Table of Abstract Book Content

Type of abstract: oral abstract

O-01 Incisional hernia after liver transplantation in Tartu University Hospital 1999-2021: prevalence, risk factors and treatment

Track: Hernia/abdominal wall closure

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Objective
Incisional hernia is a long-term complication of laparotomy. Patients after orthotopic liver transplantation (OLT) have a high risk of developing incisional hernia, the incidence between 4,6% and 34,4% are reported in the literature. The aim of this study was to evaluate the incidence and predisposing factors of incisional hernia after the OLT in Tartu University Hospital in 1999-2021.

Methods
We performed a retrospective review of all patients who underwent OLT in Tartu University Hospital. Since all liver transplantations in Estonia are done in Tartu University Hospital, this review represents all post-liver transplantation incisional hernias in the country. From 1999 until 2021, 113 OLT-s were performed in 108 patients. Eleven patients died during 30-day postoperative period and were excluded from the study. Three patients whose liver transplantation was performed under the age of 18 were also excluded, therefore 94 patients were included in the analysis. Univariable Cox regression analysis was used to determine the potential risk factors related to incisional hernia. The results of Cox models were presented as hazard ratios (HR) with the 95% cofidence intervals (CI). All statistical tests were two-sided and $P \leq 0.05$ was considered significant.

Results
Fifty seven patients (60.6%) were men, the median age of patients was 51.5 years. The main indication for OLT was hepatitis C cirrhosis. An IH developed in 31 patients (33%) after the OLT, 11 (35.5%) of these IH developed in less than six months. IH repair was performed using mainly intraperitoneal onlay mesh (57.9%) or onlay (21,1%) technique. In 7 patients (36,8%) hernia recurred. Risk factors such as gender, age, body mass index, Child-Pugh score, postoperative complications or re-laparotomies wasn't associated with development of IH. The cumulative risk of developing an IH after one year is 17.2%, but rises up to 33.5% after three years and 46.6% after five years of OLT.

Conclusions
IH is common complication after major surgery, such as liver transplantation. The formation of IH is multifactorial and influenced by patient factors and technical reasons. Open mesh repair was the main treatment modality, the recurrence rate after the repair was higher in our center than reported in the literature.

Brief description of the abstract
Retrospective study of incisional hernia after liver transplantation in Tartu University Hospital 1999-2021.

O-02 Paraesophageal hernia plastics with fully resorbable biosynthetic mesh PhasixTM

Track: Hernia/abdominal wall closure

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Objective
Hiatal hernias are found in 55 – 60% of patients over 60 years, however, they are symptomatic only in 9% of cases and mainly manifests with gastroesophageal reflux disease signs with first-line treatment proton pump inhibitors and lifestyle changes. Surgical therapy is indicated in cases when conservative treatment fails and in large paraesophageal hernias. Previously surgical therapy includes fundoplication and cruroplasty,

however, it has a high recurrence rate – up to 42%. Usage of mesh decreases the recurrence rate, but in some cases, it may lead to serious complications, such as visceral adhesions, erosions, infection, and mesh migration. To avoid these complications a new fully resorbable biosynthetic mesh PhasixTM was offered in the market. The aim of the study was to describe Riga East Clinical University Hospital Gaiļezers experience with Phasix mesh usage in surgical repair of paraesophageal hernias and evaluate radiological relapse risk of hernia at least 6 months after surgery.

Methods
This retrospective study included 27 patients who had undergone paraseophageal hernia repair with mesh Phasix since 2019. 26 patients underwent radiological examination at least 6 months after surgery. All patients were treated at the Surgical Departments of the Riga East University Hospital Gaiļezers from 2019 to 2022. For data analysis, Microsoft Excel and IBM SPSS Statistics were used.

Results
Totally 27 patients had undergone paraesophageal hernia repair with mesh Phasix. 26 patients (96%) underwent radiological control at least 6 months after surgery. Medium follow-up was 19,7 months, maximum – 38 months. 3 patients (12%) had radiologically confirmed relapses (1 relapse 5 cm un 2 relapses– 3 cm), and none of them are symptomatic. 2 patients (8%) in the early postoperative period had transitory dysphagia.

Conclusions
Fully absorbable biosynthetic mesh with medium follow-up 19,7 months shows 12% radiological relapse risk after paraesophageal hernia plastics.

O-03 Rehabilitation after postoperative abdominal wall hernia surgery

Track: Hernia/abdominal wall closure
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Objective
Incisional hernia is a common complication after open surgery with a reported incidence of 9–20%. The main treatment method for abdominal wall hernias is hernioplasty. Postoperative period after the hernioplasty can decrease abdominal wall muscles function together with quality of life. Physical therapy is one of the mainstays of musculoskeletal surgery or tendon repair, but surprisingly, is not routine in ventral hernia repair. The early rehabilitation programs showed good results after hernioplasty without increased complications rate. The aim of this study was to evaluate rehabilitation efficiency for abdominal wall muscles strength and mobility after postoperative abdominal wall hernia repair.

Methods
A randomized prospective clinical study was performed in the Department of Surgery at Hospital of Lithuanian University of Health Sciences. Patients were randomly divided into two groups: I – rehabilitation group and II – control group. Study involved patients with medium (4-10cm) and large (>10cm) postoperative ventral hernias. Preoperative examination - functional samples, isometric and isokinetic examination with the Biodex system was performed. All the patients had sublay hernia mesh repair. At 3 weeks postoperatively group I patients underwent scheduled and targeted rehabilitation. After 2 months all patients underwent the same postoperative examination.

Results
The study included 14 patients (7 patients in each group). Both groups were homogeneous by age, (p=0,244), gender (p=1,00), BMI (p=0,05), hernia size (p=0,698). After 2 months from surgery an improvement in the abdominal wall muscle functional state, measured in the Biodex isometric study, was significant for patients in rehabilitation group.

