 invasive ductal carcinoma, 1 invasive lobular carcinoma and 6 other cancer histotypes.
52(92.9%) patients received operation with mastectomy, 4(7.1%) refused surgery. Axillary dissection was done in 38(73.1%) patients, while 14(26.9%) patients had sentinel node biopsy. Median tumor size was 23mm(2 – 100mm). 38(73.1%) patients were node-positive. 1(1.8%) patient presented with bone metastasis at the time of diagnosis.
36(64.3%) patients were alive at the time of the study, 31(86.1%) patients responded to the telephone interview. 18(58%) patients had experienced “very” to “extremely” severe embarrassment (Likert score of 4 to 5 out of 5) at the time symptom onset, while 11(35.5%) experienced mild to moderate embarrassment (Likert score 2 to 3). Only 2(6.5%) experienced no embarrassment at all.
16(51.6%) patients experienced "very or extremely" severe embarrassement (Likert score 4 to 5 out of 5) while waiting in the breast clinic along with other female patients. 13(41.9%) experienced "mild" to "moderate" level of embarrassment (Likert score 2 to 3).
In addition, most patients (N=26) were not aware that breast cancer can occur in male population before the diagnosis.
Conclusion: Male breast cancer is rare and patients usually present late with median duration of 12.5 months from symptom to first consultation, in which lack of public education and embarrassment are two important reasons.
Disclosure of Interest: None declared

PE109

LYMPHEDEMA PREVENTION IN BREAST CANCER POST AXILLARY LYMPH NODE DISSECTION BY INJECTION BENZATHINE PENICILLIN: A RANDOMIZED CONTROLLED TRIAL

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Introduction: Axillary lymph node dissection performed for lymph nodal metastasisis associated with lymphedema in 16-28% of patients. All patients after ALND don't develop lymphedema; there must be some other factor, which triggers its onset and progression. Also patients having lymphedema have recurrent episodes of cellulitis, thus exaggerating its severity.Olszewski etal, have shown that low-grade Streptococcal infection is a risk factor for progression of lower limb lymphedema by causing repeated episodes of cellulitis preventable by giving long-term penicillin. Present study is to evaluate efficacy of injection penicillin in preventing lymphedema.
Materials & Methods: Patients undergoing ALND for breast cancer were randomized to either Benzathine penicillin group or control group, followed up at 1,3 and 6 month. Penicillin group received injection Benzathine penicillin 1.2 million units as IM after testing 3 weekly along with standard of care. In control group standard of care i.e. skin hygiene, avoidance of pinprick and trauma and upper limb exercises.**Primary outcome** was to assess development of lymphedema at follow up. Lymphedema was defined as increase in >200ml of volume &/ increase in arm circumference of >2cm from baseline values.S**econdary outcomes** record the risk of surgical site infections, cellulitis in upper limb, anesthesia/paraesthesia of arm, QOL scores before and after axillary surgery.
Results: Total 83 patients, 40 in the penicillin group and 43 in control group. Fifteen (18.07%) patients developed lymphedema. Out of them 5 patients were in penicillin group and 10 in the control group. Cellulitis was seen in 2/3rd of patients having lymphedema (9 in control group and only 1 in penicillin group). The relative risk of cellulitis in penicillin group was **0.119** with 95% CI of **(0.016-0.901)**and prevented fraction of 0.881. Radiotherapy, type of surgery for primary tumor, extent of axillary dissection and type of chemotherapy were comparable in both. There was significant correlation between development of lymphedema & occurrence of SSI and Seroma in the post-operative period with p value of 0.001 & 0.007 respectively. No adverse events were observed.
Conclusion: Penicillin administration in patients undergoing axillary lymph node dissection is safe and significantly reduces risk of cellulitis and lymphedema.
Disclosure of Interest: None declared

PE110

OUTCOMES OF TREATMENT FOR SCREEN-DETECTED DCIS IN GEELONG

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Introduction: Ductal carcinoma in situ (DCIS) of the breast is more commonly diagnosed due to population-based screening. Management of screen-detected DCIS remains controversial. We aim to investigate the factors associated with recurrence of disease for patients with screen-detected DCIS in Geelong.
Materials & Methods: Retrospective cohort study of patients diagnosed with pure DCIS through BreastScreen in Geelong, Australia between 01/01/2002 to 31/12/2012. BreastScreen database and medical records were examined to record patient demographics, radiology, pathology, treatments, recurrence and mortality. Cox Proportional Hazard models were used to determine continuous variables.
Results: 144 eligible patients were identified. Median age at diagnosis was 60.6 years. 44 (30.6%) patients underwent mastectomy. 100 (69.4%) patients underwent breast conserving surgery (BCS) +/- radiotherapy (59/100, 59%). Average length of follow-up was 7.23 years. The crude recurrence rate was 10.4% (15/144) with 10 *in situ* breast recurrences and 5 invasive breast recurrences. There were no cases of distant recurrence. There were no cases of breast cancer-related mortality. Higher tumour grade (P=0.0189) and tumour necrosis were associated with an increased risk of recurrence (P=0.0016). There were no cases of recurrence for patients with low grade DCIS. Increasing age showed a trend to increased risk of recurrence with each one-year increase in age associated with a 7% increased risk of recurrence. Although the differences in recurrence rates were not statistically significant different between treatment types, recurrences rates were as follows mastectomy (0%) < BCS with radiotherapy (5/59, 8.5%) < BCS without radiotherapy (10/41, 24.4%).
Conclusion: The overall recurrence rate for screen-detected DCIS is low. Higher tumour grade and tumour necrosis are associated with an increased risk of recurrence. Increasing patient age may also be a significant risk factor for recurrence. Low grade DCIS may represent a subset for which treatment de-escalation may be appropriate. Further research to identify biomarkers of recurrence risk is indicated.
Disclosure of Interest: None declared

PE111

SURGEON HANDEDNESS OR EXPERIENCE AS PREDICTORS OF IMMEDIATE COMPLICATIONS AFTER MASTECTOMY: A CRITICAL EXAMINATION OF OUTCOMES IN A SINGLE HEALTH SYSTEM

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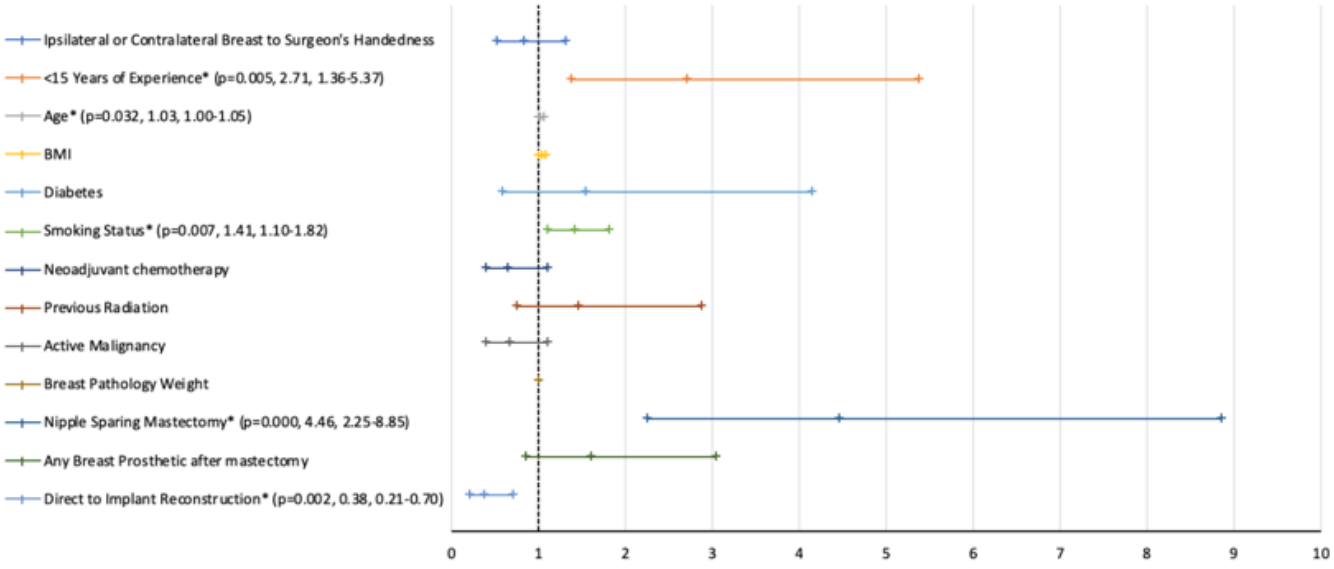
Introduction: Surgeons seek to perfect their technical dexterity, and hand dominance of the surgeon is an important factor given the constraints of operative field laterality. However, experience often dictates how surgeons are able to compensate. The impact of surgeon handedness, experience and surgical volumehas not been directly examined in a single study.

Materials & Methods: A retrospective chart review of five breast surgeons (2 LHD) in a single health system in 3 institutions identified 365 mastectomy patients, totaling 594 breasts (51% nipple sparing and 48% skin sparing), between January 2015 and June 2018. The breasts were identified as ipsilateral or contralateral based on the surgeons' handedness. Surgeons were grouped based on duration of surgical experience, 3 with ≥15 years and 2 with <15 years. Surgeons with greater experience were the highest volume surgeons in this series. Data included patient demographics, breast and oncologic history, surgical techniques, and surgical outcomes including complications.

Results: A total of 270 non-prophylactic and 324 prophylactic mastectomies were identified, of which 529 were performed by surgeons with greater than 15 years of experience and 65 by surgeons with less than 15 years. The overall complication rate was 33.5% (n = 199), of which 18.0% (n = 107) were on the ipsilateral breast and 15.5% (n = 92) were on the contralateral breast. 9.1% of complications required re-operation (n = 54). On univariate analysis, the odds of any complication on the ipsilateral breast were 2.9 times higher than complications on the contralateral breast when looking exclusively at surgeons with <15 years of experience (p=0.0353, OR=2.92, 1.06-8.03). On multivariate analysis, surgeons with <15 years of experience have a 2.71 (p=0.05, OR 2.71, 1.361-5.373) increase in any ischemic complication (**Figure 1**) and a 16 times (p<0.0001, OR=16.01, 5.038-50.933) increase in major operative ischemic complications.

Image:

Figure 1: Forest plots of handedness, years of experience, to odds of any ischemic complication. Surgeons with less than 15 years of experience are 2.71 times more likely to have ischemic complications. Undergoing a nipple sparing mastectomy also increased any ischemic complication by 4.46 times. *indicates significance at p<0.05



Conclusion: While we sought to examine if complications are increased in the breasts contralateral to the surgeon's handedness, we found no difference**.** However, the surgeon's years of experience has a much greater impact on ischemic complications after mastectomy. Our study finds that surgeons with less than 15 years of surgical experience have a 2.9 times higher rate of overall complication when operating on the ipsilateral breast.

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PE112

INFECTION ASSOCIATED WITH IMMEDIATE BREAST RECONSTRUCTION AFTER MASTECTOMY

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Introduction: Since the silicon implants became covered by insurance in June 2013 in Japan, the rate of breast reconstruction surgeries has been increasing. Although breast reconstruction is a technique used to maintain favorable cosmetic outcomes, several complications were reported. We have previously reported risk factors for skin and NAC necrosis (WCS 2017). Although infection is one of the other serious complications, there are few studies that reported clinical factors related to infection.
Materials & Methods: Patients who underwent breast cancer surgery followed by immediate breast reconstruction from 2006 to 2016 in Kyorin University hospital were included. We retrospectively reviewed the database. The relationship between infection after immediate breast reconstruction and clinicopathological and social factors was examined.
Results: Four hundred and twelve patients underwent immediate breast reconstruction, among whom 12 patients experienced infection of drain fluid or tissue expander (2.9%). The median age was 48 years for the total population and 50 years for patients with infection. None of the patients with infection had DM. Tissue expander needed to be removed in 2 of 12 patients due to poor control of infection. Skin flap necrosis that required surgical resection was the only significant factor associated with infection (p=0.0064). No other clinicopathological and social factors including tumor size, type of surgery,smoking and BMI were correlated with infection.
Conclusion: This study showed an association between infection and skin flap necrosis. One of the possible explanations may be that the skin barrier mechanisms were damaged by impaired blood flow in patients with skin flap necrosis. It will be suggested that reducing the risk of skin flap necrosis could lead to a reduction in infection.
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Disclosure of Interest: None declared

PE113

COMPARISON OF ONE-STEP NUCLEIC ACID AMPLIFICATION (OSNA) VS FROZEN SECTION BIOPSY (FSB) FOR ASSESSMENT OF SENTINEL NODES (SLN) IN EARLY BREAST CANCER: A PROSPECTIVE STUDY

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Introduction: Intra-operative sentinel node assessment may prevent second surgery, hence reducing morbidity, cost and delay of adjuvant therapy. Analysis of sentinel lymph node (SLN) is limited by its technical expertise, potential sampling errors, nuclear artifacts and tumor subtypes. Real-time PCR as One-Step Nucleic Acid Amplification (OSNA) quantifies the number of CK19 mRNA copies, examines complete node and overcomes above limitations. Aim of our study was to assess both the techniques and compare their results with the histopathology (HPE)

Materials & Methods: This prospective study included 34 patients with early, node negative breast cancer. SLNs were detected using methylene blue dye. Nodes were bisected into two halves, each half was sent for FSB and OSNA. Any number of CK19 mRNA copies detected in SLNs was considered positive for OSNA. Results of both were compared with HPE

Results: Sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of OSNA was found to be 86,100,100 and 89% respectively and Accuracy was 93% in comparison to HPE. FSB was found to have Sensitivity-57%; specificity- 100%, PPV-100%, NPV-73% and accuracy of 80%. K-value of OSNA assay was 0.86 and that of FSB was 0.58

Conclusion: OSNA is comparable to histopathology in assessing sentinel node metastasis with lesser intra observer variability. It can be used as an alternative for examining metastasis in SLNs

Disclosure of Interest: None declared

PE114

SHOULD WE INTERVENE IN THE CLINICALLY AND RADIOLOGICALLY NEGATIVE AXILLA IN EARLY BREAST CANCER?

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Introduction: The surgical approach to the axillae in early breast cancer has become less radical. Results from the ACOSOG Z11 trial[1] introduced the clinical importance of quantifying the presence of low or high burden (2 or fewer nodes, or more than 2 nodes, respectively) in select groups of patients. Axillary ultrasound (AUS) is widely used as a first line tool to stratify patients for sentinel node biopsy (SNB) or axillary node clearance (ANC). However in patients with a negative ultrasound, clarification is needed as to whether any further axillary intervention is required.
Materials & Methods: Records of patients referred to our tertiary oncology service between 2012-2014 with confirmed breast cancer were anonymised retrospectively and reviewed. Results of initial AUS, as well as subsequent SNB and/or ANC results were recorded.
Results: 459 patients underwent axillary ultrasound between 2012-2014 as part of their breast cancer work-up. 317 patients had a negative ultrasound, and went on to have SNB. Amongst this group 95.90% (n=304) had 2 or fewer macro-metastatically involved nodes at SNB, warranting no further axillary investigation.
Conclusion: Our data adds to the body of retrospective data suggesting that amongst patients with small (<2cm) breast cancer receiving systemic therapy and who present clinically node negative with a subsequent negative axillary ultrasound, there is no need for further axillary intervention.
Results of the SOUND[2] and INSEMA[3] randomised clinical trials are currently awaited, and this much needed clinical trial data will provide crucial further assessment of the argument proposed here.

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Disclosure of Interest: None declared

PE115

A DESCRIPTIVE STUDY ON ARM/SHOULDER PROBLEMS AND ITS CORRELATION WITH QUALITY OF MASTECTOMY SCAR

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Introduction: Surgery for breast cancer and adjuvant radiotherapy are frequently associated with impairment of arm shoulder function and development of lymphedema. However most of the studies in are Indian breast cancer survivors (BCSs) have focussed on development of lymphedema, even though restriction of shoulder movement and pain are even more prevalent and adversely affect quality of life (QOL). Hence this study was planned with the objectives to study : (1) prevalence of arm shoulder problems (APSs) including restricted shoulder mobility (ROM), lymphedema and arm/shoulder pain (2) impact of ASPs on QOL(3) assessment of surgical scar as a risk factor for development of ASP
Materials & Methods: This descriptive study was conducted at an academic healthcare setting in Northern India, on BCSs who underwent mastectomy and axillary lymph node dissection with adjuvant therapies, and were within 6 months to 5 years of follow up. Assessment of arm/shoulder problems was done using Kwan Arm Problem Scale (KAPS), and survivors with scores of more than 21.5 were considered to have significant arm/shoulder problem. Assessment of shoulder movements was done by using a goniometer, lymphedema by measuring arm circumference at multiple points and arm/shoulder pain by using Numerical Pain Rating Scale (NPRS). Quality of life was assessed using Short Form SF-36 questionnaire. Mastectomy scar was assessed using Patient Observer Scar Scale (POSS).
Results: A total of 126 BCSs were studied, with mean duration of follow up of 2.7 years. Prevalence of ASPs was 49% on KAPS. Prevalence of ROM, lymphedema and arm/shoulder pain was found to be 51%, 27% and 12% respectively. Amongst ASP, worst scores were noted for limb swelling. Patients with ASPs had poorer QOL scores on SF-36, significantly affecting both physical component summary score, physical functioning, role physical and general health domains. In BCSs with ASPs, pliability and thickness on Observer scale and irregularity and stiffness on Patient scale were the poorest rating items. Amongst the three components of ASPs, patients with significant restriction of movement had poorest POSS score.
Conclusion: Mastectomy with ALND is associated with high prevalence rate of ASPs. A thick, less pliable, stiff and irregular scar contributes significantly to arm shoulder problems in BCSs. Surgeons should aim to achieve a good quality of scar for better patient outcomes
Disclosure of Interest: None declared

PE116

AWARENESS AND KNOWLEDGE REGARDING GENETIC ASPECTS OF BREAST CANCER IN LMIC – A PROSPECTIVE QUESTIONNAIRE BASED STUDY

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Introduction: Recent advances in understanding of Genetic factors and familial breast cancer has opened new treatment pathways for risk reduction among breast cancer patients. However educational background, awareness and knowledge of patients can impact decision making. This study was conducted to evaluate the knowledge and awareness regarding genetic aspects of Breast cancer patients in LMIC.

Materials & Methods: The purpose of our study is to evaluate knowledge and awareness of regarding breast cancer, its genetic basis and attitude toward genetic testing, proposed intervention and its acceptance in order to develop targeted educational and healthcare strategies. It is a prospective interventional study performed with total sample size of 150 breast cancer patients using a structured questionnaire and educational material regarding genetic factors.

Study Phases

1. **Pre-intervention assessment**- Questionnaire-based assessment of awareness and knowledge had done with prior informed consent.
2. **Educational Intervention**- Brief descriptive educational material about the breast cancer and its risk factors, screening, treatment, genetic aspects and prophylactic interventions were provided.
3. **Post-Intervention assessment** -After 5-7 days of educational intervention, patients were re-assessed with same questionnaire.

Results:

Patient profile	Pre-intervention assessment (%)	Post-Intervention assessment (%)	Difference (%)
Basic knowledge about breast cancer	12.8	23.2	10.4
Knowledge about breast cancer screening	11.6	40.0	28.4
Basic knowledge about breast cancer treatment	35.0	95.2	60.2
Awareness of hereditary or familial breast cancer	13.6	73.6	60.0
Knowledge about BRCA gene	2.4	15.0	12.6
Willingness for genetic testing for self and family	32.0	75.2	43.2
Awareness of prophylactic intervention in BRCA positive patients	9.6	72.0	62.4
Willingness for Prophylactic intervention in BRCA positive patients	22.0	72.0	50.0

Conclusion: Results of the current study indicate that there are significantly low levels of awareness among breast cancer patients regarding genetic basis, genetic testing and risk reducing options in LMICS. However, a short one time educational interventions have shown to significantly improve these parameters among breast cancer patients in LMICS. Hence patient education is of prime importance when dealing with complex issues like genetic testing and risk reduction strategies.

Disclosure of Interest: None declared

PE117

BREAST CANCER IN ELDERLY PATIENTS: TUMOUR CHARACTERISTICS, TREATMENT CHOICES AND CLINICAL OUTCOMES

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Introduction: Breast cancer is the most common malignancy among women, and its incidence increases with age. It has been estimated that around 20% of all breast cancer cases were diagnosed in patients aged 70 or older in developed countries. Globally, it has been projected that the older population will increase by threefold over the next 30 years. Despite this, elderly patients are underrepresented in clinical trials and there is insufficient evidence on the optimal treatment for this group of patients. A better understanding of tumour characteristics in elderly patients is pivotal for delivering an age-appropriate treatment plan.

Materials & Methods: This was a retrospective analysis of a population based cancer registry. Data from the Hong Kong Breast Cancer Registry containing patients diagnosed with breast cancer from 2006 to 2018 was included. Tumour characteristics, treatment choices and clinical outcomes were compared between women older or younger than 70 years old.

Results: Among the 16594 patients in the registry, 1133 were aged 70 or above and were defined as elderly patients. More elderly patients delayed their first medical consultations (15.8% vs 9.7% >12 months, $p<0.001$). They presented with more tumours that had biologically favourable characteristics, compared to the younger patient group. There were more grade 1 or 2 disease (76.5% vs 62.6%, $p<0.001$), ER positive disease (83.7% vs 77.4%, $p<0.001$), tumours with low proliferative index (52.1% vs 35.9%, $p<0.001$) and absence of HER2 overexpression (84.3% vs 76.9%, $p<0.001$). Majority of the elderly patients underwent mastectomy (80.3% vs 55.9%, $p<0.001$). Regardless of cancer stage, fewer elderly patients received chemotherapy ($p<0.001$), radiotherapy ($p<0.001$) and targeted therapy ($p<0.001$). During the median follow-up of 3.7 years, there were fewer recurrences (42 vs 643) and fewer deaths (18 vs 160) in the elderly group.

Conclusion: Despite late presentation and adjuvant therapy being less commonly offered to elderly patients, they had fewer recurrences and better survival compared to the younger group. This might be explained by less aggressive tumour characteristics. The higher rate of mastectomy differed from that reported by previous studies based on non-Chinese population in developed countries in the West. Whether increased awareness and more aggressive treatment would improve outcomes warrants further in-depth research to optimise management in elderly patients.

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Disclosure of Interest: None declared

PE118

COMPARISON OF CLINICO-PATHOLOGICAL CHARACTERISTICS OF BREAST CANCER PATIENTS BEFORE AND AFTER SET UP OF KOWLOON EAST CLUSTER BREAST CENTRE

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Introduction: The objective of this study is to understand the latest clinico-pathological characteristics of our breast cancer patients, and compare it to our historical cohort in 2006 (i.e. before and after set up of KECBC).
Materials & Methods: Retrospective cohort study of 227 newly diagnosed breast cancer patients in KECBC United Christian Hospital (UCH) in 2017 was compared with our historical cohort (139 breast cancer patients) in 2006 .Clinical, tumor characteristic and treatment outcome was retrieved from a prospectively cancer registry. Student t-test and Chi-square were used where appropriate. Statistical significant was defined at P value <=0.05.
Results: The median age was older (61 vs. 57) with lesser patients presented with symptoms (86%vs 96%). Screening detected breast cancer increased from 3% to 9%. Only minority of patients had breast cancer detection by clinical breast exam, (1%vs3%). Patients presented earlier with the median of duration of presentation of symptoms 12 (1-156) and 8 (1-1560) weeks in 2006 and 2017 cohort respectively.
Pathological stage of 0,I, II, III, IV disease was present in 9%,25%,36%,25%,5 % in 2006 cohort and 16%, 25%, 41%,15%,3% in 2017cohort. The pathological
stage with advanced disease (stage 3/4) was reduced from 30% to 18%. The proportion of stage 0 and early breast cancer increased.
The mean tumor size was smaller (3 vs 2.3cm) with less lymph node metastasis (49% vs 36%). The breast conservation surgery increased from 22% to 43%. The systemic chemotherapy reduced from 69% to 56%. All reached statistically significant.

		Cohort 2006	**Cohort 2017**	**P value**
Age (median)		57	61	<0.05
Duration of Symptoms (weeks, median)		12	8	<0.05
Mean tumor size (cm)		3	2.3	<0.05
Lymph node positive (%)		49%	36%	<0.05
Pathological staging	**0**	9%	16%	<0.05*
	1	25%	25%	
	2	36%	41%	
	3	25%	15%	
	4	5%	3%	
Operation	**Breast conservation**	22%	43%	<0.05
	Mastectomy	78%	57%	
Systemic chemotherapy		69%	56%	<0.05

Figure: Comparison of clinico-pathological characteristics among 2006 and 2017 patient cohort (*p-value: compared early vs late stage)
Conclusion: Patients presented earlier with more early stage cancer, smaller tumor size and less lymph node metastasis in breast patient cohort in 2017. This may be explained by the overall increased public awareness of breast cancer. It may also be contributed by faster diagnostic workup after re-organization of breast services with one stop clinic and combined breast clinic after establishment of KECBC.
Disclosure of Interest: None declared

PE119

DIFFERENCES IN BREAST CANCER CLINICAL AND PATHOLOGICAL PRESENTATION IN WOMEN <40

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Introduction: Despite advances in breast cancer screening, diagnosis and treatment, breast cancer remains the most common cancer in women and is the leading cause of cancer-related death in women <45 years [1]. Recent evidence suggests that young women may develop cancers with more aggressive histopathologic and biological features. This study seeks to evaluate the difference in cancer presentation in women <40, and whether this difference exists within black females, given that this subgroup of women tends to develop more aggressive disease.

Materials & Methods: The computerized Cancer Registry database of the Breast Institute at JFK Medical Center was used to identify all adult patients (>18 years) who underwent treatment for breast cancer in our institution between January 2008 to December 2017. Baseline demographics, stage at presentation, histopathology, and biologic markers were extracted. Chi squared analysis was used to compare differences in cancer characteristics in patients <40 vs >40 years. Subgroup analysis of black patients was performed. A p-value <0.05 was considered significant.

Results: A total of 2,116 patients were included in the study with 4.2% of the overall study population under age 40. Mean age at diagnosis was 58. Patients <40 were more likely to have ER negative (P<0.05) and PR negative (P<0.05) tumors and less likely to have HER-2 negative (P<0.05) tumors. Patients <40 were more likely to exhibit ductal subtype carcinoma (P<0.05), a late stage at diagnosis (P<0.05), and high-grade tumors (P<0.05), as well as more likely to be treated with total mastectomy (P<0.05). Of note, 10.5% of the cohort was black, and 11.7% of black patients were diagnosed under the age of 40. Black patients were more likely than other races to be diagnosed at <40 years (P<0.05). In contrast to the general study population, there were no significant differences in ER (P>0.05), PR (P>0.05) or HER-2 (P>0.05) status, as well as cancer type (P>0.05), stage at diagnosis (P>0.05), and tumor grade (P>0.05), for black patients <40 vs >40.

Image:

Table 1. Differences in breast cancer characteristics in women <40 and >40

Category	Total (%)	<40 years (%)	>40 years (%)	P-value
All	2116	89 (4%)	2027 (96%)	
ER negative	277 (13%)	19 (21%)	258 (13%)	0.01*
PR negative	453 (21%)	28 (31%)	425 (20%)	0.01*
HER-2 negative	1236 (58%)	43 (48%)	1193 (59%)	0.02*
Ductal subtype	1555 (73%)	75 (84%)	1480 (73%)	0.01*
Late stage at presentation	212 (10%)	21 (24%)	191 (9%)	<0.0001*
High grade	1426 (33%)	71 (80%)	1355 (67%)	0.01*

(%) refers to column percent, *statistically significant

ER = estrogen receptor, PR = progesterone receptor, HER-2 = human epidermal growth factor receptor 2

Conclusion: Patients <40 years tend to develop more aggressive breast cancers. Black patients in this study were more likely to develop breast cancer at an earlier age, but there was no significant difference in breast cancer stage, histology or biological markers in the black patient cohort based on age. This disparity is likely due to genetic or epigenetic factors, and further studies investigating the genomic drivers behind these early and aggressive tumors is warranted.

References: [1] American Cancer Society. *Breast Cancer Facts & Figures 2018.*

Disclosure of Interest: None declared

PE120

PRESENTATION, CLINICAL, AND PATHOLOGICAL CHARACTERISTICS OF BREAST CANCER IN HAITIAN AMERICAN WOMEN

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Introduction: While breast cancer incidence does not vary between white and black women, death rates are 40% higher in black women compared to white women [1]. Drivers behind this disparity are likely a mix of genetic and social factors. It is well known that black women in the US have higher rates of triple negative breast cancer. We studied a South Florida population that has a large population of Haitian immigrant women to determine whether women of Haitian origin have similar breast cancer presentation and biology to US-born African Americans.

Materials & Methods: The computerized Cancer Registry database of Breast Institute at JFK Medical Center was used to identify all adult patients (>18 years) who underwent treatment for breast cancer in our institution between January 2008 to December 2017. Baseline demographics, stage at presentation, histopathology, and biologic markers were extracted. Chi squared analysis was used to compare differences in cancer characteristics in Haitian patients vs overall study population and Haitian patients vs US-born African Americans. A p-value <0.05 was considered significant. All analyses were performed on JMP14.0.

Results: A total of 2,116 patients were included in the study with 222 (10.5%) patients of black descent, and 26 (1.23%) born in Haiti. Compared to the overall cohort, patients of Haitian origin exhibited a higher proportion of ER negative (P<0.01), PR negative (P=0.03), as well as late stage at diagnosis (P=0.01). Nonetheless, these significances (P<0.05) disappeared when comparing patients of Haitian origin vs US-born African Americans.

Image:

Table 1. Differences in breast cancer characteristics between Haitian women and general study population

Category	Total (%)	Haitian (%)	Other (%)	P-value
All	2116	26 (1%)	2090 (99%)	
ER negative	277 (13%)	9 (35%)	268 (13%)	< 0.01*
PR negative	453 (21%)	11 (42%)	442 (21%)	0.03*
HER-2 negative	1236 (58%)	17 (65%)	1219 (84%)	0.09
Late stage at diagnosis	212 (10%)	7 (27%)	205 (10%)	0.01*
High grade	1426 (67%)	22 (85%)	1404 (67%)	0.33

(%) refers to column percent, *statistically significant
ER = estrogen receptor, PR = progesterone receptor, HER-2 = human epidermal growth factor receptor 2

Conclusion: Haitian patients present at a later stage at diagnosis and have increased rates of ER, PR and Her-2 negativity compared to the general study population. However, they have similar cancer characteristics to US-born African Americans. Despite differences in the environments in which these women were born and grew up, they showed similar manifestations of disease. These findings suggest that differences in histological and biological cancer characteristics are more likely genetic in origin than environmental. Further genetic and genomic studies characterizing the somatic mutations that give rise to aggressive tumors such as those seen more often in black patients are warranted.

References: [1] American Cancer Society. *Breast Cancer Facts & Figures 2018.*

Disclosure of Interest: None declared

PE121

BARRIERS TO TIMELY DIAGNOSIS & MANAGEMENT OF BREAST CANCER: OBSERVATIONS FROM A TERTIARY REFERRAL CENTER IN A DEVELOPING COUNTRY

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Introduction: Breast cancer(BC) related morbidity & mortality remains high in developing nations despite improvements in BC therapeutics. This has been attributed to delay in diagnosis, treatment & advanced stages at presentation. Conventionally a gap of >3 months between noticing 1st symptom & starting treatment is considered delay in BC management. This study aims to identify patient perceived barriers to BC management.
Materials & Methods: A self-designed questionnaire(4 sections, 42 questions) was administered to 628 patients between September 2017 to December 2018. Complete response was obtained from 435 patients (69.3%) and these were analyzed.
Results: Mean age- 46.3 years (+/- 2.9). Delay was seen in 284 patients (65.3%). Time interval of presentation ranged from 0.5- 24 months (mean-4.5). Among those with delay, mean time of presentation was 6.13 months. 179 patients (41.1%) had patient delay, 69 (15.9%) had provider delay & 36 (8.3%) had both. Private practitioner was the first contact in 74.9%. 59.5% of patients never had any investigation at the first consultation and incorrect diagnosis was made in 73.1%% of patients. Other statistically significant parameters are as follows:

Questionnaire parameters (significant)	***Delay % (p-value)***
Demographics (Low Socio-Economic Status, rurality , remoteness)	68% (**< 0.001**)
Stage (Advanced stages)	54.48% (**< 0.001**)
Breast Self-Examination (Not performed)	64.36% (**< 0.001**)
Breast cancer initial symptom (According to patient- presents with painful lump)	52.4% (**< 0.001**)
Symptom interpretation (It will subside on its own)	55.9% (**< 0.001**)
Reason for Consulting a Practitioner (It will subside on its own)	43.67% (**< 0.001**)
Specialty of First Provider (Dependence on alternative medicine/ quacks)	41.14% (**0.008**)
Diagnosis at First Consult (Wrong diagnosis)	42.5% (**0.007**)
Providers consulted (Delay directly proportional to number of providers consulted)	59.2% (**0.012**)
Alternative treatment (Symptomatic treatment & misdiagnosis)	52.41% (**< 0.001**)

Delay characteristics			
Type	**Total**	**3-6 months**	**>6months**
Patient delay	179 (41.4%)	145 (33.3%)	34 (7.9%)
Provider delay	69 (15.9%)	29 (6.7%)	40 (9.2%)
Both	36 (8.3%)	3 (0.7%)	33 (7.6%)

Misdiagnosis at first consult, delay in referral were major percieved barriers
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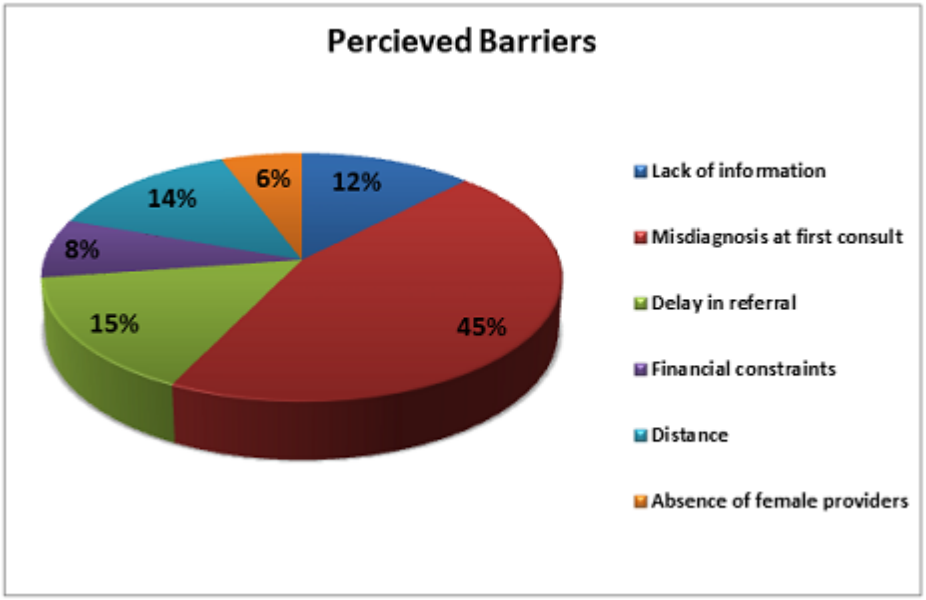

Conclusion: A significant patient & provider delay exists in BC management leading to higher stage at presentation & adverse prognosis. Many of these barriers are modifiable with sustained efforts & it may result in betterment of BC management outcomes.

Disclosure of Interest: None declared

PE122

COMPLICATIONS IN POST-MASTECTOMY IMMEDIATE BREAST RECONSTRUCTION: A TEN-YEAR ANALYSIS OF OUTCOMES

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Introduction: Breast reconstruction offers cosmetic and psychological advantages for women who choose to have a mastectomy. Immediate breast reconstruction has been proven to be oncologically safe, although it is associated with increased operative complications when compared to mastectomy alone. This study aims to evaluate the complications of the various options of immediate breast reconstruction.
Materials & Methods: This is a single center retrospective study analyzing data from January 1st, 2008 to December 31st, 2017 for immediate breast reconstruction procedures post-mastectomy performed at an academic breast unit. Procedures included expander and implant insertion, latissimus dorsi (LD), pedicle transverse rectus abdominis musculocutaneous (pTRAM), free TRAM (fTRAM), deep inferior epigastric perforator (DIEP) and transverse upper gracilis (TUG) flap reconstruction. Complications, major complications (defined as those requiring rehospitalization and/or reoperation), their respective re-operation rates, and associated risk factors were investigated using separate logistic regressions and odds ratios (OR) were calculated.
Results: A total of 243 post-mastectomy immediate breast reconstruction procedures and complications rates were analyzed. The overall complication rate was 23.9%, with over half of complications being post-TRAM hernia or bulges. The rate of major complications was relatively low at 6.6%; the re-operation rate for major complications was 7%. The flap failure rate was similar between expander/implant reconstruction and autologous reconstruction methods at 3.3% and 3.8% respectively (p=0.909). Logistic regression identified significantly higher risks associated with diabetes mellitus (OR 5.21, CI: 1.34-47.28, p=0.022), BMI > 25 (OR 5.80, CI: 1.27-10.05, p=0.016) and free pedicle autologous reconstruction (OR 3.975, CI: 0.08-0.98, p=0.046) for major complications.
Conclusion: The different methods of immediate breast reconstruction post-mastectomy are proven feasible and safe. However, patient variables and procedure choice are predictors for postoperative complications and should be taken into consideration when counseling patients on reconstructive options.
Disclosure of Interest: None declared

PE123

ONCOPLASTIC BATWING MAMMOPLASTY FOR BREAST CANCER PATIENTS WITH GIGANTOMASTIA

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Introduction: Surgical management of breast cancer patients with gigantomastia can be challenging when breast conservation is planned. Major breast reduction is often required in those patients. Complex oncoplastic procedures can carry an additional surgical risk in this situation. We suggest batwing mammoplasty as a simple and safe oncoplastic procedure for those patients.Surgical management of breast cancer patients with gigantomastia can be challenging when breast conservation is planned. Major breast reduction is often required in those patients. Complex oncoplastic procedures can carry an additional surgical risk in this situation. We suggest batwing mammoplasty as a simple and safe oncoplastic procedure for those patients.

Materials & Methods: 14 patients with gigantomastia diagnosed with breast cancer were included in this prospective cohort study. All underwent batwing mammoplasty and contralateral symmetrisation procedure between May 2016 and June 2018. Patient satisfaction assessed by the Breast-Q questionnaire.

Results: All patients had a BMI above 30 with a mean of 36.7 (range 31.6 - 44.9). The mean distance from midclavicular point to nipple was 42 cm (range from 38 – 50). The mean operative time was 83 minutes for procedures done by a single surgeon. The average duration of hospital stay was 2.2 days (range 2-3 days). Mean specimen weight was 1.2 kg (ranging from 1.035 to 1.63kg). The mean follow up period was 14 months (ranging from 5 to 30 months). Postoperative complications occurred in 14.2% of patients. Nipple-areola complex viability was not compromised nor sensation impaired. All patients received adjuvant radiotherapy. The mean Breast-Q score for patient satisfaction with breasts was 68.6 (range 61 – 74). The mean score for physiological well-being was 77.3 (range 64 – 84). And the mean score for physical well-being was 35 (range 31 – 40).

Image:

Conclusion: Batwing mammoplasty is a safe and simple oncoplastic procedure in breast cancer patients with gigantomastia. It has short operative time and low complications rate. In our cohort of patients, there was no delay in the delivery of adjuvant treatment. The cosmetic outcome was favorable with a high patient satisfaction.

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Disclosure of Interest: None declared

PE124

CLINICAL RESPONSE RATES AND PATHOLOGICAL FEATURES OF BREAST CANCER MANAGED IN PATIENTS AT A TERTIARY CENTRE IN DEVELOPING COUNTRY

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Introduction: Breast cancer(BC) incidence is increasing worldwide. Our aim is to study response rates in neoadjuvant chemotherapy(NACT) and compare with pathology of breast cancers at a tertiary centre in developing country

Materials & Methods: We conducted a retrospective review of patients diagnosed and underwent treatment for BC at our institute, from July 1, 2016 to December 31, 2018. Data were drawn from patient's records. NACT was given as 4regimens. Group1-2weekly dose dense adriamycin cyclophosphamide-paclitaxel(DDACP), group2-adriamycin-cyclophosphamide-docetaxel, group3-sequential cyclophosphamide-anthracyclin-5-flurouracil(5FU) followed by taxane, group4-cyclophosphamide-anthracycline-5FU. Various response rates (complete, partial, stable, progression) obtained in histopathology reports were compared to index stage. Statistical analysis done using SPSS version23

Results: Total of 366 patients were diagnosed with breast cancer. Median age was 45years (range:20-75years). Male:female 1:365. Stage I/II disease were 107(29.2%) and stage III/IV 242(66.12%) presented as 17(4.64%) were primary metastatic breast cancer(MBC). 66% had delay in care for >3months after detecting breast lump. Breast conservation was done only in 16(4.5%)patients. 252(72%)underwent NACT followed by surgery. Of these premenopausal were 97(38.5%). Clinical response rates to various regimens observed are enlisted in Figure. Response rates to NACT vs Luminal type are shown in Table. Luminal A were 51(20%), Luminal B were 55(21.8%), Human epidermal growth factor receptor2(HER-2)-enriched were 71(28.2%), and Triple negative BC were 75(29.7%). In those patients who underwent NACT, on one year follow-up, locoregional recurrence only was 8% (n=20). Distant metastases were in 19%(n=48),of which, skeletal was commonest 41.6% (n=20), lung 27% (n=13), liver and brain 25%(n=12). 5.2% (n=13)were lost to follow up postNACT

Response	Luminal A (n=51)	Luminal B (n=55)	HER-2 Enriched (n=71)	TNBC (n=75)	Total
Complete	12(12.5)	23(23.9)	28(29.1)	33(34.4)	96(38.1)
Partial	32(24.2)	30(22.7)	37(28)	33(25)	132(52.4)
Stable disease	5(25)	2(10)	6(30)	7(35)	20(7.9)
Progression	2(50)	0(0)	0(0)	2(50)	4(1.6)
Total	(p-value = 0.48)				252 (100)

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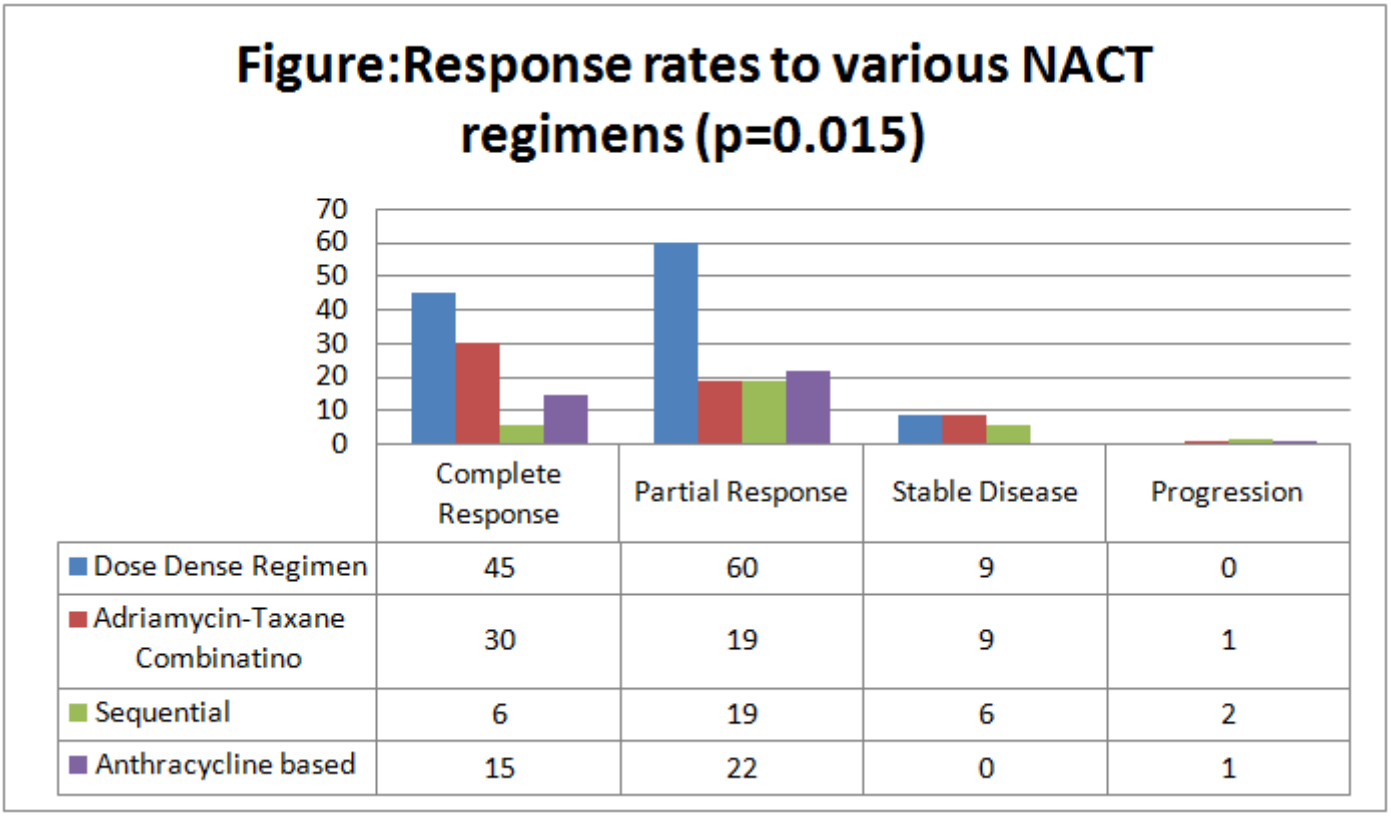

Conclusion: TNBC and patients who were admistered dose dense regimen had maximum response rates in NACT. Indian patients with BC most often present at an early age, with an advanced, aggressive disease, and early metastases. We need further stringent awareness programs and education of breast cancer in population in developing country

Disclosure of Interest: None declared

PE125

EXPERIENCE OF HYPERBARIC OXYGENATION IN PATIENTS WITH BREAST CANCER AFTER SUBCUTANEOUS MASTECTOMY WITH IMMEDIATE RECONSTRUCTION BY IMPLANTS.

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Introduction: Breast cancer is often localization of malignant tumors of the female population. Recently, the frequent cases of cancer among young women is need of such treatment approach which provides not only recovery, but a quick physical, psychological and social adjustment and quality of life.
Materials & Methods: Compare the early postoperative rehabilitation in patients who had surgery in volume of subcutaneous mastectomy and immediate breast reconstruction with endoprosthesis combined with a course of hyperbaric oxygenation and without.
Results: The analysis of the treatment patients with breast tumors who were operated in the Department of Reconstructive Surgery in L'viv Cancer Centre in period of 2015-2017 yy. Total 87 subcutaneous mastectomy was performed simultaneously with reconstruction by Implants. All operations ended without drainage. 51 patients received a course of hyperbaric oxygenation. Two patients treatment was canceled because of the attacks of claustrophobia. Hyperbaric oxygen therapy after surgical intervention was performed by the standard method, on 2-8 postoperative day. In the group that received hyperbaric oxygenation course - 49 women, severe postoperative complications were not found. The 36 women who did not receive a course of hyperbaric oxygenation, observed two complications that led to the removal of endoprosthesis - necrosis of skin-muscle flap. In patients with a course of hyperbaric oxygenation duration of seroma 4-5 days, against 12 without course of hyperbaric oxygenation. Sutures were removed on days 6-7 and 11-12 respectively.
Conclusion: The use of hyperbaric oxygenation of patients after mastectomy with immediate breast reconstruction with implants improves the immediate results of operations and improves quality of life.
Disclosure of Interest: None declared

PE126

ONCOTHERMIA FOR PROGRESSIVE AND RECURRED BREAST CANCER PATIENTS

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Introduction: For progressive recurrent breast cancer cases, our hospital conducts clinical studies using new hyperthermia (Oncothermia) as one of the options for multidisciplinary treatment.
Materials & Methods: Ten cases of advanced recurrent breast cancer who participated in clinical research since November 2015. Treatment time was 1 hour and the output was increased to 120 W step by step.
Results: In 6 of 10 cases, other treatments such as anticancer drugs and radiation therapy were used in combination with oncothermia, and in 6 cases , 2 cases (30%) confirmed the shrinkage of the tumor lesion and it was judged as partial response (PR). In one case, there was no change in lesion and it was judged as stable disease (SD), and 3 cases (50%) increased metastasis during treatment and was judged as progressive disease (PD). Four out of ten patients were treated by oncothermia alone, and judged 1 case as PR, 2 cases SD, and 1 case PD. No apparent side effects appeared in all cases.
Conclusion: It was suggested that oncothermia in progressive and recurredbreast cancer patients may be effective for skin metastasis.
Disclosure of Interest: None declared

PE127

DOES MORE EXTENSIVE AXILLARY CLEARANCE TECHNIQUE AFFECT LYMPHOEDEMA RATES?