Conclusions
Early rehabilitation after abdominal wall hernia surgery has a positive effect on the functional state of the abdominal wall muscles without increase in postoperative complication rate.

Brief description of the abstract
The aim of study was to evaluate rehabilitation efficiency after postoperative abdominal wall hernia repair. At 3 weeks postoperatively patients underwent rehabilitation program. After 2 months from surgery an improvement in the abdominal wall muscle functional state, was significant. Early rehabilitation after abdominal wall hernia repair has a positive effect on the functional state of the abdominal wall muscles without increase in postoperative complication rate.

O-04 The risk factors of seromas and long-term results after umbilical hernia with diastasis recti repair (SCOLA)

Track: Hernia/abdominal wall closure

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Objective
The purpose of this study was to assess results in umbilical hernia with diastasis recti repair, risk factors for seromas and to identify long-term follow-up results of a “new” technique (SCOLA).

Methods
A prospective Cohort study of the patients who underwent elective surgery for small (< 2 cm) and medium (2-4 cm) size of primary umbilical hernia with diastasis recti. The patient’s follow-up period was 12 months. Hernia reccurence and seromas diagnosis was based on the patient’s physical examination and paraumbilical area ultrasound, performed by radiologist. Postoperative pain was evaluated using Visual Analogue Scale (VAS). To evaluate quality of life we used the Carolinas Comfort Scale (CCS) questionnaire.

Results
One hundred patients underwent elective surgery for umbilical hernia with diastasis recti over the period of 2 years. The mean patients age was 36.6 years (range 22-77 years). Most of the patients were females (n=77, 77%). The median operating time was 120 minutes. Thirty two patients (32%) were operated with mesh repair and 68 (68%) patients without mesh. Only one patient had postoperative complication (wound hematoma) during hospital stay. Median hospital stay was 2 days. There was no hernia or diastasis reccurence during follow-up period. The seroma was found in 15 (15%) cases during first follow-up month. There were 11 (11%) cases of seroma after third month and after 6 months were only 2 (2%) cases of seroma. Almost half of patients (63%) had abdominal skin hypostesia after 6 months. Almost all the patients after surgery had mild or moderate symptoms at the daily activity.

Conclusions
SCOLA is a safe and effective technique for the patients with umbilical hernia and diastasis recti. This technique gives an acceptable cosmetic result to patients, low postoperative pain and short hospital stay, and good quality of life.

Brief description of the abstract
Diastasis recti is a very common condition with functional and cosmetic effects that can occur in female and male patients, with a 30-70% prevalence and can be associated with umbilical or epigastric hernias. In recent years, a endoscopic subcutaneous onlay approach (SCOLA, REPA, ELAR etc.) mesh repair in combination with anterior plication of diastasis have recently become a common procedure.

O-05 Ten-year outcome of laparoscopic sleeve gastrectomy

Track: Bariatric surgery

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Objective
Sleeve gastrectomy was first introduced in 1988 by Hess as part of the biliopancreatic diversion duodenal switch procedure. In 1999, it was first performed laparoscopically and has gradually gained popularity as a single weight loss procedure because of being a relatively technically simple and fast procedure compared with laparoscopic Roux en-Y gastric bypass. However laparoscopic sleeve gastrectomy (LSG) is still controversial because of lack of long-term results and the exact effect of LSG on postoperative gastroesophageal reflux disease (GERD) symptoms. The aim of this study was to evaluate 10-year followup results of laparoscopic sleeve gastrectomy in terms of weight loss, new onset of GERD and resolution of obesity-related comorbidities.

Methods
Between October 2008 and september 2012 140 consecutive morbidly obese patients underwent laparoscopic sleeve gastrectomy (LSG) at Tartu University Hospital. Mean patient age was 42 years. Mean preoperative body mass index was 46.2 kg/m2 The outpatient hospital follow-up visits were conducted at 3months, 1year, 5years and 10years postoperatively. We used questionnaires, blood tests and gastroscopy findings to evaluate

weight loss, new onset of GERD and resolution of obesity-related comorbidities. At 10 years, the follow-up rate was 65%; in total 91 laparoscopic sleeve gastrectomy patients were included in final analysis.

Results
The final analysis did not include patsients who underwent laparoscopic Roux en-Y gastric bypass before 10 year follow up. The mean excess weight loss (%EWL) was 53% at 10 years follow up. All patients who has gastroesophageal reflux disease symptoms preoperatively remained symptomatic at ten-year follow-up. 63% of preoperatively asymptomatic patients had developed the symptoms of GERD at 10-year follow up. 17.2% of them 17.2% of them had Barrett's esophagus in biopsies taken during gastroscopy. There were found a statistically significant remission of dyslipidemia, hypertension and type 2 diabetes at 10-year follow-up.

Conclusions
In conclusion it appears that after 10 years the mean excess weight loss still exceeds 50% and there is still significant resolution of obesity-related comorbidities. However there is a trend toward an increased prevalence of GERD symptoms following LSG. Knowing that developing GERD symptoms is a relatively frequent problem, bariatric surgeons should carefully evaluate all the patients about GERD-related complaints. Patients with preoperative GERD symptoms should not have laparoscopic sleeve gastrectomy. All asymptomatic patients should be informed preoperatively that there is possibility of new-onset GERD in the postoperative period.

Brief description of the abstract
The aim of this study was to evaluate 10-year followup results of laparoscopic sleeve gastrectomy in terms of weight loss, new onset of GERD and resolution of obesity-related comorbidities.