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Introduction: Level I & II lymph node dissection would be considered standard approach for patient with breast cancer requiring axillary surgery beyond diagnostic sentinel node biopsy. However, there is paucity of data to support greater morbidity when level III dissection is added[1]. The downside of not adequately clearing the axilla surgically, is that the addition of radiotherapy to treat presumed residual disease is most definitely associated with higher rates of lymphoedema[2,3].

Materials & Methods: The RACS SNAC Trial[4] is a multi-centre phase III randomized controlled trial to compare Sentinel Node Biopsy (SNB) to Axillary Clearance (AC). All recruitment centres in the SNAC trial performed at least a level I-II axillary clearance when required. The only exception was Westmead Hospital, Sydney where level III axillary clearance was performed routinely. We aim to use the difference in these two cohorts to compare lymphoedema rates at different time points.

Results: There was not a statistically significant difference in lymphedema rates between the two groups (Table1). At 5 years, the Westmead group had a lymphedema rate of 18.3% compared to the combined other sites group at 18.4%. Rates increase steadily up to 3 years before plateauing. Interestingly, lymphedema rates were slightly higher at all visit intervals in the combined other sites group.

Table 1: Number of patients with </≥ 15% change in arm volume from baseline at each time point

	Westmead		**Other SNAC sites combined**		**p-value**	
Visit	**< 15%**	**≥15%**	**< 15%**	**≥ 15%**		
1 month	76 (100%)	0 (0.0%)	612 (98.9%)	7 (1.1%)		
6 months	71 (97.3%)	2 (2.7%)	553 (93.6%)	38 (6.4%)		
1 year	70 (92.1%)	6 (7.9%)	530 (90.1%)	58 (9.9%)		
2 years	69 (92.0%)	6 (8.0%)	484 (83.2%)	98 (16.8%)	0.82	
3 years	64 (92.0%)	9 (12.3%)	454 (81.8%)	101 (18.2%)		
4 years	62 (84.9%)	11 (15.1%)	429 (80.8%)	102 (19.2%)		
5 years	58 (81.7%)	13 (18.3%)	407 (81.6%)	92 (18.4%)		

Conclusion: Level III axillary dissection is safe and does not result in greater lymphoedema. We advocate that for most cases, when axillary surgery beyond sentinel node biopsy is deemed necessary, a level III dissection be performed.

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Disclosure of Interest: None declared

PE128

USEFULNESS OF BREAST MAGNETIC RESONANCE IMAGING IN DETERMINING THE SURGICAL PLAN FOR BREAST CANCER PATIENTS WITH DUCTAL CARCINOMA IN SITU AND THOSE WITH INVASIVE DUCTAL CARCINOMA

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Introduction: Preoperative breast magnetic resonance (MR) imaging provides more information than mammography and ultrasonography for determining the surgical plan in patients with breast cancer. This study aimed to evaluate whether breast MR is more useful in determining the surgical plan for patients with ductal carcinoma in situ (DCIS) lesions than for those with invasive ductal carcinoma (IDC).
Materials & Methods: A total of 1,113 patients with breast cancer, ductal origin, underwent mammography, breast ultrasonography, and additional breast MR before surgery in Kyungpook National University Hospital. The patients were divided into DCIS group (n=199) and IDC group (n=914), and their clinicopathologic characteristics with oncologic outcomes were compared. The initial surgical plan based on routine mammography and ultrasonography and final surgical plan after additional breast MR were compared between the two groups.
Results: The disease characteristics and prognosis of patients in this study were similar to those of previous studies. Changes in surgical plans more commonly occurred in the DCIS group than in the IDC group ($p<0.001$). The reason for these changes were as follows: larger extent of suspicious lesion detected on breast MR, detection of additional daughter nodule, multifocality or multicentricity, or suspicious findings in mammography or ultrasonography but benign in breast MR.
Conclusion: Preoperative breast MR may provide more information for determining the surgical plan for patients with DCIS than those with IDC.
Disclosure of Interest: None declared

PE129

ULTRASOUND-GUIDED ASPIRATION USING AN IV CANNULA AND CONVENTIONAL NEEDLE FOR PERI-PROSTHETIC SEROMA

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Introduction: Skin-sparing mastectomy with implant insertion is a good immediate breast reconstruction method. However, peri-prosthetic seroma following drainage removal is a common but difficult-to-manage complication. This study aimed to compare peri-prosthetic seroma duration and number of aspirations using intravenous cannula versus conventional needle.
Materials & Methods: Between January 2017 and August 2018, 71 patients who underwent skin- or nipple-sparing mastectomy and implant insertion were treated for peri-prosthetic seroma at Kyungpook National University Hospital. When peri-prosthetic seroma was detected, ultrasound-guided aspiration was performed using an intravenous cannula (n = 35) or conventional needle (n = 36). We analyzed the participants' clinico-pathologic factors after medical record review.
Results: There were no significant intergroup differences in mean age (49.28 vs 46.19, p = 0.052), mean body mass index (23.41 vs 22.99, p = 0.601), or total clinical tumor size (4.42 vs 4.63, p = 0.107) or pathologic tumor size (4.13 vs 3.98, p = 0.269). there were no intergroup differences in specimen weight (313.50 vs 320.45, p = 0.147), implant size (239.47 vs 263.85, p = 0.313), or operation time (279.84 vs 308.11, p = 0.595). However, mean total peri-prosthetic seroma volume was significantly higher (105.80 vs 88.58, p = 0.015) but number of aspirations was lower (4.48 vs 5.80, p = 0.043) in the intravenous cannula group. Mean peri-prosthetic seroma volume per aspiration was insignificantly higher in the intravenous cannula group (26.92 vs 19.14, p = 0.291).
Conclusion: Ultrasound-guided aspiration using an intravenous cannula more effectively manages peri-prosthetic seroma with a shorter management period.

Disclosure of Interest: None declared

PE130

HOW TO IMPROVE BREAST CONSERVATION SURGERY (BCS) RATES IN LOW AND MIDDLE INCOME COUNTRIES (LAMIC) POST NEOADJUVANT CHEMOTHERAPY (NACT)- RESULTS OF A PILOT STUDYFROMA TERTIARY CARE CENTER

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Introduction: Majority of patients in developing countries present lately with locally advanced breast cancer (LABC). Moreover there are also issues with availability and compliance to multidisciplinary treatment in these areas. Hence, NACT-BCS needs a protocol based management.
Materials & Methods: This is a prospective study of 104 cases of carcinoma breast from 2006 to 2018 operated in the breast cancer unit at the department of surgical oncology, IRCH AIIMS, New Delhi . All cases of carcinoma breast with TNM stage T3, N1 or N2 not suitable for upfront BCS underwent NACT and were included in the study. Treatment Protocol: Preoperative evaluation- metal marker placement- NACT-post NACT assessment for surgery- BCS with cavity shave- adjuvant treatment.
Results: A total of 79 cases were included. Right side 53% , left side 44% and bilateral in 3% cases. ER positive in 37%, PR positive in 34% and Her2neu positive in 29% cases. Family hstory of breast cancer in 10% cases. More than 80% patients have a moderate volume breast. Median tumor size and distance from NAC(nipple areolar complex) pre-NACT were 5cm and 2cm respectively. In more than 60% cases the most common reasons for planning for NACT were large tumor size, N2 disease and poor tumor to breast ratio. Other conditions were unfavourable tumor location, deformed breast or bad disease biology. A metal marker was placed before start of NACT in 86% cases by ultrasonography. In 63% a single incision was used to access both the primary and axilla. The most common incision used were crescent and italic ‘S’ in 75% cases. A type-1 volume displacement oncoplasty was adequate in 83% cases while 6% cases a volume replacement was required using muscle flaps. A pathological complete response was achieved in 46% cases and median tumor size post-surgery was 0.2cm. A margin positivity rate of 1.2% was observed. All patients receive standard postoperative radiotherapy including boost.At a median follow up of 38 months, a loco-regional recurrence rate of 3.8% and a distant recurrence rate of 20.2% was observed.
Conclusion: In small to medium size breasts as commonly seen in LMIC countries with larger tumor size, BCS can be considered as a feasible option. Our results establish the feasibility of NACT-BCS in LABC with equivalent results worldwide with respect to margin status and locoregional and distant recurrence rates.However, this needs suitable patient selection and a multidisciplinary approach with strict quality control.
Disclosure of Interest: None declared

PE131

THE USEFULNESS AND FEASIBILITY OF LATERAL INTERCOSTAL ARTERY PERFORATOR FLAP RECONSTRUCTION IN BREAST CONSERVING SURGERY AS AN OPTIMAL CHOICE FOR IMMEDIATE PARTIAL BREAST RECONSTRUCTION.

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Introduction: Breast-conserving therapy (conservative surgery combined with radiotherapy) is the treatment of choice for early stage breast cancer. The wider range of use of pedicled perforator flaps has gained popularity for its feasibility and effectiveness in the reconstruction of partial breast defects, lower complication rates, cost and simplicity in Egyptian women with medium sized and large breasts. Herein, we present our experience with the use of the lateral intercostal artery perforator flaps for most cases.
Materials & Methods: This study included 3 2 patients at our hospital from June 2012 to August 2016. With T1, T2 tumors who underwent BCS and intraoperative histopathological examination of the lesion and axillary nodes (to study the safety margin and sentinel nodal status). With median age of 43 years. Immediate breast reconstruction was done for all indicated cases using the described pedicled flap of the lateral intercostal artery perforators. Operative time was from 110 to 165 minutes. Data collected from patient medical records (specimen weight, histology of tumor, lymph node status, postoperative follow up periods), and esthetic look, patient satisfaction surveys, which reviewed and evaluated one and two years postoperatively.
Results: Lateral intercostal artery perforator flap-based reconstructions performed in al l patients, six patients developed complications (wound dehiscence, edge necrosis and seroma) that required additional intervention and needed a longer wound follow up(14 days on average) with a slight delay in adjuvant treatment. Overall, esthetic look and patient satisfaction reported to be excellent in 21 patients (64%) and good in 5 patients (20%). with a better short and long term outcomes regarding arm movement and motor functions of their arm and shoulder with no morbidity or disability reported issues.
Image:

Conclusion: Lateral intercostal artery perforator flaps can be safely used and widely applied on a broad scale with very low cost, less complications and no morbidity for all patients even with large and pendulous breasts, these flaps requires a thorough knowledge of the anatomy of the artery perforators and expertise in perforator flap surgery (flap harvesting and perforator preservation) with no extra cost even in the limited resources settings in the developing countries.
Disclosure of Interest: None declared

PE132

LONG TERM OUTCOMES OF SINGLE BREAST INCISION FOR BREAST AND AXILLARY SURGERY ON THE AXILLARY PAIN AND RANGE OF MOVEMENT.

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Introduction: Axillary surgery still maintains a therapeutic role in treatment for breast cancer patients as well as a staging tool for the axilla and has traditionally performed using a separate axillary incision. Single incision in the breast away from the axilla to do the SLNB or to clear the axilla is a better option to minimize post-operative pain and improve range of movement.
Materials & Methods: Between June 2015 and August 2017, 240 patients with Stage I breas t cancer were enrolled in our study, and were assigned to 1 of the 2 groups - single incision is done in the breast to perform lumpectomy and to approach the axilla or 2 separate incisions. Operative time and surgical complications were compared between the 2 groups.
Results: There were 168 patients who underwent single incision, and 72 patients who underwent axillary separate incision. There was no significant difference in the average operative time ($p>.05$). There was a significantly greater difference in pain score between both groups with higher incidence of pain and limited range of movement in the separate incision group ($p< .05$) compared to the single incision group.
Conclusion: The axillary surgery through the single breast incision is feasible and offers a post-operative axillary pain-free life and comfortable range of arm movement.
Disclosure of Interest: None declared

PE133

ROLE OF METHYLENE BLUE IN IMPROVING AXILLARY NODAL YIELD AND SHORTENING LEARNING CURVE IN NODE POSITIVE BREAST CANCER: A NOVEL STUDY

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Introduction: Axillary node involvement is most important prognostic factor for recurrence, survival and planning adjuvant treatment. Axillary dissection (ALND) is the standard treatment of axilla in node positive breast cancer. In this novel study, we tried to identify if pre-operative methylene blue injection with visualization of blue nodes intra-operatively improved axillary lymph node harvesting in node positive breast cancer
Materials & Methods: This randomized controlled trial was conducted on 46 breast cancer patients with positive axillary lymph nodes (stage II, IIIA). Patients were divided into two groups: in group I (n=24) methylene blue dye was injected sub-areolar, 20 minutes prior to incision followed by ALND, in group II (n=22) routine ALND was performed without dye. Operating surgeons were interviewed if blue nodes visualization during surgery was helpful in dissection. Axillary specimen was dissected to isolate lymph nodes, blue and non-blue nodes were sent separately for histopathology. Further, nodes harvested between trainees and faculty was compared
Results: Mean total nodes harvested (blue+ non blue) in group I were 16$\pm$4.3 and in group II were 9.5$\pm$5.2 (p=0.001). Non- blue nodes in group I were 6.7$\pm$2.3 vs 9.5$\pm$5.2 in Group II (p= 0.06) . Non- blue nodes positive for metastasis were 1.1$\pm$1.5 in Group I vs 1.6$\pm$3.6 in Group II (p=0.6). Number of blue nodes harvested in group I were 9.27$\pm$3.6 and metastasis positive nodes were 1.67$\pm$3.2.
All the surgeons reported that visualizing blue nodes intra operatively was helpful in dissection. In 15% cases; blue nodes were seen at level III that were otherwise not palpable.
Lymph nodes dissected between trainees and faculties in both groups were compared. Mean total lymph nodes dissected in group I by faculty were 18$\pm$4 vs 14.2$\pm$4 in trainees (p=0.1), blue nodes were 11$\pm$3.5 vs 7.7$\pm$3.2 (faculty vs residents) (p=0.8), non-blue nodes were 7$\pm$2.3 vs 6.5$\pm$2.3(faculty vs residents) (p=0.6). Mean total lymph nodes dissected in group II by faculty were 12.5$\pm$5.3 vs 6.8$\pm$3.6 in trainees (p=0.02)
Conclusion: Methylene blue guided ALND can be helpful in safe and adequate axillary dissection especially for surgeons in the learning phase or with lesser expertise of ALND. It's cost effectiveness, easy availability and safety makes it a good choice for its use in ALND
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Disclosure of Interest: None declared

PE134

STATUS OF FINE NEEDLE ASPIRATION CYTOLOGY (FNAC) AS A PROXY TO CORE NEEDLE BIOPSY IN TRIPLE ASSESSMENT(TA) OF BREAST LUMP.

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Introduction: TA is the gold standard approach in evaluation of breast masses. FNAC and core needle biopsy (CNB) are the preferred modalities in pathaological assessment in TA. CNB is promoted as the gold standard for intial diagnosis but FNAC has fared equally well in many studies.
Materials & Methods: This was a retrospective study of 515 patients having undergone TA in Endocrine Surgery OPD at a tertiary institute between May 2016 and Dec 2018. Patients initially underwent palpation guided FNAC by pathologists followed by definitive management. CNB/ excision biopsy was performed prior to definitive management if FNAC was discordant with clinical examination and/or imaging. Excision was perfomed for benign lumps if clinically indicated. Definitive management of breast cancer depended on choice and stage. FNAC findings were compared with HPE.

Results: A total of 515 patients ranging from 12 to 72 years were included. The accuracy. sensitivity, specificty, Positive predictive value, Negative predictive value was 95.6%, 97.7%, 98.40%, 93.41% and 96.42% respectively. Twelve patients with false negative FNAC had a suspicious finding on imaging/clinical examination prompting tru cut/ excision biopsy. Hence no malignancy was missed. Four patients had a false positive causing unnecessary alarm. FNAC costs 1/4th of CNB and time taken for reporting FNAC ranges froom 1-2 days compared to 7-14 days for biopsy specimens.
Conclusion: FNAC is still a valid option as a part of TA provided due diligence is maintained . This holds greater significance in low resource setting as it has a lower turn around time and cost implications. It can also be made available most health care centers.
Disclosure of Interest: None declared

PE135

A PROSPECTIVE STUDY TO EVALUATE THE ACCURACY OF AXILLARY STAGING USING ULTRASOUND AND USG-GUIDED FINE NEEDLE ASPIRATION CYTOLOGY IN EARLY BREAST CANCER PATIENTS IN A HIGH VOLUME CENTRE.

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Introduction: In breast cancer, axillary lymph node involvement directly impacts the patient survival and prognosis.Sentinel lyemph node biopsy (SLNB) is a procedure of choice for axillary staging in early breast cancer.Currently,management options for axilla management are ALND &SLNB in node positive & in node negative respectively. In developing nation like India,where resource constraints,logistics issues and over burden health institutes create difficulty in managing patients,our study address this issue by implementing USG and USG-FNAC in early breast cancer patients in developing nation.

Materials & Methods: All early breast cancer patients were screend by ultrasound axilla to categorise the nodes as suspicious or non suspicious. Suspicious nodes underwent USG & FNAC using vascualr pedicle based nodal mapping for node targeted on US-FNAC, if node found to be positive, patient underwent ALND & negative node patients underwent SLNB.All non-suspicious nodes patient underwent SLNB.Final histopathology was taken as gold standard. The sensitivity, specificity, accuracy, positive predictive value and negative predictive value , accuacy and false negative rate calculated for USG & USG-FNAC.

Results: Total 100 patients included in which 58 were non- suspicious and 42 suspicious nodes on USG. Among suspicious group, 24 were positive on USG-FNAC & 18 were negative.In non suspicious SLNB done in all.
False negative rate of USG & USG-FNAC was 38% and 17% respectively.

METHODS	SENSITIVITY	SPECIFICTY	POSITIVE PREDICTIVE VALUE(PPV)	NEGATIVE PREDICTIVE VALUE(NPV)	ACCURACY
CLINICAL EXAMINATION	27.66%	86.79	65.00%	57.5	59.0%
USG	61.7%	75.47%	69.05%	68.97%	69%
USG-FNAC	82.7%	100%	100%	72.22%	88.10%

Conclusion: Our study indicates the feasibility of USG & USG-FNAC in a high volume centre with good accuracy of around 70-80%.Overall, 24 % of total patients can be taken up for ALND without performing SLNB.This study can guide us to utilize ultrasound and ultrasound-guided FNAC as a routine evaluation tool in the pre operative assessment of axillary lymph nodes in early breast cancer.Our study showed good and acceptable result(75%) in isolating and retrieving the targeted node by just following the Vascular pedicle based node mapping of axilla to locate the suspicious node without using any tagging or marking of node from where FNAC was performed. This finding can act as a good practicing tool in a busy high volume,logistics issue and and resource constraint hospitals

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Disclosure of Interest: None declared

PE136

ROUTINE CAVITY SHAVE DURING BREAST CONSERVATION SURGERY IS A GOOD ALTERNATIVE TO FROZEN SECTIONS

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Introduction: Breast conservation surgery (BCS) is now standard of care for management of early breast cancer (EBC). The margin positivity and re-excision rates range between 3 to 35% in literature. Frozen section analysis is an expensive and logistically challenging option. Routine cavity shave at the time of wide excision has a potential to decrease margin positivity and re-excision rates. We present the results of a prospective single arm study of BCS with a quality controlled routine cavity shave .

Materials & Methods: A prospective single arm study was planned with a quality controlled and standardized surgical protocol for BCS, along with routine cavity shaves. All patients received adjuvant treatment as per standard guidelines. After palpation guided wide excision, cavity shave was performed by excising 2 to 3 mm slice of tissue from medial, lateral, superior, inferior and deep surfaces and specimens sent separately for histopathological assessment. Final margin status was determined on the basis of cavity shave margins. Patients with positive cavity shave margin were taken up for re excision. Results were analysed for margin positivityrates , re excision rates and local recurrence patterns.

Results: From January 2005 to December 2015, a total of 532 early breast cancer patients underwent BCS with routine cavity shave. Overall margin positivity rate was 2.65% .Invasive tumor was identified in cavity shave margin in ten (1.9%) and DCIS in four patients (0.75%). Re excision was performed in 10 patients (1.9%) and the remaining four with focal microscopic margin were managed with additional radiation boost.At a median follow up of 46 months local recurrence in breast conservation surgery group was seen in only 20 patients (3.8%).

Conclusion: Results of the study indicate that it is possible to achieve excellent surgical and oncologic outcomes by routine cavity shave following breast conservation surgery. The overall margin positivity, re-excision and local recurrence rates were on the lower side ofglobal figures being quoted in literature for breast conservation surgery without cavity shave.

Disclosure of Interest: None declared

PE137

VITAMIN D, CALCIUM STATUS AND QUALITY OF LIFE IN PATIENTS WITH NEOADJUVANT CHEMOTHERAPY IN STAGE II/III BREAST CANCER – A NON-RANDOMIZED COMPARATIVE TRIAL

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Introduction: Vitamin D insufficiency affects about 50% of women and even more patients with early breast cancer (EBC).This insufficiency worsens the multifactorial bone metabolism alterations observed in these patients, increasing the osteoporosis risk, particularly in women with EBC. The aim of this study is to evaluate the health-related quality of life changes of women with breast cancer undergoing chemotherapy and their association with Vitamin D supplementation.
Materials & Methods: The study was conducted in Department of General Surgery King George's Medical University, UP between June 2016 to June 2017. The subjects (Stage II/III breast cancer) for the study were enrolled with written and informed consent with n=55 cases in two groups (Group I – Chemotherapy with Vitamin D (Calcitriol 60,000 IU weekly) + Elemental Calcium (200 mg) daily; Group II– Chemotherapy alone) of breast cancer each receiving neoadjuvant chemotherapy (NACT). Serum Vitamin D levels (SVDL) and Bone mineral density (BMD) were taken before start and at completion of 6 cycles of NACT for evaluation of. Quality of Lifewas assesedby FACT-G questionnaire.
Results: There was no significant ($p>0.05$) difference in SVDL before chemotherapy between the groups. SVDL was found to be significantly higher in group I (38.27±6.07) than group II (5.79±3.04) after NACT. Calcium level was found to be significantly higher in Group I (4.83±0.23) than group II (4.21±0.66) after chemotherapy and supplementation in group I.
Vitamin D Supplementation had a significant improvement in physical well being but has not effect on social, emotional or functional and total overall QOL scores.
No significant change in BMD femoral neck and L2-L4 was found from before to after chemotherapy in both groups
Conclusion: Vitamin D levels were seen to decrease in patient undergoing neoadjuvant chemotherapy in EBC. In relation to QOL parameter only physical aspect was found to have a significant association with change in SVDL.
Disclosure of Interest: None declared

PE138

RADIATION INDUCED MORPHEA OF BREAST FOLLOWING RADIOTHERAPY FOR BREAST CANCER: A CASE SERIES AND SYSTEMATIC LITERATURE REVIEW.

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Introduction: Morphea, alternatively known as localising scleroderma, is a rare complication of radiotherapy affecting 1 in 500 patients[1]. To date there have been 82 cases reported in the literature however it may be under diagnosed and prevalence may be underestimated[2].
Materials & Methods: We report two cases radiation induced morphea in the radiotherapy field including breast in a cohort of 500 breast cancer patients who received radiotherapy following breast-conserving surgery.
Results: Patients developed atrophy, contracture and ulcerations of radiotherapy field 11 and 15 months after radiotherapy. Punch biopsies showed chronic inflammation. Histopathology and imaging excluded malignancy. The connective tissue disorder screens were negative. The patients were treated with a course of oral corticosteroids and their ulcerations healed. Morphea remained stable at 5 and 1 year follow ups respectively.
Conclusion: Radiation induced morphea can occur months to up to 32 years after radiotherapy and its pathophysiology is not completely elucidated. Punch biopsy and imaging are important to confirm diagnosis and rule out malignancy. Morphea may resolve spontaneously with 50% of cases moving into a state of abeyance within approximately three years. When diagnosed within the first 6 months topical calcipotriene or tacrolimus or phototherapy and systemic methotrexate or corticosteroids have been used alleviate symptoms and remission may be induced if treated promptly. Once stable inactive disease is present there is minimal evidence for systemic therapy. There are reports of surgical reconstruction for morphea demonstrate good cosmesis.
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Disclosure of Interest: None declared

PE139

EXPERIENCE OF SINGLE-STAGE RECONSTRUCTION OF BREAST USING IMPLANTS WITH A POLYURETHANE COVERING FROM THE UNIVERSITY BREAST CENTER (FIRST PAVLOV MEDICAL UNIVERSITY, ST. PETERSBURG

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Introduction: Indications to a radical mastectomy are found in our patients in 29% of cases. In 80% from them we carry out single-stage reconstruction of breast. Since 2017 we began to carry out operations with single-stage reconstruction by implants with a polyurethane covering in a prepectoral
pocket.
Materials & Methods: the analysis of the postoperative complications which led to loss of implants is carried out, at patients after NAC-sparing radical mastectomies with a breast cancer (T1-T2, N0-2M0) with single-stage reconstruction by an implant with a polyurethane covering at its prepectoral and subpectoral attitude. 2 groups of patients are allocated. The first group of patients (N =44) had a NAC-sparing radical mastectomy with single-stage reconstruction by an implant retropectoraly. The second (N=65) group of patients had a NAC-sparing radical mastectomy with single-stage reconstruction by an implant with a polyurethane covering prepectoraly. Groups were divided into subgroups (A and B); in subgroup "A" patients received system therapy only neoadjuvant therapy, in subgroup "B" – adjuvant therapy. Group 1A-12, 1B-20, 2A-21, 2B-24 in both groups a mastectomy was carried out from paramammary access (on border of a breast).
Results: Mastectomy duration with prepectoral reconstruction was 25 minutes less (145/115 minutes). Frequency of post-radio contractures was higher in the first group (15 vs 0). Frequency of loss of an implant is comparable in subgroups «A» (3 vs 2), in subgroup «B» the frequency of loss of an implant was higher in both groups (6 vs 4).The reason of loss of implants at subpectoral arrangement: seroma, infection, contracture, necrosis of a skin flap. At prepectoral installation: skin flap necrosis, infection.
Conclusion: Prepectoral placement of an implant with a polyurethane covering at a NAC-sparing radical mastectomy at a breast cancer is preferable to single-stage reconstruction. This technique does not demand the additional equipment (a grid, ADM), reduces injury and time of operation, risks of post-radio contractures, demands less time and allows to achieve the best aesthetic results. Frequency of postoperative complications was higher in group of the patients receiving systemic chemotherapy in the adjuvant mode. At the planned mastectomy and system chemotherapy – in aspect of reduction of frequency of the complications which led to loss of an implant – we prefer to carry out systemic treatment in the neoadjuvant mode.
References: single-center experience
Disclosure of Interest: None declared

PE140

PATIENT PROFILE AND OUTCOMES IN EARLY BREAST CANCER: RESULTS FROM A TERTIARY INDIAN CENTER.

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Introduction: Early Breast cancer is increasing worldwide, though with a lesser magnitude in the developing nations. These nations still see early Breast cancers which are much larger than the western counterparts. We herein present the patient profile, tumor characteristics and outcome analysis of early breast cancer patients presenting in a single surgical unit of an apex medical and research institute in Northern India.
Materials & Methods: : A retrospective study was conducted at Department of Surgical Disciplines AIIMS, New Delhi, wherein the data of a single unit run breast cancer clinic (BCC) from January 1993 is maintained. All cases of EBC registered in the unit BCC were included in the study & were restaged according to AJCC VIII TNM classification. Details on demography, clinical and pathological profile, treatment response and type of surgery with follow up details were recorded . Outcomes including disease free survival (DFS) and overall survival (OS) were calculated from the time of intervention to first recurrence and death respectively. A minimum follow up of 2 years was essential. Kaplan Meier survival analysis was carried out to find the survival pattern of subjects using STATA 14 software.

Results: The study comprised of 805 cases (females: 98.9%) with a mean age of 47.9 years. Mean age at menarche was 13.8 years and menopause was 46 years. 92% patients were multiparous and mean age at first child birth was 22.3 years. 89.2% patients breastfed their children for a mean duration of 3.9 years. All patients were symptomatic at presentation with most common symptom being painless lump (78.1%).Most of the patients had stage 2 disease (81.5%)& mean tumor size was 4.3 cm (0.5-15). 20.5% patients had triple negative disease. 29.8% patients underwent breast conservation surgery. 5 year DFS & OS for EBC was 74% & 84% respectively (5 year DFS & OS for stage 1 : 81% & 86% and 5 year DFS & OS for stage 2 : 72% & 82% respectively). Nodal status and molecular class were found to be significant predictors factors for survival.

Conclusion: Breast cancer in the Indian scenario is a disease of younger woman who lack the characteristic reproductive and demographic risk factors. They are a decade younger with tumor size much larger than the western population. Hence research should be encouraged focusing on their risk factors and outcomes.

Disclosure of Interest: None declared

PE141

CURRENT PRACTICE AND FUTURE DIRECTIONS OF IMPLANT BASED BREAST RECONSTRUCTION: RESULTS FROM CHINA NATIONAL PRACTICE QUESTIONNAIRE SURVEY

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Introduction: Implant-based breast reconstruction (IBBR) is emerging as the most common used breast reconstruction surgery in China. The current survey explored the current clinical practice of IBBR in China.
Materials & Methods: We conducted a survey to assess the clinical practice of breast reconstruction in China in 2017. A survey was mailed to 110 hospitals in China, which have more than 200 breast cancer operations in 2017. The survey included questions on the type and timing of breast reconstruction(BR), use of Tiloop and acellular dermal matrix(ADM) and the complications of IBBR.
Results: IBBR could be performed in 86.4%（95/110）of the hospitals. Among them, 26.4%(29/110) hospitals have not begun to perform autologous tissue breast reconstruction. IBBR was predominantly performed in 68.2%(75/110) hospitals. Only 9.1%(10/110) of hospitals predominantly performed autologous BR and 5.5%(6/110) predominantly performed autologous combined with implant BR. IBBR accounts for about 65.75% of all reconstruction surgery. More than half of the hospitals performing prosthetic BR without Tiloop Bra. ADM was not widely-available, only 29.1%(32/110) hospitals regularly used. 9%(10/110) hospitals reported more than 10% grade III and grade IV capsular contracture. Other major complications including infections need surgery intervention, implant rupture and implant removal were less than 5-10% in most of hospitals
Conclusion: IBBR was the most common used surgery in breast reconstruction after mastectomy. Lack of available Tiloop and ADM, expensive prices and lack of training to surgeons are significant barriers to the adoption of Tiloop and ADM in IBBR. The overall complication rate reported by respondents was low.
Disclosure of Interest: None declared

PE142

TITANIZED POLYPROPYLENE MESH FOR IMMEDIATE BREAST RECONSTRUCTION IN LOW TO MIDDLE INCOME COUNTRIES - FIRST REPORTED CASE

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Introduction: Breast reconstruction has become an important part of the services offered for patients with breast cancer. Mesh-assisted implant based reconstruction has become widely available in the recent years. Many products are available, with choice between acellular dermal matrix (ADM) and meshes for lower pole coverage.
In developing countries, many financial restraints limit this option.
The Breast unit at the National Cancer Institute of Cairo University is a high volume, specialised unit offering a comprehensive service for breast cancer patients. We have performed the first reported mesh assisted implant based breast reconstruction case in Egypt and the Middle East.
Materials & Methods: 26 years old patient, BRCA 1 gene mutation carrier was seen in the clinic at the NCI – Cairo University. Options for risk-reduction were discussed and the patient opted for risk-reducing mastectomy and immediate reconstruction with implants and mesh.
Patient was counselled before surgery and implants were ordered. The team has obtained the first titanized polypropylene (TiLoop) 16g/m2 extralight meshes.
Operation was done on the 1st of August 2017 by two consultant oncoplastic surgeons simultaneously. The team was instructed and briefed on the procedure as it was new to all members. Nipple-sparing mastectomies were performed via infra-mammary fold incisions. The pectoralis major muscle was raised, pockets irrigated with antibiotics solution, gloves changed, field re-draped and instruments changed. Mesh was fixed to the IMF using continuous 3/0 Vicryl suture and to the muscle with interrupted sutures. Mesh covering implant lower pole]. Anatomical 240 cc implants were used. A drain was placed on each side.
Patient was followed up and BREAST-Q questionnaire was filled at 6 months post-operatively.
Results: Operating time was 120 minutes with no complications reported. The uptake of the procedure was excellent by the team and the patient. Scores from translated BREAST-Q at 6 months were 62 for post-operative satisfaction with breast, 43 for satisfaction with implants and 40 for physiological wellbeing. Overall satisfaction was very high.
Image:

Conclusion: Titanized polypropylene mesh is a reasonable affordable option for implant-based breast reconstruction in low to middle income countries in contrast to ADMs and autologous tissue. This is the first reported case performed. Uptake was excellent by surgical teams and patients. Cosmetic outcomes and patient satisfaction were high.
In memory of Professor Hassan Abdallah, MD.

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Disclosure of Interest: None declared

PE143

EXCISION BIOPSY OF BENIGN BREAST LUMP UNDER ACUPUNCTURE: AN ASSESSMENT OF POST-OPERATIVE PAIN AND COST EVALUATION STUDY

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Introduction: Acupuncture has been gaining popularity ever since it was first introduced in China hundred years ago as a type of traditional medical therapy. Acupunture elevates pain threshold sufficiently to allow surgery to be performed on concious patients. In our center, we provide acupuncture service for pain relief as well as during surgery. Excision biopsy of benign breast lump was chosen because it is a minor procedure and easily available. The aim of this study is to compare the post-operative pain and cost analyses of acupuncture as an analgesic adjunct as opposed to the usual general anesthesia.
Materials & Methods: All patients who are planned to undergo excision biopsyfor unilateral benign breast lump after diagnosed by FNAC were recruited in this study and were randomized to surgery under general anaesthesia and surgery under acupuncture. Postoperative pain was assessed by recording the visual analogue score and the cost for each patient was calculated.
Results: A total of 42 patients were recruited in this studyfrom June 2016 to March 2017. There was a significant difference in postoperative pain in the acupuncture group ($p<0.05$) during the post- operative period of 4 hours ($p=0.032$) and 24 hours ($p=0.033$). Patients had lower pain scores in the acupuncture group as compared to the general anesthesia group. However there was no difference in pain scores during the second post-operative day in both groups ($p=0.124$)**.** The cost for surgery was significantly reduced in the acupuncture group ($p<0.05$).
Conclusion: There was a significant reduction in post-operative pain among the acupuncture group within 24 hours after surgery following which the pain score was similar after 2 days between both groups. Furthermore acupuncture was shown to be cheaper alternative for analgesia in benign breast surgery.
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Disclosure of Interest: None declared

PE144

AUGMENTING RECOVERY: COMPARISON OF OUTCOMES AFTER INTRODUCTION OF ENHANCED RECOVERY PROTOCOL AFTER BREAST FLAP RECONSTRUCTION

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Introduction: A review of 3 years of data prior and post implementing and enforcing an Enhanced Recovery after Surgery (ERAS) protocol in a single Plastic Surgery unit for flap reconstructions.
Materials & Methods: Review of prospectively gathered data on patient (n=223) outcomes following surgery for 18 months pre and post ERAS implementation. Primary outcome is complication rates of Delayed Reconstruction and Immediate Reconstruction (mastectomy at the same operation) in the two groups; secondary outcome is date of discharge.
Results: Overall complication rate Pre-ERAS: 18/99 (18%), compared to after ERAS was implemented to an overall rate of 36/124 (29%) a significant increase. Further examination by type of reconstruction shows; Delayed Pre-ERAS: 13/62 (21%) and Post-ERAS: 18/68 (26.5%), a slight increase in complications after introduction of ERAS. Immediate Reconstruction: Pre-ERAS complication rate was 5/34 (15%) and Post-ERAS was 18/56 (32%), this represents a doubling of complications in this group. Return to theatre rates were unchanged (5%) of total for both groups.
Date of discharge was improved after the introduction of ERAS; mean day 5 post-op Pre-ERAS with an IQR of 1. Post-ERAS, mean was day 4 with IQR of 0.
Conclusion: Discharge date was improved overall, but the data shows increases in complications, especially in the immediate reconstruction group, an operation increasing in frequency. There are several possible causes for this; Improved data collection with the Protocol including dedicated areas/questions for patients, earlier follow up with Breast Care Nurses identifying minor complications, appointment of new Consultants with associated increase in operative time. Reassuring is the same rate of re-operation throughout, and the increase in complications are mostly due to minor complications requiring little or no further intervention.
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Disclosure of Interest: None declared

PE145

REFRACTORY MASTALGIA: DOES FUNCTIONAL BREAST REDUCTION SURGERY HAVE A ROLE?

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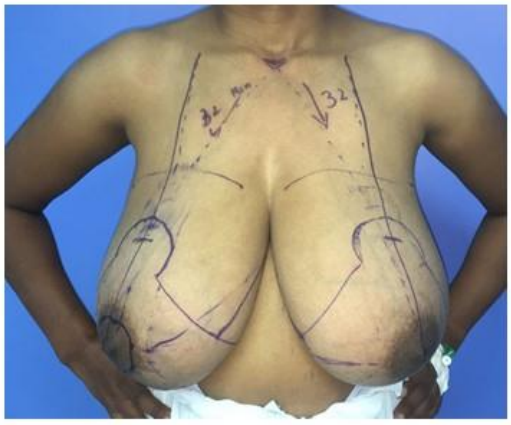
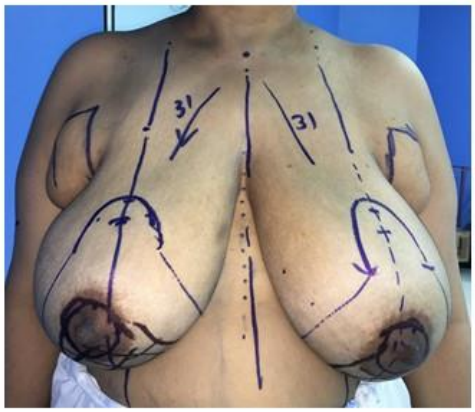
Introduction: Mastalgia is the commonest breast related symptom for which a women seeks medical consultation. Severe pain and fear of cancer may cause distress in a significant proportion of patient affecting the quality of life. Various measures and medications have been promoted with varying efficacy. Many patients may not respond to conservative measures and medications. This retrospective analysis aims to study the role of functional breast reduction surgery in mastalgia patients with macromastia and not responding to medications.
Materials & Methods: This is a retrospective analysis of 317 patients presenting to Endocrine and Breast OPD with Mastalgia between July 2016 and December 2018. Breast lump was ruled out by clinical examination and appropriate imaging if required. Patients were counselled and vitamin D deficiency corrected. Un responsive patients were sequentially prescribed topical/ oral NSAIDS. Patients unresponsive to NASIDS were prescribed either of Tamoxifen, centchroman, Danazol. Psychiatric consultations were sought for those with suspected somatization disorder.Breast reduction surgery was offered to those with cup size > D or greater.
Results: Of these 210 patients had mastalgia without any underlying lump. Of 210 patients, 178 were under regular follow up and are included in the analysis. Of these 22 patients had macromastia (Cup size>D). 8 macromastia patients with mastalgia responded to medical management. Breast reduction surgery was offered to 14 patients of which 10 agreed. 9 underwent Reduction mammoplasty by inferior pedicle technique and 1 by supero medial technique. 2 patients had T junction necrosis and one patient had seroma formation which healed in consequently. One patient had nipple inversion In the subset of 10 patients having undergone functional breast reduction. Visual analogue pain scale reduced from mean of 9 in pre operative period to 2. All patients but 1 were fully statisfied with the cosmetic outcome.
Image:



Pre operative

Post- operative



Conclusion: Functional Breast reduction surgery in macromastia patients with mastalgia reftractory to medical management offers good outcome in terms of pain relief and consmetic outcome.
Disclosure of Interest: None declared

PE146

LONG TERM RESULTS ON MINIMALLY INVASIVE BREAST EXCISIONAL BIOPSY

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Introduction: Previous study in our centre had shown that vacuum assisted core needle biopsy provides accurate definitive diagnosis and achieves high rate of complete removal of palpable benign breast lesions of up to 97%. However, long term outcome after minimally invasive breast excisional biopsy were lacking. The aim of this study is to assess the long term results in patients receiving minimal invasive breast biopsy with either vacuum assisted core needle biopsy (VACNB) or Intact breast lesions excision system (Intact).
Materials & Methods: Consecutive patients who underwent minimal invasive breast excision with either VACNB or Intact in United Christian Hospital in Hong Kong from 2005 to 2013 were included in the study. All the procedures were performed under local anaesthesia with ultrasound guidance in clinic. Ultrasound was arranged at postoperative 1 year. No regular follow up was needed if ultrasound showed no evidence of residual lesion or recurrence. Patients were advised to come back to clinic if symptomatic and would be managed accordingly. Data including the postoperative complication rate, recurrence rate were recorded.
Results: Total 226 breast lesions were included from 2005 to 2013. Median age of the patients was 36 years old (15-84). Median size of the lesion was 1cm (1-3cm). 189 patients had VACNB and 37 had intact. No serious complication occurred. 38 patients (16%) had small haematoma postoperatively in which all resolved with conservative treatment. 1 patient (0.4%) had mild skin retraction and 1 patient (0.4%) had keloid scar requiring steroid injection. Definitive diagnosis was made on 215 (95%) breasts lesions. 194 lesions were diagnosed as benign conditions including fibroadenoma, sclerosing adenosis, papilloma etc. However, 17 phyllodes tumour, 3 atypical ductal hyperplasia (ADH) and 1 ductal carcinoma in-situ (DCIS) were diagnosed. All these 21 patients were subsequently offered open surgical excision. Residual sonographic lesion was found in 7.5% of patients upon surveillance ultrasound. 4 patients presented as recurrence with a palpable breast lump. 98% of patients remained symptom-free.
Conclusion: This study showed that the recurrence rate after minimally invasive breast excisional biopsy remained low and majority of patients remained asymptomatic at 6 to 10 years postoperatively. It serves as an favourable alternative for achieving definitive diagnosis and complete removal of benign breast lesion with minimal scar.
Disclosure of Interest: None declared

PE147

TWITTER USE AMONG NORTH AMERICAN BREAST SURGICAL ONCOLOGY FELLOWSHIP DIRECTORS: AN UNDERUTILIZED TOOL

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Introduction: Use of social media has increased among healthcare providers. Twitter can be a powerful tool for disseminating information, dispelling incorrect information, and amplifying messages. The American Society of Breast Surgeons has emphasized use of social media by its members in recent years. The use of social media, in particular Twitter, by directors of breast fellowship programs has not been evaluated.
Materials & Methods: Data on breast fellowship programs were obtained from the Society of Surgical Oncology website (www.surgonc.org) and from Twitter. Information obtained from Twitter included: presence of an account, number following, number of followers, and number of tweets.
Results: Fifty-two breast fellowship programs are approved by the Society of Surgical Oncology, and are listed on the SSO website along with the names of program directors. One program is in Canada and the remainder in the USA. Fifty-six directors and co-directors were listed. Information from Twitter showed 24 (42.8%) directors/co-directors to have a Twitter account. One of these accounts was protected. Number of followers ranged from 1 to 1715 with an average of 361. Number following ranged from 3 to 1001 with an average of 268. Number of tweets was from 0 to 1076, mean 201.
Conclusion: Fewer than 50% of breast surgery fellowship program directors have a presence on Twitter. Of the program directors on Twitter, number of followers and those following is less than 400. Number of tweets generated was low. There is great potential among breast surgery program directors for increasing Twitter use, thus increasing visibility of respective fellowship programs and adding to the online discourse concerning breast disease.
Disclosure of Interest: None declared

PE148

PREDICTIVE FACTORS OF LOCAL RECURRENCE-FREE INTERVAL IN PATIENTS WITH PHYLLODES TUMOR OF THE BREAST

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Introduction: Phyllodes tumor(PT) is a rare entity accounting for 1% of breast neoplasms with a high propensity of recurrence. Our study aims to identify factors that are predictive of local recurrence-free interval(LRFI) in patients with PT.
Materials & Methods: Clinical data of all patients diagnosed with a PT(*n*=57) treated at our tertiary care referral centre in South India between February 2010 and December 2017 were reviewed. The Pearson χ^2 test was used to investigate the relationship between clinical features of patients and histotypes of the tumours. Survival curves were obtained using the Kaplan-Meier method based on the log-rank test. Multivariate Cox regression analyses were performed to identify factors that are predictive of LRFI.
Results: Mean age was 38.3 years (SD=13.6) and the mean follow-up was 18 months (SD=13.5). The median tumor size was 5cm (IQR 3 and range 3-22cm). 64.9%(n=37) of the tumours were benign, 21.1%(n=12) of the tumours were borderline and 14%(n=8) of the tumours were malignant. Out of the 57 patients, 42.1%(n=24) patients underwent wide local excision, 26.3%(n=15) of patients (who had benign findings on FNAC) underwent excision. 31.6%(n=18) underwent mastectomy. Of the 57 patients, 17(29.8%) patients developed local recurrence, and one patient developed distant metastasis. Out of the 17 patients, 3 patients were not willing for completion surgery. For the patients who developed local recurrence, the median age at the diagnosis of primary tumor was 42(IQR 21) years, median duration prior to presentation was 134 days(IQR 309), and the median size of primary tumor was 7cm(range 3-22 cm). 41%(n=7) of the recurrent tumours were benign, 29.4 %(n=5) were borderline and 29.4 %(n=5) were malignant. The median LRFI was 20 months(range 7-60). Multivariate cox regression analyses showed that mitotic rate>10/hpf(HR :0.147;p=0.04), stromal overgrowth(HR:4.904;p=0.05), margin status(HR: 0.037;p<0.001) and pre-operative neutrophil-to-lymphocyte ratio(NLR,HR: 4.891; p=0.04) were significant predictors of LRFI.
Conclusion: In this study, patients with a high mitotic rate, positive margins, stromal overgrowth and NLR>3.5 were associated with lower rates of LRFI.

Disclosure of Interest: None declared

PE149

IDIOPATHIC GRANULOMATOUS MASTITIS: STEROIDS AS A PART OF MULTI MODALITY THERAPY IMPROVES THE OUTCOME

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Introduction: Idiopathic Granulomatous mastitis (GM) is a chronic inflammatory condition of the breast. GM has varied presentations and occasionally mimics malignancy. Ideal treatment remains elusive. Steroids, surgery, immune suppressant drugs and anti tuberculous(ATT) drugs have been used with varied results. This retrospective analysis aims to evaluate the presentation and management of this intriguing entity.

Materials & Methods: This is a retrospective analysis of 49 patients treated for GM in our department between June 2016- December 2018 (2.5 years). Patient characteristics, clinical presentation, tissue pathology, treatment modality and outcomes were analyzed.