O-06 Liver Transplantation for Polycystic Liver Disease: A Case Report

Track: Transplant surgery
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Objective
BACKROUND Polycystic liver disease (PLD) is a rare hereditary disease that can occur as a isolated disease or be accompanied by autosomal dominant polycystic kidney disease (ADPKD) or autosomal recessive polycystic kidney disease (ARPKD) (1). In isolated PLD, germline mutations occur in the PRKCSH and SEC63 genes, which are in charge of making the proteins that control fluid transportation and epithelial cell growth (2). In ADPKD, gene mutations occur PKD1 and PKD2 genes (3). Mutation of these genes leads to dysregulation of fluid secretion and abnormal cell growth (4). Liver involvement is present in up to 94% of patients diagnosed with ADPKD (5). While most patients with isolated PLD are asymptomatic, the enlargement of the liver and pressure on the surrounding organs can cause shortness of breath, early fullness, abdominal enlargement, malnutrition, gastroesophageal reflux disease and back pain (1). The obstruction of the venous drainage of the liver can cause portal hypertension, ascites, splenomegaly, bleeding from esophageal varices, jaundice and/or encephalopathy (4). The diagnosis of PLD is usually made with imaging studies as US, CT or MRT (6). The number of hepatic cysts is excpected to be more than 20, but it's important to exclude the ADPKD before making the diagnosis of isolated PLD. The synthetic function of the liver is usually preserved in PLD. (7) Medical therapy consists somatostatin analogues, which interact with the somatostatin receptors on the surface of the cyst wall, reduce the cAMP level of the bile duct epitheliums and inhibit the secretion of cyst fluid and hyperplasia of the bile duct cells (8). mTOR inhibitors have shown inhibition of cyst growth and delaying the progressioon of the PKD in animal models (9). Ursodeoxycholic acid (10) and vasopressin-2 receptor antagonists (11) have shown delay on the growth of hepatic cysts in ADPKD patients.

Methods
BACKROUND (continues) Cyst aspiration and sclerotherapy is indicated for patients with a single giant cyst with rate of cyst volume and symptom remission 72-100% (12). However, the recurrence rate of the cyst is up to 80% (13). Transcatheter arterial embolization is used to embolize the branches of the arteries that supply blood to the cysts, thereby destroying the cells of the cystic wall and cutting off the source of the cystic fluid. However, the failure rate is up to 69.6%. (1) Surgical therapy consists cyst fenestration, which is used for the treatment of multiple cysts, and hepatic resection. The extent of resection depends on the size and distribution of the cysts, hepatectomy can be used in patients with at least one liver segment that is not affected by the cysts. Liver transplantation is preserved for patients with severe symptoms and malnutrition, untreated complications and for those, who have failed alternative interventions. (1) CASE PRESENTATION A 57-year-old male patient was diagnosed with polycystic kidneys at the age of 24 and liver cysts discovered at the age of 38. The patient's mother was also diagnosed with polycystic kidneys and she has undergone a kidney transplantion. Since 2009, the patient had complaints about worsening feeling of heaviness in the abdomen and early satiety, the abdomen has become distended. CT showed cysts with a diameter of up to 7 cm all over the liver. Liver was increased in size: craniocaudal dimension 26 cm, left lobe anteroposterior dimension 11 cm. The kidneys also had numerous cysts of different sizes, and were increased in size: right kidney 6 x 16 cm, left kidney 8 x 16,5 cm. AST, ALT, ALP, bilirubin and renal function were normal, there was a slight

increase in GGT 128 U/L. The genetic showed disease-related heterozygous missense mutation in the PKD1 gene - this mutation is the cause of ADPKD.

Results
CASE PRESENTATION (continues) Because of the complaints, the patient has been repeatedly punctured for liver cysts. In 2013, as a result of a car accident, the patient developed a rupture of a the right lobe liver cyst. A total laparotomy was performed due to intraperitoneal hemorrhage, which was later complicated by the development of an incisional hernia. Hernioplasty was performed in 2014 with an intra-abdominal mesh. Over the years, the patient continued to experience an increase in abdominal girth. Based on the size and number of liver cysts, puncture of the cysts wasn't indicated. Taking account of hepatomegaly, laparoscopic cyst fenestration wasn't also indicated. Since the liver function was normal, the patient wasn't eligible for liver transplantation. In 2017, CT showed that the liver size was 33 x 21 x 27 cm. The patient complained about swelling in the legs and he was additionally diagnosed with heart failure. Considering the continued enlargement of the liver and the worsening of complaints, the patient was put on the waiting list for a liver transplant in the spring of 2019. Liver transplantation was performed on 11th of July 2022: massive hepatomegaly and extensive adhesions due to previous laparotomy and inicisional hernia repair made the release of the recipient's liver very difficult. The duration of the operation was 413 minutes, the anhepatic time was 73 minutes, and the cold ischemia of the donor liver was 517 minutes. In the final histology, the liver measures were 53 x 37 x 39 x 16 cm and weight 14,75 kg. Histologically, it was an adult PKD with liver involvement (PLD), there were no signs of malignancy. The patient was in a stable condition after liver transplantation. On the 2nd day of intensive care, the patient was extubated. Postoperative exacerbation of chronic renal failure resolved with conservative treatment. IS was carried out according to the IS algorithm. The patient was discharged home on the 29th postoperative day.

Conclusions
CASE PRESENTATION (continues) Liver function has been good after transplantation, blood flow in the transplant has been adequate. The patient developed incisional hernia, due to which incisional hernia repiar with intra-abdominal mesh was performed on March 2023. DISCUSSION The treatment of PLD primarily depends on the patient's symptoms and is mainly divided into three categories: drug therapy, percutaneous therapy and surgical therapy (1). In case of liver damage due to liver cirrhosis, the liver is usually small and during liver transplantation, it is easy to manipulate during surgery, and the access to blood vessels is good during surgery. However, in the case of an extremely large polycystic liver, it is very difficult to mobilize the liver and get access to the liver hilum is difficult. If the liver normally weighs up to 2 kg, the average polycystic liver weights about 6,7 kg (15). In this case, the liver weighed 14,75 kg. Extreme care must be taken when mobilizing the liver and visualizing the structures, as there is a high risk of injuring compressed and dislocated blood vessels, especially the inferior vena cava (IVC). Since the polycystic liver is very large, the classic approach with the excision of the recipient IVC instead of the piggyback technique should be preferred. (15) This case vividly demonstrates how liver transplantation is a very effective treatment method that significantly improves the quality of life in PLD patients.