Results: Forty nine patients were diagnosed with GM during the study period. Mean age of patients was 35.6 years(Range 15-60 , median 28). Mean duration of presentation was 60 days (Range 15 - 270). Twenty three patients(46%) had history of prior pregnancy/ lactation in the last 5 years. Ten patients(20%) were on OCP's. No patients had history suggestive of auto immune diseases/ smoking. All but one patient was parous. 39 patients (79.5%) presented with lump of which 15 had skin changes. Ten (20%)presented with abscess/sinus. Diagnosis could be established on cytology in 35 patients (71%), the remaining required tru cut/excisional/incisional biopsy. Ten patients (20%) underwent upfront surgery because of personal preference or large abscess. Of these 8 (80%) had recurrence requiring steroid supplementation or repeat surgery. 34 (69%) were started on tapering doses of steroids and 5(10%) patients on ATT. Twenty two (64%) required a second course of steroids of which 17 (50%) required surgical excision for definitive management due to persistent disease but volume of excision was decreased. Two patients on ATT underwent surgery. Abscess formation, presence of sinus and recent pregnancy/ lactation were associated with higher probability of steroid failure. Patients have remained recurrence free with median follow up of 12 months(2-26 months).

Table 1.

	Steroid 1st course	Steroid 2nd course	Surgery after steroid	Upfront Surgery	ATT
N	34	22 of 34 (64%)	17 of 34	10	5
Cured	12 (35%)	5 (50%)	17	2 (20%) responded to steroids	3

Conclusion: Steroid therapy as apart of multi modality therapy is effective in treatment of IGM. It results in cure in significant proportion of patients and reduces the size and extent of lesion in rest resulting in better outcomes after surgery.

Disclosure of Interest: None declared

PE149a

DETERMINANTS OF SURGICAL OUTCOMES IN PATIENTS WITH BREAST CANCER UNDERGOING IMMEDIATE RECONSTRUCTION FOLLOWING NEOADJUVANT CHEMOTHERAPY

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Introduction: Although the indication for immediate breast reconstruction (IR) after skin-sparing mastectomy (SSM) or nipple-sparing mastectomy (NSM) has been recently expanded, IR after neoadjuvant chemotherapy (NAC) is still controversial. Our aim was to evaluate the oncological outcomes and complications of SSM and NSM with IR in patients with breast cancer after NAC.
Materials & Methods: Breast cancer patients from 2012-2018 treated with upfront chemotherapy followed by SSM/NSM and IR were evaluated. IR was performed either with tissue expander (TE), breast implant (TE/I), free muscle-sparing transverse rectus abdominis myocutaneous (MS-TRAM) or deep inferior epigastric perforator (DIEP) flaps. Prospective data composed of patients' demographics including body mass index (BMI) and smoking habits, tumor receptor status and stage, response to NAC, perioperative complications, adjuvant radiation treatment, recurrence status were analyzed. Response to NAC was pathologically assessed as no-response, partial response and complete response.

Results: A total of 122 IR was performed in patients with BC between 2012-2018. Fifty-six patients (46%) were treated with NAC followed by NSM (n: 9, 16%) and SSM (n:46, 74%). The median age of the patients in NAC group was 43 (IQR: 28-62). The median follow-up was 36 months. The IR choice was determined according to adjuvant radiation treatment indications: Four patients had IR with MS-TRAM flap, 9 patients had IR with TE, 12 patients had IR with TE/I and 31 patients had IR with DIEP flap. There was no 30-day mortality. In overall 30-day complication rate was 16.3% including surgical site infection, flap failure, hematoma, nipple necrosis and epidermal necrosis. Pathological complete response (pCR) was noted in 21 (38%) patients. Tobacco use and high BMI (>25) was found to be associated with complications (p:0.012 and p: 0.009, respectively). There were 4 local recurrences, 1 axillary recurrence and 2 distant metastases. Hence local recurrence rate was 7.1% and distant recurrence rate was 3.5%. Variables significantly predicting recurrence was pre-NAC stage III disease (p: 0.025), and lack of pCR (p:0.002).
Conclusion: In patients with breast cancer IR after NAC can be performed with acceptable complication rates and excellent local control. This data also supports that IR after NAC is not inferior in regard to oncological outcomes.
Disclosure of Interest: None declared

PE150

CONVERSIONS IN LAPAROSCOPIC SURGERIES OF COLON CANCER – A SINGLE CENTRE EXPERIENCE

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Introduction: Laparoscopic surgery of colon cancer is an accepted method of treatment of colon cancer. It allows quick recovery, shorter hospital stay and fewer complications with satisfactory long-term outcomes. It is not possible to perform the surgery laparoscopically in all cases – the conversion rate in some studies is reported at 30%.
Materials & Methods: Between January 2016 and December 2018, 416 patients with colon cancer were treated in our Hospital. 33 (7.9%) patients were qualified for open procedure and 383 (92.1%) for laparoscopic resection. 40% of the cohort were female and 60% were male. The median age of the patients was 69 years (min 30, max 93). The type of procedure was decided upon by a multidisciplinary team at special oncological meetings. The staging and localisation of the disease was assessed by endoscopic examination, chest X-Ray, CT scan of abdomen and pelvis and MRI exams. The severity of complications was assessed with the Clavien-Dindo classification.
Results: In 340 cases the operation was performed laparoscopically. During 43 (11.2%) procedures a conversion was reported. The most common cause for conversion (49%) was local advancement of the tumour. In 32% of the cases the conversion was due to adhesions after previous operations of difficult anatomical conditions. Intra-surgical complications were cause for 19% of the conversions. Post-surgical complications were noted in 14% of the cases treated laparoscopically and 14.3% of the cases in which a conversion from laparoscopic to open surgery was performed.
Conclusion: The most common cause for conversion in colorectal laparoscopic surgery is local tumour advancement and anatomical conditions. The conversion does not increase the risk of postoperative complications. According to our experience, we recommend laparoscopic bowel surgery as a method of choice in this group of patients.
Disclosure of Interest: None declared

PE151

LAPAROSCOPIC SURGERY FOR COLON CANCER IN SUPER-ELDERLY PATIENTS (AGED OVER 85 YEARS)

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Introduction: In rapidly aging Japan, laparoscopic surgery for colon cancer in super-elderly patients (aged over 85) is increasing.
Materials & Methods: In order to evaluate the safety and efficacy of such surgery in super-elderly patients, the outcomes of laparoscopic surgery for colon cancer in super-elderly patients between 2013 and 2018 at our hospital were analyzed.
Results: The total number of surgery was 2490 cases. There were 143 patients aged over 85 (5.7%). The total number of colon surgery in such patients was 41 cases and of those cases, 23 cases were laparoscopic surgery (23/41; 56.1%). Laparoscopic surgery at our hospital has increased rapidly since 2015. In particular laparoscopic surgery for colon cancer increased in all age groups. Almost all super-elderly patients had underlying conditions, but ASA physical status classifications were relatively good at 2 or 3. Major postoperative complications (Clavien–Dindo classification ≥IIIa) and death from original disease were 0% and 4.3% respectively in the super-elderly patients and 2.0% and 0.4% in patients under 85.
Conclusion: The number of laparoscopic surgery for colon cancer in super-elderly patients at our hospital has been increasing since 2015. No differences in the incidence of postoperative complications were observed in super-elderly patients with relatively good ASA physical status, compared to patients under 85. Postoperative pain is minimal and early rehabilitation is possible with laparoscopic surgery. Laparoscopic surgery for colon cancer is relatively safe even in super-elderly patients and should be considered in such cases.
Disclosure of Interest: None declared

PE152

REEVALUATION OF PREOPERATIVE CHEMORADIOTHERAPY FOR CLINICAL T3 LOWER RECTAL CANCER

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Introduction: This study aims to reevaluate the usefulness of preoperative chemoradiotherapy for clinical T3 lower rectal cancers without lateral lymph node metastasis.
Materials & Methods: Between 2010 and 2014, 132 patients with clinical T3 lower rectal cancer without lateral lymph node metastasis, 80 years of age or younger, who underwent curative resection at four Jikei University Hospitals were enrolled into this study. This study consisted of 22 patients who received chemoradiotherapy (CRT) before surgery, 16 patients who received intensive chemotherapy after surgery witout preoperative CRT, 47 patients who received oral chemotherapy after surgery without preoperative CRT, and 47 patients who underwent surgery alone without preoperative CRT.
Results: The 3-year disease-free survival (DFS) of the 22 patients who received preoperative CRT was 95.5%, whereas that of the 94 patients who received neither preoperative CRT nor intenstive chemotherapy was72.0% (p=0.024). However, there was no significant difference in 5-year DFS between the two groups. No significant difference was identified in DFS between the 22 patients who received preoperaitve CRT and the 16 patients who received intensive chemotherapy after surgery without preoperative CRT.
Conclusion: Intensive chemotherapy after surgery seems to yield a similar prognosis to preoperative CRT in patients with clinical T3 lower rectal cancer without lateral lymph node metastasis.
Disclosure of Interest: None declared

PE153

FLUORESCENCE GUIDED TENSION FREE ANASTOMOSIS DURING THE TRANSANAL TOTAL MESORECTAL EXCISION (TATME)

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Introduction: Since the introduction of the TME (Total Mesorectal Excision) by Heald RJ in 1982 it has become an accepted and paramount approach to treat a rectal cancer. Utilization of laparascopy, in the last two decades, has gradually been recognized as a golden standard, given the reduction in overall complications, length of stay and in the same time similar oncological outcomes. Unfortunately, an anastomotic leak is still a valid and vast issue regarding the low and ultralow colorectal resections due to poor perfusion and tension lower down in the pelvis. Transanal Total Mesorectal Excision approach improves the quality and outcomes but usually requires transecting the inferior mesenteric artery at its origin (high tie) affecting the perfusion of the remaining bowel. Fluorescence imaging with indocyanine green (ICG) provides a real-time assessment of intestinal perfusion and allows appropriate localization of the tension free anastomosis.
Materials & Methods: The aim of this study was to compare an anastomotic leak rate following the TaTME operations, performed with and without ICG assessment. This was a non-randomized, prospective, cohort study of 54 consecutive TaTME cases, conducted between May 2016 and December 2019 at Lower Silesian Oncology Center in Wroclaw (Poland). Only last 15 operations were carried out with simultaneous bowel perfusion evaluation.
Results: During first 39 cases we have encountered 3 minor (radiological leak, pelvic abscess) and 1 major (requiring reoperation and a colostomy formation) leaks, respectively 7.7% and 2.6%. Since the introduction of fluorescence imaging with indocyanine green there was only one minor leakage (n=1/15, 6.6%) treated conservatively. The high tie was performed in all patients (15/15), leaving enough length for the tension free anastomosis. ICG assessment have changed the transection line in almost all cases (12/15) by at least 15mm.
Conclusion: ICG fluorescence imaging is very useful for determining the transection line in TaTME surgery. It allows performing tension free anastomosis with a high tie artery transection without reduction in the bowel perfusion excluding one of the most important risk factor for the leakage.
Disclosure of Interest: None declared

PE154

INITIAL RETROCOLIC ENDOSCOPIC TUNNEL APPROACH (IRETA) FOR LAPAROSCOPIC RADICAL RIGHT COLECTOMY FOR MALIGNANT ASCENDING COLON TUMORS (MACT): OUR EXPERIENCE FROM A UNIVERSITY HOSPITAL

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Introduction: Radical laparoscopic oncologic surgery represents a promise as well as a challenge for better patient care with colo-rectal cancer. We present our experience for the Initial Retrocolic Endoscopic Tunnel Approach (IRETA) an ergonomic, modified medial to lateral, laparoscopic technique for radical resection of malignant ascending colon tumors (MACT) as described in literature by Palanivelu et al.

Materials & Methods: Standard pre-operative work-up and optimization was done. Post-diagnostic laparoscopy in leg splitting position, dissection was commenced with a four-port strategy. An initial retro-colic dissection was made to mobilize the ascending colon till the hepatic flexure with the lateral peritoneal reflection kept intact initially to maintain intra-corporeal specimen stability. This raised the medial extent of the specimen as a distinct lympho-vascular sheath, leading to optimal medial high ligation of ileo-colic, right-colic and relevant right branch of middle-colic vasculature with a resultant well-defined en-bloc radical resection. Dissection was continued to release superior and lateral peritoneal attachments. The specimen was delivered through a trans-umbilical incision, resected and an extra-corporeal anastomosis performed. Trans-umbilical incision was closed in a unique way so as to improve cosmesis.
Results: Eight patients (age 44±5 years) were operated by the IRETA technique. The operating time was 190±30 minutes and blood loss 90±25 ml. An R0 resection was achieved in all patients, proximal and distal margin lengths were 12–24 cm and 16-32 cm respectively with 21±7 lymph nodes were resected. Post operatively patients were managed using ERAS protocol. On follow-up (20±4 months) all patients were disease-free.
Conclusion: The IRETA technique for laparoscopic radical resection for MACT appears to be an ergonomic and an oncologically sound approach. The data set needs to be expanded and long-term follow-up need to be assessed to reach a final conclusion on this technique.
Disclosure of Interest: None declared

PE155

OUTCOME FOR COLORECTAL CANCER IN SEREMBAN, MALAYSIA, A REGION WITH A LOW BUT RISING INCIDENCE

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Introduction: Malaysia, together with Southeast Asia, is a region with a relatively low incidence of the colorectal cancer.(1) Awareness of symptoms of the disease in Malaysia is low(2). However the incidence is rising as it is globally. Although its rise in incidence can be considered a marker in socio-economic development(3) this does not automatically result in earlier presentation of the disease.
Materials & Methods: A retrospective study of all patients registered with the National Cancer Patient Registry - Colorectal Cancer in Hospital Tuanku Jaffar Seremban, Malaysia between 2008-2012 were retrieved and matched records of the National Registry Department on 31 December 2017 to determine their survival. SPSS ver 23 was used for statistical analysis.
Results: There were 275 patients diagnosed with colorectal cancer during that 5 year period. 43.3% were colon cancers, 51.8% were in the rectum (4.7% not recorded). Only 2.2% were diagnosed in Stage I. 28.7%, 33.1%, and 16.7% were in Stage II, III and IV respectively. 19.3% were not staged in the records. 62/79 (78.5%) of Stage II patients were in Stage IIb. The 5-year survival for Stage I&II, III and IV patients was 68%, 52% and 15% respectively. The five-year survival for those not stage was 30% suggesting that most of them were in Stage III and IV. Gender and ethnic groups were not associated with late presentation nor survival. Neither was there a difference between colon and rectum cancers. Patients >50years old tended to present later but did not have poorer survival.
Conclusion: The most important predictor for a poor outcome for colorectal cancer in Seremban is the large number of cases that present late. Detecting more disease in Stage I and IIa will save many more lives.
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PE156

SARCOPENIA IS ASSOCIATED WITH POSTOPERATIVE OUTCOME IN PATIENTS WITH CROHN'S DISEASE UNDERGOING BOWEL RESECTION

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Introduction: Sarcopenia is an important prognostic factor in inflammatory bowel disease. In patients with Crohn's disease (CD), sarcopenia has an impact on morbidity after surgical resection. The aim of present paper is to evaluate sarcopenia influence on prognosis of patients with CD and assess sarcopenia prevalence in those patients.
Materials & Methods: Retrospective study of 58 CD patients diagnosed histologically and imagiologically at the Hospital de Braga between 1st January 2009 and 31st December 2017. In order to obtain the Skeletal Muscle Index (SMI), it was calculated the muscle area at L3 level, from a Computed Tomography. The t-test for independent samples, Mann-Whitney test, Chi-Square test and Fisher's exact test were used for characterization and comparison between groups with and without sarcopenia.
Results: Sarcopenia prevalence was 41.4% (24 patients). Patients with sarcopenia presented a muscle area with a mean value of 119.88cm^2 (±28.10), significantly lower than that of the group of patients without sarcopenia (t(56)=2.191, p=0.033, d=0.60), and values of SMI with a median of 44.98 cm2/m2, significantly lower than patients without sarcopenia (t(56)=2.815, p=0.007, d=0.08). Regarding postoperative complications, significant differences were observed between the two groups (p<0.001).
Conclusion: In this study, sarcopenia was significantly associated with postoperative morbidity, as reported in the literature.
Disclosure of Interest: None declared

PE157

RETROSPECTIVE STUDY OF NEOADJUVANT CHEMOTHERAPY FOR LOCALLY ADVANCED RECTAL CANCER

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Introduction: Chemoradiotherapy (CRT) is a standard treatment for locally advanced low rectal cancer (LARC). We have evaluated the efficacy and safety of several neoadjuvant chemotherapy (NAC) regimens as an alternative prior to total mesorectal excision (TME).
Materials & Methods: Between 01/2010 and 10/2016, this single-center, retrospective study in patients with computed-tomography-defined, high-risk LARC (>cT3, cN2) received Tegafur Uracil/ Folinate（UFT/UZEL） with radiation (CRT arm) or neoadjuvant chemotherapy (NAC arm); post-operative chemotherapy was received if needed. The primary endpoint was disease free survival （DFS） and overall survival（OS） at 3 years. Secondary endpoints were short-term outcomes, including intra-operative complications and post-operative outcomes.
Results: Thirty-two patients aged 26-85 were assigned to two arms. All patients were available to follow up, 15 in the CRT arm and 17 in the NAC arm. Several types of NAC were performed: either FOLFOX or CapeOX and either Pmab, Cmab, or Bmab. The recurrence rate was 3/15 (20.0%) in the CRT arm and 5/17 (29.4%) in the NAC arm. Most of the recurrence sites were the distant metastases (7/8 (87.5%)). Three patients in the CRT arm had DFS-related events as compared to 5 patients in the NAC arm (HR 0.713, 95% confidence interval, 0.173 to 2.938). The rate of DFS at 3 years was 75.2% in the CRT arm and 72.9% in the NAC arm (P = 0.561 by the exact stratified log-rank test). The rate of OS at three years was 90.9% in the CRT arm and 88.9% in the NAC arm (P = 0.800 by the exact stratified log-rank test). The pelvic abscess rate was 33.3% in the CRT arm and 0.0% in the NAC arm (P = 0.015). Mean number of hospital days was 21 (9-115) days in the CRT arm and 16 (10-31) days in the NAC arm (P = 0.045).
Conclusion: Number of hospital days was extended by pelvic abscesses. DFS and OS were comparable in both arms. The use of NAC seems to lower the pelvic abscess rate. This study suggests that NAC for LARC may be useful for further improvement of DFS and OS and the reduction of complications.
Disclosure of Interest: None declared

PE158

BODY MASS INDEX (BMI) WITH SIGNIFICANT IMPACT ONTO EARLY POSTOPERATIVE AND LONG-TERM ONCOSURGICAL OUTCOME IN COLON CANCER(CA) SURGERY – INTERIMS ANALYSIS

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Introduction: *Aim*: To verify the impact of body overweight & obesity on immediate post-operative (rather surgical) & long-term oncological outcomes following colon Ca surgery.
Materials & Methods: Patients were classified according to WHO definitions for BMI into under- (<18.5 kg/m^2)/normal (18.5-24.9 kg/m^2)/overweight (25-29.9 kg/m^2) & obese ($\geq$30 kg/m^2). Early postop. outcome comprised
i) morbidity (determined by specific & general complication rates) &
ii) mortality (during hospital stay).
Long-term oncological outcome was specifically characterized by 5-yr-overall survival (5-yr-OS), 5-yr-disease-free survival (5-yr-DFS) & 5-yr-local recurrence rate (5-yr-LRR) – design, prospective multi-center observational study.
Results: In total, 8,574 patients were enrolled (mean age, 71 [range, 18-98] years [yr]; sex ratio, male:female = 53.7:46.3%. The relative portions for the BMI categories were as follows: Underweight, 2.1%; normal weight, 36.5%; overweight, 40.3% & obese, 21.2%. The highest progression of the tumor disease was found in the underweight patients. More advanced tumor stages (according to UICC classification) were detected in the normal weight group compared to overweight & obese patients (P<0.001 each). In addition, both underweight & obese patients showed worse ASA scoring (P<0.001). With a total morbidity of 35%, obese patients suffered most from surgical complications (P<0.001) *vs.* underweight category was associated with the highest rate of general complications after surgical intervention (P=0.183). The overall in-hospital mortality was 3.7%. Obese subjects had better 5-yr-OS (63.1%) than normal weight individuals (54.4%; P<0.001). In addition, overweight cases were not different compared to obesity (P=0.205). The lowest 5-yr-OS rates were found in the underweight group of patients (38.9%; P<0.001 - overall 5-yr-OS, 58.8%). With the lowest proportion of local recurrences (5-yr-LRR, 1.4%), only the obesity category had a significant influence on 5-yr-LRR (P<0.016; LRR in total, 2.88%). Despite the higher 5-yr-LRR in the underweight cases, it was not significantly different (P>0.264).
Conclusion: Most surgical complications were found in obese patients who nevertheless had the best 5-yr-OS rate & lowest 5-yr-LRR. Results are similar to previously obtained rectal Ca data on long-term outcome emphasizing the obesity paradox. Further statistical considerations are required to determine factors with significant impact onto immediate post-operative & long-term oncological outcomes following colon Ca surgery.
Disclosure of Interest: None declared

PE159

SAMPLE ENTROPY AND MULTISCALE ENTROPY ASSESSMENT OF SURFACE ELECTROMYOGRAPHY SIGNAL OF EXTERNAL ANAL SPHINCTER AFTER ANTERIOR AND LOW ANTERIOR RESECTION.

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Introduction: Low anterior resection syndrome plays a significant role in the spectrum of side effects of treatment of rectal cancer. Its etiology is still not fully understood. Innervation injury seems to be an obvious candidate and that is confirmed by some studies. Better methods of electromyographic evaluation of sphincter complex are needed to draw further conclusions.

Materials & Methods: Patients with rectal cancer qualified for surgery were prospectively enrolled into surface EMG study. Of those 10 patients which ended up with anastomosis below 6 cm from the anal verge and 10 with anastomosis above 6 cm were selected for comparative analysis. Patients were matched for age and TNM stage but we were not able to match for gender and neoadjuvant therapy. Together 20 patients (13 male, aged 46-85) were enrolled into the analysis. In each case sEMG (EMG-USB by OT-Bioelletronico, Torino, It) was recorded before treatment, at 1 month and at 12 months after surgery at 3 different depths of anal canal (1, 3 and 5 cm from the anal verge). Groups did not differ in terms of TNM classification or adjuvant treatment. There was significant bias towards neoadjuvant radiotherapy in LAR group. All data was analyzed using novel analytical approach by means of Sample Entropy time series (SampEntr) and Multiscale Entropy (MSE) of sEMG signal.

Results: Distribution of results was tested for normality with Shapiro-Wilk formula and due to negative result all following statistics were based on Mann-Whitney U tests. Significantly higher values of SampEntr were detected in resting conditions as opposed to maximal contraction on all depths and on all time points. Significant differences between AR and LAR group were detected at the depth of 1 cm in full relaxation (1,092 vs 0,997). Results of comparison between LAR and AR are presented in Tab. 1.

	SampEnt			MSE		
	5	3	1	5	3	1
	Full rest					
Before	**0,050**	**0,001**	**0,000**	**0,027**	0,579	**0,000**
1 month	**0,004**	0,062	**0,000**	**0,007**	0,181	**0,000**
12 months	**0,000**	**0,001**	**0,000**	0,901	0,245	**0,000**
Maximal contratcion						
Before	0,602	0,228	**0,000**	**0,000**	**0,000**	**0,000**
1 month	**0,000**	**0,004**	0,464	**0,000**	**0,000**	**0,000**
12 months	**0,000**	**0,001**	**0,000**	**0,000**	**0,000**	**0,000**

Conclusion: Sample Entropy and Multiscale Entropy appear to be a good tool to differentiate patients after different levels of resection. There is a need for further research to match those results with clinical outcomes like Low Anterior Resection Syndrome scales but the study gives hope for a new evaluation tool for those difficult patients.

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Disclosure of Interest: None declared

PE160

TRANSANAL TME – 4 YEARS EXPERIENCE – IS IT WORTH?

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Introduction: Colorectal cancer is the third most frequent cancer in humans worldwide. Almost 40% of colorectal cancers are located in the rectum.
After initial doubts, multicentre randomised studies showed that laparoscopic technique could be successfully used in rectal cancer surgery.
Low rectum cancers surgery were associated with large number of conversions, high percentage of positive oncological margins and technical difficulties.
In 2010, Lacy introduced a new surgical technique called transanal TME (TaTME). Published promising results caused that in March 2015, we started TaTME in our Clinic in patients with low rectal cancer.
Materials & Methods: Between March 2015 and December 2019, 71 patients with rectal cancer underwent TaTME in the Surgical Clinic in Toruń.
The group included 42 males and 29 females. The mean age of the patients was 68.7 years (40-83).
In 67 cases, an indication for the surgery was rectal cancer and 4 polyps with high-grade dysplasia.
The tumours were located at a distance of 3 to 9 cm from the rectal margin (mean 4.4 cm).
60 patients were subject to neoadjuvant therapy (9 patients to radio- and chemotherapy and 51 patients to radiotherapy alone)
Results: In 70 cases R0 resection was reported. In 1 case R1 resection was reported.
Mean number of lymph nodes in the specimen was 13.7 (7-20 nodes).
In 1 case, there was intraoperative urethral injury.
Symptoms of anastomotic leak were observed in 7 cases with 5 patients requiring reoperation. In 4 cases, manual suturing of anastomosis was performed with a good final effect. In 1 case it was necessary to separate the anastomotic connection and perform colostomy.
4 patients had a presacral abscess drained and treated with the use of EndoVac with a good effect.
There were no mortality during the 30-day postoperative period.
Mean post-operative stay was 5.1 days (3-12 days).
The postoperative follow-up period was 1-45 months (mean 13.5 months).
No recurrence of the neoplastic diseases was observed during the study period.
Conclusion: 1. Transanal approach to rectal cancer is an alternative method to conventional laparoscopic surgery
2. In a large group of patients with tumors of the lower and middle rectum, it avoids abdomino-perineal resection
3. The surgical technique requires good knowledge of the anatomical conditions and the operator's experience in laparoscopic techniques in order to avoid intra and postoperative complications.
Disclosure of Interest: None declared

PE161

IS NEGATIVE APENDECTOMY HARMING OUR PATIENTS?

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Introduction: Acute appendicitis is described as the most common cause for urgent abdominal surgery. While the delayed or misdiagnosis of acute appendicitis can lead to perforation, the excision of the healthy appendix also implies a surgical morbid state which might not be without consequence. The general belief is that negative appendectomy is associated with minimal complications[1]. The main objective of this study was to evaluate the outcomes of negative appendectomies.

Materials & Methods: We performed a retrospective cohort study using our hospital's online patient database regarding patients who had an emergency appendectomy at our institution between January 2009 and December 2017. Diagnosis was established based on the oathology reports. Negative appendectomy was defined according to the pathology report without a diagnosis of appendicitis.

Results: A total of 903 patients were included. 304 patients (33,7%) underwent negative appendectomy, 90 patients (10%) were diagnosed with complicated appendicitis, and 509 (56,4%) were diagnosed with non-complicated appendicitis. The complication rate for negative appendectomy was 2% compared to 4,5% in non-complicated appendicitis which was not statistically significant ($p>0,05$); but it was significant when compared to 1,7% in complicated appendicitis ($p<0,05$).

Readmission and reintervention data were also collected and filtered for those relating to the original admission within one month of surgery, and comparisons were not statistically significant. 4 negative appendectomy patients (0,4%) were readmitted compared to 11 non-complicated appendicitis patients (1,2%) and 3 complicated appendicitis patients (0,3%). 1 negative appendectomy patient (0,1%) had emergency operation compared to 10 non-complicated appendicitis patients (1,1%), and 5 complicated appendicitis patients (0,6%).

Conclusion: Our negative appendectomy rate of 33,7% seems to be in line with published literature[2,]. Some studies have compared negative and positive appendectomy groups, however not many have compared negative appendectomy with uncomplicated appendicitis[4] Similarly to our data, there have been reports where negative and noncomplicated appendicitis' complication rate was not significant[4] Our 30-day readmission rate of 0,4% is well below previously reported data by Lim et al[3]. In conclusion, our negative appendectomy rate 33.7% is higher than expected but did not have a significant impact on patient morbidity.

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Disclosure of Interest: None declared

PE162

THE ROLE OF BILIRUBIN IN ACUTE APPENDICITIS: A PREDICTOR OF PERFORATION TO CONSIDER?

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Introduction: Although appendectomy is one of the most widely performed surgical procedures, the diagnosis of acute appendicitis (AA) in patients with abdominal pain remains a challenge. The aim of this study is to analyze the role of total bilirubin in the diagnosis of AA and its viability as a marker of appendiceal perforation.
Materials & Methods: We retrospectively analyzed the patients who, since 2014, underwent appendectomy for suspicion of AA and performed statistical analysis of serum bilirubin levels according to histological classification of the operative part (normal appendix = A-, simple appendicitis = AS, perforated appendicitis = AP).
Results: This study included 220 patients, 54% female and 46% male, with a mean age of 41 years. 11 cases were classified as A- (5%), 178 as AS (81%) and 31 as AP (14%). The Kruskal-Wallis test showed a statistically significant difference ($p < 0.001$) in serum bilirubin levels in all three groups. Analysis of the ROC curve showed an AUC of 0.147 in the distinction between A- and AA and of 0.846 in the discrimination of AP cases. For a cut-off of 1.25 g / dL, hyperbilirubinemia has a sensitivity of 71% and a specificity of 84% in the prediction of perforation of the appendix.
Conclusion: From our study, we could conclude that the preoperative evaluation of total bilirubin levels is useful in the diagnosis of AA, presenting predictive potential of appendicular perforation.
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Disclosure of Interest: None declared

PE163

SIGNIFICANCE OF PREOPERATIVE SARCOPENIA AND PROGNOSTIC NUTRITION INDEX TO DETECT POSTOPERATIVE SHORT-TERM OUTCOME IN PATIENTS WITH COLORECTAL CANCER IN AGING ADVANCED AREA.

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Introduction: As the population ages, more elderly patients are being diagnosed with colorectal cancer, therefore, surgeons should consider the indications for surgery in elderly patients. Japan was reported to have the highest mean life span in the world. In our area the population rate of over 65 years was 37%, that is equivalent to Japan level in 30 years future. Previous study revealed that age alone should not dissuade surgeons from surgery and careful selection of elderly patients contributes to a better perioperative outcome. Therefore it is better to realize preoperatively what factor influenced postoperative complications for especially in elderly patients. We here reported that the significance of preoperative sarcopenia and PNI to detect postoperative short-term outcome with colorectal cancer in aging advanced area.

Materials & Methods: Sarcopenia was diagnosed by criteria of Asian Working Group for Sarcopenia and psoas muscle mass index was used for muscle mass measurement. The PNI was calculated as 10 X serum albumin value (g/dl) + 0.005 X peripheral lymphocyte count (per mm3). Among the 43 patients who received curative resection for colorectal cancer between April 2017 to June 2018 in our department, we retrospectively analyzed the 26 patients (61%) who were measured factors of sarcopenia criteria such as handgrip strength and gait speed preoperatively. Mean age was 77.4 years old, and among them, 14 patients (54%) were octogenarian. We compared age, ASA-PS, rate of laparoscopic procedure, operation time, major complication rate, duration of postoperative hospital stay(DPOHS) between sarcopenia and non-sarcopenia group, and low and high PNI group.

Results: In comparison between sarcopenia and non-sarcopenia group, major complication rate and mean ages were much higher in sarcopenia group. In comparison between low and high PNI group, DPOHS was longer and mean age was higher in low PNI group significantly. Then we compared between sarcopenia or low PNI group (group A, n=14) and non-sarcopenia and high PNI group (group B, n=12). In group A, DPOHS (18.8 days) was significantly longer than in group B (10.1 days) ($p<0.001$)

Conclusion: Postoperative major complications and DPOHS were adversely affected by preoperative sarcopenia and low PNI status in patient with colorectal cancer, especially in elderly patients.

Disclosure of Interest: None declared

PE164

ASSESSMENT OF RISK FACTORS IN POSTOPERATIVE RECURRENCE IN CROHN'S DISEASE AFTER PRIMARY SURGERY.

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Introduction: Crohn's disease (CD) is a chronic, immune mediated inflammatory condition affecting the gastrointestinal tract. The course of disease is individual for each patient and is difficult to predict. In order to preserve proper bowel function, a conservative approach is advised. Surgical procedures are often necessary in relieving symptoms and improving patients' quality of life. Surgical resection becomes a crucial intervention in sudden cases of internal fistulas, obstruction, toxic dilatation, or perforation. The aim of this study was to assess the rate of repeated surgical procedures performed on CD patients after previously executed surgeries. Additionally, the impact of possible risk factors that lead to a secondary surgical procedure were evaluated.
Materials & Methods: Recurrent surgeries in patients with Crohn's disease were examined in a series of 168 patients who underwent primary resection for this condition at the Department of General and Colorectal Surgery Medical University of Lodz, Poland between 2010 and 2018. Data on initial intestinal resection and postoperative recurrence were evaluated retrospectively.
Results: The recurrence rate of Crohn's disease during a year after a surgical procedure among the examined patients was 31.6%. Patients with ileocolic disease showed the highest rate of recurrence (68.4%). Average time of recurrences was similar among patients with different location of lesions. Female gender corresponded with decreased time between surgeries compared to males (3.4y vs. 4.4y). Average period between the first and the second surgery was shorter in group of patients aged from 40 to 59. Disease located in small bowel was associated with higher likelihood of recurrence and a shorter average time between surgeries.
Conclusion: The extent of disease at diagnosis has an impact on the risk of surgery and is associated with lower median time to recurrence. Females present with a higher risk of postoperative recurrence than males. Involvement of small bowel is associated with a higher risk of recurrence than distal part of the gastrointestinal tract.
Disclosure of Interest: None declared

PE165

CHARACTERISTICS OF ULCERATIVE COLITIS PATIENTS WITH INFLAMMATORY CELL INFILTRATION INTO DEEPER LAYERS

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Introduction: Ulcerative colitis (UC) is an inflammatory disease primarily affecting the colonic mucosa. In severe cases, inflammatory cells can infiltrate into the muscularis propria or deeper layers, which could suggest a rise of risk for perforation and penetration. However, evaluation of depth of inflammation before colectomy is not easy. We investigated characteristics of the UC surgical cases in which inflammatory cells infiltrate into the deeper layers histopathologically.
Materials & Methods: The medical records of 143 UC patients who underwent total/subtotal colectomy (elective and emergency/semi-emergency surgery were performed in 61 cases and 82 cases, respectively) at our hospital between October 2007 and December 2018 were reviewed retrospectively. Depth of inflammation was determined by reference to the histopathological diagnosis by pathologists, and the cases in which inflammatory cells were infiltrated into the muscularis propria or deeper layers were defined as “deeper”.
Results: “Deeper” cases accounted for 24.6% (15/61) and 50.0% (41/82) of the elective and (semi-)emergency cases, respectively. Deep ulcers were detected by endoscopy in 24.1% (7/29) of “deeper” cases, in which the endoscopy was performed at our hospital. This rate was significantly higher than that of “shallower” cases, that is, the cases in which inflammation was limited to the mucosa or submucosa (3.4%, 2/59; p=0.005). The percentage of “deeper” patients in the patients aged ≥ 60 was 50.0% (21/42), which was significantly higher than that in the patients aged < 30 (25.0%, 10/40; p=0.024). All (10/10) of the “deeper” patients aged < 30 underwent (semi-)emergency surgery, while the percentage of patients of (semi-)emergency cases in the patients aged ≥ 60 was only 61.9% (13/21). When limited to the patients aged < 20, there are 2 cases (13.3%, 2/15) in which inflammation reached the subserosa. Among them, in one case, the patient exhibited Behçet’s disease-like symptoms, and in another case, the patient developed massive bleeding from the small intestine.
Conclusion: In surgical cases of UC, it is not rare that inflammation has extended into the muscularis propria or deeper layers, especially in elderly patients. In elderly patients, inflammation could reach deeper layers even though their condition is not assumed to be emergency. On the other hand, if inflammation has extended into the subserosa in a younger UC patient, he/she may have an atypical clinical course.
Disclosure of Interest: None declared

PE166

THE USEFULNESS OF INTRAOPERATIVE INDOCYANINE FLUORESCENT ANGIOGRAPHY DURING LAPAROSCOPIC COLORECTAL SURGERY

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Introduction: One of the more serious complications after colorectal surgery is leakage of the anastomosis. It can be caused by various factors such as inadequate blood perfusion, intestinal tensing at the anastomosis site and inaccurate tissue preparation for anastomosis. Correct blood supply of the intestine is based, among other things, on assessing the color of the intestinal wall before making the anastomosis. The use of intraoperative fluorescent angiography should objectively more accurately determine the blood supply of the connected segments of the intestine.
The aim of the study was to analyze the assessment of the benefits of perfusion assessment in colorectal surgery using indocyanine green fluorescence enhanced in near-infrared light.
Materials & Methods: The study included the initial group of 35 patients operated laparoscopically for colorectal cancer between July and October 2018. Near-infrared fluorescence angiography with indocyanine green was performed to assess tissue perfusion. The data of patient characteristics, data of surgery, data related to perioperative fluorescence angiography and postoperative complications were collected prospectively.
Results: Intraoperative angiography was performed in all patients. Contrast was administered at a dose of 0.2ml/kg body weight. The average time of intestinal wall contrasting was 34 seconds (22-46 sec). The average time needed to carry out the entire procedure was 4 minutes, which was about 3.2% of the total time of surgery. In 94,3% of patients, a good blood supply of the intestine intended for anastomosis was found. Two patients (5,7%) after angiography revealed intestinal ischemia requiring resection. In the postoperative period, no anastomotic leak was found, no side effects were observed after the administration of the contrast.
Conclusion: Based on preliminary own experience, intraoperative angiography with indocyanine green in near-infrared light is a safe and effective method of assessing intestinal perfusion. The use of fluorescence angiography probably increases the chance of healing the anastomosis.
Disclosure of Interest: None declared

PE167

HOW TO PREDICT THE LOW ANTERIOR RESECTION SYNDROME IN RECTAL CANCER PATIENTS UNDERGOING LAPAROSCOPIC SURGERY – DOES THE POLARS TOOL WORK?

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Introduction: Low Anterior Resection Syndrome (LARS) is a common complication after radical rectal cancer resection. It is hard to understand which patients are more likely to suffer from it post-surgery. A series of scales are being used to project the risk of developing LARS and thus offer a more patient-tailored treatment. One of these tools is the POLARS scale, designed to predict the onset and severity of LARS in rectal cancer patients after laparoscopic surgery.

Aim: Assess the accuracy of the POLARS tool in predicting the onset of LARS and its severity in rectal cancer patients after laparoscopic low anterior resection surgery.

Materials & Methods: 102 rectal cancer patients treated laparoscopically between January 2016 and June 2018 were included in this retrospective study. Using POLARS, the predictive value for occurrence of LARS was documented. In the average 17-month follow-up period, the bowel function of the patients was assessed by the dedicated LARS questionnaire. The predicted and the actual scores were then compared.

Results: 56 women (54,9%) and 46 men (45,1%) were included in the study. The mean age was 62.55 years (SD 10.2; range 37-81). The mean predicted score acquired by POLARS was 24.5 (i.e. category …Minor LARS") and the mean actual score in the follow-up period was 16.42 (…no LARS" category). In only 39% of the cases the predicted LARS category was the same as the actual LARS category assessed by the questionnaire. 75% of all miss-predictions predicted worse bowel function than reported in follow-up.

Conclusion: The POLARS tool did not prove to be accurate in predicting the risk and severity of LARS in patients undergoing low anterior resection surgery, although in the average numbers on the bigger cohort seem promising. Further evaluation of POLARS tool on a bigger cohort is needed to back up this hypothesis.

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Disclosure of Interest: None declared

PE168

SURGICAL MANAGMENT OF ENTEROVESICAL FISTULA – RETROSPECTIVE 6-YEAR CASE SERIES STUDY

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Introduction: Enterovesical fistula (EVF) is relatively rare disease, which causes significant morbidity and may noticeably affect the quality of life of the patient. Management of EVF depends mainly on the underlying pathology. The most frequently used operative method is to resect the offending bowel segment and to close the bladder. However, recent studies express doubt as to whether closure of the defect in the urinary bladder wall is always required. This study investigates the most appropriate surgical treatment approach to management of the defect in the urinary bladder.
Materials & Methods: This retrospective 6-year case series study was conducted in patients who underwent a surgical procedure for the treatment of EVF between January 2008 and December 2015 at the Department of General and Colorectal Surgery of the Medical University of Lodz, Poland. Fifty-nine patients with benign EVF, who were suitable for surgical treatment, were enrolled. A one-stage surgical procedure was performed in all patients. After the separation of the offending bowel segment, the permeability of the bladder was examined by feeding methylene blue through a catheter into the bladder lumen. Only patients with a urinary bladder leakage were sutured while patients without leakage did not undergo a bladder repair.
Results: The most common intestinal fistula involving the urinary bladder was colovesical fistula, observed in 53% of cases. Two-thirds of patients had diverticular disease as the underlying pathology. Urinary bladder leakage of Methylene blue was observed in 31% of EVF patients (18/59). There was no relationship between suturing of the bladder and perioperative complications. During the follow-up, a recurrent episode of EVF was observed in one patient with bladder suturing and in two patients without suture.
Conclusion: EVF is an uncommon complication of both malignant and benign disorders and surgery remains the treatment of choice. The decision to close the bladder defect at the time of surgery in benign EVF is still controversial, and our findings indicate that bladder suture is not necessary in the situation where no leakage of methylene blue occurs from the bladder on testing.
Disclosure of Interest: None declared

PE169

REOPERATION RATES IN ELECTIVE COLORECTAL SURGERY

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Introduction: Reoperations in colorectal surgery are usually a consequence of major surgical complications. Recently, the rate of reoperation has been proposed as a marker of surgical performance. Yet, the incidence of re-intervention varies significantly in literature, ranging from 5,2 % to 13 %. Therefore, in this study, we investigated 30-day reoperation rates and made an attempt to identify risk factors of re-intervention following colorectal resection at our institution.
Materials & Methods: This is a retrospective study of patients who had undergone colorectal resection at a single institution from 2013 to 2017. Univariate and multivariate analysis of predicting factors were performed.
Results: Out of 464 patients included 51 required reoperations (11%). The most common causes of reoperations were anastomotic leakage, postoperative bleeding, and wound dehiscence. In univariate analysis, the age of the patient and location of the tumor were related to an increased rate of reoperation. In multivariate analysis patients older than 75 (OR = 2.1; 95%CI = 1.1-3.9) and tumors sited in the rectum (OR = 2.66; 95%CI = 1.4-5) were associated with the increased risk of re-intervention.Patients who required postoperative re-intervention stayed in hospital longer (14 vs. 6 days, p <0.0001) and had higher mortality (9.8% vs. 1.2%, p=0.002).
Conclusion: Our study shows that reoperation rates that follow colorectal surgery are frequently undervalued. In our series, 11% of patients required an unplanned return to the operative room. The patient's age and the rectal tumors were the two independent factors that affect the rate of reoperation.
Disclosure of Interest: None declared

PE170

SURVIVAL OF PATIENTS WITH CHOLANGIOCARCINOMA WHO PLACED METALLIC STENT BY ENDOSCOPIC RETROGRADE CHOLANGIOPANCREATOGRAPHY

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Introduction: Cholangiocarcinoma is a rare and aggressive malignancy that is usually inoperable during diagnosis. The aim of this study is to evaluate the survival rate of patients after metal stent placement after endoscopic retrograde cholangiopancreatography.
Materials & Methods: A retrospective study of 45 patients hospitalized in Hippocration Hospital (2012-2013) and meeting the admission criteria for the study
Results: The mean age was 70.5 years, with a standard deviation of 14.6 years. The mean survival was 9.3 months. Chemotherapy has a statistically significant contribution to survival (p-value = 0.022), and the chronic hepatic impairment index (MELD) was lower in the chemotherapy group (p-value = 0.022).
There is no statistically significant difference in survival among groups according to the BismuthCorlette classification (p-value = 0.596). . Chemotherapy has statistically significant correlation with bilirubin alone (p-value = 0.009) The lower the bilirubin the higher the survival (p-value = 0.043)
Conclusion: For the optimal care and treatment of patients with cholangiocarcinoma, an interdisciplinary approach is required and in order to achieve progress in therapy, patients should be included in prospective clinical trials to test new approaches
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Disclosure of Interest: None declared

PE171

SAFETY OF MINIMALLY INVASIVE ESOPHAGECTOMY AFTER TRIPLET CHEMOTHERAPY WITH DOCETAXEL, CISPLATIN, AND 5-FLUOROURACIL FOR ADVANCED ESOPHAGEAL SQUAMOUS CELL CARCINOMA

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Introduction: Preoperative chemotherapy with cisplatin and 5-fluorouracil (CF) has become the standard treatment for resectable stage II/III thoracic esophageal carcinoma in Japan. Recently, preoperative triplet chemotherapy with docetaxel, cisplatin, and 5-fluorouracil (DCF) has been reported to be effective for advanced esophageal cancer. Minimally invasive esophagectomy (MIE) has been increasingly accepted for the treatment of esophageal cancer. We evaluated the safety of MIE after DCF therapy for patients with advanced esophageal cancer.
Materials & Methods: The medical records of 90 consecutive patients with esophageal squamous cell carcinoma who underwent MIE after chemotherapy between February 2007 and August 2018 were retrospectively reviewed. Thirty-seven patients received neoadjuvant chemotherapy with CF, and 53 received DCF as first-line chemotherapy.
Results: The clinical T stage was significantly higher in the DCF group than in the CF group ($p < 0.0001$), including 26 patients with T4. Lymph node metastasis was more frequent in the DCF group ($p < 0.0001$), and the clinical stage of the tumor was significantly higher in the DCF group than in the CF group ($p < 0.0001$). Higher response rates (complete response and partial response) were observed in the DCF group than in the CF group (81.1% vs. 13.5%, $p < 0.0001$). The percentage of patients who achieved pathological complete response was 22.6% in the DCF group and 2.7% in the CF group. Grade 3 or 4 neutropenia and febrile neutropenia were more frequent in the DCF group than in the CF group (neutropenia 67.9% vs. 10.8%, febrile neutropenia 11.3% vs. 0%). Among nonhematologic toxicities, diarrhea was more frequent in the DCF group than in the CF group (20.8% vs. 2.7%). All patients underwent complete resection (R0 resection). No patients in either group experienced accidental conversion to open thoracotomy or intraoperative complication. No significant differences existed between the two groups in postoperative morbidity (DCF 37.7% vs. CF 43.2%) or mortality (DCF 0% vs. CF 2.7%) rates.
Conclusion: Our study suggests that MIE after DCF therapy for advanced esophageal cancer is as feasible as MIE after CF therapy.
Disclosure of Interest: None declared

PE172

ESOPHAGEAL SQUAMOUS CELL CARCINOMA AND PROGNOSIS IN TAIWAN.

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Introduction: The prognosis of esophageal squamous cell carcinoma is poor. In order to find out appropriate treatment for each group of patients, we aim to examine the prognostic factors influencing survival for esophageal cancer patients in Taiwan.
Materials & Methods: Data were obtained from the Taiwan Society of Cancer Registry. There were 14,394 esophageal cancer patients analyzed between 2008 and 2014 in this retrospective review. The impact of the clinicopathologic factors on overall survival was assessed. The following clinic-pathologic factors were included to analyses: age, sex, tumor location, tumor length, histologic grade, clinical T, clinical N, clinical M, clinical stage, and all therapeutic methods within 3 months after diagnosis.
Results: The 5-year survival rate was 16.8%, with a median survival of 343 days. The distribution of patients by their clinical stage is as follows: stage 0 (n = 162; 1.1%); stage I (n = 964; 6.7%); stage II (n = 2392; 16.6%); stage III (n = 6636; 46.1%); and stage IV (n = 3661; 25.4%). In the multivariate analysis, age, sex, tumor location, tumor length, clinical T, clinical N, clinical M, and treatment remained independent prognostic factors.
Conclusion: Our data indicated that age, sex, tumor location, tumor length, clinical T, clinical N, clinical M, and treatment remained independent prognostic factors. Patients who could receive surgery had significantly better outcomes.
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Disclosure of Interest: None declared

PE173

INVESTIGATION OF OPERATIVE OUTCOMES OF ESOPHAGECTOMY FOR ESOPHAGEAL CANCER IN ELDERLY PATIENTS

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Introduction: Esophagectomy is the one of the most invasive surgical procedures with high morbidity rates despite progress made in surgical technique and perioperative management. We aimed to evaluate the operative outcomes of esophagectomy for esophageal cancer in elderly patients.
Materials & Methods: We retrospectively reviewed operative outcomes of 20 elderly patients who were over 75 and received esophagectomy between January 2015 and December 2018 (elderly group: E group), compared with 63 patients under 75 (non-elderly group: N group).
Results: The average age was 77.4 (75–84) in E group and 64.2 (44–74) in N group. No significant differences between the groups were observed with respect to the tumor location and the clinical stage. In operative procedures, 65% of the patients in E group had subtotal esophagectomy via thoracoscopy, 30% had transhiatal esophagectomy, and 5% had lower esophagectomy via a left thoracoabdominal incision. On the other hand, 79.4% of N-group patients had subtotal esophagectomy via thoracoscopy, 9.5% had transhiatal esophagectomy, 6.3% had lower esophagectomy via left a thoracoabdominal incision, and 4.8% had subtotal esophagectomy via thoracotomy. There were no significant differences in operative procedures between the groups. Regarding lymphadenectomy, 30% had one-field (1-F), 55% had two-field (2-F), and 15% had three-field (3-F) in E group. On the other hand, 15.9% had 1-F, 44.4% had 2-F, and 39.7% had 3-F in N group. The rate of 3-F lymphadenectomy tended to be lower in E group. The average operation time in E group was significantly shorter than in N group (E group, 402.9 min. vs. N group, 526.7 min., $p = 0.002$). There was no significant differences in morbidity rate (E group, 35.0% vs. N group 47.6%, $p = 0.32$), even with pneumonia present (E group, 5.0% vs. N group 14.3% $p = 0.27$). There was no significant difference in the length of postoperative hospitalization between E group, 22.1 (11–98) days and N group, 20.2 (9–196) days ($p = 0.75$).
Conclusion: Although less invasive operative methods tend to be performed on elderly patients, there were no significant differences in morbidity and length of postoperative hospitalization between the elderly and non-elderly groups. Esophagectomy in elderly patients may be performed as safely as in non-elderly patients with appropriate surgical selection.
Disclosure of Interest: None declared

PE174

THORACOSCOPIC ESOPHAGECTOMY AS A CONVERSION SURGERY FOR UNRESECTABLE ESOPHAGEAL CANCER AFTER INDUCTION CHEMOTHERAPY

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Introduction: The prognosis of unresectable advanced esophageal cancer is unfavorable. Recently, we applied minimally invasive thoracoscopic esophagectomy (TE) as conversion surgery in combination with preoperative chemotherapy for unresectable esophageal cancer accompanying adjacent organ invasion or distant lymph node metastasis.
Materials & Methods: As a conversion surgery, patient underwent TE in the left lateral position when the remission of the tumor was confirmed by preoperative induction chemotherapy. Esophageal mobilization and meticulous mediastinal dissection was performed under the magnifying effect of the video scope.
Results: From 2008 to 2018, we underwent induction chemotherapy for 70 cases of unresectable thoracic advanced esophageal cancer without distant organ metastasis. After induction chemotherapy, 47 (67.1%) of 70 cases underwent TE as conversion surgery by remission of the tumor. Among them curative resection could be performed in 30 (63.8%) patients. Conversion to thoracotomy was performed in 1 patient for intraoperative bronchial injury. We experienced no operative mortality. Overall survival analysis showed the patient underwent TE showed significantly favorable prognosis in comparison to those without resection ($P<0.0001$). Entire overall 5-year survival rate of the patients with TE and those without TE was 44.3%.and 9.3%, respectively. Furthermore, the patient underwent curative resection showed significantly favorable prognosis in comparison to those underwent non-curative resection ($P<0.0001$).The overall 5-year survival rate after curative and non-curative TE was 68.2% and 6.3%, respectively.
Conclusion: TE can be performed safely as a conversion surgery after induction chemotherapy for unresectable advanced esophageal cancer patients. Favorable outcome is obtained when curative operation can be performed. Therapeutic effect of powerful preoperative chemotherapy and meticulous dissection procedure by TE may contribute favorable survival of patients with advanced esophageal cancer accompanying adjacent organ invasion or distant lymph node metastasis.
Disclosure of Interest: None declared

PE175

ESOPHAGEAL RECONSTRUCTION PRIOR TO VATS ESOPHAGECTOMY FOR SIMPLIFICATION OF THORACIC PROCEDURES

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Introduction: Respiratory complications remains the most common after the thoracic esophageal cancer surgery. Shortened operation time in the thoracic cavity and unilateral ventilaton is thought to be crucial to improve the perioperative treatment outcomes. In an attempt to minimize the intrathoracic procedure time, we adopted the esophageal reconstruction first method prior to VATS procedure in patients with thoracic esophageal cancer (clinical stage 3 or less excluding T4a) since November 2017.

Materials & Methods: Surgical technique: patients are in a supine position under general anesthesia, and cervical and abdominal procedures are started simultaneously. A laparoscope is used for the abdominal procedures. We mark the bilateral recurrent laryngeal nerves during cervical procedures (ropeway technique preparation). Laparotomy is done with an upper abdominal midline incision (5 cm), and a subtotal gastric tube is prepared. The gastric tube is lifted through the retrosternal route and a cervical esophagogastric anastomosis is performed. With the patient in a left semi prone-position, the lymph nodes are dissected using the ropeway technique, and esophagectomy was completed.

Results: Since January 2015, 42 patients underwent esophageal cancer surgery in our department. Of these 19 patients including 9 thoracic procedure first and 10 reconstruction first group underwent VATS esophagectomy (3 field LN dissection, cervical esophagogastric anastomosis via a retrosternal route). There were no significant differences in the background clinical factors (male-female ratio, mean age, tumor location, clinical stage, adopted neoadjuvant therapy) between the two groups. Neither intraoperative adverse events, nor in hospital mortality were documented in the both groups. The median thoracic procedure time was 350 min (320–390 min) in thoracic procedure first group and 300 min (280–305 min) in reconstruction first group, respectively. There was a significant difference ($p = 0.005$). Significant differences were also seen in median postoperative hospital stay: 39 days (20–80 days) in the thoracic procedure first group and 16 days (16–28 days) in the reconstruction first group ($p = 0.03$), and perioperative complication rate: 78% of the thoracic procedure first group, 30% of the reconstruction first group, respectively ($p = 0.04$).

Conclusion: The VATS esophagectomy with esophageal reconstruction first were in our department is thought to be safe and effective.

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Disclosure of Interest: None declared

PE176

OWN EXPERIENCE WITH THE RIGHT HEMICOLON INTERPOSITION.

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Introduction: The stomach remains a favored esophageal replacement after esophagectomy. There are however many patients, in whom previous usage of stomach in reconstructive surgery failed for its ischemic complications, is impossible for previous gastric surgery or from oncological perspective[1]. Our retrospective study was to evaluate the short term results, complications rate and predictability of usage the right hemicolon as esophageal replacement in the aspect of its blood supply (Fig. 1) and leak rate of the cervical anastomosis.

Materials & Methods: We evaluated retrospectively 37 patients who underwent esophageal reconstruction from various intestinal segments, mainly the right hemicolon, for cancer and non-cancer reasons (63% and 37% respectively) between 2010 and 2016. The colon conduit was placed in the retrosternal space in all cases. P value < 0.05 was considered statistically significant.

Results: The ileo-colic graft was constructed in 62,2% patients and right colon graft in 21,6%, jejunal graft was used in 8,1% patients. The ileocolic graft was fed by the middle colic artery in 40,5 %, and by the middle colic artery and right or left colic artery in 21,6% cases; ileocolic artery was the pedicle in 21,6% cases. The right colic artery was used in 2,7% (1patient), but it ended in necrosis of the transplant. The most common complication was leak (18,9%).

Image:

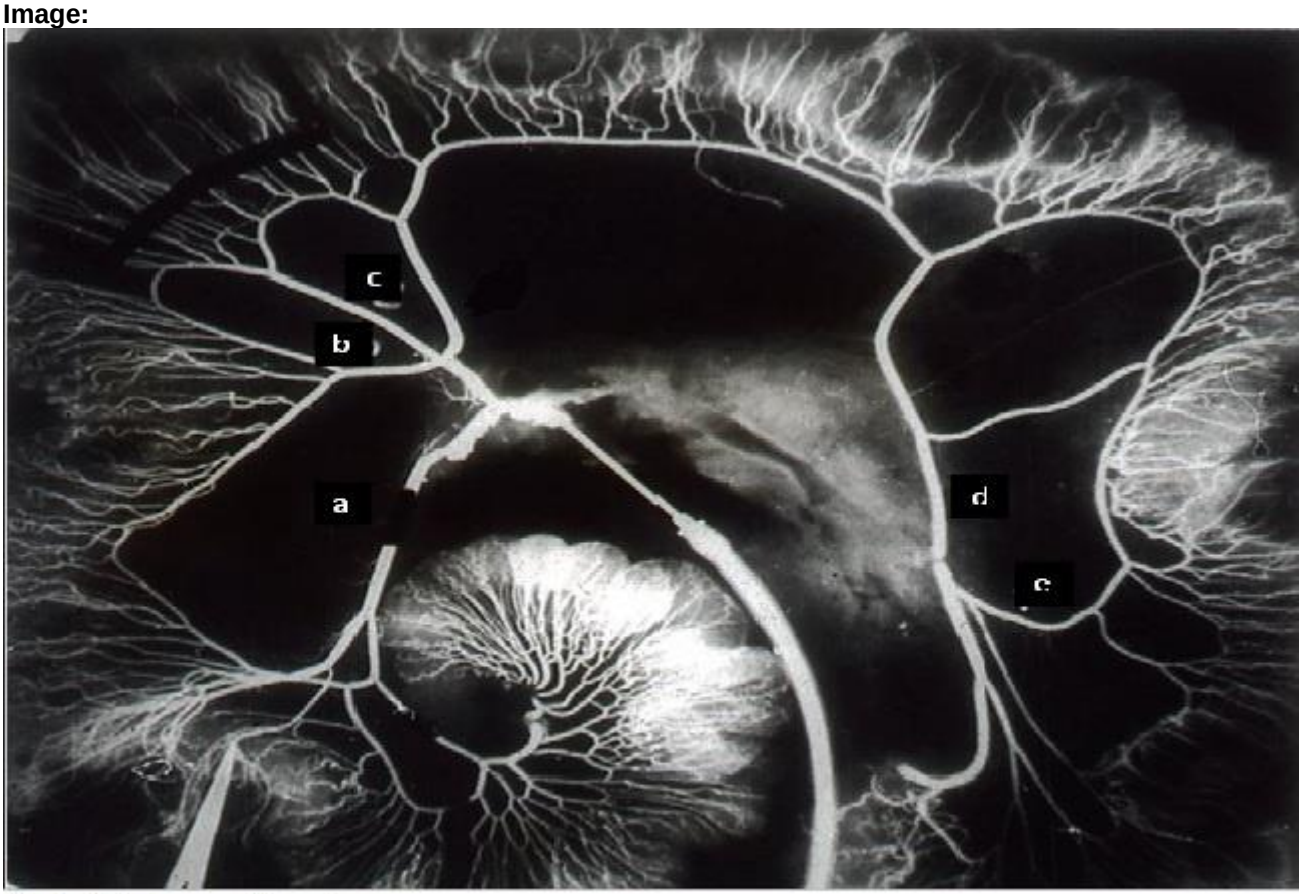

Fig 1. Arterigram of the colon
a - ileocolic artery, b - right colic artery, c - medial colic artery, d - left colic artery, e - inferior mesenteric artery.

Conclusion: The colon is the second esophageal substitute after the stomach. There are papers that value equally ever or right and left colon half [2]. We generally use the right. For the right hemicolon the most common pedicle was middle colic artery in our cohort. Its usage allows preserving the ileal portion of the intestine. The fistula is the least probable if preserving 2 colic arteries: medial and right or left. The right colic artery is the most risky as the pedicle due to the most variable venous outflow[3,4]. The ileocolic artery for the right hemicolon is less common for antiperistaltic position of the transplant but its use resulted in the lowest leak rate. There was no statistical differences in the leak rates between groups, but we observed favorable tendency towards the ileocolic artery pedicle.

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Disclosure of Interest: None declared

PE177

HIGH-RISK ABERRANT RIGHT HEPATIC DUCT IN LAPAROSCOPIC CHOLECYSTECTOMY

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Introduction: Anomalous anatomy of the extrahepatic biliary tree is associated with an increased risk of bile duct injury in laparoscopic cholecystectomy (LC). Conventional classifications of the aberrant right hepatic duct (ARHD) have been based on the confluence pattern and the joining point into the main bile duct. However, it is not mandatory to visualize the confluence during surgery in most of LC cases. Whether an ARHD is actually hazardous presumably depends on how close it locates to the dissecting site of LC. In the present study, we studied the anatomical variations of the biliary tree in LC cases and classified the ARHD simply according to the viewpoint of whether or not its presence is close proximity to the field of dissection in LC.

Materials & Methods: In 523 consecutive patients who underwent LC in our hospital during a period from 2015 to 2017, we retrospectively investigated whether an ARHD (hypo-portal type of sectoral or segmental duct draining from the right lobe to the common hepatic duct or the cystic duct) was preIsent using preoperative MRCP. We defined the types of high-risk ARHD as follows, Type-A: ARHD communicating with the cystic duct, Type-B: ARHD running along the gallbladder neck or the infundibulum adjacently, regardless of its confluence pattern in the biliary tree.

Results: Forty (7.6%) patients had ARHD. In these, high-risk ARHD was identified in 12 cases (30%), in which the frequencies of Type-A, and -B anatomies were 7.5 and 22.5% respectively. These 12 dangerous anomalies were diagnosed in preoperative MRCP. Laparoscopic subtotal cholecystectomy was applied in 3 case (7.5%) of severe cholecystitis. In all patients with high-risk ARHD, LC was completed safely without bile duct injury or conversion to laparotomy.

Conclusion: Our simple classification for high-risk ARHD in preoperative MRCP can extract the anatomical variants which is vulnerable to injury in dissecting the Calot's triangle to achieve a critical view of safety. In case of high-risk ARHD, special attention should be paid to dissect only along the plane of the gallbladder wall. Subtotal cholecystectomy is a treatment of choice, when the Calot's triangle cannot be safely dissected, particularly in the presence of severe inflammation or impacted stone. The concept may contribute to avoiding inadvertent damage of an ARHD in LC.

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Disclosure of Interest: None declared

PE178

EFFECTIVE THERAPEUTIC ALGORITHM USING ENDOSCOPIC NECRECTOMY OF INFECTED "WALLED-OFF NECROSES" (WON) IN ACUTE NECROTIZING PANCREATITIS - DATA OBTAINED IN A UNICENTER OBSERVATIONAL STUDY

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Introduction: Minimally invasive endosc. & surgical interventions have priority in the therapy of WON. Percutaneous & EUS-guided internal drainages are preferred.
Minimally invasive endosc. & surgical interventions have priority in the therapy of WON. Percutaneous & EUS-guided internal drainages are preferred.
Materials & Methods: A monocentric population was investigated retrospectively in prospectively collected peri-interventional data (study design). Overall, 105 patients with necrotizing pancreatitis & infected WON undergoing translumenal endosc. necrectomy (incl. criteria) from 2004 to 2017 were identified.
Results: In total, 68 men/37 women were enrolled (median age, 59 yrs). Mean hospital stay was 44 d. Fourty five % of the patients were treated at the intensive care unit; 86% of the cases presented with a bacterial infection of the WON whereas in 40%, mycotic infection was found.
First interventional measure was performed after a mean time period of 28 d; in 54%, this was a percutaneous drainage. Internal drainages were used in 46 patients (43.8%) after a mean time period of 35 d. The combination of percutaneous & internal drainages permitted an excessive lavage, which was performed in 57 patients (54.3%); 87 individuals (82.9%) were treated by internal (transluminal) endosc. necrectomy & in 8 subjects (9.2%), a percutaneous necrectomy was additionally performed. In only 20 patients (19%), complete necrectomy was achieved. It was found that for the therapeutic success, long-term internal drainage was substantially important. Appr. 30% of patients were discharged with an Axios™ stent (Boston Scientific) & 60% with pigtail drainages *in situ*. Complications such as bleeding or perforation occurred in 8 cases (7.6%), 11 patients underwent surgical intervention (rate, 10.5%). Mortality was 7.6% (*n*=8). The stents were removed after 3 months. There was a recurrence of cyst or WON in 8 patients (rate, 7.6%), only 4 patients (3.8%) needed endosc. re-treatment.
Conclusion: Step-up approach to be used as the basic algorithm in acute necrotizing pancreatitis comprising external drainage, internal/external drainage (+ rinsing via drainage) & endoscopic necrectomy appears feasible, efficient & safe. The endosc. necrectomy was performed if the clinical status had not improved despite a sufficient internal & external drainage. The complete necrectomy is not an indispensable prerequisite for a favorable outcome but, however, the sufficient long-term drainage is essential.
Disclosure of Interest: None declared

PE179

PREDICTIVE ROLE OF ADMISSION VENOUS LACTATE LEVEL IN PATIENTS WITH UPPER GASTROINTESTINAL BLEEDING – A PROSPECTIVE OBSERVATIONAL STUDY.

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Introduction: Upper gastrointestinal bleeding (UGIB) is one of the most common emergencies. Risk stratification is very important in patients with this potentially life-threatening condition. The aim of this prospective study was to evaluate the role of the admission venous lactate level in predicting clinical outcomes in hospitalized patients with symptoms of UGIB.
Materials & Methods: All consecutive adult patients hospitalized with the symptoms of UGIB from 1st January 2016 to 31st December 2017 were included in the study. The clinical data was collected prospectively during the study period. It included the demographic characteristics of the observed population, etiology of UGIB, need for surgical intervention and intensive care unit therapy, bleeding recurrence and mortality rates. Venous lactate level was measured in all patients on admission. Logistic regression models were used for statistical analyses and p value < 0.05 was considered statistically significant.
Results: 221 patients were included in the study (151 male and 70 female). There were 24 cases of UGIB recurrence (10.8%), 19 patients required surgical therapy (8.6%) and 37 individuals were treated in the intensive care unit (16.7%). Mortality rate in the analyzed group was 11.3% (25 cases).
The logistic regression analysis showed statistically significant association between admission venous lactate level and all clinical outcomes: mortality (p=0.00017) OR=1.19 with 95%CI=(1.09;1.30), recurrence of bleeding (p=0.0348) OR=1.09 with 95%CI=(1.006;1.18), surgical intervention (p=0.0348) OR=1,19 with 95% CI=(1.09;1.30) and intensive care unit treatment (p=0.00004) OR=1.23 with 95%CI=(1.11;1.35).
Conclusion: Predictive role of admission venous lactate level in patients with UGIB seems to be very important.
Disclosure of Interest: None declared

PE180

TREATMENT RESULTS IN PATIENTS WITH NON-VARICEAL UPPER GASTROINTESTINAL BLEEDING

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Introduction: Upper gastrointestinal bleeding is one of the most frequent emergencies and reasons of emergency hospitalization. Both morbidity and mortality asociated with it are still constant and high, despite of the continouse progress in medicine.
The aim of the study was to present the treatment results in patients with upper non-variceal gastrointestinal bleeding.
Materials & Methods: 334 patients treated for upper non-variceal gastrointestinal bleeding in the Department of General Surgery, Polytrauma and Emergency Medicine of the Jagiellonian University Medical Coollege from 2016 to 2018 were included in the study. The retrospective analysis included such features as: number, age and gender of patients, reasons of the haemorhage, endoscopic and operative treatment, frequency and type of necessary transfusions, reccurence and mortality rates.
Results: The average age in the analysed group of 210 male (63%) and 124 female (37%) patients was 65,2 years (SD = 15; range 20-100 years). An early endoscopic treatment was performed in 301 cases (90%), surgery in 33 patients (10%). Transfusions were necessary in 284 individuals (85%), and intensive care unit treatment in 67 patients (20%). The bleeding reccurence rate was 14% and mortality rate was 10% in the analyzed group.
Conclusion: An early endoscopic treatment and proper pharmacotherapy of patients with upper non-variceal gastrointestinal bleeding can allow for good treatment results associated with this common emergency.
Disclosure of Interest: None declared

PE181

WIDE-ANGLE ENDOSCOPY IN DETECTING COLORECTAL CANCER: RANDOMIZED CONTROLLED TRIAL.

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Introduction: Colorectal cancer is one of the most common cancer in Europe and colonoscopy is the best exam to detect this cancer. The quality of colonoscopy is assessed on the basis of basic parameters such as cecal intubation rate and time (CIR, CIT), withdrawal time, adenoma detection rate (ADR) and polyp detection rate (PDR). Advanced endoscopic imaging improves accurate recognition of the nature and variety of pathologic lesions, while the endoscope tips, third eye retroscope and wide-angle endoscopy allow detection of lesions located on the proximal side of the intestinal folds.
The aim of the study was to assess the usefulness of a wide-angle colonoscopy for the detection of colon lesions and the analysis of the functionality of panoramic endoscopes regarding CIR, CIT and withdrawal time.
Materials & Methods: The study enrolled 421 patients aged 18-80 years who were eligible for colonoscopic examination performed for different indications. Patients with prior abdominal surgery, colorectal resections or inflammatory bowel disease were excluded from the study. Patients were randomized to either standard frontal view (SVC) (Olympus Evis Exera III 190) or the novel wide-angle colonoscopy (WVC) (FUSE colonoscope CDVL slim c38). The study was approved by the local bioethics committee and was registered on ClinicalTrial.gov (NCT02929381).
Results: There were 214 patients examined with SVC and 207 with WVC. The mean age of patients was 64.1 years (SD ± 10.23). Both groups were comparable in gender, age and BMI. The median cecal intubation time was 234 sec with SVC vs. 311 with WVC ($p < 0.001$). There were no statistical differences in CIR and withdrawal time. WVC had a higher incidence of diverticula detection rate (DDR) in the proximal part of the intestine ($p < 0.05$). PDR with SVC was 34.8% and 40.1% with WVC ($p < 0.001$), however, ADR and advanced ADR (aADR) in both groups were similar (26.4% vs 27.1% and 14, 2% vs. 13.9%).
Conclusion: Colonoscopy with wide-angle endoscopes lasts longer and allows for the detection of more polyps and diverticula without affecting ADR and aADR. Our study did not revealed the superiority of wide-angle colonoscopy in prevention of colorectal cancer.

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Disclosure of Interest: None declared

PE182

PROPENSITY SCORE ANALYSIS COMPARING SURVIVAL BETWEEN DEFINITIVE CHEMORADIOTHERAPY AND ESOPHAGECTOMY FOLLOWED BY CHEMORADIOTHERAPY IN PATIENTS WITH ESOPHAGEAL SQUAMOUS CELL CARCINOMA

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Introduction: The survival outcome between definitive chemoradiotherapy(dCRT) and esophagectomy followed by chemoradiotherapy(CRT) among locally advanced esophageal squamous cell carcinoma(SCC) remained inconclusive. We aimed to compare the overall survival(OS) of clinical T1-3 with clinical N0-3 esophageal SCC between these two groups.
Materials & Methods: A total of 4391 patients with clinical T1-3 and clinical N0-3 esophageal SCC receiving definitive CRT or esophagectomy followed by CRT were obtained from the Taiwan Cancer Registry between 2008 and 2014. Propensity score matching along with univariate and multivariate analysis were performed to minimize the bias. OS was compared between patients receiving dCRT and esophagectomy followed by CRT in the three different clinical stages.
Results: 4381 patients received definitive CRT and 550 patients received esophagectomy followed by CRT. After propensity score matching, 456 patients were compared in both groups. The 1-year, 2-year, and 3-year OS rates of propensity-matched patients were 57.18%, 31.92%, and 23.8% in dCRT group and 72.35%, 45.74%, and 34.04% in esophagectomy followed by CRT group, respectively. ($p<0.0001$). In multivariate analysis, treatment modality was an independent prognostic factor. Esophagectomy followed by CRT provided better survival outcome than dCRT for patients with clinical stage II/III disease. As for patients with clinical stage I disease, there was no significant survival difference between dCRT and esophagectomy followed by CRT.
Conclusion: Esophagectomy followed by CRT provided better OS than definitive CRT in clinical II/III esophageal SCC. However, definitive CRT and esophagectomy followed by CRT yield comparable OS in clinical stage I patients.
Disclosure of Interest: None declared

PE183

CLOSTRIDIUM DIFFICILE INFECTIONS IN SURGICAL PATIENTS AT MULTIPROFILE PROVINCIAL HOSPITAL IN TARNÓW, POLAND.

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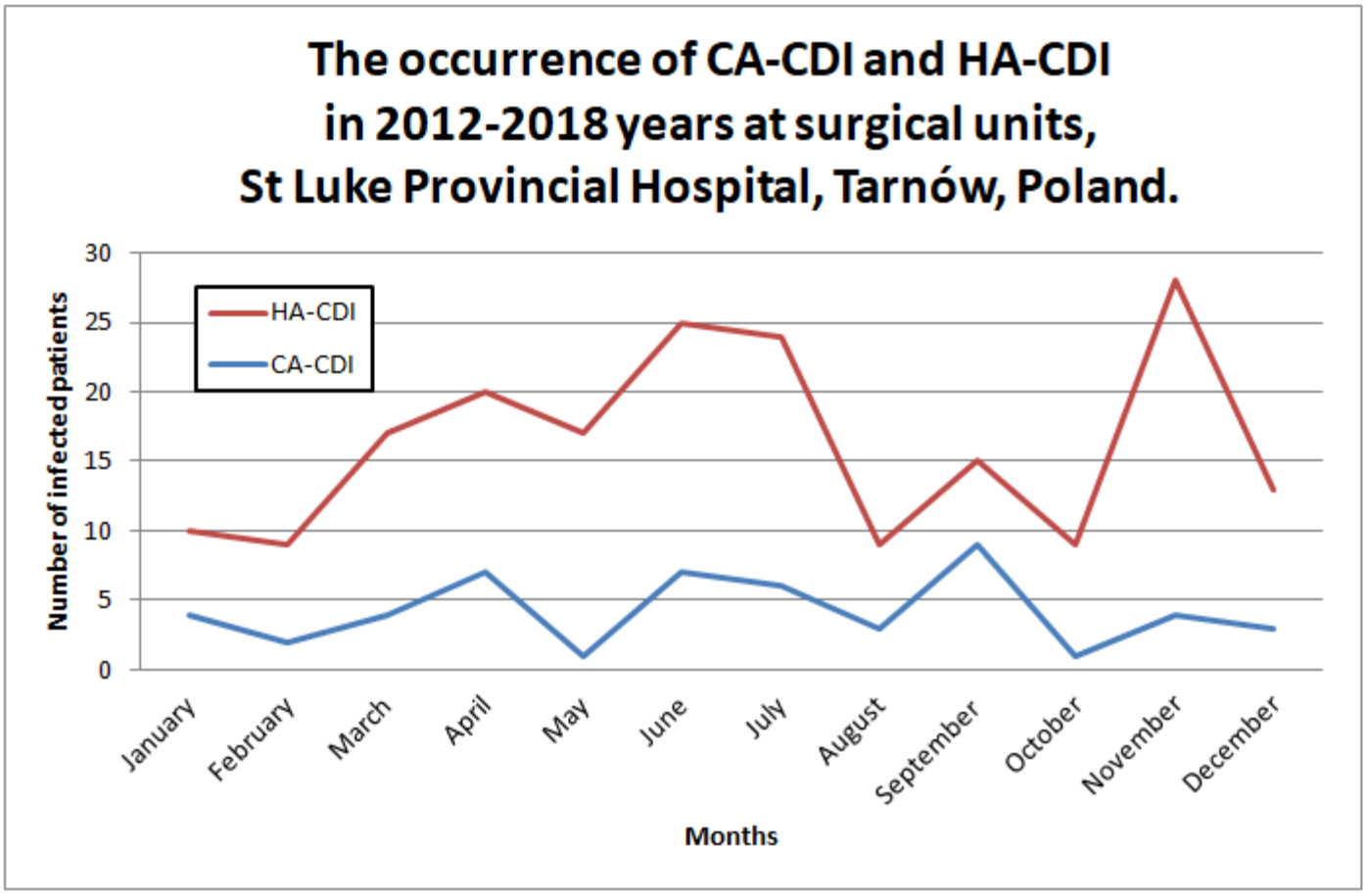
Introduction: *C. difficile* infections (CDI) are a huge challenge for modern medicine, the number of CDI is constantly increasing, and their treatment is becoming more difficult and expensive Data analyses from Polish hospitals have shown that CDI are the second most common infection in surgical patients preceded by surgical site infections only.
Materials & Methods: The presented study focus on CDI among surgical patients hospitalized in St. Luke Hospital in Tarnów, Poland, between 2012 and 2018. CDI was confirmed by a *Clostridium difficile* cassette test (TechLab, Blacksburg, VA, USA). Analysis include results of the HA-CDI surveillance of surgical departments, using of the methodology of The Healthcare-Associated Infections Surveillance Network (HAI-Net) by European Centre for Disease Control and Prevention (ECDC).
Results: The majority of infections and the highest incidence rate was reported on urology ward, where the shortest stays of patients were observed (Table 1). The initial day of the symptoms depended on the type of ward, but was not associated with the risk of CDI (Table 1), as well as there was no significant relationship between occurrence community-acquired CDI and HA-DCI (Figure 1).
Table 1. *Clostridium difficile* infections in surgical patients in 2012-2018 St. Luke Provincial Hospital in Tarnów, Poland

type of surgery	Numbers of patients	Length of stay* [days]	First symptoms* average [days, SD]	CDI incidence per 10 000 patientdays
general	16 057	5.01	14.0[9.87]	3.9
oncological	4 643	4.09	20.1[15.47]	8.4
gynecological-obstetrics	16 398	3.97	8.5[4.43]	0.6
neurosurgery	12 936	5.34	25.5[29.77]	1.4
orthopedics	9 373	6.17	9.7[5.00]	1.9
urology	10 173	3.98	10.6[6.77]	18.0
Total	69 580	4.77	13.9[12.94]	4.4

* $p<0.0001$, statistical significance $p<0.05$
SD; *standard deviation*
Image:

Figure 1. The occurrence of community-acquired CDI (CA-CDI, before 48h of hospitalization) and the he
2012-2018 years at surgical units, St Luke Provincial Hospital, Tarnów, Poland.



Conclusion: The incidence rate is alarmingly high, especially in the urology ward, where the mean duration of the patients stay was the shortest, but the first symptoms of CDI appeared quickly. Dynamics of the appearance of HA-CDI cases points to weak relationship with community-associated CDI cases, which indicates that HA-CDI epidemiology was influenced both by the impact of hospitalization, as well as antibiotic consumption and the horizontal distribution of CD strains. This study can be conveyed as feedback to the staff of the wards, as a starting point for the modification of procedures preventing CDI, including environmental hygiene.

Disclosure of Interest: None declared

PE184

ROLE OF RESISTIN AS A DIAGNOSTIC AND PROGNOSTIC MARKER IN ACUTE PANCREATITIS

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Introduction: Acute pancreatitis (AP) has a wide range of clinical presentation characterized clinically by abdominal pain and elevated levels of serum pancreatic enzymes. The current existing prognostic scores are too complex to be used in emergency. Peripancreatic adipose tissue necrosis is an early feature in the pathogenesis of pancreatitis. Resistin, a peptide hormone produced by human adipocyte can be an early predictor of the clinical course of acute pancreatitis.
Materials & Methods: A total of 55 patients of AP who presented to surgical emergency within 72 hours of the onset of pain were included and managed as per the current set criteria: USG whole abdomen**,** CECT abdomen and Biochemical parameters. Serum samples of the patients were taken at the time of admission, day 3, 7 and 10. Serum levels of Resistin were measured by the Resistin ELISA Kit (Quantikine, U.S.). The serial serum values of resistin were correlated with the serum amylase, lipase, “C” reactive protein and CT severity index using Pearson correlation analysis.
Results: The serum resisitin levels at day 1 ranged from 24-1388 pg/ml. The mean level on day 1 were significantly raised as compared to day 10 (427.44 ± 40.07 vs. 296.90 ± 31.76, mean difference=130.53, p=0.033). Further the mean levels on day1, 3, 7 and 10 were significantly different with each other (Annova, F=2.93, p=0.035). The resistin level showed significant and direct correlation with S. amylase (r=0.57, p<0.001), S. lipase (r=0.50, p<0.001) and CRP (r=0.51, p<0.001). Similarly, positive correlation was seen between resistin and CT severity (r=0.67, p<0.001).
Conclusion: Serum resistin levels can be a single reliable prognostic marker of acute pancreatitis. It can be used to detect the severe form of the disease at an early stage and thus can help in initiating an aggressive supportive therapy accordingly.
Disclosure of Interest: None declared

PE185
DUODENOJEJUNOSTOMY – AN OLD TECHNIQUE BUT NOVEL SOLUTION FOR GIANT DUODENAL PERFORATIONS

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Introduction: Despite advances in medical management of peptic ulcer disease, duodenal ulcer (DU) perforation remains a common surgical emergency. Most DU perforations are small and can be managed with omental patch repair. However, occasionally the surgeon may encounter a giant perforation not amenable to this.

Giant DU perforations are defined as > 2cm. They are associated with high leak rates and mortality. Prognosis in elderly patients are particularly poor because of advanced age and co-morbidities. Furthermore, there is no specific recommendation for their management despite a variety of repair techniques being described.

Here, we aim to describe a novel technique used to treat such patients, especially those of advanced age, in our institution and a review of current literature.
Materials & Methods: Four patients with giant DU perforation underwent emergency laparotomy and repair with our duodenojejunostomy technique at our hospital. This involved performing an upper midline laparotomy, thorough lavage of the entire peritoneal cavity, extension of proximal edge of duodenal perforation to pylorus and performing a side-to-side anastomosis with a loop of jejunum. Post-operatively, patients were monitored clinically and radiologically and discharged when well and tolerating diet.
Results: The mean age of the patients was 67 years with an equal gender distribution. The average Charlson Comorbidity Index score was 5 (severe). All presented with peritonitis and two had concomitant bleeding. There were two anterior and two posterior ulcers. One was a revision repair after a leak post laparoscopic omental patch repair for the initial perforation.

In all cases, the duodenojejunostomy repair technique was used. Post-operative recovery was uneventful for all except one who developed pneumonia. In particular; there were no anastomotic leaks, intra-abdominal collections, gastric outlet obstruction or mortalities.
Conclusion: Giant DU perforation remains a challenge to the general surgeon, particularly so in elderly patients with multiple co-morbids. A review of current literature suggests a myriad of surgical techniques but no perfect solution. Some suggested techniques include omental patch with pyloric exclusion, controlled tube duodenostomy, jejunal pedicled graft and partial gastrectomy.

Here, we propose that isolated duodenojejunostomy can be a quick, safe and novel solution that ensures definitive repair of giant ulcer perforation in a single setting in the high risk patient.
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Disclosure of Interest: None declared

PE186

SHORT-TERM OUTCOME OF LAPAROSCOPIC-ASSISTED PYLORUS-PRESERVING GASTRECTOMY FOR EARLY GASTRIC CANCER

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Introduction: Gastric cancer (GC) is a major cause of cancer-related mortality in the world; radical gastrectomy with lymphadenectomy is the main procedure to cure patients with resectable GC. For early-stage GC, laparoscopic gastrectomy (LG) has become standard therapy in Japan. Furthermore, pylorus-preserving gastrectomy (PPG) is suggested for some relevant GC in the Japanese guideline, which is thought to decrease dumping syndromes and to maintain post-operative nutritional status. However, prospective trials have not yet been taken place to consider LAPPG/PPG as standard surgical therapy.

Materials & Methods: The aim of the study is to assess whether LAPPG with D1+ lymphadenectomyin our institution is technically safe or not.

We assessed the clinical data of 38 cases of LAPPG with D1+ lymphadenectomy for early-stage GC, which we performed in our institution during January 2013 to March2018. It was performed to patients with early-stage GC in the middle-third position of the stomach. To keep post-operative gastric functions, right gastro-omental vessels, sub-pyloric vessels, right gastric vessels and hepatic/celiac branch of vagal nerves were preserved. We retrospectively analyzed short-term outcomes, including operation time, bleeding volume, complications and post-operative hospital stays.

Results: Within 38 cases of LAPPG, the median surgical time was 254 minutes(180-336), bleeding volume was 31 ml(5-227) and post operational hospital stays were 9.0 days(6-16). No complications of Clavien-Dindo classification Grade 3 to 5 occurred, although 4 patients had Grade 2 delayed gastric emptying.

Conclusion: LAPPG with D1+ lymphadenectomy for early-stage GC was thought to be safe to perform within the ongoing criteria. However, further examination is required for long-term outcomes to consider LAPPG as standard surgical therapy.

Disclosure of Interest: None declared

PE187

THE EFFICACY OF OXALIPLATIN-CONTAINING NEOADJUVANT CHEMOTHERAPY FOR LOCALLY ADVANCED GASTRIC CANCER WITH ADVANCED LYMPH NODE METASTASIS

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Introduction: Neoadjuvant chemotherapy for locally advanced gastric cancer cases with large type 3, type4, bulky N2 and paraaortic lymph node metastasis (# 16A2, # 16B1) is a promising treatment option. SP (S1 + CDDP) had been selected as the primary treatment for unresectable advanced gastric cancer, but since oxaliplatin got its indication for gastric cancer, SOX (S1 + L-OHP) Or CapeOX (Cape + L-OHP) has been widely applied, and it has been applied to neoadjuvant chemotherapy for locally advanced gastric cancer.
Materials & Methods: Since we introduced SOX or CapeOX from SP until 2015, we have carried out on 7 cases. Patients were 5 males and 2 females, and their ages were 28 to 78 years old.
Results: For 4 of 5 patients with paraaortic lymph node metastasis, 3, 4 ,4 and 8 courses of SOX were performed and for the other one patient 4 courses of CapeOX were performed. In all 5 cases PR effects were obtained in CT and endoscopy exams. For 2 patients with Bulky N2 on the pancreatic upper margin, 2 or 3courses of XELOX was performed, and the effect was SD and PR. Except for a cardiac cancer case who was impossible to ingest, all courses were carried out in outpatient center. In all seven cases, R0 curative resection was performed, and in 3 of 6 cases that showed PR effects, there were no viable cancer cells in the resected lymph node specimens. In 2 cases of Bulky N2, paraaortic lymph node dissection was omitted, but paraaortic lymph node recurrence occurred early within 6 months after surgery.
Conclusion: Both SOX and CapeOX are well tolerated and are convenient regimens fir the patients that can be performed in outpatient center. Compared to cases in which paraaortic lymph node dissection was performed in M1-Lym (# 16a2, # 16b1) cases, paraaortic lymph node recurrence occurred earlier in Bulky N2 cases. Although the significance of prophylactic paraaortic lymph node dissection for non-advanced lymph node metastasis cases was denied, in advanced lymph node metastasis cases there is a possibility that metastasis has also occurred to the paraaortic lymph node In JCOG 0405, Phase II study, which suggested NAC is a promising treatment strategy for gastric cancer with advanced lymph node metastasis, paraaortic lymph node dissection was performed for preoperative chemotherapy for Bulky N2 cases as well. Our experience was thought to support this, but it will be a problem to be clarified in the Phase III study in the future.
Disclosure of Interest: None declared

PE188

INFLAMMATION-BASED PROGNOSTIC SCORES IN PATIENTS WITH GASTRIC CANCER

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Introduction: Gastric cancer (GC) is an important cause of morbimortality in Portugal and worldwide. Recently, there has been growing the interest in inflammatory markers which could predict the prognosis of patients with GC. The aim of this study is to evaluate the impact of the elevation of four inflammatory markers scores (Neutrophil-Lymphocyte Ratio (NLR), Platelet-Lymphocyte Ratio (PLR), Glasgow Prognostic Scale (GPS) and isolated C-Reactive Protein (CRP)) in the prognosis of patients diagnosed with CG and submitted to potentially curative surgery.
Materials & Methods: A retrospective analysis of data from a 436 patients' sample was carried out. Data related to the clinical-pathological variables and analytical parameters in both pre and postoperative period were collected in order to apply different scores to the sample.
Results: Pre and postoperative PLR were significantly associated with advanced stages (II: p=0,005 and III: p=0,008). Survival curves analysis showed that patients with increased postoperative PLR had a significantly lower disease-related survival compared to those with normal values (103,5 and 88,3 months, respectively; p=0,047). The univariate analysis showed that advanced stages (II: HR=2,96; p=0,004 and III: HR=10,07; p<0,001) and the presence of recurrence (HR=20,89, p<0,001) were significantly associated with an increased risk of death from GC and that these were independent risk factors. Higher stage significantly predicts an increased risk of recurrence (II: HR=5,21; p<0,001 and III: HR= 14,45; p<0,001). The multivariate analysis revealed that an older age (HR=2,24; p=0,027), stage III HR=16,73; p<0,001) and the pre-operative CRP elevation (HR=2,74; p<0,001) were independent risk factors to relapse.
Conclusion: In this study, pre and postoperative PLR were associated with tumor progression. Only postoperative PLR had an impact on survival, however preoperative CRP was the only one capable of independently predict the prognosis of patients with GC.
Disclosure of Interest: None declared

PE189

IMPACT OF SPLENECTOMY IN THE SURGICAL TREATMENT OF GASTRIC CANCER(CA)

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Introduction: Splenectomy can be associated with an increased rate of postop. complications but a worse 5-yr survival.
Materials & Methods: From 01/01/2007-12/31/2009, out of 141 surgical depts. all patients ($n_{\text{in total}}$=2,897) with histologically diagnosed primary gastric Ca/tumor lesion of the esophagogastric junction (AEG-Tu) who underwent surgery were registered (design: Prospective multicenter observational study). Overall, 2,545 patients (=group[gr.] 1) underwent Tu resection. Gr.2/3/4/5: AEG-Tu (*n*=475)/distal gastric Ca (*n*=2,070)/intraop. spleen injury (*n*=127)/splenectomy (*n*=94) due to Tu infiltration *vs*. injury.
Results: *Splenectomy rate* was 11.1% (*n*=283) with the highest proportion in AEG-Tu (19.4%; no significant differences among the groups regarding age, sex ratio & ASA scoring.
Surgical procedures: The highest splenectomy rate was found in transhiatally extended gastrectomy (in total, 30.2%; AEG-Tu, 27.3%; distal gastric Ca, 38.6%).
Morbidity in case of splenectomy was higher overall as well as depending on tumor site (the same in *general postoperative complication rate*; specific postoperative complication rate, no difference).
Hospital lethality post-splenectomy: Only in AEG-Tu, it was significantly higher (15.2% *vs*. 5.0%).
All splenectomized patients showed a shorter long-term survival (p<0.001; 18 *vs*. 36 months with preservation of the spleen). The same was found in AEG-Tu & distal gastric Ca.
If in case of spleen injury the organ could be preserved, patients benefitted from it tendentially with regard to a longer survival time (p=0.058). Comparing splenectomy due to tumor infiltration *vs*. injury, median survival time was 12 & 16 months, resp. The lowest 5-yr-survival rates were observed in splenectomized AEG-Tu patients (25%) & in those with splenectomy due to Tu infiltration (20%).
Logistic regression: Spleen preservation – significantly independent variable regarding lower postop. morbidity whereas splenectomy was assosciated with higher postop. complication rate. Overall, splenectomy did not provide a significant impact onto hospital lethality. However, splenectomy as part of resection in AEG-Tu was associated with a significantly higher hospital lethality. A tendential impact of splenectomy onto a lower overall survival was only seen in the group of AEG-Tu.
Conclusion: Splenectomy – negative predictor for a worse early postop. & long-term oncosurgical outcome; therefore, it can only be justified by direct Tu infiltration or irreparable spleen injury.
References:
Disclosure of Interest: None declared

PE190

THE VALUE OF LAPAROSCOPY WITH NBI PRIMARY TUMOR ASSESSMENT OF CLINICAL STAGING AND RESECTABILITY OF GASTRIC CANCER

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Introduction: Gastric cancer (GC) is one of the most common gastrointestinal malignancies and its peritoneal spreading precludes oncological clearance. The aim of the study was to assess a value of Narrow Band Imaging (NBI) during diagnostic laparoscopy (LAP) in primary tumor assessment and identify preconditions for curative resection in GC patients considered to a combined treatment with perioperative chemotherapy.
Materials & Methods: Between January 2013 and December 2018 in Second Department of General and Gastrointestinal Surgery and Surgical Oncology of the Digestive Tract, Medical University of Lublin 208 patients with GC were referred to surgery. LAP with NBI was performed in 68 patients with potentially resectable local or loco regional GC without distant metastases on CT and in general condition allowing for a combined treatment with perioperative chemotherapy. An assessment of primary tumor with detailed observation with NBI of microvascular abnormalities, the liver surface, peritoneal covering, the presence of ascites, and peritoneal washing for cytology and biochemistry were performed during LAP.
Results: : LAP was carried out in 52 (76,5%) males and in 16 (23.5%) females aged between 39 and 76 (mean 59,71 ±9.26). A direct observation with application of NBI function increased accuracy of assessment of cancer invasion as T2/T3/T4A/T4B in 6,5%/45,2%/38,7%/8,1% of patients, as compared to CT assessment in 9,0%/43,3%/26,9%/3,0% of patients, respectively. In LAP with NBI microvascular abnormalities on primary tumor was assessed. Those findings were dilatation, tortuousness, heterogeneity and brown spots. We find dilatation in 51 (76,12%) cases, tortuousness in 49 (72,06%), heterogeneity in 44 (66,67%) and brown spots in 33 (57,89%) Peritoneal metastases were confirmed in 23.9% of patients, cancer ascites in 20,6% of patients, and positive cytology in peritoneal washing in 19,7% of patients. Newly discovered findings in LAP resulted in modified management with palliative therapy in 22 (32,35%) patients and in the remaining 43 (63.24%) patients primarily intended a combined treatment with perioperative chemotherapy has been sustained.
Conclusion: The initial results of the study suggest that laparoscopic primary tumor assessment with NBI is a valuable diagnostic tool improving a clinical staging and assessment of curative potential in GC patients considered to a combined treatment with perioperative chemotherapy.
Disclosure of Interest: None declared

PE191

THE FREQUENCY OF ABATED E-CADHERIN EXPRESSION IN TISSUE SAMPLES OF PATIENTS WITH GASTRIC CANCER IN FATEMI HOSPITAL, ARDABIL, IRAN

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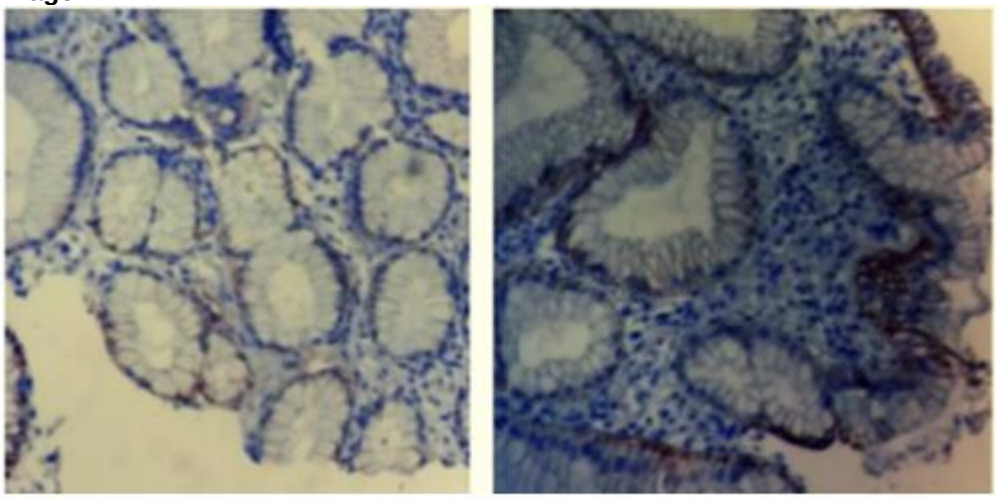
Introduction: E-cadherin is a calcium-dependent transmembrane glycoprotein which connects epithelial cells together at adherent junctions. In normal cells, E-cadherin exerts its tumor-suppressing role mainly by maintaining of cell's integrity. Loss or decrease of E-cadherin expression has recurrently been associated with poor prognosis and poor overall survival of cancers such as gastric cancer.