Brief description of the abstract
Case presentation about liver transplantation in a patient with a polycystic liver disease

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O-07 Long-term outcomes after kidney transplantation - Latvian experience

Track: Transplant surgery
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Objective
Kidney transplantation (KT) remains the best option for treatment of End-Stage Kidney Disease (ESKD) patients, providing better results compared with alternative Renal Replacement Therapy (RRT) modalities. Deceased donation remains the main source of organs for KT in Latvia, and growing demand for KT leaded to the necessity to expand criteria for deceased donors (DD). The aim of this study was to summarize the experience of the Latvian transplant center in kidney transplantation using various standard and expanded criteria DD.

Methods
This retrospective study included all consecutive KT cases from DD performed in one transplant center between January 1, 2004 and December 31, 2022, and where long-term patient post-transplantation follow-up data were available. We analyzed development of early post-transplant complications (development of the delayed graft function, surgical complications, acute rejection) in association with donor, recipient and

transplantation factors (DD and recipient demographical data, diagnosis, presence of expanded criteria, cold ischemia time, vascular reconstructive surgery at back-table, etc.), as also their impact on late posttransplant outcomes.

Results
KT from DD remains the maim source for kidney grafts, contributing to more than 90% of all KT cases. The analysis of post-transplantation results showed that they are comparable to the results of other European and World transplant centers. The development of posttransplant complications showed association with analyzed donor, recipient and transplantation factors. Long-term posttransplant outcomes were negatively impacted by posttransplant complications, and the use of expanded criteria DD showed slightly worse short-term and long-term outcomes compared to standard criteria DD, however still better compared to other RRT methods. Introduction of machine perfusion for expanded criteria DD kidney storage before transplantation used in the recent years significantly improved results of KT.

Conclusions
Kidney transplant results are comparable to other European and World transplant results and are associated with posttransplant complications. The use of machine perfusion for kidney graft storage gives an opportunity to improve kidney transplant outcomes.

Brief description of the abstract
This study addresses long-term outcomes after kidney transplantation, performed in Latvian Transplantation center, and factors that impact posttransplant results. Analysis showed comparable post-transplantation results to other transplant centers. Posttransplant outcomes were negatively impacted by complications. Machine perfusion for kidney graft storage may improve kidney transplant outcomes, especially when transplanting from expanded criteria deceased donors.

O-08 Islet on a chip – is design important for function and viability maintenance: a systematic review

Track: Transplant surgery
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Objective
Multiple types of microfluidic devices are used to study islets of Langerhans in vitro. There is ongoing debate regarding feasibility to maintain function and viability of islets to be used for transplantation.

Methods
A systematic review was conducted to evaluate the most common designs of microfluidic devices used to culture pancreatic islets in vitro. The review included microwell, hanging drop, hydrodynamic trap, encapsulation and hydrogel scaffolds as design platforms. PubMed and Google Scholar databases were searched for all relevant studies (articles in English; reference period January 2013–June 2023). Data on islet function (insulin stimulation index) and viability, duration of experiment, design of microfluidic device and type of used cells in the experiment were collected. Means with standard deviations were calculated.

Results
A total of 1646 studies were identified in the electronic database search. There were 310 duplications, 1152 studies were excluded after screening, additionally 85 studies were excluded after reading a full - text article. 99 studies were included in the final analysis. Due to high heterogeneity among the studies, only a systematic review was conducted. The highest viability was reported in hydrodynamic trap group - 93.2 % (± 2.7), followed by hydrogel scaffold 92.0 % (± 4.7), microwell 90.5 %(± 7.5) , hanging drop 90 % and lowest in encapsulation design of microfluidic devices 85.3 %(± 11.1). The highest insulin stimulation index was observed in hanging drop microfluidic devices 5.7 (± 3.3), followed by microwell 3.9 (± 2.7), hydrodynamic trap 3.8 (± 2.1), encapsulation 3.7 (± 2.8) and hydrogel scaffolds 3.5 (± 2.3).

Conclusions
Hydrodynamic trap design of microfluidic devices might be associated with highest viability of islets, and islet function is best preserved by hanging drop systems. More comparative research with multiple different microfluidic devices used in a single experiment are needed to answer the question which design is optimal for islet research.

Brief description of the abstract
Islet transplantation is a promising treatment option for Type 1 diabetes mellitus. In order to improve outcomes, research in laboratories using different designs of microfluidic devices mimicking in vivo conditions are ongoing. It is still not clear what type of microfluidic device enhances islet function and viability. This is the first systematic review to answer this question.

O-09 Long term follow-up results of achalasia treatment

Track: Upper gastrointestinal tract malignancy
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Objective
Achalasia is a condition when dysphagia occurs due to hypertensive lower esophageal sphincter. Laparoscopic cardiomyotomy with fundoplication is the main treatment option. The aim of this study was to analyze the long term postoperative achalasia treatment results.

Methods
Retrospective clinical study was performed. Patients were examined in outpatient's clinic, where special questionnaire was answered and sphincter manometry was performed. A median of time after surgery was 60 months.

Results
The study included 32 patients. According to Vantrappen and Hellemans classs on effectiveness of achalasia treatment 17 patients (53%) felt no symptoms of dysphagia or very insignificant ones. 14 patients (43%) had mild (2-3 times a week) and only 1 patient (3%) often had symptoms of dysphagia which only disappeared after few hours after eating. Reflux symptoms sensations varied similarly between patients. 19 patients (59%) experienced none or episodic heartburn symptoms that resolved on their own. 12 patients (37.5%) required episodic use of omeprasol and only 1patient (3%) had strong heartburn symptom after eating which wouldn't go away even using drugs. Manometry examination showed that none of the patients had signs of disease relapse. Average IPR was 3.75mmHg among whole study group. 1st class patients' group average IPR was 4.47mmHg, and 2nd group's 3.87mmHg. Patient's, who had most severe feeling of dysphagia, IPR was 1.6mmHg.