Despite the fact that E-cadherin enhances the survival of post-dissemination cancer cells for secondary metastases formation, its expression has also been associated with the induction of cancer cells apoptosis that is a reiteration to its serious role in cancer prevention. In this study, we aim to determine the frequency of E-cadherin expression aberrancy and its relationship to the biological behavior of gastric adenocarcinomas in our hospital.

Materials & Methods: 70 patients with gastric cancer who underwent gastrectomies in Fatemi Hospital of Ardabil, Iran were investigated in a cross-sectional study. Their tissue samples were stained with immunohistochemistry (IHC) methods using Monoclonal Mouse Anti-Human E-cadherin Clone NCH-38 to reveal the expression of E-cadherin. Patients' demographic data beside lesion location, adenocarcinoma subtype, differentiation, degree of the tumor, and presence of metastasis were collected and compared. Homogenous membranous staining was considered as normal gene expression while staining in the form of Heterogenous or cytoplasmic pattern represented reduced or aberrant expression.

Results: Diffuse type adenocarcinoma was responsible for 33 of the cases (47.14%) that E-cadherin expressions was abated in 29 (87.87%) of them (p-value = 0.016) opposite of intestinal type with the abated E-cadherin expression rate of 23 among the 37 remaining. Thus it demonstrated a significant correlation between this subtype of gastric cancer and the results of IHC for the incidence of E-cadherin aberrant expression (P=0.016). Anatomically the commonest region where the adenocarcinomas found was the body of stomach that 21 of all 26 cases had reduced E-cadherin expression.

Image:



Immunohistochemical staining of the gastric cancer specimens demonstrating "Heterogenous membranous" in the left and "Homogenous" staining in the right, the two common patterns of aberrant E-cadherin expression

Conclusion: The present study assessed the relationship between abnormal E-cadherin expression and certain biological variables of tumor behavior in Iranian patients with gastric adenocarcinomas. Firstly, it revealed diffuse subtype of cancer had a strong correlation with abated E-cadherin expression and secondly, the majority of adenocarcinomas raise from the body portion with a high rates of abnormal gene expression again.

Disclosure of Interest: None declared

PE192

TECHNIQUE OF ESOPHAGOJEJUNOSTOMY USING ORVIL AFTER LAPAROSCOPY ASSISTED TOTAL GASTRECTOMY (LATG) FOR GASTRIC CANCER

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Introduction: During esophagojejunostomy using a circular stapler after LATG, placement of the anvil head via the transabdominal approach proved difficult. The authors report on a method modified for laparoscopy-assisted, esophagojejunostomy performed by placing the pretilted anvil head(OrVil) via the transoral approach.
Materials & Methods: Between January 2013 and December 2018, esophagojejunostomy was Between January 2013 and December 2018, esophagojejunostomy was performed using OrVil in 99 patients after LATG. The anesthesiologist introduced the anvil while observing its passage through the pharynx. During the anastomosis, we kept the jejunum fixed in position with a silicone band Lig-A-Loops, thereby preventing the intestine from slipping off the shaft of the stapler.
Results: Esophagojejunostomy using the OrVil was achieved successfully in all patients. No other complications, such as hypopharyngeal perforation and/or esophageal mucosal injury, occurred during passage. The postoperative complications of anastomosis were leakage in two patients and stenosis in 5 patients, in whom mild relief was achieved using a bougie.
Conclusion: Esophagojejunostomy using the OrVil is a simple and safe technique.
Disclosure of Interest: None declared

PE193

ENDOSCOPIC MANAGEMENT OF ESOPHAGOJEJUNAL ANASTOMOSIS LEAKAGE AFTER TOTAL GASTRECTOMY.

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Introduction: Endoscopic management of esophagojejunal anastomosis leakage after total gastrectomy Esophagojejunal anastomosis leakage after total gastrectomy for gastric adenocarcinoma, despite improvements in surgical technique and perioperative managements still constitutes one of the most serious and at times life-threatening complications. It is not only associated with increased mortality rates and prolonged hospital stay, it also has been recognized as a poor prognostic factor. Treatment options available include conservative approach, endoscopic therapy or surgery. Nonetheless, the establishment of an optimal management strategy of esophagojejunal anastomosis leakage still represents a very challenging task. Endoscopic therapy seems to be a very promising method of management nowadays.

Materials & Methods: In our institution 47 patients mostly men with median age of 63.5 years with diagnosed gastric adenocarcinoma were operated from January 2016 to December 2018. The patients that underwent total gastrectomy also had a D2 lymphadenectomy performed. The proximal resection margin length was always above 5cm and intraoperative frozen section margin examination was routinely performed. The mode of reconstruction was a circular stapled end to side Roux-en-Y esophagojejunal anastomosis and nutritional microjejunostomy was established in all cases. The diagnosis of anastomotic leakage was based on clinical and radiological findings.

Results: Anastomotic leakage was diagnosed in 4 cases (8 %) . All four cases underwent endoscopy with partially covered self-expandable metal stent placement. The median duration from surgery to diagnosis of leakage was 2-3 days. After SEMS placement and radiographic evidence of correct placement, oral fluids in take was allowed for 1 day later followed by solid food. All stents were safely removed at the planned interval time of 4 – 6 weeks. Mortality occurred in none of these patients and overall treatment was successful with average period of stay in hospital approximately 6- 8 weeks .

Conclusion: Different treatment options for the esophagojejunal anastomosis leakage management are available but still the rate of failure remains significant. Endoscopic approach using partially covered self- expandable metal stent placement seems to be a promising method.

References:

Disclosure of Interest: None declared

PE194

SURGICAL DECOMPRESSION OF THORACIC LYMPHATIC DUCT IN MANAGEMENT OF CIRRHOTIC REFRACTORY ASCITES.

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Introduction: The refractory ascites (RA) in liver cirrhosis (LC) we associeted with hepatic hyperlymphoproduction and central lymphodinamic blockage on thoracic lymphatic duct (TLD). Aim of this study was to evaluation of surgical decompression of TLD in management of RA in decompensated LC.
Materials & Methods: Since 2009-2018 there have been treated 158 pts with LC and RA (Child B\C- 56/123, mean Child score- 9,8+/-1,2). The aim of surgical decompression was the reactivation of central lymphatic cirrculation and restorration of lymphatic drainage function on TL D. Surgical procedures included extensive mobilisation of the cervical segment of TD with ligaturation of the confluients limfatics branchs and intraoperative reactivation of lymphatic flow.
Results: The results have been analized after one postoperative years. Postoperativelly immediatly death not was constaded. Disappearence of ascites was estabiliched in 44 (27,8%) cases. Regression and stabilisation of ascites was noted in 69 (43,7%) pts in 2-3 months postoperatives. In 27 (17,1%) cases it is necessary laparocenthesis, stabilisation of ascites was noted in 3-4 months after surgical decompression of TD. In 18 (11,4%) pts with decompensated LC (Child C pointage >10) occurred progressive hepato-renal failure and deaths.
Conclusion: Cervical lymphatic decompression of the TD it is patoghenetically argumented method in the treatment of RA in LC. This methode improves semnifycativelly postoperative quallity of live in patients with LC and RA
Disclosure of Interest: None declared

PE195

FISTULA DAY 2018 CURRENT STATUS OF THE POSTOPERATIVE FISTULA OF THE DIGESTIVE TRACT. MULTI-CENTER, MULTINATIONAL STUDY.

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Introduction: In our Unit of practice integrated in Intestinal Failure working in collaboration with the Latin American Federation of Parenteral and Enteral Nutrition (FELANPE) we designed a database of this adverse event with the objective of knowing the results in the medical-nutritional and surgical therapy in a prospective multicenter-multinational, descriptive and analytical study with a 60-day follow-up.
Materials & Methods: The first cohort of hospitalized patients with a diagnosis of leak and / or postoperative fistula of the gastrointestinal tract was performed on May 9, 2018. The follow-up of these patients was 2 months. Patient care was not intervened in any way. The informed consent of the participating hospitals was obtained.
Results: The postoperative fistula was presented after elective surgery in 68.9% of the cases while 31.1% was after emergency surgery.
In 176 patients who completed the follow-up at 2 months, we found a mortality of 21.46% (38 patients), of these, 48% (18 patients) presented symptoms of anastomotic leak during the first 5 days.
The location of the fistula with the highest mortality was Small Intestine.
Of the 38 patients who died, 15 cases developed FEAT.
Conclusion: The prevalence of this adverse event in the postoperative period of gastro-intestinal surgery continues to be high and as a clinical entity with different stages, diagnosis is difficult and treatments are of wide variability. . It is urgent the standardization of clinical scenarios, the creation of integrated practice units in intestinal failure for the attention of this high cost adverse event.
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Disclosure of Interest: None declared

PE196

GIANT PRESACRAL TAILGUT CYST: A CASE REPORT

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Introduction: Tailgut cyst, also called retrorectal hamartoma, are uncommon disease but can be managed with a challenge.

Materials & Methods: We presenting a case report of a tailgut cyst, in a 52 year old female with a medical history of congenital tumor in the sacrum area. The tumor began to grow during a year after sacrum trauma. The patient came to ED because of the pain in sacrum area and skin cellulitis. The CT and MR were done. Scan showed left-lying, well-circumscribed, rounded perisacral mass in left glutteus, measuring 21,1×25,3× 15,3 cm, with a central liquid component and a fine calcificated wall. No signs of destruction were noticed in sacrum or vertebrae. Elective surgical treatment was concerned, cyst extirpation was performed.

Results: During the open surgery rectum dislocation without growth was found. Pelvis vessels were separated from tumor, the whole cyst was removed. The weight of tumor was 8 kilos. Skin plastic was done during the same operation. Blood loss was 200 ml.

Pathological response showed retroactive cystic hamartoma with malignant transformation and pronounced inflammatory changes. The proliferation of large intestinal adenocarcinoma G2 in the hamartomal structure was found. The exon mutation c.35G> T (p.G12V) of the KRAS gene was determined. The pathological response showed that the operation was radical. No bacterial growth was found in taken swab. Follow-up is carried out under the supervision of oncologists and surgeons. Further treatment was discussed at MDT.

Image:

Conclusion: Surgical management should be tailored individually for each patient. Complete surgical excision is the treatment of choice. Preoperative imaging with MRI or CT is essential to plan the most appropriate surgical approach.

Disclosure of Interest: None declared

PE197

REASONS AND TREATMENT OF MESENTERIC CIRCULATION ACUTE DISORDERS, OUR EXPIRIANCE

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Introduction: Acute mesenteric ischemia (AMI) is a potentially fatal vascular emergency with overall mortality of 60% to 80%,1-5 and its reported incidence is increasing.3 Acute mesenteric ischemia comprises a group of pathophysiologic processes that have a common end point—bowel necrosis. The survival rate has not improved substantially during the past 70 years, and the major reason is the continued difficulty in recognizing the condition before bowel infarction occurs.
Materials & Methods: The article discusses 146 cases of acute disorders of mesenterial blood supply (ADMBS).The medium age of the patients was 68,4 +3,6 years.
Results: The oclusive form made up 88% of the mentioned disease. (98.1% of them were due to damage of the arterial system of the gut). The main reason of pathologies ADMBS in 96% of the patients has been atherosclerosis of aorta and/or of its odd visceral branches. The reasons of severe mesenterial ischemia in 87.6% of the cases were occlusion of mesenterial vessels, what was due to trombosis and ambolia of odd visceral branches of abdominal aorta. The trombosis of portomesenterial part was evidented rearly in 2.1 % of the cases.
Conclusion: Acute mesenteric ischemia is a challenging clinical problem with diverse causes, which often results in delayed diagnosis and treatment. A strong clinical suspicion and an aggressive approach should be adopted in dealing with this condition because the outcome crucially depends on rapid diagnosis and treatment Bowel necrosis often results, usually necessitating bowel resection; however, deciding on the extent of resection is problematic as accurate identification of ischemic bowel that may undergo subsequent infarction is difficult. From our point of view, a second-look laparotomy after the first operation is usually recommended.
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Disclosure of Interest: None declared

PE198

IS IT APPROPRIATE TO MANAGE PATIENTS WITH UNRESECTABLE GASTRIC CANCER IN THE SMALL SIZED HOSPITAL IN THEIR RURAL AREA WITH LIMITED MEDICAL RESOURCES?

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Introduction: Gastric cancer (GC) is one of common malignant diseases. Although we have obtained satisfied outcome of patients of GC who underwent curative resection, life expectancy of patients with unresectable GC is still poor [1]. As the efficacy of the treatment for these unresectable GC is limited, the priority of treatment for them using precious medical resources may be estimated lower than for treatable GC patients. Although, they should be given sufficient palliative managements, it may be futile to gather these patients in the high-level center which contain bulky medical resources such as medical doctors, nurses and bulky infrastructural resources such as high quality instruments and electricity. It may be appropriate to manage these patients in the small sized hospital which always work using limited medical resources in the area where these unresectable GC patients live.
Materials & Methods: We reviewed medical records of 27 aged cases over 80 years-old with advanced GC who had not underwent surgery to evaluate the propriety of clinical course of them treated in small sized hospitals with limited medical resources in the rural area which tended to be left from centralization of medical system far from typical urban area. 22 showed decreasing mental status, 5 had histories of cerebral infarction or hemorrhage and 13 were in PS 3 or 4.

Results: 22 died, whose mean survival (MS) was 285 days and 11 died within 90 days after diagnosis. One month survival rate (SR) was 84%, 1, 2 and 3 year SR were 24, 19 and 10%. In cases with and without distant metastases (16 and 6), MS was 324 and 229 days, 1 month SR was 80 and 90% and 1 year SR were 23 and 25%, 2 year SR were 23, 13% and 3 year SR were 16 and 0%. In 22 died cases, 2 died with other pathological condition than GC. All 22 died cases managed without intensive care for 7 days before their death, and only one underwent peritoneal puncture. Another one underwent CPR until arrival of his family on the hospital. 21 (96%) underwent infusion until their death, 11 (50%) underwent oxygen treatment and 18 (82%) were administrated common antibiotics and palliative drugs. Relatives of all 22 died cases well recognized their unpreventable death. In total 27 and all 22 died cases, total days of hospitalization related with GC were 56 and 65 days

Conclusion:
Simple observation without resection of the main tumor for aged advanced GC patients are thought to be appropriate medically, socio-medically and in the view point of redistribution of precious medical resources.
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Disclosure of Interest: None declared

PE199

IS SIMPLE OBSERVATION WITHOUT ANY SURGICAL INTERVENTION AND ACTIVE TREATMENT FOR AGED EARLY GASTRIC CANCER PATIENTS SOCIO-MEDICALLY APPROPRIATE?

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Introduction: Increasing of aged population has been major socio-medical problem, which are consuming precious medical resources. Aged patients and their relatives lived in rural area often want to be treated within the area and within the restricted therapeutic procedure rather than advanced therapy in the high-volume center far from their area. Although small sized hospitals in the rural area have duty to respond these needs, they are usually exhausted and have no capacity for research activities. For patients with early gastric cancer (GC) who did not want surgery, we must present their expected outcome.

Materials & Methods: We evaluate the outcome of aged cases over 80 years-old with early GC who did not underwent surgery or any other active treatment from medical records. The outcome of 23 cases over 80 years-old with early GC who underwent resection were evaluated as control.

Results: Eight cases were included and all wanted to be treated within the area and within the restricted therapeutic procedure. One lived for 5 years, 5 (63%) died of other pathological condition than GC within 5 years and 2 (25%) dropped out, whereas in control 23 cases 52% lived for 5 years, 13% died of other pathological condition within 5 years. In 8 cases, 5 (63%) were diagnosed as GC during their admission, who could discharge from our hospital; 3 cases to their home and 2 to nursing home. Four (37%) were diagnosed as GC at the out-patient department, who did not admit in our hospital just after diagnosis, while in 23 control cases 96% could discharge from our hospital and the other one died in hospital; 83% to their home and 13% to nursing home. In 8 cases, total days of hospitalization related with GC and total days of hospitalization including other pathological condition were 6 and 9% (33 and 54 days) of their life after diagnosis. In 23 control cases, total days of hospitalization related with GC and total days of hospitalization including other pathological condition were 3 and 6% (42 and 76 days) of their life after diagnosis.

Conclusion: Simple observation without any surgical intervention and active treatment for aged GC patients are thought to be appropriate medically, socio-medically and in the view point of redistribution of precious medical resources. We should make patients and their relatives and inhabitants in the area be aware of importance of mutual participation mode including them and make them recognize that they are important team members of medical system and resources in the area.

Disclosure of Interest: None declared

PE200

MANAGEMENT OF GIST - OUR EXPERIENCE FROM NEPAL

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Introduction: Gastrointestinal stromal tumors (GISTs) are the mesenchymal tumors of the gastrointestinal tract (GI) and account for less than 1% of GI tumors Gastrointestinal stromal tumors (GISTs). They originate from interstitial cell of Cajal and majority (70%>85%) have mutations in c-KIT pathway and stain positively for CD117. Introduction of molecular-targeted therapy for GISTs has yielded remarkable outcomes, however surgery remains the current standard of care for localized gist. This study was conducted to describe socio-demographic features ,clinical presentations,treatment received and evaluate perioperative outcomes in patients undergoing surgery for GIST

Materials & Methods: This was a retrospective review conducted from Sep 2013 – Aug 2018 in Department of Surgery, PAHS.All cases who underwent surgery in the specified period were included.**Exclusion criteria** : Missing charts or incomplete data and if post operative diagnosis changed.Patient's demographics, intraoperative parameters and perioperative morbidity and mortality were evaluated.

Results: All together 24 cases were operated in which 5 were excluded due to incomplete data and 1 due to changed diagnosis post operatively to neuroendocrine tumor.

The median age was 61 years (range, 35 to 72 years). Commonest was Gastric Gist with 42%, while Ileal Gist was 25% and Jejunal Gist 21%. The primary presenting symptoms were abdominal pain (84.2%) and bleeding(31.6%). Tumor size was >5 - < 10 cm in 42% of the patients. The average tumor size was 5 cm (range from 1 to 10.5 cm).

Regarding the surgical management, two patients underwent gastric wedge resection, four patients underwent sub total gastrectomy, one underwent Total gastrectomy. The remaining 8 patients underwent resection and anastomosis for Ileal and jejunal Gist while two patients had excison of mesenteric GIST. the other two cases were one with Whipples for ampullary ca with jejunal GIST excision and one for resection with double barrel ileostomy for intestinal obstruction. Spindle type morphology was present in 90% of the cases36.8% patients were in high risk group ,and 53% received Imatinib therapy.There were no major intraoperative complications or mortalities.

Conclusion: ·Majority of GIST patients presented with pain abdomen and bleeding with stomach being the most common site.Almost 52% fell in high & intermediate risk category. Surgical intervention and imatinib therapy was found to be effective.

Disclosure of Interest: None declared

PE201

A COMPARATIVE STUDY OF THE TECHNIQUES OF INTESTINAL ANASTOMOSES BETWEEN VERTICAL INTERRUPTED MATTRESS SUTURE VERSUS ' FIGURE OF 8 ' INTERRUPTED SUTURE

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Introduction: Anastomosis is a surgical procedure wherein two hollow viscera are approximated together to establish a continuity. It may be following excision of a diseased segment or as a bypass. The technique of joining two pieces of bowel together is integral part of gastrointestinal surgery & surgical trainees have to master it. In all cases, the consequences of a failed anastomosis are severe and frequently life threatening. The main object of surgery is to make intestinal anastomosis leak proof with minimum tissue handling, thereby decreasing morbidity, mortaility and cost. In our study we would like to describe a technique of intestinal anastomosis, suturing the bowel by Figure of eight (8) interrupted suture and its suitability over single layer interrupted Vertical mattress suture technique of intestinal anastomosis by comparing with it.

Materials & Methods: This study is conducted at Asopa Hospital and Research Center, Agra in both retrospective and prospective i.e. those cases operated from 1st May 2001 to 31st October 2005 for intestinal anastomosis. All patients from 15 to 75 years of age requiring intestinal anastomosis were considered eligible.

Patient who requires anastomosis to the oesophagus, stomach, duodenum, rectum or hepaticopancreatico-biliary tract or even the urinary tract were excluded. In our study group 274 patients wereincluded and randomly divided into two groups i.e. Figure of Eight interrupted suture group and single layer interrupted Vertical mattress suture group. Figure of Eight ('8') interrupted suture group contains 119patients and single layer interrupted Vertical mattress suture group contains 155 patients.

Results: It is shown that this study provides a strong case for wide use of the Figure of '8' Anastomosis which may enjoy special advantage over vertical mattress due to its principle of mucosal inversion and serosa to serosa approximation in bowel anastomosis.

Complication rate were higher in vertical mattress group in comparison to figure of '8' and less hospital stay in figure of '8' group and also less suture material used.

Conclusion: Figure of '8' interrupted suture technique of intestinal anastomosis is a suitable option for hand sewn anastomosis that can be done safely, effectively and easy to reproduce in any type of bowel surgery for intestinal anastomosis.

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Disclosure of Interest: None declared

PE202

EMERGENCY HEPATIC PORTAL SYSTEM STENT PLACEMENT FOR TREATMENT OF RECURRENT NON-VARICEAL GASTROINTESTINAL BLEEDING - CASE SERIES.

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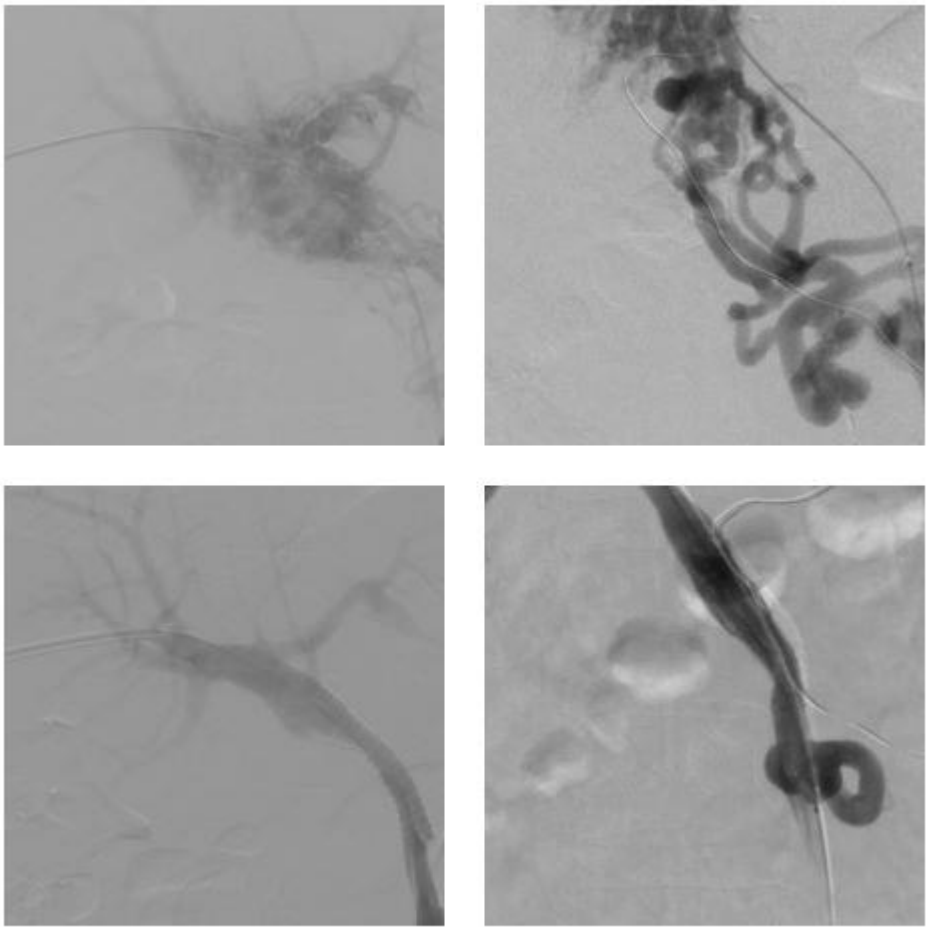
Introduction: Gastrointestinal bleeding can be life threatening complication of portal hypertension. Portal venous hypertension can be caused by extrahepatic obstruction or stenosis when the portal vein is blocked before blood reaches the liver. Gastrointestinal bleeding, in this group of patient, is mostly caused by variceal haemorrhage. Non-variceal sources included mucosal bleeding are not so frequent. From the first time interventional portal system stenting is described as a effective emergency method of treatment in patients with non-variceal, recurrent gastrointestinal bleeding.

Materials & Methods: Between 2016 and 2018 two cases of a patient suffering from recurrent gastrointestinal bleeding, who had several episodes of digestive mucosal hemorrhage due to portal hypertension.

Results: Case 1: 66 years old man who earlier underwent pancreatoduodenectomy, splenectomy , nephrectomy and cholecystectomy was admitted to our surgical ward due to persistent lower gastrointestinal bleeding.On admission, Hgb level was 6,8g/dl. Hartmann's operation was performed. Post-operation course was complicated with two reoperations. In spite of endoscopic treatment, patient received 19 pRBC and 14 FFP units. TK imaging did not revealed active variceal hemorrhage, although presented significant collateral circulation with obstructed upper mesenteric vein (UMV). Two protege stents was inserted in UMV through the left portal vein with result of collateral circulation disappearance. Nevertheless, patient died due to multiorgan dysfunction.

Case 2: 55-years old woman with chronic pancreatitis and portal vein stenosis was admitted to our Clinic due to recurrent bleeding to the lower digestive tract. On admission, Hgb level was 8.2g/dl without any obvious source of bleeding in CT imaging. A self-expanding metal stent was placed in the PV (portal vein) following percutaneous transhepatic PV angioplasty. Post-stent portogram via superior mesenteric vein showed no collaterals circulation. A control CT scan performed 3 months later, revealed correct blood supply to small and large intestinal without any symptoms of mucosal bleeding.

Image:



Conclusion: Non-variceal gastrointestinal bleeding should be included within the differential diagnosis for patients with portal hypertension and repeated, life-threatening hemorrhage from the digestive tract. It is worth to emphasize that portal stent insertion is useful for management of extrahepatic mesenteric-portal confluence stenosis and can reduce mucosal bleeding.

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Disclosure of Interest: None declared

PE203

THE USABILITY OF FINGER-MOUNTED OXIMETER FOR THE ASSESSMENT OF INTESTINAL TISSUE SATURATION OF OXYGEN

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Introduction: Evaluation of intestinal ischemia during the operation is important to assess the intestinal viability. Macroscopic change of color appearance or blood flow assessment by indocyanine green are used as traditional way to evaluate intestinal viability, however, prompt and quantitative assessment is unable by these methods. Recently, “Toccare”, the finger-mounted oximeter for the evaluation of fetal regional oxygen saturation (rSO2), was newly developed as minimally invasive and quantitative modality. In this study, we sought to analyze the usability of Toccare for the assessment of intestinal ischemia using animal model.
Materials & Methods: We used 15-23 week-old male SD rats in this study. Animals were subjected to laparotomy and induced intestinal ischemia or reperfusion by clamping mesenteric vessels. First, rSO2 of normal intestine and 1hr postischemic intestine (n=9) were analyzed. Second, after 1hr (n=5) and 6hr (n=3) of vessel clamping, rSO2 of 1hr-reperfused intestine were analyzed and 1 week survival rate was also assessed.
Results: The median rSO2 of normal intestine was 49.0% and 1hr postischemic intestine was 36.7% ($p<0.05$). By 1hr ischemia/reperfusion, the median rSO2 was dropped from 51.7% to 34.7% by vessel clamping and recovered to 48.3% by reperfusion (preischemia vs reperfusion: n.s.), and the 1 week survival rate was 100%. In contrast, by 6hr ischemia/reperfusion, the median rSO2 was dropped from 53.0% to 11.0% by vessel clamping and recovered to 27.0% by reperfusion (preischemia vs reperfusion: $p<0.05$), and the 1 week survival rate was 0%.
Conclusion: Quantitative, prompt and minimally invasive evaluation of rSO2 could be performed by Toccare. Our data suggest that rSO2 assessment by Toccare accurately reflects intestinal oxygenetion, which could be applied to intra-operative assessment of intesinal viability.
Disclosure of Interest: None declared

PE204

GASTROINTESTINAL STROMAL TUMORS: A SINGLE CENTER EXPERIENCE

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Introduction: The aim of this study is to present the clinical and pathological features of gastrointestinal stromal tumors (GIST) surgically treated in our hospital over the last decade.
Materials & Methods: A retrospective study of 100 patients with a histological confirmed diagnosis of GIST, operated on between 2007 and 2017 in Hippokration Hospital, Athens. We collected demographic data, endoscopic and imaging features, operative findings and type of procedure, histology report. Classification of small, intermediate and high-risk tumors was based on the AFIP criteria, which take into account size, mitotic activity and tumor location.
The statistical analysis was performed by using SPSS® 20.0.

Results: The mean age of the patients was 64,3 years (range: 23-88), while the rates of men and women were 44% and 56% respectively. The most frequent localization was the stomach, (63%), followed by the small intestine (23%). R0 resection was achieved in 90% of cases. On the basis of the AFIP criteria, 15 patients were at very low risk, 23at low risk, 13 intermediate and the remaining 50 at high risk of recurrence. Statistically significant correlation of stomach localization and expression of CD34 antigen ($p = 0.012$) was found, while no correlation of localization with grade and other immunohistochemical characteristics of neoplasm was found.
Conclusion: In conclusion, the demographic, surgical and pathological findings of GIST surgically treated in our hospital are similar to those of the international literature. Immunohistochemical characteristics of the tumor correlate with location rather than staging.
References:
Disclosure of Interest: None declared

PE205

MANAGEMENT OF GASTROINTESTINAL STROMAL TUMORS AT A PUBLIC SECTOR HOSPITAL IN PAKISTAN

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Introduction: : Gastrointestinal stromal tumors (GISTs) are the most common mesenchymal tumors of the gastrointestinal tract. Surgical (open/laparoscopic) treatment is the only chance of cure for patients with a primary localized GIST.

Materials & Methods: We present our experience of managing gastrointestinal stromal tumors from June 2015 till June 2018.

Results: we treated 6 cases of gastrointestinal stromal tumors from June 2015 till June 2018. 5 (83%) of them were male and 1 (16%) was female. Mean age of the patients was 44.1 Year (range 17-64 years). All of them were located in stomach. Mean size of the tumor was 10.65cm (range 6.5 -14.2 cm). one of them was with >5 mitosis/50 HPF all others were having <5/50 HPF. 4 of them underwent open resection of the tumor while 2 of them underwent laparoscopic resection. No complication occurred per operative or post operatively. All of the patients were given imatinib postoperatively. All of them underwent resection with 2cm resection margin.

Conclusion: Surgical resection remains the treatment of choice and offers the only chance of cure from GIST. The main operative principle is resection of the tumor with negative microscopic margins. Wide resection of the tumor (e.g. 2 cm margin) has not been shown to improve outcomes

Disclosure of Interest: None declared

PE206

THE COMPARISON OF GENERAL HEALTH STATUS IN PATIENTS UNDERWENT OPEN AND LAPAROSCOPIC CHOLECYSTECTOMY AND CHOLEDUCHOTOMY.

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Introduction: General health status is one of the most important index of life quality and can be used for estimation of quality of medical care. Gallstone disease is one of the most widespreaded surgical pathology and obstructive jaundice is dangerous complication of it. According to various data in literature, choledocholitiasis (CL) is revealed in 10-20% of patients with gallstone disease (GD) that is 75% of all biliary tract benign affections.
Materials & Methods: For indication of general health status 36-Item Short-Form Health Status (SF-36) was used. Between 2016-2018 years, 126 patients underwent treatment of CL with cholecystitis by performing simultaneous choleduchotomy with stones extraction and cholecystectomy (52 persons – open surgery (group 2) 74 persons – laparoscopic surgery (group 1)). For faster recovery protocols ERAS (Enhanced Recovery After Surgery) were used.
Results: Pain after surgery at rest was weaker in group 1 and relief became faster (2 days vs. 4-7 days). Self lifting from the bed was possible in 4.1±1,9 hr. in group 1 vs 19.7±3,3 hr. in group 2. Normal oral nutrition was restored in 14.7±3,1hr. in group 1 vs. 25.9±5,5hr. in group 2.
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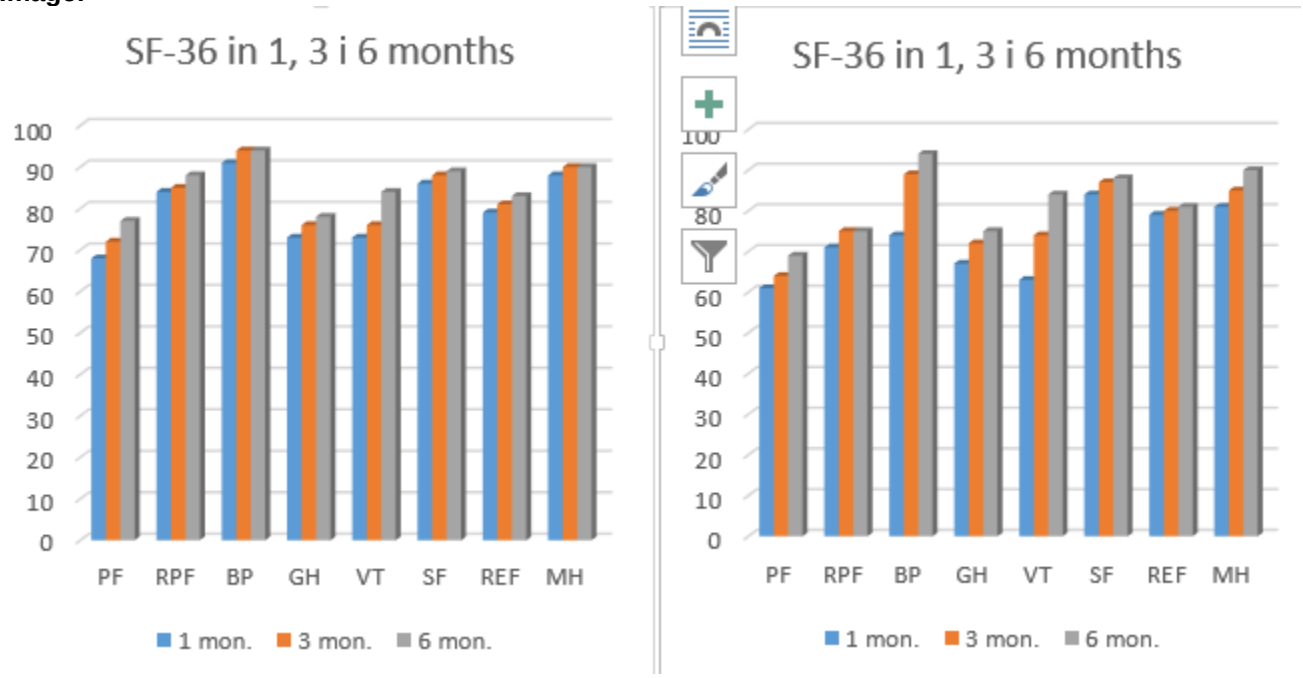

Conclusion: Laparoscopic simultaneous operations guarantee less pain and more comfort for patients with cholecystitis and choledocholitiasis. Treatment of gallstone disease using mini-invasive technology and ERAS has better outcomes comparing to open surgery. General health status in patients of laparoscopic group is significant bigger that can guarantee better quality of life and greater compliance.
Disclosure of Interest: None declared

PE207

ERGONOMY IN SIMULTANEOUS LAPAROSCOPIC TREATMENT OF HIATAL HERNIA WITH GALLSTONE DISEASE

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Introduction: Up to 16% of adult population suffer from gualstone disease (GD). In over 14-22% of patients have hiatal hernia (HH). Both diseases can be treated using mini-invasive methods

Materials & Methods: Between 2013 and 2018 years 87 (58.4%) patients have being treated for GD and HH simultaneously (group 1) and 62 (41.6%) patients have being treated in two stages (group 2). Every person in both groups underwent laparoscopic cholecystectomy and laparoscopic crurоraphy with fundoplication by Toupet. For performing operation in group 1 our method of port position was used. For fatigue measurement fast stress-test and Kitaoka test were used. Surgeons underwent tests after each operation.

Results: There were no significant difference between two groups in intraoperative and postoperative complications. Summary operative treatment and hospitalisation period took less time in group 1 (52,4 min./4 days vs. 71,8 min./ 7 days). The surgeons fatigue rate wasn't bigger in group 1. There was no recurrences observed in both groups. There was no other postoperative complication observed.

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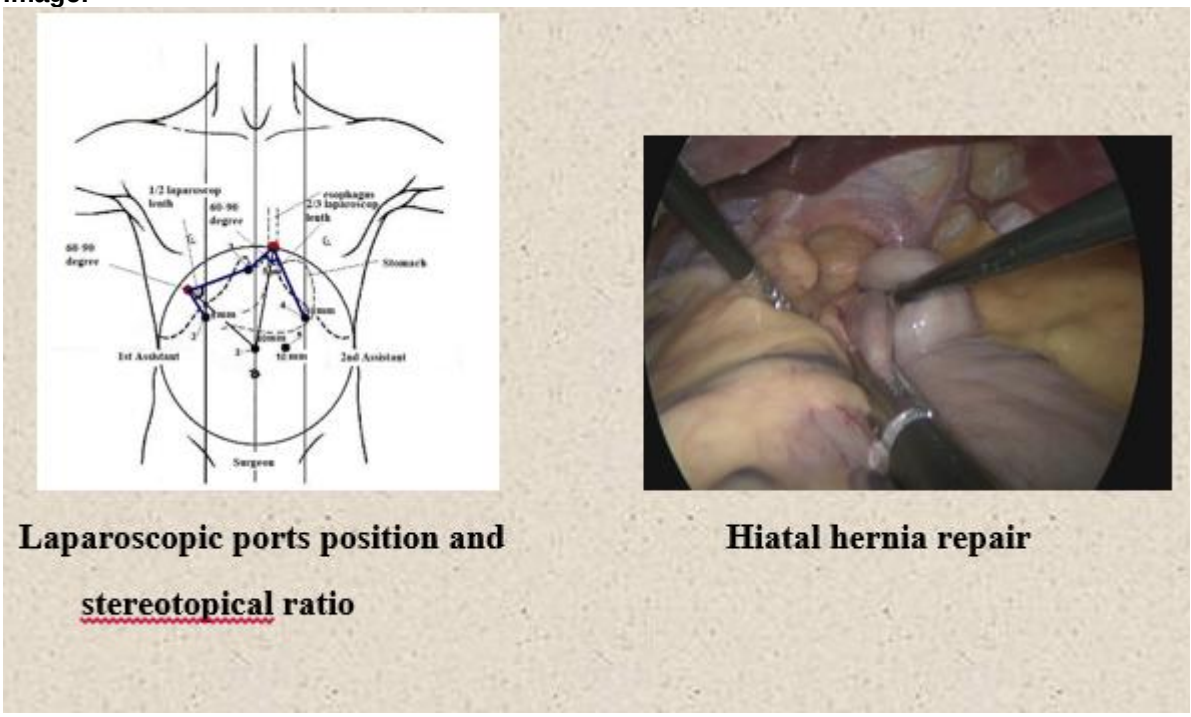

Conclusion: Our method of port positions for simultaneous performance of laparoscopic cholecystectomy and laparoscopic crurоraphy with fundoplication by Toupet is safe and effective does not lead to an increase of surgeons fatigue rate. One-stage treatment is faster and expedient for GD with HH.

Disclosure of Interest: None declared

PE208

ONE-STAGE TREATMENT OF CHOLEDOCHOLITIASIS AND OBSTRUCTIVE JAUNDICE AND CHOLECYSTITIS USING LAPAROSCOPIC TECHNOLOGY

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Introduction: Gallstone disease (GD) is widespreaded surgical pathology and affects up to 20% of adult population. Also it can be complicated with obstructive jaundice (OJ) that can be deadly dangerous for patient. Laparoscopic and ERCP take part in treatment of cholecystitis (CC) and choledocholitiasis (CL).
Materials & Methods: Statistic was summed up on 118 cases of CC with CL that underwent treatment in our department. For comparison, statistics from worldwide sources were used. Each patient in group of one-stage treatment (group 1) underwent MR-cholangeography, laparoscopic cholecystectomy, laparoscopic choledochotomy with stones extraction and intraoperative cholangiography. Each patient in statistic data for two-stage treatment underwent ERCP and cholecystectomy (group 2).
Results: One-stage treatment is faster in summary intraoperative time and demands less hospitalisation time (64.3 min. 4 days in group 1 vs 86.8 min 7 days in group 2). Two-stage treatment menaces of acute post-ERCP pancreatitis (up to 5% and up to 17.5% in case of repeat-ERCP), perforation (up to 0.94%), haemorrhage (1,34%), super-bug infection (1.44%), cholangitis (0.98%), duodenitis (0,54%), summary complication rate is very high – 6,85%. In group of one-stage treatment such complications were not typical. Summary complication rate in one-stage group was 2,36% anaphylaxis.
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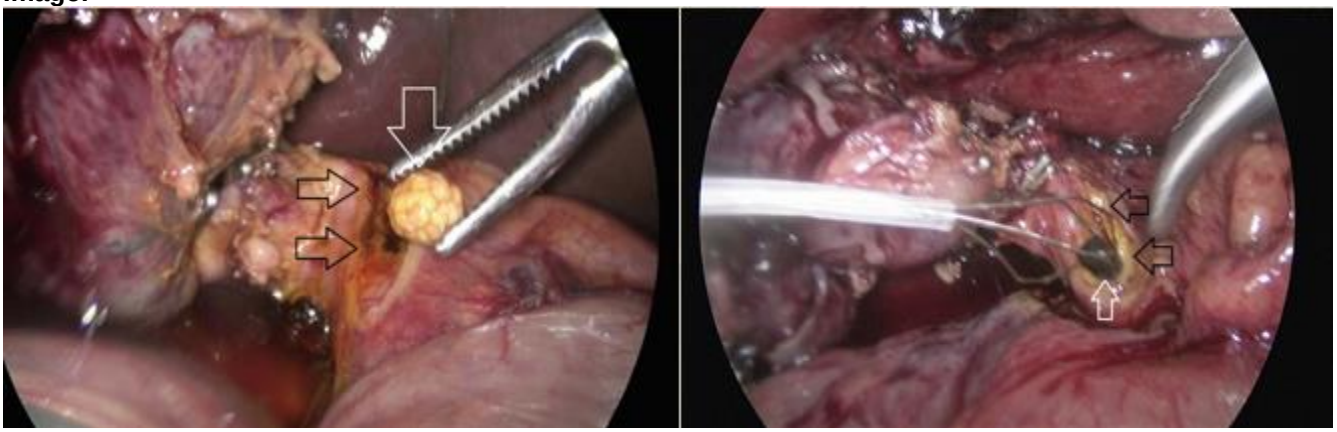

Conclusion: Pancreatitis is dangerous pathology that often developed as post-ERCP complication. One-stage treatment is safe and effective. Is is more acceptable comparing to two-stage treatment considering complication rate.
Disclosure of Interest: None declared

PE209

RESULTS OF THE ENHANCED RECOVERY AFTER BARIATRIC SURGERY (ERABS) PROTOCOL APPLICATION IN POLISH POPULATION

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Introduction: ERABS protocol introduced multitude of major changes in the perioperative care [1]. It's components are among the others: extensive preoperative counselling, changes in analgesia, avoidance of fluid overload, early mobilisation and postoperative feeding. If it is not necessary, drains and Foley catheters should be avoided [2, 3].
Materials & Methods: In our Clinic ERABS protocol was implemented at the end of 2017. From the November of 2017 till the end of 2018 we performed 50 bariatric procedures utilizing this protocol. All of this operations were laparoscopic sleeve gastrectomy, but in two cases it was a revisional procedures. Mean follow up in our Outpatient Clinic was 7,65 months. On each visit patient's body composition was evaluated and thorough examination was performed.
Results: ERABS protocol was successfully implemented in 49 out of 50 patients (98%). Mean hospital stay after the operation was shorter (1-2 days). There were no major complications noted and no difference in the early postoperative weight loss compared with our earlier patient's results. In this group we reported 3 patients (6%), that complained of gastroesophageal reflux symptoms after the operation. In 6% of cases decreased need for hypotensive or diabetic medications after the operation was reported.
Conclusion: Thanks to multidisciplinary approach, ERABS protocol proved to be successful in a clinical environment. Not only it shortens the time and lowers the costs of hospitalization but it seems to be connected with a better pain control and patient's satisfaction. Adding the fact, that it bears no greater risk of complications, it seems to be feasible and preferable protocol of perioperative care.
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Disclosure of Interest: None declared

PE210

PERIOPERATIVE OUTCOMES OF BARIATRIC SURGERY IN DIABETIC PATIENTS

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Introduction: Although bariatric treatment leads to remission of diabetes and metabolic syndrome, diabetes constitutes a factor increasing postoperative morbidity in general surgery. Thus, our aim was to assess the safety of bariatric surgery in diabetic patients.

Materials & Methods: This retrospective analysis was conducted in four referral bariatric centres in Poland. Patients who underwent laparoscopic sleeve gastrectomy (LSG) or laparoscopic Roux-en-Y gastric bypass (LRYGB) were included in the study. We compared perioperative outcomes of the surgery between the groups of nondiabetic and diabetic patients.

Results: 1,706 patients matched the inclusion criteria of which 429 (25.15%) suffered from diabetes. LRYGB was more frequently performed among diabetic patients (19.66% vs. 34.03%, $p<0.001$). In this group, we observed longer median LSG and LRYGB operation times (70 vs. 80 min, $p=0.026$ and 95 vs. 120 min, $p<0.001$, respectively), higher incidence of minor postoperative complications (Clevien-Dindo I-II) (3.92% vs. 6.56%, $p=0.030$) and longer median postoperative hospital stay (3 (3-4) vs. 3 (3-5) days, $p=0.020$). There were no significant differences in rates of intraoperative adverse events, overall postoperative complications, major complications (Clavien-Dindo III-V), reoperations and readmissions.

Conclusion: Diabetic patients are prone to longer operation time, higher incidence of minor complications and require longer hospital stay. However, overall intra- and postoperative morbidity is not increased. Bariatric surgery seems to be safe in this group of patients.