Conclusions
Laparoscopic cardiomyotomy clearly helped to reduce the symptoms of dysphagia and did not cause severe reflux symptoms in the operated patients.

Brief description of the abstract
Laparoscopic cardiomyotomy with fundoplication is the main treatment option of achalasia. The aim of this study was to analyze the long term postoperative treatment results. Retrospective clinical study was performed, patients were examined and sphincter manometry was performed. 53% of patients felt no or very little dysphagia and others only mild symptoms. Manometry showed that none of the patients had signs of disease relapse.

O-10 Perioperative FLOT chemotherapy modification for stage II-III gastric cancer: 8 cycles in neoadjuvant regimen

Track: Upper gastrointestinal tract malignancy
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Objective
Perioperative FLOT chemotherapy is a golden standard for stage II and III gastric cancer. However, patients are often not fit enough to complete 4 adjuvant cycles after surgery. The aim of a study was to assess safety profile and clinical responce of 8 cycles of FLOT in neoadjuvant regimen.

Methods
We performed retrospective analysis of patients with stage II and III gastric cancer from the National Cancer Institute database from January 2018 to December 2021. Selection criteria were T4a-T4b and N2-3. Primary endpoint was effectiveness of the scheme assessed with RECIST 1.1 criteria. Secondary endpoint was safety profile assessment (adverse events and discontinuation of treatment due to toxicity).

Results
52 patients were included in the study. 34 (65.4%) patients successfully completed 8 neoadjuvant cycles of FLOT chemotherapy and underwent surgery (total gastrectomy with D2 lymphadenectomy). 12 (23.1%) patients completed 7 cycles, 5 (9.6%) - 6 cycles and 1 (1.9%) - 5 cycles, respectively. Primary reason for discontinuation was hematological toxicity. None of patients acheived complete response. Partial response was reached in 23 (67.7%) patients, 10 (29.4%) patients showed stable disease and 1 (2.9%) patient had disease progression. The highest toxicity was

observed for absolute neutrophil count (grade 4 neutropenia was observed in 15 (44.1%) patients). The most common adverse events were grade 1 nausea and peripheral sensory neuropathy, which were observed in 30 (88.2%) patients and 25 (73.5%) patients, respectively. The most rare adverse events were anemia (grade 1 in 13 (38.2%) patients, grade 2 in 6 (17.6%) patients, grade 3 in 1(2.9%) patient) and thrombocytopenia (grade 1 in 2 patients (5.9%) and grade 2 in 1 patient (2.9%).

Conclusions
Althought 8 cycles of FLOT in neoadjuvant regimen didn't improve radiological response, it showed acceptable toxicity profile that confirms the possibility to use this scheme for selected patients to avoid adjuvant chemotherapy.

Brief description of the abstract
Perioperative FLOT chemotherapy is a golden standard for stage II and III gastric cancer. However, patients are often not fit enough to complete 4 adjuvant cycles after surgery. The aim of a study displayed in the abstract was to assess safety profile and clinical responce of 8 cycles of FLOT in neoadjuvant regimen.

O-11 Laparoscopic versus open total and subtotal gastrectomy for gastric cancer: A single institution-based retrospective study

Track: Upper gastrointestinal tract malignancy
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Objective
The primary aim of this study was to evaluate the noninferiority of laparoscopic approach to the conventional in total and subtotal gastrectomy and its feasibility to achieve satisfactory intraoperative and oncological outcome. The primary objectives included definition of oncological outcome goals based on available guidelines and comparison of local data obtained by means of both surgical approaches to each other and to world practice. Specific criteria were number of harvested lymph nodes, extent of lymphadenectomy and condition of resection line on histopathological examination. Primary intraoperative subject of interest was blood loss. Operative time and postoperative outcome of laparoscopic and open approaches were among the secondary aims to assess. Secondary objectives were to investigate the difference in time of surgery, time to first ambulation, time to first bowel movement and use of analgesics between the patient groups of the two surgical approaches. Additionally, descriptive portrait of study sample was aimed to be obtained and expressed in patient clinicopathological characteristics particularly for establishment of study limitations and further research planning.

Methods
A retrospective analysis of patients with gastric adenocarcinoma who underwent subtotal or total gastrectomy with curative intent was done and patients were equally divided into two groups by either laparoscopic (LA) or open approach (OA). Intraoperative, oncological and postoperative outcomes were measured and compared between the patients who underwent laparoscopic surgery and the group of the open approach with statistical methods.

Results
Twenty-two patients operated between January 2022 and March 2023 met inclusion criteria and grouped by LA and OA. Negative resection line (R0) was achieved in all LA patients and in all but one in the OA. LA ensured ⑧D2 lymphadenectomy in all patients, OA resulted in 8 patients with ⑧D2 and 3 patients ❣D1 level. The mean of lymph node yield was 26.0 in LA and 23.7 in OA (p=0.797). LA group showed less blood loss than the OA group (101.8 ml vs 272.2 ml; p<0.001), longer operative time (325.9 vs 139.1 min; p<0.001) and faster patient ambulation (2.1 vs 3.7 days; p=0.008). The length of the hospital stay was shorter in LA (7.8 days vs 9.6 days in OA; p=0.949) and for the first bowel movement (3.1 vs 3.9 days in OA; p = 0.099). Opioid analgesics use was 1.4 days after the LA and 1.9 after the OA.

Conclusions
Laparoscopic approach to total and subtotal gastrectomy has shown its noninferiority to the open surgery from the first experience of PSCUH by fulfilling the expected oncological objectives, resulting in less intraoperative blood loss, faster patient ambulation and may be used as a fair alternative to the conventional gastric cancer surgery.

Brief description of the abstract
Gastric cancer is the fifth most frequently diagnosed cancer type worldwide, so advances in the treatment are of great value. Laparotomy is a traditional and safe approach to gastric cancer surgery, while laparoscopic approach minimizes surgical trauma, intraoperative blood loss and recovery period, however, its ability to be a qualitative alternative to the open approach is still questioned. This study presents the first experience of Paul Stradiņš Clinical University Hospital.

O-12 Laparoscopic gastric resections. The first-time experience in Riga East University Hospital

Track: Upper gastrointestinal tract malignancy

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2) Igors Ivanovs, Riga East University Hospital, dr.med. phD., Latvia
3) Andrejs Pčolkins, Riga East University Hospital, dr., Latvia

Objective

Objectives: Laparoscopic gastric resections. First time experience in Riga East University Hospital. In this study we wanted to evaluate the laparoscopic gastric resection efficacy.

Methods

In a retrospective study we analyzed patients with gastric tumors stage I or II who underwent laparoscopic (Lap-group) or open (Open-group) gastric resections. Sixty-two patient cases from 2017 – 2023 who underwent gastric resections for gastric cancer at Riga East University Hospital. Thirty-one of them had laparoscopic gastric resections and thirty- one of them had open gastric resections. We analyzed clinico-pathological factors, postoperative hospital stay, operation time and when patients started peroral feeding.

Results

Demographically both groups had similar age and sex, also both groups had similar tumor locations which was in corpus and antrum and tumor types – most commonly gastrointestinal stromal tumors and adenocarcinomas. Most common gastric resection in Lap- group 67% (n=21) were marginal gastric resection, and 29% (n=9) subtotal distal gastrectomy, less common 3,2% (n=1) was total gastrectomy. In open group most common gastric resection 59,4% (n=19) was marginal gastric resection and 25% (n=8) total gastrectomies, less common 15,6% (n=5) subtotal distal gastrectomies. In Lap-group the median of total dissected lymph nodes was 29 lymph nodes, however in open- group the median of total dissected lymph nodes was 25 lymph nodes. Median size of the tumor tumor in Lap-group was 17 mm. In open group median size of the tumor was 13 mm. It was found that lap-groups operation times where shorter median = 90, IQR [67,50 – 125,00] than open gastric resections for marginal gastric resections, median 133,5, IQR [120,00 – 145,00], p=0,001. It was also found lap-groups operation times where longer median = 297, IQR [248,75 – 395,00] than open gastric resections for total and subtotal distal gastrectomies, median 182,5, IQR [157,5 – 240]. Using Mann-Whitney U test it was found that patients in lap-group had shorter hospital stay median = 7, IQR [5,00 – 8,00] than in open group median = 13, IQR [11,00 – 14,00], p=0,001. Using Mann-Whitney U test it was found that laparoscopically patients start to intake food much earlier median 2, IQR [3,00 – 2,00] than in open gastric resection median 3, IQR [3,00 – 3,00], p=000,1. Both groups didn't have any complications.

Conclusions

Laparascopic gastric resections has shorter hospital stay, shorter operation length for marginal gastric resections and patients intake food much earlier. In the future we would like to increase laparoscopic gastric resection rates and considering the low complication rates and good results we could start operating more advanced stage gastric cancers.

O-13 Personalized home-based trimodal prehabilitation. Multi-center, open-label randomized control trial

Track: Upper gastrointestinal tract malignancy

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11) Evelina Cikanaviciute, Vilnius University, Faculty of Medicine, Lithuania
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Objective

Surgery is the only curative option for GC patients, although it remains associated with significant morbidity and mortality. Prehabilitation has emerged as a promising technique to improve outcomes after major abdominal surgery, but there is a lack of evidence to confirm its efficacy in

patients undergoing gastrectomy. Thus, our study aimed to demonstrate that home-based prehabilitation can reduce postoperative morbidity after gastrectomy for gastric cancer.

Methods
PREFOG is a multi-center, open-label randomized control trial comparing 90-day postoperative morbidity rates after gastrectomy for gastric cancer between patients with or without prehabilitation (NCT04223401). One-hundred twenty-eight patients were randomized into the prehabilitation or control group. The prehabilitation arm received trimodal home-based prehabilitation including nutritional, psychological, and exercise interventions. Secondary outcomes of the study included prehabilitation impact on physical and nutritional status, anxiety and depression level, quality of life, postoperative mortality rates, and full completion of the oncological treatment as determined by the multidisciplinary tumor board.

Results
: In total, 122 participants (prehabilitation group 61, control group 61) were included in the ITT analysis. Baseline characteristics including the rate of neoadjuvant chemotherapy (52 (85.2 %) vs 51 (83.6 %)) in the prehabilitation and control groups were similar. The mean duration of prehabilitation was 92±33 days. Non-adherence to neoadjuvant treatment protocol was lower in the prehabilitation group (7.7 % vs 37.3 %, p=0.001; RR=0.20, 95% CI: 0.20-0.56). After intervention patients in the prehabilitation group functional capacity (6-MWT results) by 7.1 % (+31 m, 95 % CI: 14-48 m; p=0.001), increased EORTC QLQ-C30 global health status score by 13 (95 % CI: 2-24; p=0.005) points and emotional functioning score by 13 (95 % CI: 4-21; p=0.022) points. The primary outcome, 90-day postoperative morbidity rate, was significantly lower in the prehabilitation group (23.7 %) compared to the control group (59.3 %), p=0.001. Accordingly, the estimated RR demonstrated that prehabilitation has a protective effect against 90-day postoperative complications: RR 0.40, 95% CI: 0.24-0.66.

Conclusions
Personalized home-based trimodal prehabilitation improves GC patients' physical fitness by 7 % and patients subsequently experience more than a 50% decrease in the incidence of postoperative complications. Moreover, prehabilitation increases adherence to neoadjuvant treatment protocols and improves patients' quality of life.