Disclosure of Interest: None declared

PE211

LEARNING CURVE FOR LAPAROSCOPIC ROUX-EN-Y GASTRIC BYPASS BASED ON THE EXPERIENCE OF A NEWLY CREATED BARIATRIC CENTER

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Introduction: Laparoscopic Roux-en-Y gastric bypass (LRYGB) is one of the most common treatments for morbid obesity. The learning curve for this procedure is 50-75 cases for independent surgeon, and it is considered the most important factor in decreasing complications and mortality. We present our experience and learning curve for LRYGB for newly established bariatric center in Poland.
Materials & Methods: A prospectively collected database containing all 272 LRYGB performed in II Department of General Surgery UJ MC in Krakow between 04.2012 and 11.2018 was retrospectively reviewed. Patients were divided into groups of 30 (G1-G10) in the order of the procedures performed by each surgeon. The study analyzed the course of the operation and patient hospitalization comparing those groups. Learning curve for the newly created bariatric center was established.
Results: Operative time in G1–G3 differed significantly from G4–G10 ($p<0.0001$). Stabilization point was the 90th procedure. Perioperative complications were observed in 36 (13.24%) patients. Perioperative complications, intraoperative difficulties and adverse events did not differ importantly among groups. Liberal use of “conversions of the operator” from a surgeon to a senior surgeon is providing reasonable safety and prevents complications.
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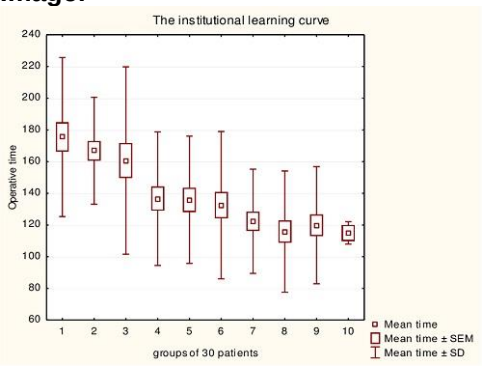

Conclusion: The institutional learning process stabilization point for LRYGB in a newly established bariatric center is around the 90th operation. LRYGB can be a safe procedure from the very beginning in newly established bariatric center. Specific bariatric training with active proctoring by an experienced surgeon in a bariatric centre can improve the laparoscopic gastric bypass outcome during the learning curve.
Disclosure of Interest: None declared

PE212

EVIDENCE-BASED MANAGEMENT OF PAIN AFTER LAPAROSCOPIC SLEEVE GASTRECTOMY – A PROSPECT REVIEW

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Introduction: Laparoscopic sleeve gastrectomy (LSG) is a common weight loss operation increasingly being managed on an outpatient or overnight stay basis. The aim of this systematic review was to evaluate the available literature and develop recommendations for optimal pain management after LSG.
Materials & Methods: A systematic review utilizing Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) with PROcedure SPECific Postoperative Pain ManagemenT (PROSPECT) methodology was undertaken. Randomized controlled trials (RCTs) published in the English language from inception to September 2018 assessing postoperative pain using analgesic, anaesthetic, and surgical interventions were identified from MEDLINE, EMBASE and Cochrane Databases.
Results: Significant heterogeneity was identified in the 18 RCTs included in this systematic review. Gabapentinoids and transversus abdominis plane blocks reduced LSG postoperative pain. There was limited procedure-specific evidence of analgesic effects for paracetamol, nonsteroidal anti-inflammatory drugs, dexamethasone, magnesium, and tramadol in this setting. Inconsistent evidence was found for alpha-2-agonists. No evidence was found for intraperitoneal local anaesthetic administration or single-port laparoscopy.
Conclusion: The literature to recommend an optimal analgesic regimen for LSG is limited. A pragmatic view supports paracetamol and a non-steroidal anti-inflammatory drug, with opioids as rescue analgesics. Gabapentinoids may amplify opioid-induced respiratory depression and should be used carefully. Although transversus abdominis plane blocks reduced pain, port-site infiltration with local anaesthetic may be considered instead, as it provides adequate somatic blockade and is simple and inexpensive.
Disclosure of Interest: None declared

PE213

TOTALLY ROBOTIC STAPLER-LESS PARTIAL GASTRECTOMY. THE ANIMAL FISIBILITY AND SAFETY STUDY.

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Introduction: No true preliminary work has been performed and published on the use of the bipolar cautery devices for transection of the stomach when performed as a part of the sleeve gastrectomy or gastric wedge resection. The objective of this study was to investigate the feasibility and safety of substitution of linear surgical stapling devices for use of a bipolar electrosurgical sealing instrument in the performance of a totally robotic partial gastrectomy (TRPG).
Materials & Methods: Ten female pigs were assigned to an intervention or control group. Intervention included TRPG with a robotic bipolar tissue coagulation device. In the control group, TRPG was performed using the staplers. Assessed outcomes included presence of the intraoperative and postoperative bleeding or leak and features of the sections from the stapled line or sutured line.
Results: Mean operating time was (130 ± 31 min) and (87 ± 23 min) in the study and control groups ($p = 0.03$). Intraoperative gastroscopy revealed slow bleeding associated with the staple line in 3/5 control pigs; oozing was not appreciated in any of the study pigs (0/5). No leak was detected during intraoperative gastroscopy. No major complications were suspected postoperatively or identified at postmortem exam in either group. Mean injury width was (1.12 ± 0.93 mm) in the control group with greater mean injury width (7.88 ± 3.73 mm) in the study group ($p = 0.001$). Mean depth of ulceration was (0.99 ± 0.94 mm) in the control group, with greater mean ulceration depth (2.25 ± 0.84 mm) in the study group ($p = 0.002$).
Conclusion: The study showed the technical feasibility of performing stapler-less gastric wedge resection. The electrocautery alone failed to demonstrate the technical feasibility which was obtained with the concomitant use of a tissue clamp and a suture.
Disclosure of Interest: None declared

PE214

POSSIBILITY OF LAPAROSCOPIC SLEEVE GASTRECTOMY FOR NONALCOHOLIC STEATOHEPATITIS IN PATIENTS WITH SEVERE OBESITY

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Introduction: Severe obesity has become a worldwide epidemic, and it result a multitude of metabolic abnormalities including nonalcoholic fatty liver disease (NAFLD). The prevalence of nonalcoholic steatohepatitis (NASH) in Japanese patients with severe obesity is extremely high compared with that worldwide. The aim of the present study was to evaluate the short-term outcomes of laparoscopic sleeve gastrectomy (LSG) on NASH in patients with severe obesity.
Materials & Methods: In this study, 67 Japanese patients with severe obesity underwent LSG and concomitant-operative liver biopsies from June 2008 to January 2019. Repeat liver biopsies were performed at 6 months, 1 year, and 2 years after LSG in the NASH patients. Liver histology was analyzed using the NAFLD activity score and the Brunt classification. Clinical and biochemical data were collected from prospective databases.
Results: The mean percentage of excess weight loss at 1 and 2 years after LSG was 58.9% and 61.4%, respectively. Of the 67 patients, 53 (79.1%) had NASH. Significant differences were observed in the following variables prior to and at 1 year after LSG: Mean BMI (42.9 vs 31.5 kg/m^2, $p<0.001$), HDL cholesterol (48.2 vs 64.5, $p<0.001$), triglycerides (149.0 vs 83.4, $p<0.001$), oxidized LDL (138.7 vs 108.0 U/L, $p<0.001$), HbA1c (7.3 vs 5.7, $p<0.001$), HOMA-IR (6.6 vs 1.9, $p<0.001$), PAI-1 (49 vs 21 ng/mL, $p<0.001$), adiponectin (2.4 vs 5.5 μ/mL, $p<0.001$), liver volume (2,190 vs 1,601 mL, $p<0.001$), and visceral adipose tissue (268 vs 145 cm^2, $p<0.001$). Compared to the baseline, there was a significant improvement in steatosis (score 1.4 to 0.5), hepatocyte ballooning (score 1.0 to 0.3), and lobular inflammation (score 1.1 to 0.6). Fibrosis improved in 79% of the patients at 1 year after LSG. The patients with high ballooning grades had long time to improve their fibrosis.
Conclusion: LSG is associated with a significant improvement in both the histological and biochemical markers of NASH. Metabolic surgery-induced weight loss should be considered as a treatment option for NASH patients with severe obesity. However, long-term studies are underway to better clarify the role of metabolic surgery use in NASH therapy.
Disclosure of Interest: None declared

PE215
THE INFLUENCE OF BARIATRIC SURGERY ON NT-PRO BNP SERUM LEVEL

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Introduction: Our aim was to assess the impact of bariatric surgery on the level of heart failure marker in blood serum (NT-proBNP) in the perioperative period, among patients without heart failure and compare changes in the NT-proBNP serum level depending on the type of bariatric surgery.
Materials & Methods: This prospective study involved 26 patients treated for morbid obesity without cardiac failure. NT-proBNP was measured during operation day - postoperative day 0 (POD0), POD1 and POD7. We also gathered demographic data, information concerning comorbidities, factors related to the surgery and outcomes of bariatric treatment.
Results: Twenty-six patients completed the study (18 females). The mean age of the group was 42.59 ± 11.58 years (range 23-66). Overall, 16 (61.54%) patients were submitted to Laparoscopic Sleeve Gastrectomy (LSG) and 10 (38.46%) patients were submitted to Laparoscopic Roux-en-Y Gastric Bypass (LRYGB). The mean NT-proBNP level was 55.80 ± 95.64 ng/mL during POD0, 364.73 ± 291.77 ng/mL during POD1 and 106.95 ± 191.08 ng/mL during POD7. Changes were found to be statistically significant (p=0.026). There were no significant differences between LSG and LRYGB groups during first, second and third measurements of serum NT-proBNP (p=0.121, p=0.337 and p=0.077, respectively).
Conclusion: We observed an immediate increase in NT-proBNP serum level among patients who underwent bariatric surgery; however, it seemed to partially stabilize during the first postoperative week. LSG and LRYGB have comparable impact on NT-proNP during peri-operative period. It seems that operative stress following bariatric operation may limit usefulness of the NT-proBNP as a heart failure marker.
Disclosure of Interest: None declared

PE216

STUDY ON THE RELATIONSHIP BETWEEN WNT/B-CATENIN PATHWAY AND RADIORESISTANCE OF ESOPHAGEAL SQUAMOUS CELL CARCINOMA IN VITRO

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Introduction: Radiotherapy is an important means of treating malignant tumors. Radioresistance is an important factor affecting the efficacy of radiotherapy and one of the main causes of radiotherapy failure. In patients with esophageal squamous cell carcinoma, especially in patients with advanced squamous cell carcinoma, there are many problems such as radiotherapy tolerance. In recent years, the relationship between classical Wnt/β-catenin signaling pathway and tumor radioresistance has gradually attracted the attention of scholars. In order to explore the cause of the radiotherapy resistance mechanism of esophageal squamous cell carcinoma, we have found a pathway to solve the breakthrough of radiotherapy resistance.

Materials & Methods: We chose the TE2 esophageal squamous cell carcinoma cell as the research object. At first, the cell line was treated with radiotherapy at a dose of 5 Gy*4 days, one of irradiated cell was added Wnt/β-catenin signaling pathway inhibitor to the cell culture medium Second, after 24 hours, we tested all the samples (irradiated cells/sphere cultured cells/inhibited cells/control cells) of ALDH1 positive rate by flow cytometry. At the same time, we selected the same cell line by 3D sphere culture as a positive control group. We tested all the sample of Wnt/β-catenin expression by Western-Blot. Colony-formation assay and Trans-well assay.

Results: 1. The expression of ALDH1 is regulated by beta-catenin, which activates the Wnt pathway and up-regulates ALDH1 expression.

2. For the esophageal cancer cell lines after irradiation, we found that the tumor stemness markers were significantly enhanced and it can be reduced by wnt/β-catenin signaling pathway inhibitors.

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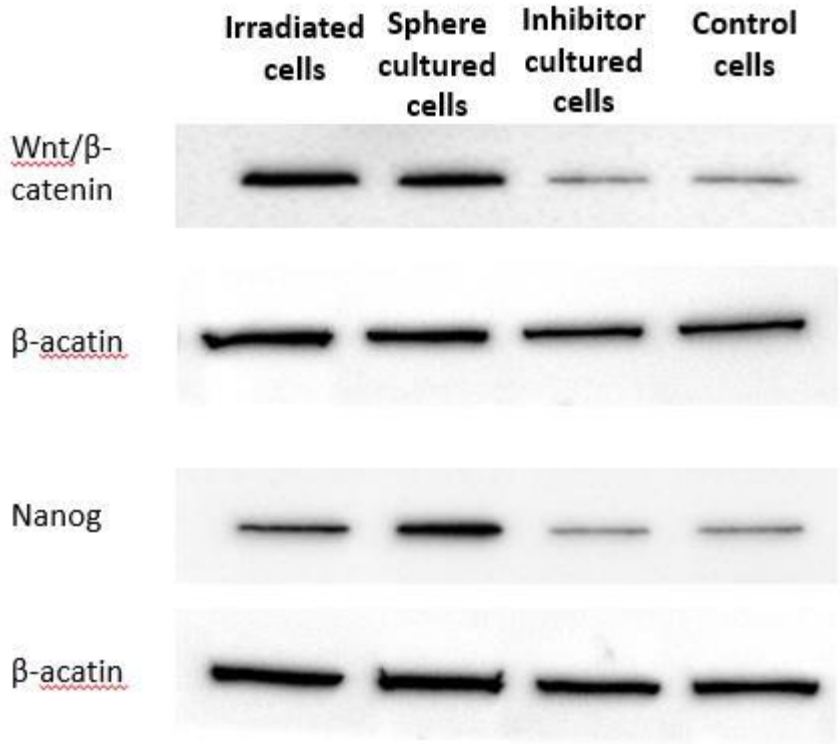

Conclusion: By analyzing the results of the study, We found that activation of WNT/β-catenin signaling pathway can cause esophageal squamous cell carcinoma get stronger radiation resistance.

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Disclosure of Interest: None declared

PE217

EVALUATION THE RESPONSE OF THERAPY WITH TRANSCATHETER ARTERIAL CHEMOEMBOLIZATION IN PATIENTS WITH HEPATOCELLULAR CARCINOMA.

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Introduction: Transcatheter arterial chemoembolization (TACE) is one of the therapies which is used in patients commonly with intermediate-stage hepatocellular carcinoma (HCC). This treatment is often repeated to achieve better efficacy which is later checked in medical imaging techniques like computer tomography (CT) or magnetic resonanse imaging (MRI). If TACE therapy gives unsatisfactory results, patients are qualified to combined treament with radiofrequency ablation (RFA). Patients with advanced neoplastic lesion, with liver failure symptoms need chemotherapy with Sorafenib or only symptomatic treatment. The aim of this study was to evaluate the results of TACE and assessment of necessity to subsequent treatment.
Materials & Methods: The study was conducted among 30 patients with intermediate-stage HCC (24 males, 6 females, mean age was 67,77±11,01 years), who underwent at least one attempt of TACE . The study lasted between 2017 – 2018. Radiological patterns of progression, liver function and performance status were considered after the therapy. We estimated groups of patients who were qualiffied to diffrent types of another treatment after revealing results of TACE therapy.
Results: Mean amount of TACE procedure was 2,80±1,40 among 30 patients, eight of them achieved good response . Six of them didn't need subsequent treatment, just only periodic observation in outpatient clinic . Additionally two patients with good response were qualified to the liver transplantation procedure. Six patients gained clinical and radiological stability after combined therapy with TACE and RFA, five of them need observation and one patient were qualified to the liver transplantaion. From all 30 patients, two of them were qualified to chemotherapy with Sorafenib and next two were treated symptomatically.
Conclusion: Transcatheter arterial chemoembolization causes good response to treatment in 27% patients and in combination with radiofrequency ablation helps achieve satisfactory effect in patients with intermediate –stage hepatocellular carcinoma.
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Disclosure of Interest: None declared

PE218

CLOSED SUCTION DRAIN VERSUS PASSIVE DRAIN IN PANCREATIC SURGERY: META-ANALYSIS

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Introduction: The recent debate on the benefits of intra-peritoneal drain in pancreatic surgery, has been heavily debated. However, there has been no discussion on the role of passive drainage. The aim of this study is to assimilate the current literature on the effect of active versus passive intra-peritoneal drainage on the outcomes of pancreatic surgery, particularly post-operative pancreatic fistula(POPF).

Materials & Methods: A systematic search of the literature was performed using PubMed, Embase and Google Scholar until January 2019 in accordance to the PRISMA guidelines. Randomized controlled trials(RCT) and observational studies, comparing the effect of active and passive intra-peritoneal drainage on the outcomes of pancreatic surgery. Data was extracted to determine an odds ratio using a fixed or random effects meta-analysis. Sub-group analyses of pancreaticoduodenectomy(PD) and distal pancreatectomy(DP) were performed.

Results: 6 observational studies and 3 RCTs, involving 7412 patients met the eligibility criteria and were included. Unadjusted pooled analysis of all 9 studies demonstrated no overall effect of the type of intra-peritoneal drainage on overall POPF ($p = 0.88$), overall morbidity ($p = 0.54$) or overall mortality ($p = 0.83$) . However, subgroup analysis demonstrated higher risk of overall and clinically relevant POPF in distal pancreatectomy with passive drainage (OR 1.93, 95% CI 1.28 - 2.91 & OR 2.44, 95% CI: 1.34 - 4.46) respectively.

Conclusion: Passive drainage demonstrates a higher incidence of overall POPF and clinically relevant POPF in distal pancreatectomy. The rates of overall POPF and clinically relevant POPF was unaffected in PD by the type of drainage.

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Disclosure of Interest: None declared

PE219

DEVELOPMENT OF A BILE DUCT STENT WITH AN ANTIFOULING FUNCTION USING BIOMIMETICS TECHNOLOGY

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Introduction: Biliary stent placement is required before treatment in patients with obstructive jaundice due to malignancy. However, conventional stents made with polyethylene are prone to occlusion because of the accumulation of biliary sludge, which results in the need for stent replacement. This problem is attributable to the polyethylene used to make the biliary stents; polyethylene is susceptible to adhesion of cholesterol and fat from bile, which eventually leads to stent occlusion. This study reports our efforts to develop a biliary stent that has antifouling properties based on biomimetics (biomimetic biliary tube stent [BMBTS]) in order to address this problem and to evaluate the practical effect of the stent's antifouling properties using a large animal model.
Materials & Methods: We prepared a BMBTS with a 7-Fr diameter and a biomimetic antifouling area in half of its length for comparison with a BMBTS with a conventional tube. The mixed pigs were laparotomized, and a BMBTS was placed between the common bile duct and duodenum. The BMBTS was fixed to the duodenal mucosa with suturing. The animals were allowed access to water from the 12th postoperative hour and allowed access to the same chow diet that they were fed with before the surgery from the 24th postoperative hour. A week after stent placement, the animals were killed with an excessive dose of intravenous ketamine hydrochloride and, again, laparotomized to extirpate the BMBTS. The BMBTS was evaluated for its fouled surface area using scanning electron microscopy (SEM).
Results: All animals survived until the day they were killed. No significant problems occurred in the bile duct. SEM observations of the BMBTS with a biomimetic antifouling structure revealed that only 15.7% of the surface area was fouled as compared to 53.4% of that of the BMBTS without a biomimetic antifouling structure.
Conclusion: The BMBTS we developed was a safe device with strong antifouling properties, and it may be a new treatment option for biliary obstruction in patients with malignancy.
Disclosure of Interest: None declared

PE220

IMPACT OF STENT GRAFT PLACEMENT FOR THE TREATMENT OF RUPTURED ANEURYSM AFTER PANCREATIC SURGERY

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Introduction: Pseudoaneurysm rupture (PAR) is a frequent complication of pancreatic surgery. Generally, hemorrhage from a ruptured aneurysm is treated with arterial embolization using an interventional radiological technique. However, embolization of the major hepatic artery often induces fatal liver damage. The ideal treatment for PAR may be placement of a covered stent in the ruptured artery.
In Japan, using a covered stent for iatrogenic arterial injury was approved in January 2016. Therefore, we aggressively use stents for PAR after pancreatic surgery (PS).
This study reports an evaluation of the usefulness and safety of covered stent placement for PAR after pancreaticoduodenectomy (PD) in comparison with those of coiling embolization.
Materials & Methods: Patients who had undergone PD and were suspected of having hemorrhage on the basis of clinical findings immediately underwent contrast-enhanced computed tomography (CT). If the CT revealed hemorrhage in the arterial system, immediate IVR was proposed. We performed IVR with CE until the approval of stent placement in Japan. Since 2016, we have used stents (VIABAHN, Gore, USA), which have a self-expandable metallic mesh and heparin-coated cover.
Between 2013 and 2018, 14 patients had undergone IVR after PD to control hemorrhage at our facility. These patients were divided into the ST group, consisting of 4 patients treated with stent placement, and the CE group, consisting of 10 patients treated with coil embolization. The patients' backgrounds, characteristics, and post-IVR outcomes were compared between the groups.
Results: No procedure-related complications occurred. No significant difference in patient background was found between the two groups.
In the ST group, PARs were found in the stump of the gastroduodenal artery in two patients, in the stump of the cystic artery in one patient, and in the branch of the common hepatic artery in another patient. In the CE group, PARs were found in the stump of the gastroduodenal artery in eight patients and in the branch of the common hepatic artery in two patients. No severe complications (Clavien-Dindo class >IV) occurred in the ST group. In the CE group, 5 patients had severe complications because of ischemic liver damage. The mean length of hospital stay after IVR was 10 days (range, 9–12 days) in the ST group and 32 days (range, 13–93 days) in the CE group, with a significant difference.
Conclusion: Placement of a covered stent for PAR after PD is an effective and safe procedure to preserve hepatic blood flow.
Disclosure of Interest: None declared

PE221

NON-VIRAL HEPATOCELLULAR CARCINOMA AND LIFESTYLE RELATED DISEASES AS ITS RISK FACTORS

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Introduction: Major causes of hepatocellular carcinoma (HCC) used to be hepatitis B and C virus infections and excessive alcohol consumption. Recently, lifestyle related diseases such as diabetes and obesity have been gaining attention as other risk factors of HCC. However, detailed characteristics of non-viral HCC is still unclear. Thus, we aimed to investigate the characteristics of surgically resected non-viral HCC cases.
Materials & Methods: This is a retrospective, single center, analytical study involving 551 cases of surgically resected HCC cases between 2000 and 2016. Various clinicopathological factors was collected from their medical charts and patients were grouped according to the etiology of HCC. These data on demographics, comorbidities, laboratory data, pathological data and their prognosis were analyzed.
Results: Of all 551 HCC patients, 101 was hepatitis B, 286 was hepatitis C and 164 (30%) was non-viral. The proportion of non-viral HCC is increasing every year, 17% in 2000 and 61% in 2015. Non-viral HCC was associated with older age, lower tumor marker levels and lower prevalence of major vascular invasion compared to hepatitis B HCC. Also, it was associated with better liver function and bigger tumor size compared to hepatitis C HCC. The prevalence of diabetes and obesity of non-viral HCC was 49% and 8%, respectively. It was significantly higher than that of hepatitis B (13% and 1%), and hepatitis C (17% and 2%). Moreover, when we investigated the histology of back ground liver, the rate of normal liver was significantly higher in non-viral HCC (23%) compared to hepatitis B HCC (6%) and hepatitis C HCC (1%). Prognosis of non-viral HCC was similar to that of hepatitis B HCC and better than that of hepatitis C HCC.
Image:

Prevalence of lifestyle related diseases

	Hepatitis B (n = 101)	Hepatitis C (n = 286)	NBNC (n = 164)	p-value
Diabetes	14(13.3%)	49(17.2%)	**81(49.4%)**	p<0.01
Obesity	1(1.0%)	7(2.3%)	**14(8.3%)**	p<0.01
Dyslipidemia	12(11.4%)	**20(6.9%)**	42(25.6%)	p<0.05
Hypertension	**20(20%)**	130(45.5%)	100(61%)	p<0.01

Conclusion: Non-viral HCC is increasing year by year. And, the prevalence of diabetes and obesity was significantly high among non-viral HCC. Unlike viral HCC, non-viral HCC was better in liver function , and more carcinogenesis with normal liver. These findings implies that diabetes and obesity are risk factors of HCC and the mechanism of non-viral hepatocarcinogenesis is different from that of viral hepatocarcinogenesis.
Disclosure of Interest: None declared

PE222

HOW OFTEN DO WE OBTAIN THE CRITICAL VIEW OF SAFETY (CVS): A COMPARATIVE STUDY OF NEEDLESCOPIC GRASPER ASSISTED SINGLE INCISION(NSILC) VERSUS THREE PORT LAPAROSCOPIC CHOLECYSTECTOMY(TPLC).

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Introduction: Single incision laparoscopic cholecystectomy(SILC) has some technical problems. Our group has performed needlescopic grasper assisted SILC (nSILC) to overcome these problems. In this study, we introduce our technique and evaluate the safety and feasibility of this technique comparing with thw conventional laparoscopic cholecystectomy(CLS).

Materials & Methods: We analyzed the medical records of the patients who underwent nSILC and CLC for benign gallbladder disease between January 2011 and December 2015. A needlescopic grasper was used in nSILC, which was inserted through a direct puncture on right upper quadrant of abdomen. The scope and other instrument were inserted through umbilical port. Three trocars were used in CLC, 11mm trocar for scope was inserted on umbilicus and two more 5mm trocars were inserted on right middle quadrant and epigastric area

Results: Totally 1221 patients underwent laparoscopic cholecystectomy during the period. Among them, 577 patients underwent nSILC and 644 patients underwent CLC. The critical view of safety (CVS) obtaining time and main procedure time (skin incision to gallbladder removal time) for nSILC was significantly longer than that of CLC. But, in terms of CVS obtaining success rate is more higher in nSILC group.

Image:

Table 1. Clinical outcomes between nSILC group and TPLC group.

	nSILC (n = 577)	TPLC (n = 644)	P
Age (year)	47.8 ± 14.5	55.5 ± 15.6	0.054
Sex			
Female	404 (70.0%)	334 (51.9%)	<0.001
Male	173 (30.0%)	310 (48.1%)	
BMI (Kg/m^2)	25.5 ± 5.6	25.5 ± 4.1	0.141
ASA score	1.5 ± 0.5	1.8 ± 0.6	<0.001
Postoperative HD	2.5 ± 3.8	2.5 ± 1.6	0.99
CVS obtained time (min)	19.8 ± 13.5	13.4 ± 10.1	<0.001
CVS obtaining rate			
Obtained	523 (90.6%)	461 (71.6%)	<0.001
Non-obtained	54 (9.4%)	183 (28.4%)	
EBL (ml)	3.0 ± 2.6	31.9 ± 143.3	0.059

Conclusion: We can get high success rate of accurate CVS obtaining rate in nSILC. So, nSILC is feasible and safe surgical procedure in patient with benign gallbladder disease.

Disclosure of Interest: None declared

PE223

LAPAROSCOPIC APPROACH FOR MIRIZZI SYNDROME: OUR EXPERIENCE WITH 13 CASES

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Introduction: Mirizzi syndrome (MS) is rare complication of cholelithiasis with an incidence of less than 1% a year. The aim of this study was to present our treatment methods focusing on laparoscopic approach.
Materials & Methods: We retrospectively analyze 13 cases of MS between October 2012 and December 2014. The clinical data included demography, clinical presentations, diagnostic methods, surgical procedure, postoperative complications, and follow up.
Results: The incidence of MS was 1.4%, 13 of 897 cholecystectomized patients. There were 2 men and 11 women, with a mean age of 47.5 ± 21.9, and mean BMI was 26.8 ± 6.7. Nine patients had MS type I (69.2%). Seven patients underwent laparoscopic cholecystectomy, whereas 2 conversions were performed because of difficult dissection at calot's triangle and common bile duct. Three patients had MS type II (23.1%), and all MS type II patients underwent laparoscopic cholecystectomy, and there was no conversion case. One patient had MS type III (7.7%), and underwent laparoscopic cholecystectomy and common bile duct repair. There was only one post-operative complication (7.7%) in MS type I, common bile duct was perforated because of common bile duct thermal injury. There was no postoperative mortality.
Conclusion: The laparoscopic surgery for MS type I and II has been generalized already in experienced hands, the laparoscopic management may be attempted with adequate experience and skill-set in highly selective cases of MS type III, IV, V.

Disclosure of Interest: None declared

PE224

EVALUATION OF LOCAL TREATMENT AND ANALYSIS OF RECURRENCE FACTORS AFTER ENDOSCOPIC OR SURGICAL RESECTION FOR AMPULLARY CANCER

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Introduction: In this study, we examined the results of local treatment for early ampullary cancer (AC) and the recurrence factors of AC after resection.

Materials & Methods: We studied 47 cases of AC wherein the patients treated treatment in our hospital between January 2005 and December 2018. We investigated the results of local treatment for early AC and analyzed recurrence factors on resected AC retrospectively.

Results:
The mean age of the 47 patients was 67.4 ± 2.4 years (46 to 83 years old), and the ratio of the number of men to women was 33:14. In 6 patients, local treatment was performed (endoscopic papillectomy: 2 cases, transduodenal papillectomy: 4 cases); in 42 patients, pancreaticoduodenectomy was performed. According to bile duct carcinoma treatment 6th edition (Japanese Society of Hepato-Biliary-Pancreatic Surgery) , there were 17, 8, 4, 15, 2, and 1 patients with Stage IA, IB, IIA, IIB, III, and IV cancer, respectively. Six patients who underwent local treatment had early-stage cancers based on well-differentiated adenocarcinoma (tub1), and there were no cases of vascular invasion (ly0, v0). One of the 6 patients developed local recurrence, but all 6 patients remained alive during the 3-year follow-up period. On the other hand, 9 of all 47 patients developed recurrence (local, 3 cases; liver metastasis, 6 cases; peritoneal dissemination, 2 cases). Regarding the recurrence factors examined in all cases, univariate analysis revealed a significant difference in venous invasion, pancreatic invasion, histologic cancer remnants, and lymph node metastasis ($P<0.05$). In multivariate analysis, venous invasion and histologic cancer remnants were independent recurrence factors. For all patients, the 5-year disease-free survival rate was 77.4% and the 5-year overall survival rate was 81.2%.

Conclusion: It has been suggested that if local treatment is limited to early AC, which is well-differentiated adenocarcinoma that has no vascular invasion, local treatment may be useful for obtaining long-term prognosis. We should also consider appropriate adjuvant therapy for cases of resected AC that have risk factors of recurrence.

Disclosure of Interest: None declared

PE225

LAPAROSCOPIC CHOLECYSTECTOMY, USING SUBARACHNOIDAL ANESTHESIA IN SPONTANEOUS RESPIRATION

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Introduction: The use of laparoscopic surgery is extremely has expanded over the past years, which has led to reduction of morbidity and reduction of Deterioration of patients in a hospital compared with open surgery. However, the anesthesia in such patients remains virtually unchanged. In most patients, laparoscopic surgery is usually performed under general anesthesia, with the exception of those who have contraindications to general anesthesia.
Objective. To analyze the results of application of subarachnoidal anesthesia while spontaneous respiration during performance of laparoscopic cholecystectomy (LCHE) for improvement of the regional anesthesia, while doing operations on abdominal organs.
Materials & Methods: In 549 patients, put to Class I–III in accordance to classification of American Society of Anesthesiology (ASA), ageing from 25 to 82 yrs and at average (48.9 ± 13.1) yrs old, LCHE was performed with pneumoperitoneum, which was established, using intraabdominal blowing with CO_2 and subarachnoidal anesthesia on spontaneous respiration. For an acute cholecystitis 319 (58.1%) patients were operated and for chronic calculous cholecystitis – 230 (41.9%). Of 319 patients, suffering an acute cholecystitis, 278 (87.4%) have had destructive forms. Intraoperative parameters, intensity of postoperative pain and the restoration measure in total, as well as the patients' satisfaction measuring, were registered while prospective observation performance with objective to investigate the procedure's safety and possibilities.
Results: All the operations were finished laparoscopically, in no one observation conversion to subarachnoid anesthesia into general one was needed. The pain intensity during 4 h after the operation have constituted 1.6 ± 1.1 (diapason 0 – 5), in 8 h –1.2 ± 0.9 (diapason 0 – 6), in 24 h – 1.02 ± 0.7 (diapason 0–5). All the patients were discharged in 1 – 7 days.
Conclusion: LCHE with CO_2 pneumoperitoneum may be performed successfully and securely, using subarachnoidal anesthesia on spontaneous respiration. Besides this, spinal anesthesia is connected with minimal postoperative pain and, at least with similar measure of restoration, as it occurs while application of general anesthesia.
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Disclosure of Interest: None declared

PE226

EXAMINING ONCOLOGIC OUTCOMES AND OPERATIVE COMPLEXITY IN 184 ROBOTIC HEPATECTOMIES

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Introduction: Robotic hepatectomy (RoH) for benign and malignant liver tumors has increased over the last two decades without compromise of perioperative outcomes compared to conventional approaches. However, there is limited reporting on oncologic outcomes as well as the complexity of hepatectomy the robot enables. The purpose of this study was to evaluate our institutional experience with RoH focused on capturing these factors.
Materials & Methods: A single institution retrospective study of patients who underwent RoH for primary hepatobiliary, metastatic, and benign liver tumors between 2011 and 2018 was conducted. Patient demographics, tumor characteristics and perioperative data were collected for all indications while oncologic outcomes including local recurrence rate, disease-free survival and overall survival were evaluated for primary hepatobiliary (HB) malignancies [hepatocellular carcinoma (HCC), cholangiocarcinoma (CC) and gallbladder cancer (GBC)]. To examine complexity of hepatectomy, we calculated the tumor location component of the laparoscopic liver resection difficulty score (LDS).
Results: 184 robotic hepatectomies were performed from 2011-2018. 78 cases were performed for primary HB malignancy (60 patients for HCC, 6 for GBC, 13 for CC), 75 for metastatic and 31 for benign disease. 23% of cases were resections of >3 segments with 16, 5 and 2 resections of 4, 5 and 6 segments respectively. For this subgroup, 65% of cases were non-anatomic parenchymal sparing resections of multifocal disease with a mean modified-LDS of 10 (range 6-18). 54% of patients had a prior abdominal operation and conversion to open hepatectomy occurred in 3.8% of patients. There was no mortality within 30 days and the overall complication rate was 13.4%, with one complication requiring return to the operating room. Median length of stay was 3 days. The rate of R0 resection was 80% for all cases and 90% for HCC, 67% for GBC, and 77% for CC. For primary HB malignancies where data was available, at a median follow-up of 18 months (range 2-85), local recurrence rate was 4.3% (all HCC), overall survival was 85% and disease-free survival was 67%.
Conclusion: Robotic hepatectomy has comparable oncologic outcomes to conventional approaches to hepatectomy and enables complex non-anatomic parenchymal sparing resections.
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Disclosure of Interest: None declared

PE227

COMPARABLE SHORT-TERM AND LONG-TERM OUTCOME BETWEEN ASSOCIATING LIVER PARTITION AND PORTAL VEIN LIGATION FOR STAGED HEPATECTOMY (ALPPS) AND SINGLE-STAGE MAJOR HEPATECTOMY FOR PATIENTS WITH HEPATOCELLULAR CARCINOMA

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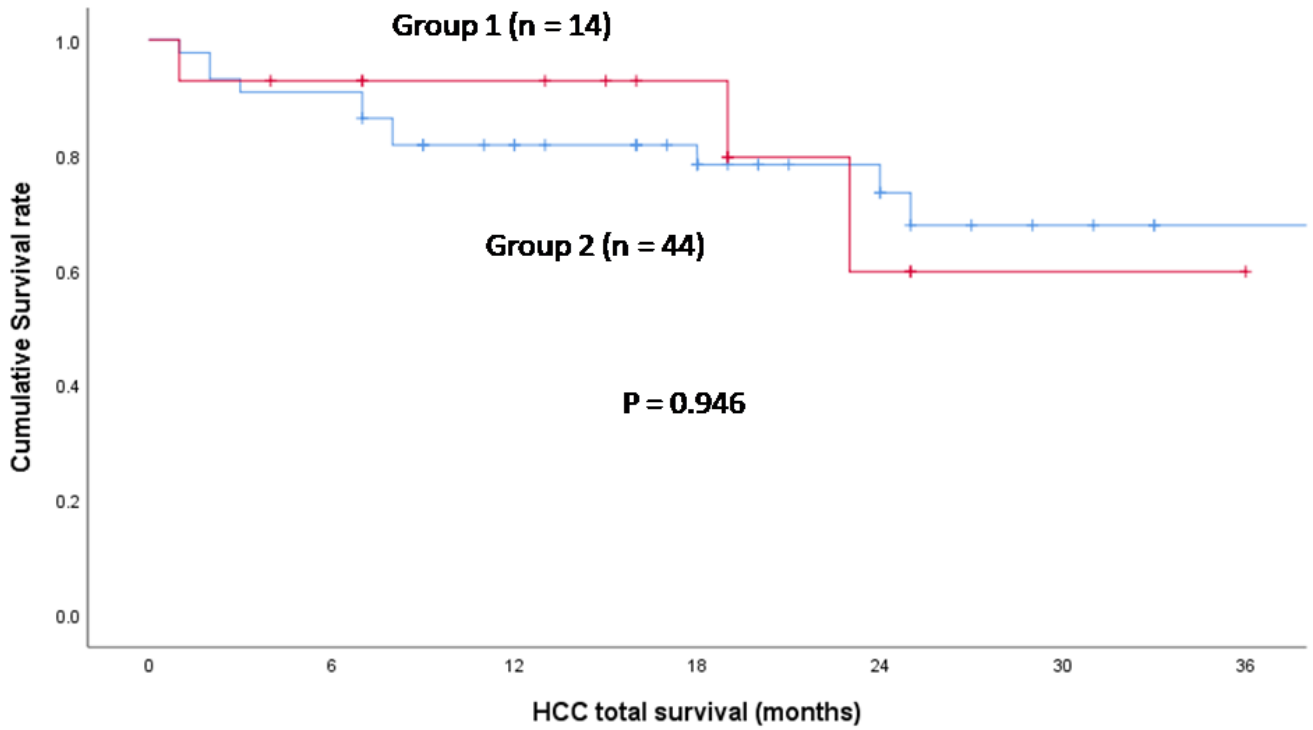
Introduction: Associating liver partition and portal vein ligation for staged hepatectomy (ALPPS) is a novel procedure for patient with hepatocellular carcinoma (HCC) and insufficient future liver remnant. The reported morbidity and mortality rates of ALPPS is variable in the literature. There is limited data on the comparison between ALPPS and single-stage major hepatectomy for HCC. This study aims to compare short-term and long-term results between the two operative procedures for patients with HCC.
Materials & Methods: From 2014 to 2018, 58 patients with HCC underwent ALPPS (Group 1, n = 14) or single-stage major hepatectomy (Group 2, n = 44). Short-term and long-term outcome were retrospectively reviewed in a prospectively collected database.
Results: There were no significant differences in demographic features between two groups. Majority of patients were hepatitis B carrier (Group 1, 92.9% ; Group 2, 93.2%), good liver function (Group 1, ICG = 9.25%; Group 2, ICG = 9%) , minimal co-morbidity (Group 1, 14.3%; Group 2, 22.7%). Tumor pathological characteristics were similar between two groups. In group 1, the median preoperative future remnant liver volume was 307ml (27.4% of standard liver volume). Following stage I ALPPS, the future remnant liver volume increased by 56.7% by a median interval of 7 days. Group 1 had significantly longer operative duration (579min vs. 338min) and more intraoperative blood loss (1525ml vs. 675ml) than Group 2. The hospital mortality rate was 7% in group 1 and 2.3% in group 2. There was no significant difference in severe complication rate between group 1 (7.1%) and group 2 (11.4%). The hospital stay was also similar between two groups. With a median follow-up of 18 months, the tumor recurrence rate was 42.9% in group 1 and 43.2% in group 2. The 1, 2, and 3-year overall survival rates were similar between group 1 (92.9%, 57.9% and 57.9%) and group 2 (81.7%, 73.4% and 67.8%).
Image:



Conclusion: There is comparable short-term and long-term outcome between ALPPS and single-stage major hepatectomy for patients with hepatocellular carcinoma.
Disclosure of Interest: None declared

PE229

COMPARISON OF SHORT TERM OUTCOMES OF LAPAROSCOPIC CHOLECYSTECTOMY FOR ACUTE CHOLECYSTITIS VERSUS ELECTIVE CHOLECYSTECTOMY.

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Introduction: Cholecystectomy is one of the most common surgical procedure. Introduction of laparoscopy has significantly decreased number of complications and mortality. However, current publications suggest limited indications for cholecystectomy. The aim of our study was to evaluate treatment results of patients undergoing elective and emergency cholecystectomy.
Materials & Methods: The prospective study included 329 patients that underwent cholecystectomy between 2013 and 2017. Patients were divided into two groups: 177 qualified for elective cholecystectomy and 193 operated for acute cholecystitis. Perioperative characteristics including: sex, age, BMI were analyzed. Symptoms, preoperative CRP and WBC level, ultrasound results, length of stay, operative time, intraoperative adverse events, postoperative complications, conversion rate and pathological results were compared between the two groups.
Results: Length of stay and operative time was significantly shorter in elective surgery group. Number of complications and mortality was notably higher in emergency surgery group.
Conclusion: Our study has shown that extension of indications for elective cholecystectomy may importantly reduce emergency cholecystectomies and improve treatment results among patients with cholelithiasis.
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Disclosure of Interest: None declared

PE230

ISCHEMIA-REPERFUSION INDUCED PARENCHYMAL DAMAGE CHARACTERISTICS, E.G., BY SELECTIVE EXPERIMENTALLY AND CLINICALLY RELEVANT LABORATORY PARAMETERS IN TRANSPLANT LIVER ORGANS

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Introduction: The success of standardized liver transplantation bases on substantial advances in surgical techniques & an optimized, patient-adapted immunosuppressive therapy. The use of cadaveric organs is influenced by **i)** a (possibly short) organ transfer, **ii)** a (possibly minimized) ischemia effect by a lowered organ temperature with effective solutions for tissue conservation, such as HTK /UW solutions, & **iii)** reperfusion effects (by oxidative stress).
Aim: To assess quality of transplanted liver organs by simply determined parameters, already started during surgical intervention.
Materials & Methods: In all consecutive patients, systematic blood samples were withdrawn in a perioperative setting of liver transplantation (-1h; 0; +1/+6h; +1/+3/+7d) & liver rinsing blood fractions during reperfusion phase after vascular anastomosis (-1h/0/+1h) were obtained & analyzed: **1)** AST/ALT/GLDH; **2)** MDA/protein carbonyle each correlating to parenchymal damage & cold/warm ischemia time (CIT/WIT); **3)** postoperative factors V/ATIII.
Results: From 1995-2009, 75 patients were enrolled (finally 60 with a completely analyzed spectrum of parameters). The rinsing blood was suitable to characterize damage of liver parenchyma/oxidative stress. CIT/WIT were in a short time frame, which was defined by the transplantation management & the standardized surgical technique – no strong correlations of damage parameters & time periods of ischemia. Oxidative-stress parameters showed only slight alterations/low correlations to other parameters – therefore, a causal association of ischemia/reperfusion, oxidative stress & cell damage can not be derived (only between CIT & AST). Obviously, the solutions for organ conservation provide an effective antioxidative protection. With regard to the impact of ischemia onto the transplanted organ, it was found that time if ischemia and GLDH correlated during the mid-term postoperative course (supported by the fact that GLDH is a suitable liver-specific laboratory parameter for assessment of damage).
Conclusion: Ischemia-reperfusion damage bases on oxidative stress phenomenons. The extent of parenchymal damage can be quantified by analysis of the initial rinsing blood fractions. However, the advanced standardization did not lead to indicative courses of damage. During the establishing process of novel parameters to assess quality of liver transplantation, rinsing blood can be considered a suitable material for analysis & the presented laboratory parameter profile appears feasible & well-proven.
Disclosure of Interest: None declared

PE231

THE UTILITY OF ANATOMICAL RESECTION FOR HEPATOCELLULAR CARCINOMA WITH HIGH POSSIBILITY OF MICROSCOPIC VESSEL INVASION

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Introduction: We have previously reported that there was no significant difference of survival and recurrence rate between anatomical resection (AR) and non-anatomical resection (NAR) using propensity score matching (PSM) analysis (J Gastrointest Surg. 2014). Moreover, the predictors of microscopic vessel invasion (MVI) that causes intrahepatic metastasis have been reported (World J Surg. 2018). The aim of the present study was to evaluate the superiority of AR to NAR for HCC in the patients with high risk of having MVI before surgery.
Materials & Methods: From September 2002 to June 2017, 353 patients who underwent hepatectomy for primary and solitary HCC with no vascular invasion or intrahepatic metastasis on the preoperative imaging were included in the present study. From the previous reports, preoperative AST, platelet count, high PIVKA-2 and low prothrombin time were risk factors for the presence of MVI. High PIVKA-2 was defined score 4 and the other three factors were defined score 1 from the odds ratio. We compared the outcomes between AR and NAR in the patients with score 5 or more who were high risk group of MVI. In the present study, vascular invasion was defined as portal invasion or vein invasion. Regarding the surgical procedure, we do not stick to AR for HCC when it is possible to keep the surgical margin even if liver function can be acceptable.
Results: There were 182 patients with score 5 or more and MVI was confirmed in 46 of them (25%). AR was performed in 136 patients and NAR was performed in 46 patients. There was no significant difference of the median relapse-free survival (RFS) between AR and NAR (26.9 vs. 24.9 months, P=0.434). Preoperative PIVKA-2 was significantly higher in AR than NAR (1880 vs. 162 mAU/mL, P<0.001) and tumor size was larger in AR than NAR (65 vs. 33 mm, P<0.001). The rate of liver cirrhosis in NAR was significantly higher than that in AR (40 vs. 10%, P<0.001). To minimize the influence of potential confounders on the selection bias, PSM was performed with these three factors. After PSM, there were 37 patients with AR and NAR, and RFS was significantly better than AR in NAR (P=0.037).
Conclusion: It was considered for the patients with high risk of having MVI that AR should be performed instead of NAR as long as liver function permits.
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Disclosure of Interest: None declared

PE232

PATIENT INFORMATION NEEDS

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Introduction: The treatment of upper gastrointestinal cancer patients is complex requiring multimodality therapy in patients that are often elderly and comorbid. The information needs of upper gastrointestinal cancer patients are inherently important in ensuring they complete treatment successfully. Patient perspectives on this subject are scarce and consequently a review was conducted to determine information requirements in this setting.
Materials & Methods: A systematic review of the English language literature was performed to determine the information needs of patients with upper gastrointestinal cancer. A narrative approach was used to present the results with broad themes categorised for meta-synthesis.
Results: The initial search yielded 3143 articles which, with the removal of duplicates, reduced to 2986. Following abstract review and comprehensive analysis six articles were included. One-on-one consultations with senior medical staff were the preferred method of information transfer followed by web based information services. Surgeons always discussed the technical aspects of proposed surgery and in-hospital risks, but patients nominated information regarding post-operative recovery, quality of life, expected survival, management of post-operative symptoms, and coping strategies for insurance and financial issues, relationships and family as being most important. Patient's families prioritised information on the effects of diagnosis on patients over time and detailed information on available support services.
Conclusion: For effective treatment of patients, physicians and surgeons must address issues pertaining to quality of life and may require specific training. Consideration should be given to including specialist staff knowledgeable in accessing support services, providing financial advice and psychological support.
Disclosure of Interest: None declared

PE233

REPEATED LIVER RESECTIONS IN PATIENTS WITH PRIMARY AND SECONDARY LIVER TUMORS - IS IT RELATED WITH HIGHER RATE OF POSTOPERATIVE COMPLICATIONS AND MORTALITY ?

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Introduction: Liver resections of extensive range are becoming essential part of hepatic neoplasms treatment. Patients with hepatic tumors and metastases who were qualified for palliative treatment only, today are undergoing multiple resections. With additional systemic treatment liver tumors are starting to be considered a chronic condition. The aim of this study is to analyze the data considering patients with repeated liver resections.
Materials & Methods: Patients with liver tumors who have undergone more than one liver resection between 01.09.2016 and 31.12.2019 were analyzed retrospectively. Of 311 patients that undergone liver resection in our department at the time, 24 who fulfilled the criteria were included in the study (7,7%). The group consisted of 13 (54,17%) female and 11(45,83%) male patients. The medium age was 57,68 years. Out of the group 2 patients undergone 3 resections, the rest 2 resections. There was a comparison made between the indication, type and outcome of primary and subsequent operations.
Results: The diagnosis were: metastatic colon cancer-19, CCC-1, HCC-1, metastasis from other regions-3.
The range of the operations - tab 1

tab. 1.