Brief description of the abstract
This multicenter, open-label randomized control trial shows that personalized home-based trimodal prehabilitation improves GC patients' physical fitness and decreases postoperative morbidity by more than 50%.

O-14 PIPAC with FOLFOX chemotherapy treatment for gastric cancer patients with peritoneal metastases: single-arm phase II study.

Track: Upper gastrointestinal tract malignancy
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Objective
This study aims to investigate pressurized intraperitoneal aerosol chemotherapy (PIPAC) and systemic FOLFOX (5-fluorouracil, oxaliplatin, and leucovorin) chemotherapy efficacy as a first-line treatment for GC patients with PM.

Methods
This study is an investigator-initiated single-arm, phase II trial to investigate the efficacy of PIPAC combined with systemic FOLFOX (5-fluorouracil, oxaliplatin, leucovorin) as a first-line treatment for GC PM. The study is conducted in 2 specialized GC treatment centers in Lithuania. It enrolls GC patients with histologically confirmed PM without prior treatment. The treatment protocol consists of PIPAC with cisplatin (10.5 mg/m2 body surface in 150 mL NaCl 0.9 %) and doxorubicin (2.1 mg/m2 in 50 mL NaCl 0.9 %) followed by 2 cycles of FOLFOX every 6-7 weeks. In total 3 PIPACs and 6 cycles of FOLFOX will be utilized. The primary outcome of the study is the objective response rate (ORR) according to RECIST v. 1.1 criteria in a CT scan performed 7 days after the 4th cycle of FOLFOX. Secondary outcomes include ORR after all experimental treatment, PIPAC characteristics, postoperative morbidity, histological and biochemical response, ascites volume, quality of life, overall survival, and toxicity. This investigator-initiated study is designed as a single-arm phase II trial to investigate the efficacy of PIPAC in combination with FOLFOX to treat GC PM. The study will include GC patients with histologically confirmed PM scheduled for the first-line treatment if they meet all of the following inclusion criteria: 1. Histologically verified gastric adenocarcinoma (HER2 negative) with peritoneal metastases; 2. Age≥18; 3. ECOG≤1; 4. Patient willing to participate; 5. Patient is the candidate for 1st line FOLFOX palliative systemic chemotherapy

Results
Primary outcome The primary endpoint in this study is objective response rate (ORR) according to RECIST v. 1.1 criteria [20] in a CT scan

performed 7 days after the 4th cycle of FOLFOX. ORR is the proportion of patients who have a complete response (CR), defined as the disappearance of all target lesions, or a partial response (PR), defined as ≥ 30% decrease in the sum of the diameters of target lesions. Secondary outcomes 1. ORR according to RECIST v. 1.1 criteria in the CT-scan after all experimental treatment; 2. The median number PIPACs that can be utilized through the treatment protocol; 3. PIPAC characteristics (procedure time; intraoperative complications; length of a hospital stay after PIPAC; 30 day re-hospitalization rate); 4. Postoperative complications after PIPAC: assessed within 30 days after the PIPAC procedure and classified according to the Clavien-Dindo classification; 5. Peritoneal carcinomatosis index (PCI) measured at 2nd and 3rd PIPAC; 6. Histological regression of peritoneal metastases assessed by Peritoneal Regression Grading Score [21] measured in peritoneal biopsies at 2nd and 3rd PIPAC; 7. The volume of ascites measured at every PIPAC; 8. Biochemical tumor response: the concentration of carcinoembryonic antigen (CEA) and stomach cancer marker (Ca72-4); 9. Quality of life: it will be measured routinely using standard EORTC QLQ-C30 and EORTC QLQ-STO22 quality of life questionnaires; 10. Overall survival: defined as the time from the start of the treatment to study to death by any cause; 11. Progression-free survival: defined as the time from the start of the treatment to the progression of the disease diagnosed on CT scan or laparoscopy; 12. Toxicity according to the National Cancer Institute (NCI) Common Terminology Criteria (CTC) for adverse events v 5.0; 13. Biomarkers: gut microbiome composition, blood, and fecal biomarkers;

Conclusions
This study aims to assess PIPAC and FOLFOX combination efficacy for previously untreated GC patients with PM. Thus, our study will be the first to provide knowledge of PIPAC and FOLFOX efficacy for GC patients with PM, including those with higher PCI scores.

Brief description of the abstract
Standard treatment for gastric cancer peritoneal metastases is a systemic therapy. PIPAC is the most novel technique for intraperitoneal chemotherapy. This study is an investigator the efficacy of PIPAC combined with systemic FOLFOX as a first-line treatment for GC PM. The treatment protocol consists of PIPAC with cisplatin and doxorubicin followed by 2 cycles of FOLFOX every 6-7 weeks. The primary outcome of the study is the objective response rate according to RECIST v. 1.1 criteria.

O-15 Total neoadjuvant chemotherapy followed by HIPEC and curative surgery in treatment of locally advanced gastric cancer

Track: Upper gastrointestinal tract malignancy
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Objective
HIPEC shows promising results in treatment of patients with ovarian and colorectal cancer. It showed significant improvement of overall survival (OS) and progression free survival (PFS) in selected patients. We aimed to assess safety and effectiveness of hyperthermic intraperitoneal chemotherapy (HIPEC) in patients with locally advanced gastric cancer.

Methods
8 patients were included in the study. All patients had locally advanced (T4a-T4b) gastric cancer tumors. 5 patients showed cytologically positive peritoneal lavage. Each patient received 8 cycles of neoadjuvant chemotherapy (FLOT) followed by a total gastrectomy with D2 lymphadenectomy and HIPEC. Agents used for HIPEC: mitomycin 15 mg/m2 and cisplatin 75 mg/m2. Primary endpoint was assessment of safety profile. Secondary endpoint were effectiveness of the combination of treatment methods.