Performed operation	number of operations	First operation	Next operation
anatomical resection	19	7	12
right hemihepatectomy	4	2	2
extended right hemihepatectomy	6	4	2
additional termoablation	6	2	4
non anatomical liver resection	25	13	12
resections considering different organs	2	1	1

The postoperative complications were: biliary fistula (2) and fluid collection (2) - equal occurrence in primary and subsequent operations, abscess (1) and postoperative bleeding (1) occurred only in primary operations, metabolic disfunction (2) and operative site infection (1) - only in subsequent operations. The rate of postoperative complications was similar in both the primary and subsequent operations (16,7% vs 20,8%).There were no mortalities.
The complications treatment: conservative treatment was sufficient in majority of cases. One laparotomy was performed due to peritoneal bleeding.
The mean postoperative stay length was 9,4 days (10,3 days - primary, 8,6 days -subsequent operation).
Conclusion: Subsequent liver resections do not increase the postoperative complications rate or mortality and are a considerably safe method of treating patients with otherwise mortal disease.
Disclosure of Interest: None declared

PE234
LIVER RESECTIONS - ANALYSIS OF INDICATIONS, COMPLICATIONS AND RESULTS

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Introduction: Advancement of the systemic treatment of oncological patients has greatly influenced their life expectancy. In case of liver tumors systemic treatment is insufficient and in many cases surgery is the essential part of the oncological therapy. Liver is the most common metastasis location in the abdomen, therefore liver resection plays a substantial role in treatment of oncological patients. The aim of this study is to evaluate results and postoperative course in patients undergoing liver resection.
Materials & Methods: 311 patients with liver tumors that underwent 337 liver resections between 01.09.2016 and 31.12.2018 were included in a retrospective study. The average age was 58,4 years. Female and male patients were respectively 54 % and 46 %.
Results: In the analyzed group the diagnosis were: metastatic colon cancer – 178(57,2%), metastasis from other regions – 40(12,9%), FNH – 23(7,4%), HCC – 20(6,4%), CCC – 18(5,8%), cysts – 5(1,6%), echinococcal disease – 4(1,3%), other tumors – 23(7,4%)
Performed operations were: anatomical resection of one or two segments - 118, right hemihepatectomy - 59, extended right hemihepatectomy - 40, left hemihepatectomy - 19, extended left hemihepatectomy - 6, local non anatomical resection - 95. Apart from the liver resection additional procedures were performed: thermoablation - 16, extra hepatic bile duct resection - 6, resections of other organs - 22.
The number of patients with postoperative complications was 63 (18,69%).
Reported complications were: metabolic disfunction - 29 (8,61%), biliary fistula - 13 (3,86%), fluid collection - 12(3,56%), postoperative bleeding - 6 (1,78%), abscess - 5 (1,48%), others - 5 (1,48%). Mortality rate was 1,19% (4 patients).
Complications were treated with: preservative treatment - 46, laparotomy - 4, percutaneous drainage - 12, ERCP - 4.
Mean hospital stay length was 9,6 days.
Conclusion: The most common indication for liver resection is metastatic colon cancer. Considering extensive range of the operation and magnitude of perioperative trauma, when the operation is performed by an experienced team, the number of complications is considerably small and mortality rate is marginal. The length of postoperative stay is acceptable and majority of complications are not severe and don’t require invasive treatment.
Disclosure of Interest: None declared

PE235

PROSPECTIVE ASSESSMENT OF THE USEFULNESS OF ROUTINE INTRAOPERATIVE CHOLANGIOGRAPHY DURING LAPAROSCOPIC CHOLECYSTECTOMY

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Introduction: Intraoperative cholangiography (IOC) has been historically used to detect common bile duct (CBD) stones and delineate biliary anatomy to avoid bile duct injuries (BDI) during laparoscopic cholecystectomy. However, IOC has significant drawbacks such as increased operative time, expenses, and radiation exposure. We aimed to assess the usefulness of routine IOC during laparoscopic cholecystectomy in an urban teaching hospital.
Materials & Methods: We designed a prospective cohort study, including a consecutive series of patients undergoing laparoscopic cholecystectomy during the period 2017-2018. We performed IOC in all patients in order to evaluate: CBD stones, BDI, and anatomical variations of the biliary tract. A subset analysis was done for patients with preoperative suspicion of CBD stones either because of abnormal liver function tests and/or common bile duct dilatation on abdominal ultrasound.
Results: A total of 402 laparoscopic cholecystectomies were done during the study period. There were 16 (3.9%) failed IOC that were excluded, leaving 386 (96,1%) patients with IOC for analysis. Mean age was 48 (18-87) years, with 57% female patients. There were 20.7% emergent cholecystectomies. CBD stones were detected in 25 patients (6,4%); 16 of them were resolved with transcystic bile duct exploration and 9 with intraoperative endoscopic retrograde cholangiopancreatography (ERCP). One (0.3%) BDI was identified (Strasberg type D) that was fixed intraoperatively. Seven patients (1,8%) showed anatomical variations of the biliary tract in the IOC. Three patients (0.7%) had major postoperative complications (Clavien III-IV): 2 laparoscopic lavage and drainage of bile peritoneum, and one postoperative bleeding needing transfusion in the intensive care unit. There was no mortality in this series. In 54 (13.9%) patients there was a preoperative suspicion of CBD stones. In this group, the incidence of CBD stones detected in the IOC was significantly higher as compared to those without biochemical or imaging suspicion of CBD (20.4% versus 4.2%, $p < 0.01$).
Conclusion: The systematic use of IOC during laparoscopic cholecystectomy would not be justified due to the low rates of CBD stones, BDI, and anatomical variations of the biliary tract. Selective use of IOC in patients with preoperative suspicion of CBD should be encouraged.
Disclosure of Interest: None declared

PE236

MAGNETIC CHOLANGIORESONANCE USE IN DIAGNOSIS OF BILIO-ENTERIC ANASTOMOSIS STENOSIS DUE TO BILIARY TRACT INJURY.

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Introduction: The biliary tract injury (BTI) is a serious complication related to cholecystectomy in 80% of the cases. The biliodigestive derivation is the chosen procedure for its repair. The stenosis after an hepato-jejunal anastomosis (HJA) ranges between 9 to 25%, associated to a vascular injury, the chances rise up to 61%. Once the obstruction is identified, it should be resolved surgically. There are not exclusive diagnostic methods with high sensitivity and specificity that are able to identify stenosis of the biliodigestive anastomosis; for that, the standard of reference is surgery.
Materials & Methods: To specify magnetic cholangioresonance (MCR) utility in diagnosis of stenosis of the hepato-jejunal anastomosis due to biliary tract injury.
Type of study: diagnostic test, observational, comparative, transversal.
Were included patients >18 years old with hepatic jejunum anastomosis by BTI and jaundice, cholangitis or obstructive liver function pattern, from January 2009 to December 2016. Magnetic cholangioresonance findings were compared to trans operatory ones.
The sample size was calculated for a proportion. The analysis included T-student, U of Mann-Whitney, X^2, exact Fischer test and 2x2 table.
Results: One hundred twenty nine patients were evaluated; 67 included for the final analysis, 80.6% were women, average age 51.07 ($\pm$14.02) years. By Strasberg classification, 41.8% corresponded to E2 type. Two bilio-digestive reconstructions were performed in 73.1% of patients and three in 22.4%. Hepp-Couinaud procedure was the most common technique (58.2%). Magnetic cholangioresonance the conclusion were: 86.6% had bilio-digestive stenosis reconstruction, 20.45% vascular injury, 13.4% without stenosis and 10.44% with hepatolithiasis. Findings at surgery were: stenosis of the hepato-jejunal anastomosis was identified in 67.2%, HJA obstructions due to adhesions in 32.8% and hepatolithiasis in 28.35%. Magnetic cholangioresonance reported: 88% sensitivity, 17% specificity, 68% positive predictive value, 44% negative predictive value and 1.060% positive likelihood ratio. Interobserver concordance was 0.75 for stenosis of the hepato-jejunal anastomosis.
Image:

	N=67	%
Age (years)*	51.07	+ 14.02
Gender		
• Male	13	19.4
• Female	54	80.6
Reconstruction type		
• Hepp-Couinaud	39	58.2
• Transhepatic probes	3	4.5
• Y Roux	24	35.8
• Mucosae-Mucosae	1	1.5
Bismuth grade		
• I	10	14.9
• II	28	41.8
• III	21	31.3
• IV	8	11.9
• V	0	0
Strasberg grade		
• A	0	0
• B	0	0
• C	0	0
• D	1	1.49
• E1	10	14.9
• E2	28	41.8
• E3	21	31.3
• E4	8	11.9
• E5	0	0
CRM		
• With stenosis	58	86.6
• Without stenosis	9	13.4
• Lithiasis HJA	11	16.41
Hallazgos quirúrgicos		
• With stenosis	45	67.2
• Without stenosis	22	32.8
• Lithiasis HJA	19	28.3
Reconstruction number		
• 1	1	1.5
• 2	49	73.1
• 3	15	22.4
• 4	2	3

***Presented values as mean and + standard deviaton.**

Table I. Characteristics of the population under study

Conclusion: Magnetic cholangioresonance has a low positive likelihood ratio for predicting stenosis of hepato-jejunal anastomosis secondary to BTI. It is reproducible but it is dependent observer. All the patients needed bilio-enteric anastomosis rebuilding but not exclusively due to stenosis, also for biliary stasis due to adhesions and hepatolithiasis.

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Disclosure of Interest: None declared

PE237

SURGICAL MANAGEMENT OF THE HYDATID CYSTS OF THE DOME OF THE LIVER

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Introduction: Hydatid disease of the liver remains an important and challenging medical problem. The hydatid cyst of the dome is particular in its seat. His treatment is usually surgical. In this work, we have described the epidemiological, clinical, diagnostic, therapeutic and prognostic features.
Materials & Methods: This is a retrospective study extending from January 2006 to December 2017. Patient medical record was reviewed retrospectively. During that period, 134 patients were operated for a hydatid cyst of the liver dome at the General Surgery Department in La Rabta.

Results: The mean age was 44 years. The pain of the right hypochondrium revealed the disease in 83% of cases. The hydatid serology was positive in 73% of the cases. Type IV classification of Gharbi was the most common type in 42% of cases. The conservative treatment was the technique of choice (resection of outside dome surface) in 85% of cases. In 26% of cases there was a biliary fistula. The cyst was open in the diaphragm in 5% of cases. The postoperative course was complicated in 27% of the cases. Infection of the residual cavity was reported in 12% of cases. Recurrence occurred in 12% of cases.
Conclusion: Surgical treatment hydatid cysts of the dome of the liver may lead to significant morbidity. In addition to his difficult surgical access, opening in the diaphragm is one of the characteristics of the hydatid cysts of the dome compared to others locations.
Disclosure of Interest: None declared

PE238

APPLICATION OF TECHNIQUES OF LIVING DONOR LIVER TRANSPLANTATION IN COMPLEX HEPATIC RESECTION FOR HEPATOCELLULAR CARCINOMA

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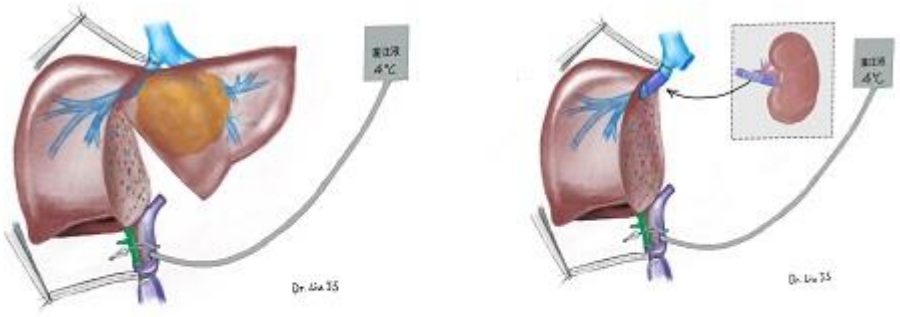
Introduction: Hepatocellular carcinoma (HCC) is highly invasive tumor with high incidence of major vascular invasion. Complex hepatectomy is commonly encountered and clinically challenging. With the development of liver transplant, the techniques of living donor liver transplantation (LDLT) can be applied in such condition. We herein report two cases of locally advanced HCC treated by major hepatectomy using LDLT techniques.

Materials & Methods: Case1 presentation：A 62-year-old male patient who had large HCC (9.1 cm) involving segment 4, 5 and 8. The left lateral section was small and there was evidence of tumor invasion to right hepatic vein (RHV). The plan is left trisectionectomy with RHV reconstruction using hypothermic in-situ perfusion technique. Standard technique adopted for hilar dissection and initial liver transection. Main trunk of RHV was isolated and divided. Total vascular exclusion was applied and in-situ cold saline perfusion of liver via portal vein was commenced. Later phase of liver transection can be done in a bloodless field. RHV was reconstructed by a interposition autograft using left renal vein. The total vascular exclusion time was 65 minutes. The operation time was 734 minutes. The blood loss was 4000ml.
Case 2 presentation : A 54-year-old female patient who had large HCC (5.9 cm) with middle hepatic vein (MHV) invasion. There was tumor thrombus extending to supra hepatic inferior vena cava (IVC). The plan was central bisectionectomy and caudate lobectomy with extraction of IVC tumor thrombus. Isolating of supra, retro, and infrahepatic IVC was initial performed. Suprahepatic IVC was further exposed by pericardiotomy via diaphragm. Total vascular exclusion of liver and clamp the supra and infrahepatic IVC were applied. IVC venotomy was made at the level of retrohepatic region. Extraction of IVC tumor thrombus was done. MHV was divided. Standard central bisectionectomy and caudate lobectomy were performed. The operation time was 734 minutes and total vascular exclusion time was 25 minutes. The intraoperative blood loss was 1000ml.

Results: Case 1 patient: He developed cholestasis on postoperative day 7 and was managed conservatively. Reoperation was performed on postoperative day 10 for intra-abdominal blood clot evacuation. Patient was charge on postoperative day 50.
Case 2 patient: She developed minor bile leakage from hilar plate which was managed conservatively.

Image:



Conclusion: Herein we report two cases of complex hepatic resection using techniques of living donor liver transplantation.

Disclosure of Interest: None declared

PE239

POSTOPERATIVE COURSE AFTER LIVER RESECTIONS IN ELDERLY PATIENTS

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Introduction: Liver resection is a treatment of choice in majority of liver neoplasms, both primary and metastatic. Due to ageing of population there is an increasing number of elderly patients requiring liver surgery. The aim of this study is to evaluate whether the complication rate and mortality increases in elderly patients undergoing liver resection.
Materials & Methods: 311 patients undergoing 337 liver resections between September 2016 and December 2018 were included in retrospective study. Groups of 252 patients aged under 70 and 58 patients aged 70 and over were compared. Data on type of tumor, range of resection and postoperative outcome were collected.
Results: The most common indication for liver resection is metastatic cancer. Over half of patients were operated because of colon metastatic cancer (60,3% in elderly and 56,5% in younger patients). Metastatic cancer from other regions was diagnosed in 12% and 13% patients respectively. Elderly group showed higher occurrence of primary hepatic tumors (HCC 12% vs 5,1%, CCC 8,6% vs 5,1%). Significant number of patients in younger group were operated with suspicion of malignant liver tumor and was diagnosed with FNH in histopathology report (9% vs 0 in elderly). Range of resection was similar in both groups with most commonly performed anatomical resection of one or two segments or local non anatomical resection. Mean postoperative hospital stay was longer in elderly patients (11,4d vs 8,5d). Overall postoperative morbidity was similar (19,6% >70, 18,4% <70). There were 4 postoperative deaths in younger group(1,4%) and none in elderly. Elderly patients presented higher rate of metabolic disfunctions (11,6% vs 7,9%) however in both groups preservative treatment was sufficient. Peritoneal bleeding occurred several times in younger group(6 patients-2%), from which half(3) needed relaparotomy. There was no reported bleeding in second group. Prevalence of other complications, such as abscess, biliary fistula or fluid collection, was comparable.
Conclusion: Liver resection in patients above 70 years of age can be safely performed without increased risk of morbidity and mortality. Postoperative care of those patients should focus on early diagnosis and treatment of metabolic disfunctions. Age should not be considered as an independent contraindication to liver resection.
Disclosure of Interest: None declared

PE240

PLATELET TO LYMPHOZYTE RATIO IS A PREDICTIVE MARKER FOR INVASIVE CARCINOMA IN PATIENTS WITH PANCREATIC INTRA EPITHELIAL NEOPLASIA

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Introduction: Platelet to lymphozyte ratio is an inflammatory marker that has been associated with overall survival in patients with invasive malignancies including pancreatic cancer.
Materials & Methods: We retrospectively reviewed 102 patients (46 female, 56 male) who underwent surgical resection for histologically confirmed pancreatic intraepithelial neoplasia (PANin) from January 2005 to December 2015. PLR was calculated and coevaluated with additional demographic, clinical, and imaging data for possible correlation with PANin-associated carcinoma.
Results: Overall survival was 27.1% and 33% (n=34) of the patients showed invasive pancreatic cancer. PLR was significantly elevated in patients with PANin- associated invasive carcinoma (P 0.006). In the multivariate analysis, invasive carcinomas were significantly more prevalent in patients with PLR above 110 (OR: 4.06, CI 95%: 3.91-4.12, p=0.04). Patients with elevated PLR had a two times higher risk to die in the postoperative period (HR: 2.26, CI 95%: 1.04-2.21, p=0.001).
Conclusion: PLR is an independent predictive marker for the presence of PANin-associated invasive carcinoma.

Disclosure of Interest: None declared

PE241

RETROSPECTIVE ANALYSIS OF TRANSARTERIAL CHEMOEMBOLIZATION IN UNRESECTABLE HEPATOCELLULAR CARCINOMA PATIENTS IN SARAWAK GENERAL HOSPITAL,MALAYSIA FOR 6 YEARS ,2011-2017

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Introduction: Hepatocellular carcinoma (HCC) is the most common primary malignant tumor of the liver and high mortality. According to Barcelona Clinic Liver Cancer (BCLC) staging, transarterial chemoembolization (TACE) is considered a recommended option for intermediate HCC. The purposes of our study is to evaluate the various factors affecting the outcome of TACE, to study the efficacy of TACE by evaluating the imaging response and the survival of patients.

Materials & Methods: This is a retrospective study for patients with unresectable HCC that is treated with TACE from year 2011-2017. Baseline imaging characteristics were obtained. Survival from the time of the first chemoembolization treatment was calculated.
Results: A total of 91 patients (Male 65; Female 26) underwent chemoembolization. Median age is 65 years (range 42-96 years). The cases was seen most in Chinese (N:43;47.3%), followed by Dayak (N:33;36,2%) and Malay (N:15;16.5%). 73.8% (N:67) belong to Child-Pugh class A, while 17.6% (N:16) Child-Pugh class B, and 8.8% (N:8) Child-Pugh class C. 56% (N:51) of patients has underlying Hepatitis B, while 6.6%(N:6) Hepatitis C, 1% (N:1) Hepatitis B and C, 36.4% (N:33) non Hepatits B/ C. Most of the patients have a tumor size of >10cm(N:33)followed by 5-10cm(N:30), then <5cm(N:28).Median study period was 18 months. 36 patients are alive by the end of the study. Survival rate post TACE <1 year is 52.7%, followed by 1-2 year (27.3%), then 2-3 year (10.9%), and >3 years (9.1%).
Conclusion: Chemoembolization is an effective and safe treatment for unresectable HCC. In this study, TACE has shown to improve survival rate of a year or more in HCC. Factors that had adverse effect on survival are Child class B and C, larger tumor size.

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Disclosure of Interest: None declared

PE242

EVALUATION OF 5-LOX AND 12-LOX LEVELS AS SERUM MARKERS IN GALL BLADDER CANCER – A PILOT STUDY

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Introduction: Gall Bladder Cancer (GBC) is the disease of developing world and Incidence wise India is 2nd highest in incidence just after Chile. Till date we do not have a reliable biological marker for the diagnosis and prognosis of GBC.Most of patients of GBC are diagnosed when they already are in advanced stage and their overall survival is only 6 months. With ongoing research, more and more cancers are being linked to the inflammatory pathway. Lipoxygenases(LOX) are being linked to many cancers like prostate, colon, breast etc.In this study we determine levels of 5-LOX and 12-LOX in serum of Gall bladder Cancer patients, cholelithiasis and healthy controls

Materials & Methods: : this study was carried out in the Department of General Surgery in collaboration with Department of Biochemistry of King George`s Medical University UP, India. Serum sample from patients belonging to three groups: Group I: Gallbladder cancer patients(GBC), Group II: Gallstone disease patients(GSD), Group III: Healthy Controls(Control). Sample was centrifuged and stored at -80 degree centigrade and was later analysed using ELISA method to find out the levels of LOX 5 and LOX 12 in serum samples in each of the 3 groups.

Details of ELISA Kit used-

12 LOX Kit:Serial:201-12-0949,Product Name:Human 12-lipoxygenase(LOX-12)ELISA Kit,Brand/Origin: SRB/shanghai,Specifications:96T

5- LOX kit: Serial:201-12-0843,Product Name:Human 5-lipoxygenase(5-LO/LOX)ELISA Kit,Brand/Origin: SRB/shanghai,Specifications:96T

Results: Table : Group Comparison

	Group I(GBC)		Group II(GSD)		Group III(Controls)		
	Mean	Std.deviation	Mean	Std. deviation	Mean	Std. deviation	P value
TLC	11298	4279	9149	2529	9574	1594	.017
Neutrophils	74.03	10.56	67.23	10.90	85.6	3.28	<0.001
Lymphocytes	22.30	9.63	28.27	9.03	12.50	2.81	<0.001
Eosinophils	2.50	0.73	3.10	0.66	1.63	0.81	<0.001
Total Bilirubiln	6.87	9.16	1.77	3.21	1.20	0.34	<0.001
Direct Bilirubin	4.80	6.33	1.09	2.32	0.56	0.14	<0.001
5-LOX	11.49	3.84	7.94	2.78	5.28	1.51	<0.001
12-LOX	8.71	3.19	6.15	3.49	4.43	1.26	<0.001

The level of both LOX in Group I (GBC) was significantly raised thanGroup III(Controls)($p<0.001$). The level of LOX in Group II(GSD)was significantly increasedIII(Controls)($p<0.001$).

Conclusion: Conclusion: The levels of 5-LOX and 12- LOX in serum of GBC was significantly raised when compared to patients with gall bladder stone and normal subjects vis a vis.The 5-LOX levels correlated significantly with the systemic spread of the disease (metastasis).

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Disclosure of Interest: None declared

PE243

SAFETY AND EFFECTIVENESS OF MAJOR HEPATECTOMY FOR PATIENTS WITH RECURRENT PYOGENIC CHOLANGITIS.

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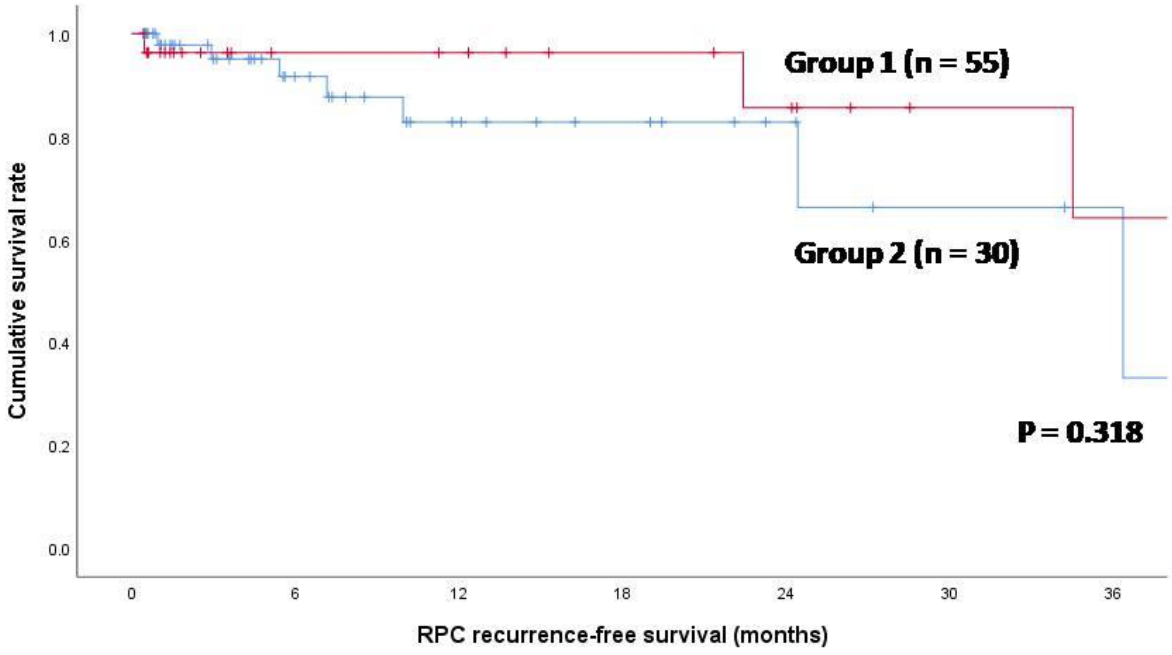
Introduction: Recurrent Pyogenic Cholangitis (RPC) is prevalent in Asia-Pacific region. It is potentially risky due to acute cholangitis and carried a risk of malignancy. Hepatectomy is curative for RPC, but its mortality and morbility cannot be underestimated. The aim of this study is to evaluate the short and long-term outcomes of major hepatectomy for RPC.

Materials & Methods: From 2014 and 2018, 85 patients with RPC undergoing hepatectomy (major hepatectomy [Group 1]: n=55; minor hepatectomy [Group 2]: n=30) was retrospectively reviewed. Short and long-term outcomes were analysed.

Results: There were no significant differences in demographic features in both groups. Majority of patients had preoperative biliary surgery (Group 1: 41.8%, Group 2: 53.3%), common bile duct stone (Group 1: 72.7%, Group 2: 63.3%) and Child-Pugh Class A liver function (Group 1: 83.6%, Group 2: 93.3%). Duration of operation was significantly longer in Group 1 (median = 405min) than Group 2 (median = 348min), but intraoperative blood loss and blood transfusion requirement were similar between two groups. There was no hospital mortality in both groups. Severe complications rates were also similar between Group 1 (14.5%) and Group 2 (16.6%). With a median follow up of 28 months, 1, 2 and 3-year RPC recurrence-free survival rates between Group 1 (82.8%, 82.8% and 66.2%) and Group 2 (96.3%, 85.6% and 64.2%) were not significantly different. (p = 0.318) Median recurrence-free duration were 36 months in Group 1 and 45 months in Group 2.

Image:



Conclusion: Major hepatectomy was safe and effective in the management of patients with RPC, in terms of low mortality and morbility, and favorable recurrence-free survival.

Disclosure of Interest: None declared

PE244

EVALUATION OF NUTRITIONAL MARKERS AND POSTOPERATIVE MANAGEMENT AFTER TOTAL PANCREATECTOMY

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Introduction: Total pancreatectomy (TP) has been regarded as a procedure that markedly impairs quality of life (QOL) and decreases nutritional status due to abolition of pancreatic endocrine and exocrine function. Recently, the indication of TP has been increasing. Also recent studies showed possibility of maintaining QOL after TP due to advances in surgical procedures and improvement of post-operative management. We investigate the change in postoperative nutritional index after TP and report our postoperative management after TP.
Materials & Methods: From March 2008 to December 2018, 76 patients underwent TP. Of these, 45 patients with more than 1 year follow up after TP included the study. We retrospectively evaluated medical records and patient data for the changes of nutritional index on 3, 6, 12 months after surgery. Patients who had recurrence and died were excluded for the analysis.
Results: Serum albumin and total cholesterol levels decreased at 3 months after surgery, but they recovered and maintained to preoperative level after 6 months. BMI and Hb levels decreased until 6 months after surgery, although they were lower than those of preoperative values, and they stabilized afterwards. The HbA1c levels increased in 3 and 6 months postoperatively, but they were remained with good levels of 7.2 +/- 1.2% after 12 months.
[Postoperative management]
The main points of postoperative management are as follows; no restriction of oral intake, administration of sufficient pancreatic digestive enzyme, and intensive insulin therapy. To maintain the total caloric intake, patients were not restricted oral fat intake. Target caloric intake is standard body weight (kg) x 30-35 kcal / day or more. A sufficient amount of pancreatic digestive enzyme replacement therapy is performed to ensure the necessary amount, and fat and protein are sufficiently ingested.
Conclusion: Postoperative nutritional indicators and glycemic control were maintained 12 months after surgery with the continuation of appropriate treatment. It may be important to closely collaborate among surgeons and diabetologist from early intervention. Patient education with the support of nutritionists and patient's families may be also important.
Disclosure of Interest: None declared

PE245

BIOLOGICAL AND CONDITIONAL FACTORS SHOULD BE INCLUDED WHEN DEFINING CRITERIA FOR RESECTABILITY FOR PATIENTS WITH PANCREATIC CANCER

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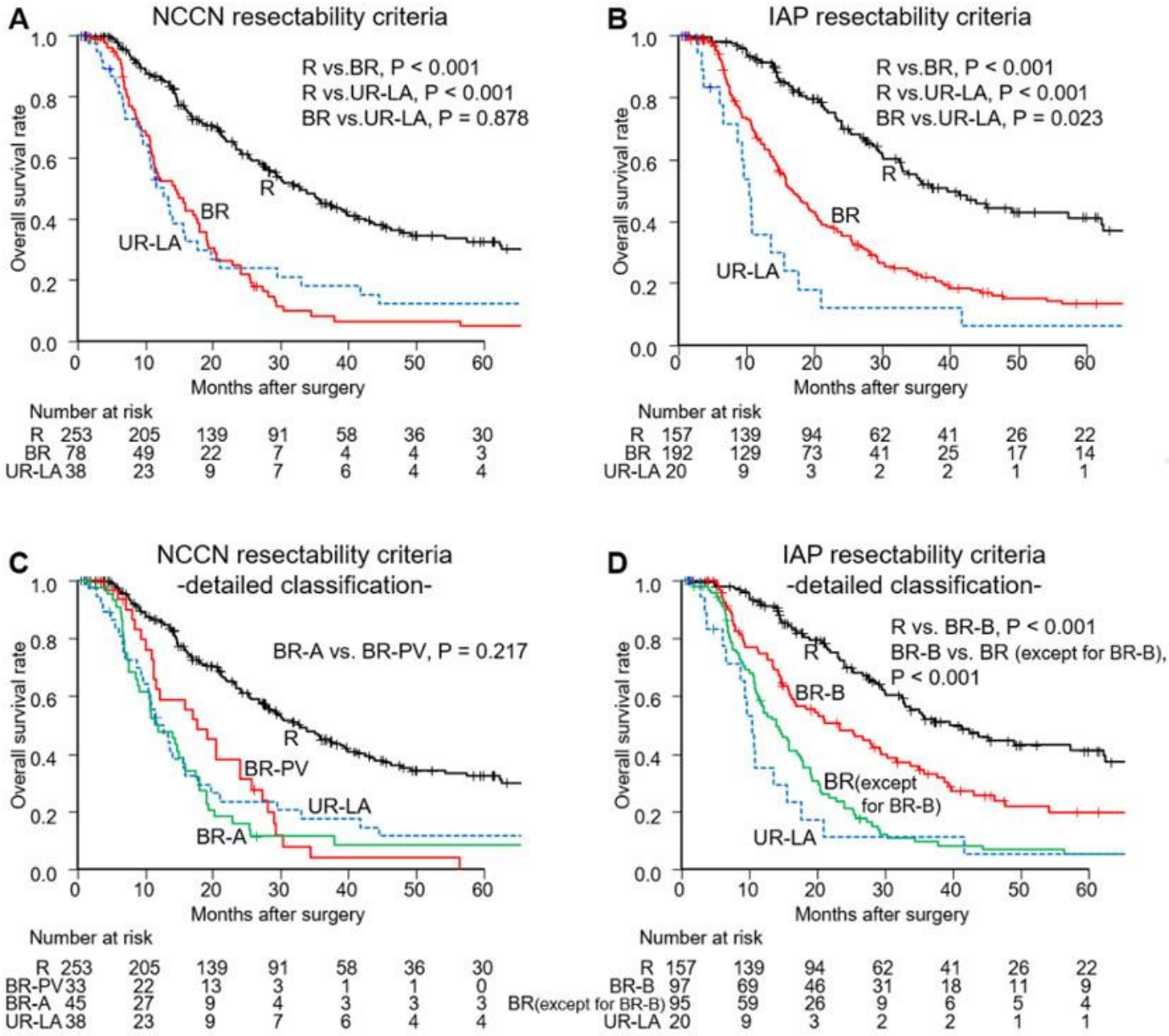
Introduction: The resectability criteria for pancreatic ductal adenocarcinoma (PDAC) recently proposed by the International Association of Pancreatology (IAP) included biological and conditional factors. This study aimed to evaluate these criteria by comparing them with the National Comprehensive Cancer Network (NCCN) guidelines.
Materials & Methods: 369 patients who underwent upfront surgery for PDAC were retrospectively analyzed. Overall survival (OS) of each group as defined by either of the guidelines were compared and preoperative prognostic factors for OS that were available preoperatively were identified.
Results: Based on the NCCN-criteria, 253 patients were classified as resectable (R), 78 as borderline resectable (BR) and 38 as unresectable (UR) with the median survival time (MST) of 32.7 months, 14.7 and 11.6, respectively. Based on the IAP-criteria, 157 patients were classified as R, 192 as BR and 20 as UR, with the MST of 39.6 months, 16.6 and 10.5, respectively. In contrast to the NCCN-criteria, BR demonstrated significantly better OS than UR (P = 0.023) under the IAP-criteria. Performance status ≥ 2 (hazard ratio [HR]: 2.47, *P* = 0.014) and lymph node metastasis suspected by imaging (HR: 1.55, *P* = 0.003) were identified as independent prognostic factors by the multivariate analysis along with portal or arterial invasion, while carbohydrate antigen 19-9 ≥ 500 U/ml was not (HR: 1.23, *P* = 0.19).
Image:



Conclusion: The IAP-criteria seemed mainly appropriate and resulted in superior breakdown of survival curves stratified by the resectablity when compared with the NCCN-criteria. Not only anatomical factors but biological and conditional factors were important for considering resectability.
Disclosure of Interest: None declared

PE246

NOVEL PEPTIDE COCKTAIL VACCINE AS A POSTOPERATIVE ADJUVANT TREATMENT FOR THE PATIENTS WITH SURGICALLY RESECTED PANCREATIC CANCER

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Introduction: We investigated peptide cocktail vaccine OCV-C01 containing epitope peptides derived from KIF20A, vascular endothelial growth factor receptor (VEGFR)1 and VEGFR2 combined with gemcitabine in the adjuvant treatment for resected pancreatic cancer patients.
Materials & Methods: A single-arm multicenter phase II study was performed on 30 patients with pancreatic ductal carcinoma who underwent pancreatectomy. At each 28-day treatment cycle, patients received weekly subcutaneous injection of OCV-C01 for 48 weeks and gemcitabine was administered intravenously at 1,000 mg/m2 on days 1, 8 and 15 for 24 weeks. Patients were followed for 18 months. The primary endpoint was disease-free survival (DFS) and secondary endpoints included safety, overall survival (OS) and immunological assays on peptide-specific cytotoxic T lymphocyte (CTL) activity and KIF20A expression in resected pancreatic cancer.
Results: The median DFS was 15.8 months [95% confidence interval (CI), 11.1–20.6] and the DFS rate at 18 months was 34.6% (95% CI, 18.3–51.6). The median OS was not reached and the OS rate at 18 months was 69.0% (95% CI, 48.8–82.5). The administration of OCV-C01 was well tolerated. In the per protocol set, there were significant differences in DFS between patients with KIF20A-specific CTL responses and without ($p = 0.027$), and between patients with KIF20A expression and without ($p = 0.014$). In addition, all four patients who underwent R0 resection with KIF20A expression had no recurrence of pancreatic cancer with KIF20A-specific CTL responses.
Conclusion: OCV-C01 combined with gemcitabine was tolerable with a median DFS of 15.8 months, which was favorable compared with previous data for resected pancreatic cancer.
Disclosure of Interest: None declared

PE247

VASCULAR RECONSTRUCTION DURING PANCREATECTOMY FOR PANCREATIC CANCER - ASSOCIATED HOSPITAL READMISSION & COST

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Introduction: Pancreatectomy with and without concomitant vascular reconstruction (VR) have shown to have similar survival outcomes. However, these studies have had limited data on cost and readmission. The purpose of this study was to compare costs and readmissions after pancreatectomy with and without VR.
Materials & Methods: The Nationwide Readmission Database was used to identify all patients who underwent pancreatectomy for pancreatic cancer from 2013 to 2015. Data on readmission, hospital costs, as well as relevant patient and hospital characteristics were extracted. Chi-squared test and paired t-test were used to compare differences in outcomes in patients undergoing pancreatectomy with VR vs without VR. Multivariable logistic regression was used to determine the odds ratios for mortality and readmission for patients undergoing VR.
Results: A total of 17,698 patients underwent pancreatectomy with 1638 (9.3%) undergoing concomitant VR. Patients undergoing VR were more likely to have malignant lesions in the pancreatic head (P<0.01) and require pancreaticoduodenectomy or total pancreatectomy versus subtotal pancreatectomy (P<0.01). Patients undergoing VR were more likely to come from oder age groups (P<0.01) and exhibited higher Charlson Comorbidity Indices (P<0.01). There was no significant difference in mortality rate or index hospital length of stay for patients undergoing VR (P>0.05), but patients undergoing VR exhibited increased readmission rates within 30-, 60-, 90- days (P<0.05) of pancreatectomy. Furthermore, VR patients exhibited increase index admission total cost (P<0.05) but no difference in readmission total cost (P>0.05). Adjusted odds ratio revealed that VR puts patients at increased odds for readmission within 30 (aOR 1.32 [95% CI 1.02-1.16]) and 60 days (aOR 1.68 [95% CI 1.14-1.38] (P<0.05).
Image:

Table 1. Comparison of mortality, hospital readmission, and length of stay after pancreatectomy

	No vascular reconstruction	Vascular reconstruction	p
Total	16,060 (90.7%)	1,638 (9.3%)	
Mortality	911 (5.7%)	110 (6.7%)	0.09
Readmission within 30-days	3,174 (19.8%)	365 (22.3%)	0.02
Readmission within 60-days	3,956 (24.6%)	464 (28.3%)	<0.01
Readmission within 90-days	4,538 (28.3%)	510 (31.1%)	0.01
Length of stay (days)	12.11 (±10.29)	12.17 (±9.57)	0.84

Conclusion: Despite no significant difference in mortality rate and hospital length of stay for patients undergoing pancreatectomy with VR, they exhibited higher rates of readmission and index admission cost. While VR increases the number of candidates for which surgery can be considered with similar short-term survival benefits, post-surgical complications resulting in increased readmissions as well as cost should be considered when weighing the risks and benefits for the individual patient. This study represents the largest, multi-center analysis of cost and readmission data, indicators of long-term quality and value of care when considering VR during pancreatectomy for pancreatic cancer.
Disclosure of Interest: None declared

PE248

CIRCULATING MICRORNA AS LIQUID BIOPSY MARKER IN PANCREATIC CANCER.

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Introduction: Pancreatic cancers are diagnosed every year in over 200,000 people all over the wold. In Poland in 2010, mortality from pancreatic cancer remained at the level of the average for European Union countries in both sexes: men around 8/105; women around 5/105 (National Cancer Register).
In this work we want to compare the free circulatory RNA of the tumour from the patient's blood with that present in the tissue, just focusing on the miRNA. This will allow us to get a faster diagnosis only by taking blood.
Materials & Methods: The study includes 10 patients with a pancreatic tumour detected in the imaging methods, referred for surgical treatment and 10 healthy people (volunteers). Tissue and corresponding preoperative blood samples were collected prospectively. Healthy blood plasma controls will be obtained from volunteers.
Expression of miRNAs will be assessed using real-time PCR technique. Thanks to cancer focus panel, we are able to run in the same time 96 different miRNA, which play a major role as master regulator of cell proliferation pathways, cell differentiation, and metabolism and have been implicated in human cancer. The expression of these miRNAs was evaluated in tumour tissue and blood plasma using the formula: FC= $2^{-\Delta\Delta ct}$. Then we compare achieved differences with results obtained from plasma.
Results: Patients' blood was tested for CA19-9, AFP, CA125, CA15-3, CEA, rise of CRP, IFG, amylases, lipases and glucose. The analysis of the biochemical results and the history of patients' illnesses did not show unequivocal results. None of the selected tumor markers was characteristic of the study group.
A few of selected miRNAs were confirmed to be correlated with pancreatic cancer. miR-21 predict the aggressiveness of pancreatic cancer, miR-22, was more than 90% sensitive and specific in the diagnosis of pancreatic cancer. Also miR-155, miR-181a, miR-181b and miR-196a, miR-20a, miR-21,miR-24, miR-25, miR-99a, miR-185, and miR-191 can be used as a marker. Further part of the research in the study

Image:

	1	2	3	4	5	6	7	8	9	10	11	12
A	hsa-let-7a-5p	hsa-let-7b-5p	hsa-let-7c-5p	hsa-let-7d-5p	UniSp2	hsa-miR-200a-3p	hsa-let-7g-5p	hsa-let-7i-5p	hsa-miR-1	hsa-miR-100-5p	hsa-let-7f-5p	hsa-miR-101-3p
B	hsa-miR-103a-3p	hsa-miR-106a-5p	hsa-miR-106b-5p	hsa-miR-107	UniSp4	UniSp6	hsa-miR-125b-5p	hsa-miR-126-3p	hsa-miR-130a-3p	hsa-miR-132-3p	hsa-miR-10b-5p	hsa-miR-133a-3p
C	hsa-miR-141-3p	hsa-miR-142-3p	hsa-miR-145-5p	hsa-miR-146a-5p	UniSp5	hsa-miR-26a-5p	hsa-miR-150-5p	hsa-miR-155-5p	hsa-miR-15a-5p	hsa-miR-15b-5p	hsa-miR149-3p	hsa-miR-16-5p
D	hsa-miR-17-5p	hsa-miR-181a-5p	hsa-miR-181b-5p	hsa-miR182-5p	cel-miR-39-3p	hsa-miR-27a-3p	hsa-miR-186-5p	hsa-miR-18a-5p	hsa-miR191-5p	hsa-miR-192-5p	hsa-miR148a-3p	hsa-miR-194-5p
E	hsa-miR-195-5p	hsa-miR196a-5p	hsa-miR-19a-3p	hsa-miR19b-3p	UniSP3 IPC	hsa-miR-200b-3p	hsa-miR-200c-3p	hsa-miR-202-3p	hsa-miE-10a-5p	hsa-miR-205-5p	hsa-miR-206	hsa-mi$-20a-5p
F	hsa-miR-20b-5p	hsa-miR-21-5p	hsa-miR-210-3p	hsa-miR214-3p	hsa-miR-215-5p	SNORD38B	hsa-miR-22-3p	hsa-miR-221-3p	hsa-miR-222-3p	hsa-miR-223-3p	U6 snRNA	hsa-miR-23a-3p
G	hsa-miR-23b-3p	hsa-miR-24-3p	hsa-miR-25-3p	UniSpy3 IPC	hsa-miR-26b-5p	UniSp3 IPC	hsa-miR-27b-3p	hsa-miR-29a-3p	hsa-miR-29b-3p	hsa-miR-29c-3p	hsa-miR-30b-5p	hsa-miR-30c-5p
H	hsa-miR-30d-5p	hsa-miR-31-5p	hsa-miR-31-5p	SNORD49A	hsa-miR-423-5p	hsa-miR-7-5p	hsa-miR-9-5p	hsa-et-7e-5p	hsa-miR-92b-3p	hsa-miR-93-5p	hsa-miR-99a-5p	Blank (H2O)

Conclusion: Despite a significant improvement in diagnostic methods and treatment strategy, the prognosis of pancreatic cancer has not changed much in recent years. There is still a lack of effective markers for early detection and monitoring of pancreatic tumors. In our opinion assessment of the expression of more than 90 different miRNAs could bring selection of useful markers in daily practice.
Disclosure of Interest: None declared

PE249

HOSPITAL MORTALITY IN PANCREATIC SURGERY – RESULTS OF A MULTICENTER OBSERVATIONAL STUDY * IN MEMORIAM PROF. DR. MED. MICHAEL BRAUCKHOFF, BERGEN/NORWEGEN (1966-2014)

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Introduction: The rate of hospital mortality (in–hospital mortality) after complex pancreatic resections cannot be used as decision-making criterion with no further analysis and specification. Such analysis has to provide a risk-adjusted benchmarking including a continuous evaluation taking into account the frequency of a surgical procedure and its competent perioperative management.
Materials & Methods: As part of the **P**rospective **E**valuation study **E**lective **P**ancreatic surgery **(PEEP)**, overall 2,003 patients were enrolled over a 3-year-time period from 01/01/2006 to 12/31/2008, who had been undergone elective pancreatic surgery in 27 surgical departments. In the study included were only hospitals which perform pancreatic resections. In addition to the analysis of the current situation of the operative treatment of pancreatic diseases, the complex aspects of the in-hospital mortality as a main outcome parameter were investigated.
Results: Out of all enrolled patients (*n*=2,003), 75 patients (3.7 %) died during their hospital stay. In the group of the 1,045 partial pancreaticoduodenectomies **(PD)**, 43 patients did not survive hospital stay (4.1 %).
Similarly, such low hospital mortality rates were observed after total duodenopancreatectomy (3.8 %) and after left resection of the pancreas (1.9 %).
With regard to a univariate risk stratification, advanced age and an ASA scoring of 3 and 4 had a significant impact to hospital mortality. Multivariate regression analysis within the PD group revealed increased need for blood transfusion and delay of oral feeding as factors closely associated with specific complications with a significant impact to hospital mortality.
Significant differences of the hospital mortality rates were found comparing hospital volume groups such as 10 – 20 *vs*. > 20 cases / year for the 831 Kausch-Whipple procedures in adenocarcinoma and chronic pancreatitis.
Conclusion: An adequate hospital mortality rate revealed in the continuous benchmarking represents an acceptable quality level of structural and therapeutic predictions in pancreatic resections. The participation of surgical departments with complex oncosurgical interventions in clinical multicenter observational studies as a contribution to research on surgical care appears reasonable and recommendable since the results of such studies can provide an impact to decision-making processes in daily surgical practice.
Disclosure of Interest: None declared

PE250

RELATIONSHIP BETWEEN PROGNOSIS AND HISTOLOGICAL EFFECT OF PREOPERATIVE THERAPY IN PANCREATIC CANCER

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Introduction: It is unclear whether histological response of preoperative therapy reflects prognosis in pancreatic cancer. The aim of this study is to evaluate relationship between prognosis and histological effect of preoperative therapy in pancreatic cancer.
Materials & Methods: Between January 2007 and December 2017, 157 cases who underwent surgical resection after preoperative treatment for pancreatic cancer at our institute were retrospectively reviewed. Grading of histological response to preoperative therapy was assessed according to Evans classification. Clinicopathological features and overall survival were examined by grades of Evans classification.
Results: This study included 89 men and 68 women. Mean age was 65.6 (41–80) years old. Chemotherapy and chemoradiation therapy were performed in 121 and 36 cases, respectively. In histological therapeutic effect, Grade I, IIA, IIB and III–IV of Evans classification were observed in 34 (21.7%), 93 (59.2%), 24 (15.3%) and 6 (3.8%) cases, respectively. Median survival time of disease specific survival (DSS) showed 29.7 mo. in Grade I, 28.3 mo. in Grade IIA, 41.6 mo. in Grade IIB and not reached in Grade III–IV. Compared with Grade I–IIB, cases of Grade III–IV had favorable DSS ($P = 0.057$). In recurrence free survival (RFS), there was a significant difference between Grade I–IIB and Grade III–IV (median; 10.7 mo. vs. not reached, $P = 0.029$).
Conclusion: Cases with Evans classification Grade III–IV in preoperative treatment for pancreatic cancer are suggested to show better DSS and RFS than those with Grade I–IIB.
Disclosure of Interest: None declared

PE251

EVALUATION OF THE PREOPERATIVE CA 19-9 LEVEL, SPAN-1 LEVEL, CONTROLLING NUTRITIONAL STATUS SCORE, AND TUMOR SIZE (CASNUTS) AS PREDICTABLE FACTORS OF EARLY RECURRENCE IN RESECTABLE PANCREATIC CANCER

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Introduction: Surgical resection is the only potentially curative approach for pancreatic cancer. Upfront surgery is recommended for anatomically resectable pancreatic cancer. However, extremely early recurrence sometimes occurs. We aimed to identify the predictable factors of early recurrence and to establish a novel multidisciplinary treatment strategy.
Materials & Methods: Fifty-five patients diagnosed with anatomically resectable pancreatic cancer were enrolled. We divided patients into the early recurrence group (E group) and no early recurrence group (NE group). Perioperative factors were analyzed using theχ2, Fisher's exact, or Mann-Whitney's U test, as appropriate.
Results: The median survival time in the E group was 17 months, which was significantly shorter than that in the NE group. Preoperative tumor markers (carbohydrate antigen [CA] 19-9 and S-pancreas-1 antigen [Span-1]) were significantly higher in the E group than in the NE group. The preoperative Controlling Nutritional Status (CONUT) score was worse and the tumor size was larger in the E group than in the NE group. We developed CASNUTS criteria (CA19-9 ≥160 U/ml, Span-1≥70 U/ml, CONUT score ≥3, and tumor size ≥3 cm), which showed high reliability for predicting early recurrence. Eighty-six percent of patients with CASNUTS-0 survived without early recurrence. Two thirds of patients (67%) with CASNUTS-2 or higher had recurrence within 6 months postoperatively.
Conclusion: Patients with higher tumor markers, malnutrition, and a larger tumor size should be considered as super high risk even if diagnosed with anatomically resectable pancreatic cancer. Neoadjuvant chemotherapy (chemoradiotherapy), not upfront surgery, should be considered for patients meet the CASNUTS criteria.
Disclosure of Interest: None declared

PE252

PROGNOSTIC VALUE OF C-REACTIVE PROTEIN/ ALBUMIN RATIO AND GLASGOW PROGNOSTIC SCORE IN SURGICALLY TREATED PANCREATIC DUCTAL ADENOCARCINOMA

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Introduction: Recently, C-reactive protein/albumin ratio (CAR), and Glasgow prognostic scale (GPS) has been linked to survival of pancreatic ductal adenocarcinoma (PDAC) patients (Fujiwara et al., 2018). Yet, it is still unclear whether systemic inflammatory response (SIR) is independent or is influenced by tumour burden and features. In this study we assess association between SIR markers, PDAC morphology, immunophenotype and survival outcomes.
Materials & Methods: Consecutive patients (123) who were diagnosed with morphologically confirmed PDAC, had available preoperative blood biochemistry investigations (BBC) and underwent intended radical surgical treatment in a single university hospital (2007-2015), were retrospectively identified by archive search. BBC was used to calculate CAR and GPS. CAR was further dichotomized by mean. PDACs were evaluated by morphological protocol (diameter; pTNMGR; perineural, vascular and lymphatic invasion) and immunohistochemistry (IHC) for vimentin, CD44, E-cadherin and cytokeratins (CK) 34betaE12 (CKH),19,20. Overall postoperative survival was retrieved by Latvian Office of Citizenship and Migration Affairs. Descriptive and analytical (Mann-Whitney test; Spearman's rank correlation, Kaplan-Meier analysis) statistics was performed by SPSSv23. $p<0.05$ was considered significant.
Results: The study group presented with mean CAR of 0.73 [95% confidence interval 0.20-1.59]. GPS distribution was following: 0 vs 1 vs 2, 61.5% [45.3-76.7] vs 25.6% [13.2-40.5] vs 12.9% [2.7-24.4]. The mean overall survival was 449 days [338.3-568.1]. Kaplan-Meier test showed no correlation between CAR or GPS and overall survival ($p=0.387$ and $p=0.566$, resp.). Yet, CAR showed significant correlation with CK20 ($r=0.626$, $p=0.004$). Furthermore, there was a significant association between GPS and CD44 ($p=0.024$), CK20 ($p=0.002$), CKH ($p=0.009$), and invasion in 2 adjacent anatomical structures ($p=0.021$). Neither CAR nor GPS showed any significant correlation with tumour morphology (diameter, pTNMGR, invasiveness).
Conclusion: In our study group, SIR markers show little impact on overall survival. Though, there is noticeable association between CAR, GPS and PDAC immunophenotype parameters, CD44, CK20, and CKH, which implies questionable independency of SIR markers. To our best knowledge this is the first study evaluating connection between SIR and PDAC immunophenotype. The results should facilitate further studies in larger scale patient groups.
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Disclosure of Interest: None declared

PE254

NEGATIVE PRESSURE WOUND TREATMENT: A PROMISING OPTION FOR MANAGEMENT OF PANCREATIC ANASTOMOTIC LEAK FOLLOWING PANCREATICODUODENECTOMY

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Introduction: Anastomotic leak following pancreaticoduodenectomy (Whipple's procedure) is the worst surgical complication, increasing the overall morbidity and mortality. The leak may be mild and contended with prolonged drainage or severe enough with undrained intra-abdominal collections often causing wound dehiscence and sepsis. The surgical options often practised are desperate attempts of re-exploration and re-suturing the anastomosis with accepted increased morbidity and mortality.

The aim of this study was to observe the effect of intermittent low negative pressure applied to the access open wound, on the management of severe pancreatic anastomotic leak with intra-abdominal collections and wound dehiscence without surgical re-interventions.

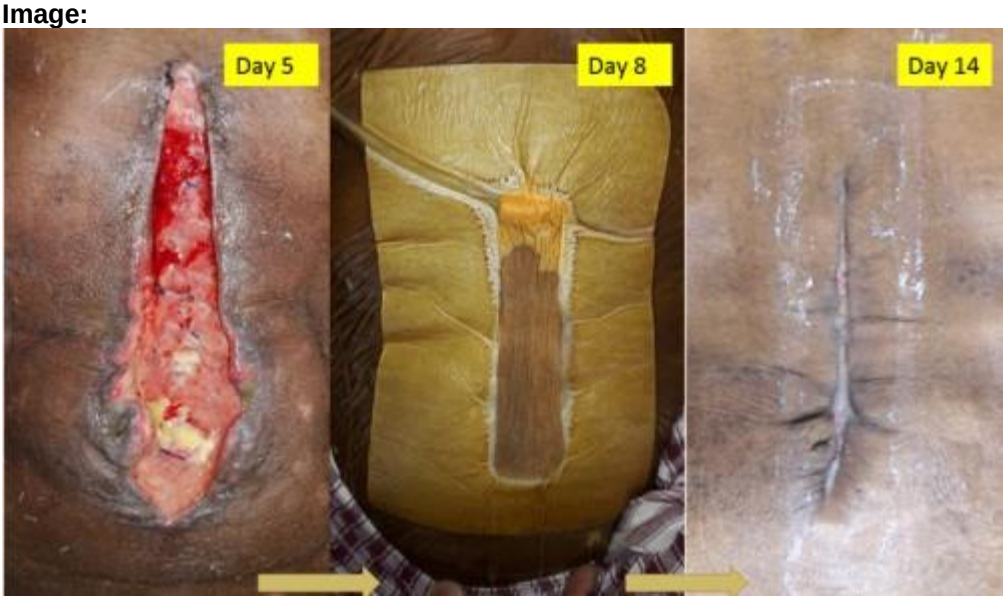
Materials & Methods: Between 2016 and 2018, retrospective analysis of the cases with severe pancreatic anastomotic leaks following whipple's procedure, managed by intermittent low negative pressure treatment applied to the dehiscence wound was done. The intermittent (1-2 hourly) low negative pressure (-75mmHg) was applied to the open surgical wound till the output reduced. The intermittent pressure is monitored and applied whenever the sponge overlying the wound is wet.

Results: 55 patients underwent pancreaticoduodenectomy (PD) for periampullary carcinoma at our hospital. All the cases had undergone classical PD with pancreaticojejunostomy (PJ) and pancreaticogastrostomy (PG) anastomosis in 47 and 8 cases respectively. 3 patients died within a month of surgery (2 from sepsis following biliary leak and one from severe haemorrhage).

Nine patients (16%) had pancreatic anastomosis leakage during the postoperative period (4 cases had mild leak) and (5 had severe leak with intra-abdominal collections and wound dehiscence). The severe leaks were effectively managed by intermittent negative pressure treatment and a possible re-exploration or mortality averted. None of the patients developed pancreatic fistulas.

The negative pressure wound treatment also hastened the wound closure rate in open abdomen by removing excess fluid and oedema and promoting granulation in the wound.

Image:



Conclusion: Negative pressure treatment is a promising option for management of severe pancreatic leak following PD with intra-abdominal collections and wound dehiscence thereby averting the need for surgical re-exploration.

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Disclosure of Interest: None declared

PE255

PANCREATODUODENECTOMY IS FEASIBLE AND BENEFICIAL FOR ELDERLY PATIENTS WITH PANCREATIC DUCTAL ADENOCARCINOMA

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Introduction: The increasing elderly population is an inevitable trend worldwide in developed countries. Therefore, we aimed to assess the experience of a tertiary pancreatic center with a very homogenous population comprising only patients diagnosed with pancreatic ductal adenocarcinoma (PDAC) of the pancreatic head in patients older than 75 years of age compared to their younger counterparts regarding the benefit in life expectancy and tumor biological aggressiveness.
Materials & Methods: 158 patients underwent pancreaticoduodenectomy (PD) or subtotal stomach preserving pancreaticoduodenectomy (SSPPD) for PDAC of the pancreatic head between 2009 and 2018 and were evaluated with regard to their co-morbidities, clinicopathological and perioperative variables, postoperative morbidity, mortality and long term survival. Therefore, two groups according to the age at the procedure (A: <75 years, n. 78, B: >75 years, n. 80) were designed.
Results: There were no differences between groups with regard to gender, performed procedure (SSPPD or PD), operation time, blood loss, tumor invasiveness and grade of tumor differentiation, R-status, lymph node ratio, 30-day mortality, length of hospital stay and adjuvant chemotherapy. Extended resections including total pancreatectomy were slightly more often performed in younger patients (p. 0.071) and trended toward a higher rate of surgical complications in patients <75 years of age (p. 0.183). A higher rate of preoperative co-morbidities in elderly patients (group B), was associated with more postoperative non-surgical complications (p. 0.002) in this group of patients. However, the median overall survival (19.2 vs. 18.4 months) did not differ significantly between groups.
Conclusion: Major pancreatic surgery for ductal adenocarcinoma of the pancreatic head is justified in elderly patients. With careful patients' selection and prudent perioperative management, elderly patients will have a similar long term outcome despite the higher rate of postoperative morbidity based on nonsurgical complications.
Disclosure of Interest: None declared

PE256

SYSTEMIC INFLAMMATORY RESPONSE MARKERS AS SURVIVAL PREDICTORS IN PANCREATIC DUCTAL ADENOCARCINOMA

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Introduction: Inflammation and immunity are significant in cancer development (Pandya *et al*., 2016). Consequently, the prognostic value of systemic inflammatory response (SIR) markers has been discussed. However, data on neutrophil-to-lymphocyte ratio (NLR) and platelet-to-lymphocyte ratio (PLR) in pancreatic ductal adenocarcinoma (PDAC) are controversial (Chawla *et al*., 2018; Ye *et* Bai, 2018), and only few studies have evaluated SIR in relation to cancer morphology. Thus, the aim of our study was to assess SIR in surgically treated PDAC in regard to cancer morphology and patient's survival.
Materials & Methods: Consecutive, morphologically confirmed PDACs, subjected to radical surgical treatment, were retrospectively identified by archive search in a single university hospital (2006-2017). Preoperative whole blood counts were used to calculate NLR and PLR, which were dichotomized by median values. Overall postoperative survival was detected as well. Relationships between protocol-defined clinical and pathological parameters (tumour pTNM, size and grade; resection line status; manifestations of invasive growth: vascular, lymphatic, intra-/ perineural invasion), NLR, PLR and survival outcomes were assessed by Mann-Whitney, Kaplan-Meier and Cox proportional hazard tests (IBM SPSS23.0). $p<0.05$ was considered statistically significant.
Results: Our study group comprised 130 patients at the median age 66.0 [95% confidence interval 60.5-66.6] years. The proportion of males was 49.1% [34.6-62.3]; of females: 50.9% [37.7-65.4]. The median NLR and PLR were 2.43 [1.85-3.10] and 142.6 [130.5-173.0], respectively. The median overall survival (OS) reached 310.0 days [228.1-379.5]. NLR and PLR showed statistically significant negative correlation with intraneural invasion ($p=0.026$ and $p=0.038$, resp.), but no other morphological features. There was no association between NLR, PLR and OS ($p=0.60$ and $p=0.52$). OS was affected by pT ($p<0.0001$), perineural invasion ($p=0.032$) and had trend to decrease if more than 2 manifestations of invasive growth were present ($p=0.051$). In multivariate analysis, only pT correlated with OS: pT2 and pT3 HR=18.45 [2.43-49.5].
Conclusion: Our study group was characterised by moderately low OS which was statistically affected only by pT and perineural invasion. SIR markers were not predictive of OS in surgically treated PDAC and lacked association with tumour size and stage. Intraneural growth correlated with lower NLR and PLR in cases amenable for surgery.
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Disclosure of Interest: None declared

PE257

CLINICAL IMPACT OF ADDITIONAL THERAPY FOR RESIDUAL PANCREATIC CANCER - PROPENSITY SCORE ANALYSIS -

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Introduction: The effectiveness of neoadjuvant therapy (NAT) and adjuvant chemotherapy (AC) for locally advanced pancreatic ductal adenocarcinoma (PDAC) has been reported and become more widespread treatment strategies. On the other hand, tumor factor (e.g. stage, size, location) and resection margin (R) status have previously been identified as significant predictors of prognosis after curative resection. This study aimed to explore the influence of perioperative therapies on R status, survival outcomes and recurrence patterns in the patients who underwent curative resection.
Materials & Methods: We retrospectively reviewed a total of 427 consecutive patients who underwent resection between April 2001 and December 2016 in the Department of Gastroenterological Surgery (Surgery II) at Nagoya University Hospital. Univavariate and multivariate logistic regression analyses were performed to evaluate the predictor for R0 resection. As survival outcomes, overall survival (OS) and disease-free survival (DFS) were analyzed based on the R status by propensity score matching.
Results: The R0 ratio of the NAT (+) group was significantly higher than that of the NAT (-) group (97.2% vs. 69.6%, $P < 0.0001$) and was an independent predictive factor (OR; 25.308, 95% CI: 5.938-107.873, $P < 0.0001$). Local recurrence was well controlled in the NAT (+) group, compared to the NAT (-) group (15.3% vs. 34.1%, $P = 0.0013$). According to the PSA,there was no statistically significant survival difference between patients who underwent R0 or R1 resection among those treated with AC (median survival time (MST): 43.0 vs. 33.3 months, matching HR: 1.212, $P = 0.5708$). Furthermore, the DFS between patients who underwent R0 or R1 resection followed by AC was identical(MST: 20.6 vs. 17.7 months, matching HR: 1.020, $P = 0.9482$).
Conclusion: NAT was a significant predictor of R0 resection. When patients completed AC, there were no differences in OS and DFS between those who underwent R0 or R1 resection. Our results demonstrated that the clinical impact of R1 status as a prognostic factor has waned in the current management of PDAC.
Disclosure of Interest: None declared

PE258

OUTCOME ANALYSIS OF PREDICTIVE FACTORS FOR PORTAL OR SPLENIC VEIN THROMBOSIS AFTER DISTAL PANCREATECTOMY

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Introduction: Portal or splenic vein thrombosis (PSVT) after distal pancreatectomy (DP) is recognized as a relatively rare but serious complication. Portal vein Thrombosis (PVT) can have serious consequences depending on the location and extent of the thrombus, whreas splenic vein thrombosis (SVT) is often asymptomatic. Therefore, it is rare for clinically problematic symptoms of SVT to appear after DP. However, SVT after DP could be critical because PVT could develop as a consequence of extension of SVT or due to the formation of an embolic substance by the splenic vein thrombus itself.Thus, the actual incidence and relevant risk factors of PSVT have not been well studied. The aim of this study was to explore predictive factors for PSVT.
Materials & Methods: Fifty-eight patients who underwent DP were included. Correlations between PSVT and clinicopathological factors were examined, and multivariate analysis was performed to explore predictive factors. Patterns of drainage veins into the residual splenic vein (RSV) were defined as follows: type A, preservation of both the inferior mesenteric vein (IMV) and the left gastric vein (LGV); type B, preservation of the IMV only; type C, preservation of the LGV only; and type D, no drainage veins.
Results: PSVT was observed in 25 (43%) patients; 24 (96%), 8 (32%), and 7 (28%) of these patients had splenic vein thrombosis (SVT), portal vein thrombosis (PVT), and both conditions, respectively. There were 4/4 (100%), 8/21 (38%), 3/6 (50%) and 10/27 (37%) patients with PSVT who were classified as type A, type B, type C and type D,respectively. Ten (40%) patients underwent anticoagulation therapy, and there was no mortality. PSVT was significantly correlated with laparoscopic surgery ($P = 0.04$), drainage vein type A ($P = 0.03$), RSV length ≥ 30.8 mm($P < 0.01$), and intra-abdominal abscess ($P = 0.03$). Multivariate analysis indicated that RSV length (OR: 23.6, $P < 0.01$) was the only independent predictive factor.
Conclusion: The present study showed that PSVT was a common and asymptomatic complication after DP. Therefore, imaging assessment is necessary, particularly when RSV length is greater than 30 mm. Additionally, we suggest that anticoagulation therapy should be performed for PSVT because a thrombus could become lethal if it induces the development of PVT.
Disclosure of Interest: None declared

PE259

MODIFIED EXTERNAL WIRSUNGOSTOMY AS A DAMAGE CONTROL TREATMENT FOR DEHISCENCE OF PANCREATICOJEJUNOSTOMY AFTER PANCREATODUODENECTOMY

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Introduction: Relaparotomy for deshicence of the pancreaticojejunal anastomosis after pancreatoduodenectomy is challenging. Surgical management remains disputable and includes completion pancreatectomy or one of the parenchyma-preserving procedures. Recently a modified external wirsungostomy was used in patients with severe pancreatic fistula after pancreatoduodenectomy. The aim of this retrospective study was to report our preliminary experience with modified external wirsungostomy for the management of postoperative pancreatic fistulas after pancreatoduodenectomy which required relaparotomy.
Materials & Methods: A total of 13 patients underwent a modified external wirsungostomy for severe postoperative pancreatic fistula between 2014 and 2018. The median age of the patients was 67 years (range: 58-85 years) and 8 were males. We used the Miyagawa technique of modified external wirsungostomy. During this procedure the pancreaticojejunal anastomosis is disconnected, the jejunal loop closed blind and sutured to the posterior margin of the pancreatic cross-section. A small-caliber catheter is placed into the duct of Wirsung, suture secured to the pancreas or jejunum and exteriorized. Two large-bore drains are placed close to the pancreatic cross-section.
Results: The relaparotomy was performed a median of 13 days (range: 1-26 days) after the pancreatoduodenectomy. In 4 of 13 patients, reoperation was preceded by percutaneous catheter drainage of intraabdominal collections. The indication for relaparotomy was ongoing sepsis or intraperitoneal hemorrhage in 10 and 3 cases, respectively. A median duration of reoperation was 125 min (range: 75-205 min). Three of 13 patients required further relaparotomies for persistent sepsis (n=2) or intraperitoneal hemorrhage (n=1). Five of 13 patients (38.5%) died. Three patients underwent an elective takedown of the external wirsungostomy and reconstruction of the pancreaticojejunostomy. Further two patients await the reconstruction. In three patients, the wirsungostomy catheter became dislodged. Two of them remained asymptomatic, and one required percutaneous drainage of a peripancreatic collection.
Conclusion: A modified external wirsungostomy is an encouraging technique for the management of severe pancreatic fistula after pancreatoduodenectomy.
Disclosure of Interest: None declared

PE260

COMPLEMENT REGULATOR CD59 IS A POTENTIAL TARGET FOR IMMUNOTHERAPY OF PANCREATIC CANCER AND UPREGULATED BY TUMOR-ASSOCIATED MACROPHAGES VIA IL-6R/STAT3 PATHWAY

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Introduction: Cross talk and cooperation between tumor-associated macrophages (TAMs) and pancreatic cancer cells play crucial roles in cancer progression. CD59 is a GPI-anchored membrane protein to prevent complement activation by inhibiting the formation of the membrane attack complex, which may protect cancer cells from complement-dependent cytotoxicity (CDC). The interactions of CD59, TAM and pancreatic cancer remains largely unknown.
Materials & Methods: Tissue microarray was used to evaluate the expression of CD59 and infiltrations of TAM in human pancreatic cancer tissue and their survival impact was also analyzed. In a co-culture system, the roles of TAM to regulate CD59 was assessed by real-time PCR, western blot and immunofluorescence and RNAs sequence. And then the potential mechanisms were proposed and demonstrated by target-siRNA transfection, antibody neutralization and inhibitors. The roles of TAM to regulate CDC effects on pancreatic cancer by regulation of CD59 was confirmed by in vitro study.
Results: CD59 was overexpressed in pancreatic cancer tissues and was associated to poor prognosis of patients. CD59 expression were positively correlated with TAMs infiltration in PDAC tissues and, TAMs could upregulate CD59 expression on cancer cells and protected cells from CDC in vitro through IL-6R/STAT3 dependent manner, which could be reversed by IL-6 antibody, STAT3 knockdown and STAT3 inhibitor AG490.
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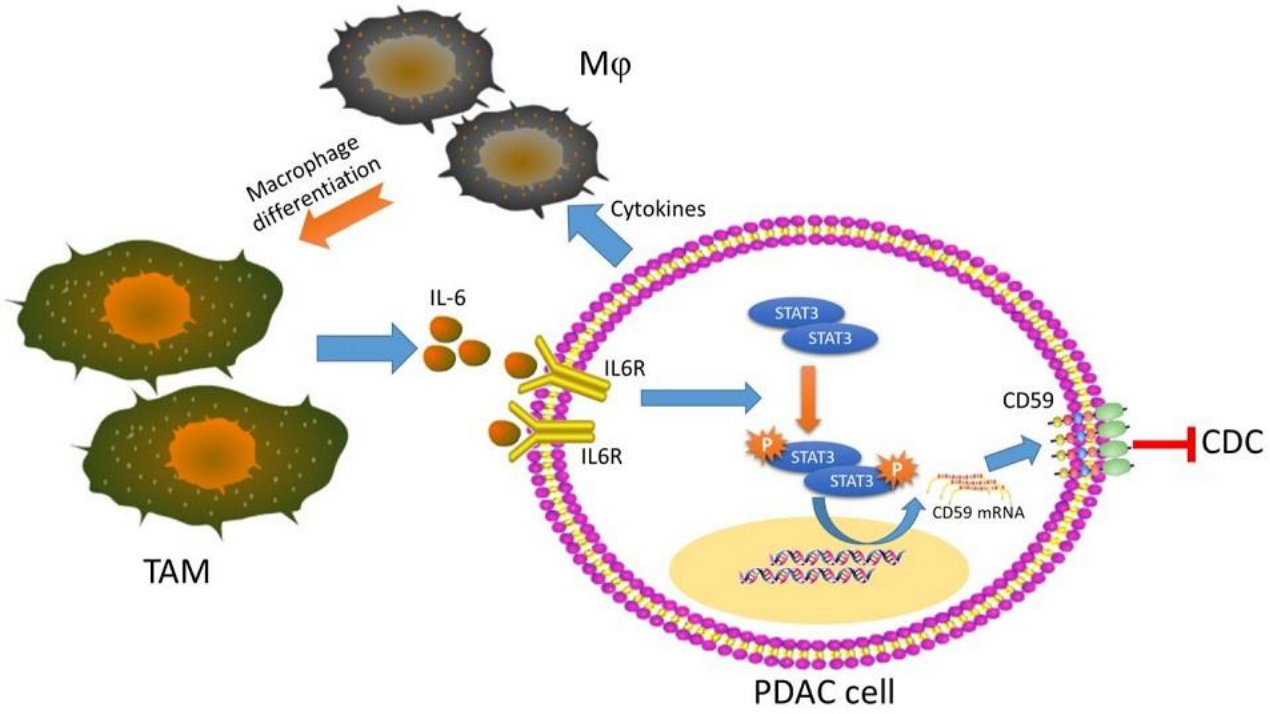

Conclusion: Our data unveil that CD59 functions as a tumor-promoting protein and could be upregulated by TAMs infiltration through IL6R/STAT3 manner. These findings may provide a new promising target for caner immunotherapy.

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FULL THICKNESS RECTAL PROLAPSE – RESULTS AND THE QUALITY OF LIFE OF THE PATIENTS AFTER SURGERIES PROCEEDED WITH PERINEAL AND ABDOMINAL APPROCH. PROSPECTIVE STUDY.

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Introduction: Full thickness rectal prolapse is a multifactorial disease. The major cause of this condition in each case can be unique. The literature does not indicate one optimal qualification procedure for surgical treatment of rectal prolapse. Choosing treatment pathway depends on experience and surgeon`s intuition. Using knowledge of complex etiology and trying to reveal leading mechanisms of rectal prolapse the authors creates an original algorithm to qualify patients to perineal or abdominal approach. The validity of the algorithm's assumptions was verified by obtained treatment results and evaluation of patients quality of life after surgery.
Materials & Methods: From January 2012 to December 2017, consecutive patients suffering from full thickness rectal prolapse undergoing surgical procedure were studied. Following uniform qualification algorithm authors refered patients either to abdominal or perineal approach. Group of 30 patients (27 female, 3 male) were included, average age 66 (21-90). Average follow-up was 34 (12-56) months. Treatment results were assessed regard to recurrent rate and postoperative quality of life considering the following parameters: constipation, stools and gas incontinence (Wexner scale), efficiency (EQ-5D) and quality of life (QOL). Each patient qualified for the operation was asked to complete a questionnaire containing an assessment of the above mentioned parameters before the operation, and one year after. Wilcoxon test was used for statistical assesment.
Results: Recurrence of full thickness rectal prolapse occured in 10% (3 patients) within 1 year. Preoperative symptoms were: constipation 83% (25 patients), stool and gas incontinence 100%, at 1 year follow-up there were constipation in 20% and incontinence in 76%. The average preoperative Wexner score was 12 (range 2-17). The average postoperative Wexner score was 4,7 (range 1-17). No postoperative complications were reported. QOL indicated improvement from 47 preoperatively to 77,9 ($p<0,001$) postoperatively and EQ-5D showed improvement of efficiency (from 9,4 to 3,3), ($p<0,001$).
Conclusion: The quality of life of the patients after full thickness rectal prolapse surgical repair qualified according to the proposed algorithm improved in terms of all measured parameters. A small group size requires further studying to confirm the impact of the qualification by using the described algorithm on the results obtained.
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PE262

BIPOLAR RADIOFREQUENCY-INDUCED THERMOTHERAPY OF HAEMORRHOIDS: A 10-YEAR EXPERIENCE

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Introduction: Bipolar radiofrequency-induced thermotherapy of advanced stage haemorrhoid disease has been used successfully at the EUC Hospital in Zlin for ten years. The aim of this study was to evaluate long-term outcomes of the method.
Materials & Methods: RFITTH is bipolar radiofrequency-induced thermotherapy of haemorrhoidal diseases. High frequency electric current causes thermal coagulation of tissue. The procedure results in the elimination or significant reduction of prolapse and bleeding of hemorrhoids.
Results: 228 RFITTH procedures were performed in 217 patients at the Department of Surgery at the EUC Hospital from 9/2007 to 1/2017. The group consisted of 134 men and 94 women, the average age was 51 years. 107 operations were performed in stage III and 121 in stage IV. Complications of the procedure involved postoperative fissure occurring in 20 patients (8.7 %). Thrombotic haemorrhoid developed in 6 patients (2.6 %), hyperspasm of the sphincters in 9 patients (3.9 %). Prolapse of the rectal mucosa was diagnosed in 4 patients (1.7 %). The disease recurred in 9 patients and 10 reoperations were performed (3.9 %).
Conclusion: The method is a safe miniinvasive therapeutic option for advanced stage haemorrhoidal disease.
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PE263

EVALUATION OF A NOVEL BIPOLAR COAGULATION SYSTEM FOR THE TREATMENT OF SYMPTOMATIC GRADE I AND II INTERNAL HEMORRHOIDS.

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Introduction: Symptomatic hemorrhoidal disease is a common ailment affecting all age groups. Grade I and II internal hemorrhoids are initially treated with dietary and behavioral changes. Office based procedures, such as rubber band ligation, can be effective but usually require several clinic visits. The aim of the present study was to evaluate a new office based treatment option, the HET™ Bipolar System which treats existing internal hemorrhoids at one treatment session.
Materials & Methods: This is a prospective, pilot study evaluating office treatment of symptomatic grade I and II internal hemorrhoids using hemorrhoid energy therapy with the HET™ Bipolar System (Medtronic). Patients over the age of eighteen with chronic, symptomatic grade I and II internal hemorrhoids were enrolled into the study between July, 2015 and January, 2019. Exclusion criteria included patients with grade III or IV internal hemorrhoids, external hemorrhoids, non-hemorrhoidal gastrointestinal bleeding, active proctitis and inflammatory bowel disease. Treatment efficacy was assessed with a hemorrhoid symptom score (HSS) before the procedure and two weeks and three months post-procedure.
Results: A total of thirty six patients (16 females) with a mean age of 52.5 ± 13.5 years were included and treated with HET™. The mean duration of hemorrhoid symptoms before treatment was 43.6 ± 80.9 months and rectal bleeding was the most common symptom (31/36, 86%). Three patients (8.3%) were lost to follow up. The median HSS decreased from 5 before the treatment to 1 after the treatment at two weeks follow up. The treatment was associated with mild pain in some patients and the post-procedure mean VAS score was 2.36 ±2.08. Improvement in hemorrhoid grade was noted in 15 patients (42%), while in 12 patients (33%), it remained unchanged. Recurrent bleeding was present in two patients (5.5%) and two other patients (5.5%) developed a thrombosed external hemorrhoid after the procedure (both treated conservatively). No other complications were documented.
Conclusion: The application of HET™ Bipolar Device in the treatment of grade I and II internal hemorrhoids resulted in a significant reduction of symptoms, low rate of short term complications and minimal pain associated with the procedure. Further assessment of long-term efficacy is warranted.
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PE264

TRANSANAL MINIMALLY INVASIVE SURGERY FOR GIANT RECTAL LIPOMA WITH ISCHEMIC NECROSIS

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Introduction: Colonic lipomas are relatively uncommon benign tumors that have a high probability of being asymptomatic. However, when colonic lipomas are greater than 4cm (giant lipoma), they may present symptoms such as constipation, abdominal pain, hematochezia, and intussusception. Symptomatic lipomas are removed through various surgical interventions. We present a case of infarcted rectal lipoma treated with Transanal minimally invasive surgery (TAMIS).

Materials & Methods: A 15-year old man was referred to the emergency department with prolapsed rectal mass. The patients complained of anal pain, hematochezia and low abdominal pain for two days. He had no previous history of gastrointestinal symptoms, prolapse or hemorrhoid. On digital rectal examination, an elongated, huge mass with ischemic necrosis was palpable on the anterior side of rectum. An abdominal enhanced computed tomography (CT) scan showed a 5cm sized fat-containing soft tissue mass in the rectum prolapsing through the anus. Sigmoidoscopy revealed the infarcted huge mass having broad stalk and mucosal origin could not be identified. The patient subsequently underwent local excision by TAMIS. The tumor was removed with a full-thickness excision and defect was closed using 3-0 barbed sutures.

Results: Final pathologic diagnosis was a 7cm sized lipoma with hemorrhagic infarction and focal necrosis. Recovery was uneventful and he was discharged on 7th postoperative day.

Conclusion: We experienced a case of giant rectal lipoma who underwent TAMIS. TAMIS is feasible and safe for the excision of giant benign rectal lesions.

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PE265

QUALITY OF LIFE OF PATIENTS AFTER COLORECTAL CANCER SURGERY IN SOBA UNIVERSITY HOSPITAL, SUDAN, 2018.

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Introduction: colorectal surgery was reported to have a significant effect on the patients, both physically and psychologically. This study investigates the effect of colorectal surgery and stoma on the quality of life of Sudanese patients with colorectal cancer whom been operated in the period of 2014 to 2017 at Soba university hospital, Sudan.
Materials & Methods: A descriptive cross-sectional hospital-based study at Soba University Hospital was done. A sample of 92 patients with colorectal cancer had undergone colorectal surgery were Fully covered and interviewed using the SF-36 Quality of life standard questionnaire.
Results: The sample size was 92. The mean age was 58 years. 79% were married, 60% were unemployed. The population was poor in terms of General Health and Physical Functioning and fair in terms of social and emotional wellbeing. The level of Pain was severe and the level of Fatigue/Energy was moderate. The level limitation due to physical and emotional problems was moderate. There is a slight difference between the group who underwent colorectal surgery with reversed colostomy and the group who underwent colorectal surgery with permanent colostomy in terms of quality of life parameters, the reversed colostomy group being better. Chi-square test was conducted to assess the relationship between the quality of life parameters and the demographic data of the patients. There is significant relationship between the educational level and level of severity of pain and the time since surgery and the level of physical functioning
Conclusion: The quality of life was affected negatively in terms of the level of pain and presence of colostomy with sexual activity affection but the other parameters were not strongly affected
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Disclosure of Interest: None declared

PE266

COMPARISON OF PRE-OPERATIVE SHORT COURSE RADIOTHERAPY VERSES LONG COURSE CHEMO-RADIOTHERAPY IN RECTAL CANCER: SURGICAL AND ONCOLOGIC OUTCOMES

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Introduction: Radical resection is the mainstay of the treatment for rectal cancer and pelvic recurrence is one of the most common types of failure. Pre-operative Radiotherapy has been shown to decrease loco-regional recurrence and improve disease free survival in rectal cancer. Literature supports usage of both short course radiotherapy (SRT) or long course chemo-radiotherapy (LCRT).Both modalities have pros and cons. In this study we analyzed the surgical and oncologic outcomes of SRT vs LCRT for Rectal cancer.

Materials & Methods: A Retrospective analysis of prospectively maintained rectal cancer computerized database was performed from 2000 to 2015 and all histopathologically proven rectal cancers involving mid and lower third receiving preoperative radiotherapy were included for analysis.

Results: A total 208 out of 356 Rectal cancer patients received preoperative radiotherapy (SRT=120 & CLRT =88). The median age at presentation was 56 year with male preponderance at a ratio of 3:1. Lower one third was the most common location (50%) followed by bulky mid rectal tumors. Majority of the patients had clinical stage II and III (33%&45%). Mean distance from the anal verge was 4.5cm. The surgical and oncologic outcomes were as follows.

Sl no	**Factors**		**Short course Radiotherapy (n=120)**	**Long Course Chemoradiotherapy (n=88)**	**P value**
1.	Resectability		95(79%)	68(77%)	0.031
2.	Sphincter salvage rate		32(33.68 %)	25(39.05%)	0.06
3.	Pathological Complete response		6(5%)	5(7%)	0.74
4.	Pathological Stage	I	14(14%)	13(20%)	
		II	36(36%)	24(36.9%)	
		III	42(42%)	21(32.9%)	
		IV	2(2%)	2(3.08%)	
5.	Recurrence		20(21.7%)	13(19.1%)	0.20

Conclusion: Results of our study reveal a comparable resectability, sphincter salvage, path CR and recurrence rates for SRT and LCRT. Overall Sphincter salvage rates were low and unresectability rates were high due to a significant proportion of low and mid rectal tumors presenting with advanced stage at presentation. SRT has logistic advantages in high volume and resource constrained countries.

Disclosure of Interest: None declared

PE267

TUMOR VOLUME ASSOCIATION WITH THE SYSTEMIC INFLAMMATORY REACTION IN PATIENTS WITH SURGICALLY TREATED COLORECTAL CARCINOMA

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Introduction: Colorectal cancer (CRC) is a major public health problem worldwide. Nowadays the biomarkers of systemic inflammatory reaction (SIR) have been widely investigated as prognostic indicators in various cancers including CRC [1,2]. The aim of this study was to determine the relation between the CRC volume and the SIR.
Materials & Methods: A retrospective study was done including 264 primary CRC cases that were surgically treated in a single university hospital. Based on preoperative absolute whole blood counts the neutrophil-lymphocyte (NLR), platelet-lymphocyte (PLR), lymphocyte-monocyte (LMR), neutrophil-monocyte (NMR) ratios were calculated. Information about C-reactive protein (CRP) and tumor size was obtained from patient's medical histories. CRC cases were divided into 2 subgroups based on the tumor volume: I < 50cm^3 and II > 50cm^3. Statistical analysis was performed, $p < 0.05$ was considered statistically significant.
Results: The study group consisted of 264 CRC cases where the mean tumor volume was 17.4 cm^3 [13.7 - 21.9] and the distribution between groups was: I = 40.5% [34.6 – 46.4] and II = 59.5% [53.6 - 65.4]. The median values in I *versus* II group: CRP 24.4 [10.2 - 34.6] *vs* 5.9 [2.3 - 9.5], NLR 3.4 [1.55 - 5.25] *vs* 2.9 [1.8 - 4], PLR 247.1 [181.0 - 307.2] *vs* 210.0 [129.6 - 290.4], NMR 7.7 [5.0 - 10.4] *vs* 8.4 [1.7 - 6.2], LMR 2.2 [1.3 - 3.1] *vs* 2.8 [1.9 - 2.8]. There was statistically significant correlation between group I and CRP [Spearman's r = 0.25; p = 0.03] as well as with PLR [r = 0.3; p = 0.012]. Group II had significant correlation with CRP [r = 231, p = 0.013]. There was statistically significant association between tumor volume groups and CRP (p = 0.03). NLR, LMR, NMR had no significant correlation regarding the tumor volume.
Conclusion: In surgically treated CRC patients, the tumor volume shows statistically significant correlation with CRP and PLR, thus tumors with volume higher than 50cm^2 have association with lower CRP levels.
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Disclosure of Interest: None declared

PE268

"TO BE OR NOT TO BE" FOR SUTURING OF THE RECTAL WALL DEFECT AFTER TEM/TAMIS?

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Introduction: Up to November 2018, a total of 5 original articles and 1 systematic review aiming to answer the question to suture or not to suture rectal wall defect after TEM/TAMIS were identified and the show no difference in these two choices. Our aim is to present preliminary results of our prospective study evaluating the fate of rectal wall suture during the early period after TEM.

Materials & Methods: since May 2017, all patients undergoing TEM for rectal neoplasms at the National Cancer Institute (Vilnius, Lithuania) were invited for a follow-up outpatient visit 7 to 10 days after TEM, clinical data were recorded and digital rectal examination was performed. A total of 50 patients are planned to be enrolled into this study before May 1st, 2019.

Results: up to date, a total of 34 patients have been enrolled in this study, 9 were women and 24 men, age range 51–85, on an average 67 years. 26 were operated for rectal adenoma or carcinoma in situ, six – for T1 rectal cancer, and two – for T2. Current published literature data does not clearly support either closure if the rectal wall after TEM/TAMIS or leaving the defect open. In our study, 7 to 10 days after TEM sutures were intact in 21 (62%) out of 34 patients, but in the rest 13 (38%) with recorded suture dehiscence, it did not have any clinical manifestation, was not related with longer postoperative stay or incidence of postoperative complications. We could not find any significant risk factors for wound dehiscence.

Conclusion: leaving open or closing the rectal wall defect after TEM/TAMIS – both alternatives seem to be safe and adequate, though more randomized controlled data are needed. Our study suggests that in more than 1/3 of the patients' rectal wall defect after TEM will undergo asymptomatic dehiscence in early postoperative period, and will not transfer to clinically significant manifestation.

Disclosure of Interest: None declared

PE269

SURGEONS HAND VS ROBOTIC ARM: SHORT-TERM AND LONG-TERM OUTCOME OF ROBOTIC VS. HAND-ASSISTED LAPAROSCOPIC RECTAL CANCER SURGERY

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Introduction: We aimed to compare the short-term and long-term surgical and oncological outcomes of the robotic surgery (RS) versus hand-assisted laparoscopic surgery (HALS) for rectal cancers patients.
Materials & Methods: Study was conducted at National Cancer Institute and Yonsei Cancer Centre from August 2006 to December 2012. We prospectively reviewed of all the patients who underwent RS and HALS for upper and middle third rectal cancers. Patients' demographics, postoperative short-term and long-term outcomes were assessed.
Results: Baseline patients characteristics were similar in both groups. Average operative time was 321.3±70min (RS) versus 106.0±37min (HALS, $p<0.001$). Higher number of patients (n=74, 94.9%) with tumour in upper rectum was found in in HALS group ($P<0.01$). Perioperative complications were more common in RS group (9 vs. 5 patients). Mortality was 0 in our series. The average lymph nodes harvested was 15.1 in HALS group and 14.8 in RS group ($p=0.788$). All stage 3-year overall survival was 86.9% in HALS group vs 89.6% RS group: 80.0 % vs 79.2 for stage I, 82.4% vs 88.9 for stage II and III. The 3-year DFS was 83.6% in HALS group vs 83.2% - RS group considering all stages.
Conclusion: The higher number of middle rectal cancer and morbidity rates were found in RS group compared with HALS. The longer operating time in robotic group is still the limitation of its widespread adoption.
Disclosure of Interest: None declared

PE270

IMPACT OF DAY CARE URETERAL STENT PLACEMENT UNDER LOCAL ANAESTHESIA VERSUS LOCAL ANAESTHESIA AND ORAL PARACETAMOL ON PAIN EXPERIENCE. A RANDOMIZED CONTROL STUDY,HOSPITAL SULTANAH BAHIYAH, ALOR SETAR, MALAYSIA 2018

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Introduction:
Modern cystoscopic Double J ureteric stent insertion was first described and done in 1978[1,2]. This procedure is commonly performed under general anaesthesia in patients[,1,3]. Such a reliance on General anaesthesia has lead this procedure in an acute setting which can delay the time for stent placement, depending on staff and resources which are available[1,3]

Materials & Methods: This study was a prospective randomized control trial conducted in the Urology Department, Hospital Sultanah Bahiyah , Alor Setar , Kedah from June 2017 till October 2018. A total of 62 patients were recruited for this study. Patient was randomly assigned into two groups based on blocked randomization, either receiving local lignocaine gel or lubricant gel and combination of local lignocaine gel and oral paracetamol prior to local ureteric stenting or DJ stent insertion.. They then would be assessed for pain score post procedure based on the Visual Analogue Pain Score Chart and also assessing the pre and post procedure systolic blood pressure, diastolic blood pressure and pulse rate.

Study Population
All patients who fulfill inclusion criteria.

Randomization
Upon admission and enrollment into the study, the patient will be asked to withdraw a card from a ballot box in the procedure room. A total of 62 cards will be made, equally divided into two groups, and labeled as Group A and Group B, and will be put together in one box. Patients in Group A would receive local lubricant gel only prior to the procedure. Patients in Group B will be given combination of local lubricant gel and Oral Paracetamol prior to ureteral stenting. All patients will receive the same real-time explanation during cystoscopy.
Results: In Group A final analysis, we found that the majority of the patients experienced moderate pain scores consisting of 22 patients (71%) followed by 6 patients with severe pain score (19.4%) and 3 patients experiencing mild pain (9.7%).In Group B, 24 of its patients experienced mild pain (77.4%), 6 patients experienced moderate pain (19.4%) and 1 patient experienced severe pain (3.2%). There was significant difference between group A and Group B in terms of change of systolic and diastolic blood pressure and change in pulse rate pre and post procedure , p value 0.001($p<0.05$) for all 3 variables.
Conclusion: Combination of Oral Paracetamol and local lignocaine gel is more effective than only local lignocaine gel in terms of pain score perception when performing local ureteric DJ stent insertion.
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PE271

A CASE REPORT OF SEPSIS AFTER INTRAVESICAL INSTILLATION OF BCG

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Introduction: The first step in diagnosing Bladder Cancer is usually transurethral cystoscopy with total resection of a visible tumor, if possible, and histopathological examination. Then, often adjuvant therapy is required. Gold standard of adjuvant therapy of intermittent risk tumors and high risk tumors is immunotherapy with intravesical instillation of Bacillus Calmette-Guerin (BCG therapy). It is known that live strain of M. bovis has not only a direct effect on tumor cells but also induces host's inflammatory response necessary for killing cancer cells. During BCG therapy adverse effects ranging from mild to life threatening can occur even a long time after treatment and they can affect almost any organ. Anti-bacilli treatment in such cases is recommended.
Materials & Methods: We present a case of 66-year-old man hospitalized at the Urology Department and Intensive Care Unit of the Medical University of Warsaw Clinical Hospital due to sepsis developed most likely after BCG therapy. The patient developed a haematuria after second course of BCG instillation. He was admitted to High Dependency Unit of Urology Department with symptoms of systemic reaction where he had a cardiac arrest. After obtaining ROSC the patient was admitted to ICU department with symptoms of septic shock with severity assessed for 13 SOFA score and 33 APACHE score on admission. He had respiratory failure and required mechanical ventilation. He was cardiovascular instable with hypotension requiring high dose of vasopressors. Because of kidney failure continuous venovenous renal replacement therapy was initiated.
Results: Blood and aspirate cultures were taken and anti-bacilli treatment with isoniazid rifampicin and ethambutol was started. Corticosteroids were also added into the therapy. Microbiological cultures turned out to be negative but within a few days of anti-bacilli treatment a reduction of inflammatory markers and reduction in demand for catecholamines were observed. The patient was treated in ICU for 50 days. Finally he was respiratory and cardiovascular stable and could be transferred to internal medical ward, and then after full recovery he was discharged from hospital.
Conclusion: It is crucial to obey safety precautions during BCG therapy. Urine cultures before instillation should be negative. Macroscopic hematuria, traumatic catheterization or urinary tract infection are main contraindication to the BCG therapy.

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Disclosure of Interest: None declared

PE272

ASSOCIATION BETWEEN PERIOPERATIVE INTRAPERITONEAL LOCAL ANAESTHETIC INFUSIONS AND LONG-TERM SURVIVAL AND CANCER RECURRENCE AFTER COLECTOMY: FOLLOW-UP ANALYSIS OF A PREVIOUS RANDOMIZED CONTROLLED TRIAL

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Introduction: High concentrations of local anaesthetics have an antiproliferative effect on colon cancers in vitro. Intraperitoneal local anaesthetic (IPLA) has shown analgesic benefit and improved recovery in the perioperative setting. The long-term effects of IPLA in colon cancer resection has not been examined.
Materials & Methods: Sixty patients underwent colonic resection for benign and malignant disease as part of a double blinded, randomized, placebo controlled study between September 2008 and November 2009. The IPLA group received instillation of intraperitoneal ropivacaine before dissection followed by a 3 day infusion. The placebo group was treated as above with 0.9% saline solution. A follow-up analysis was conducted to evaluate overall survival, disease-free survival and recurrence specifically for patients undergoing resection for Stage I–III colon cancer. Kaplan–Meier analysis was performed and log-rank test was used to evaluate difference in survival between groups.
Results: Thirty-seven patients had stage I-III colon cancer and were included in this analysis. Nineteen patients were in the placebo group. There was no significant difference in overall survival nor all-cause mortality. There was a higher incidence of cancer-specific mortality in the local anaesthetic group (p 0.046).
Conclusion: It does not appear that IPLA is associated with a significant survival benefit in patients with colonic malignancy undergoing colectomy. Other studies should analyse long-term outcomes to add to the evidence from this pilot-study.
Disclosure of Interest: None declared

PE273

MULTIPLE ORGAN DISFUNCTION AND RESPONS TO SEVERE INJURY AS AN RESULT OF TRAUMA.

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Introduction: Trauma is one of the most common causes of death among young people. Classifying into early and late risk of death is connected to various mechanisms of trauma and organism responding to them. Defence response of various systems is mobilized by so called first hits (trauma of organs and soft tissues, fractures, hypoxia, hypotension) and second hits (e.g. Infections, surgical interventions, ischemia, hypothermia).
Materials & Methods: An overview of current scientific literature.
Results:). Lungs, liver, vessels, digestive system responds to trauma and its consequences in a specific way, starting from the cellular level. This happens through the release of pro-inflammatory cytokines, complement factors, acute phase proteins and neuroendocrine factors formed in response to mechanical damage of abdominal organs, aseptic or bacterial peritonitis or abdominal compartment syndrome. Mobilization mechanisms leads to of the systemic inflammatory response syndrome (SIRS) and balancing it compensatory anti-inflammatory response system (CARS), which disorders seem to be responsible for abnormalities in organ functioning and susceptibility to infections. Furthermore endothelial cell damage, leukocyte accumulation, disseminated intravascular coagulation (DIC), disturbances in microcirculation lead to apoptosis and necrosis of parenchymal cells with further development of Multiple Organ Dysfunction Syndrome (MODS).

Conclusion: Pathophysiology of multiple organ trauma, including digestive system, is an important problem through which understanding will lead to better management of trauma and its consequences.
Disclosure of Interest: None declared