Results
All included patients completed the treatment course. Adverse events during chemotherapy included hematological toxicity: leukopenia and neutropenia grade 3-4 in 5 (62.5%) patients and mucosal toxicity: diarrhea grade 2 in 4 (50%) patients, oral mucositis grade 1-2 in 3 (37.5%) and 2 (25%) patients, respectively. Conversion rate to negative peritoneal cytology was 80% (4 patients). Postoperative complications included postoperative pancreatitis in 1 patient (12.5%) and anastomotic leak in 1 (12.5%) patient which were not associated with HIPEC. Average length of hospital stay was 8.3 (5-20) days .

Conclusions
Complex treatment that includes neoadjuvant chemotherapy, surgery and HIPEC showed to be safe for patients with locally advanced gastric

cancer. Total neoadjuvant chemotherapy and HIPEC did not show any increase in adverse reactions associated with chemotherapy. Further investigations are needed to evaluate survival benefits.

Brief description of the abstract
HIPEC shows promising results in treatment of patients with ovarian and colorectal cancer. It showed significant improvement of overall survival (OS) and progression free survival (PFS) in selected patients. We aimed to assess safety and effectiveness of hyperthermic intraperitoneal chemotherapy (HIPEC) in patients with locally advanced gastric cancer.

O-16 Nasojejunal tubes role in the postoperative period in patients after total gastrectomies

Track: Upper gastrointestinal tract malignancy
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Objective
In many hospitals' routine placement of nasojejunal tube after total gastrectomies is everyday practice. Nasointestinal tubes main advantages is that it would protect anastamosis and start enteral feeding much sooner, however its main disadvantage is nasal discomfort and patients' dissatisfaction. In this study we wanted to find out what is the nasojejunal tubes role in the postoperative period in patients after total gastrectomies.

Methods
Randomized, prospective study that analyzes 158 patients with gastric cancer after total gastrectomies and D2 lymphadenectomies. This study was performed in Riga East University Hospital. Two groups were created, patients with nasojejunal tube and patients without out it, both groups had 79 patients. In this study we analyzed clinico-pathological factors, hospital stay, when patients started enteral feeding and complication rates. Statistical analysis was performed using SPSS 26.0.

Results
It was found that patients with nasojejunal tube have longer postoperative period, median =15, IQR [21,25 – 11,00], than patients without nasojejunal tube, median 12, IQR [15,00 – 10,00], p=0,001. It was also found that patients that did not have nasojejunal tube started to have per oral feeding much sooner, median 3, IQR [5,00 – 3,00], than patients without nasojejunal tube, median 3, IQR [3,00 – 2,00], p=0,001. Using Fishers exact test, it was found that patients without nasojejunal tube had less complications than patients with nasojejunal tube p = 0,043. Patients with nasojejunal tube had the same passing of initial gas median 4, IQR [4,00 – 2,00], as the patients that didn't have nasojejunal tube median = 3, IQR [4,00 – 2,00] and The Mann–Whitney U test did not indicate any statistically significant difference between the two groups p=0,172

Conclusions
Nasojejunal tubes placement after total gastrectomies does not decrease complication rate, postoperative stay in hospital and does not start per oral feeding sooner than patients without nasojejunal tube. It seems that nasojejunal tube is not necessery for patients with gastric cancer after total gastrectomies.

O-17 HIPEC for management of locally advanced gastric cancer: 3 year results of single center

Track: Upper gastrointestinal tract malignancy
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Objective
Despite the reduction in incidence rate, gastric cancer (GC) remains one of the most frequent oncological diseases. GC is the sixth most common cancer and the fourth cause of cancer-related deaths in Europe. Peritoneal carcinomatosis is a sign of dismal prognosis in case of many solid organ tumors. The prognosis of locally advanced GC following surgical therapy alone is poor. Peritoneum represents a preferential site of dissemination in such neoplasm. Hyperthermic intraperitoneal chemotherapy (HIPEC) has been used in association with cytoreductive surgery (CRS) in the treatment of GC peritoneal carcinomatosis (PC). Patients with AGC and peritoneal carcinomatosis (PC) have a poor prognosis, with a median survival of 3.1 months without treatment. Systemic chemotherapy extended the median survival time to 11 months in patients with AGC compared with best supportive care alone. Granieri et al., in their meta-analysis of randomized controlled trials (2021), reported that a combination of CRS with

HIPEC seems to be beneficial for patients with locally advanced GC, in prophylactic as well as curative settings. In this paper, we analyze the 3 year experience of the use of radical surgery in combination with HIPEC for management of advanced GC in a single surgical unit.

Methods
This is a review of the clinical data from the consecutive series of patients who underwent surgery with curative intent and HIPEC for the locally advanced gastric cancer from February 1st, 2020 till February 1st, 2023 in the Department of Surgery, Hospital of the Lithuanian University of Health Sciences, Kaunas Clinics. Advanced GC was considered, if the preoperative CT and/or laparoscopy showed presence of several combined clinical features, including T3-T4 tumor, N2-N3 lymph nodes, localized carcinomatosis with aimed PCI<6 and/or synchronous ovarian metastasis. HIPEC duration was 90 min, temperatures 41.5-42.5°C, three drug combination was used (cisplatin, paclitaxel, mitomycin). Data reflecting main patient characteristics, tumor stage, type of surgery and perioperative outcomes within first 60 days was prospectively collected for the analysis. Significant morbidity was classified as Clavien-Dindo ≥ Grade 3. Disease free and overall survival rates were calculated based on the available follow-up data as it stands

Results
In total 24 patients had surgery with HIPEC for advanced GC during the study period. Main patient characteristics were as follows: 63% male, mean age 48 (21-69), mean BMI 22 (18-26), ECOG 0, ASA 3, 82% no known comorbidities, PCI 4 (0-11), 63% had no carcinomatosis outside stomach, stages 3b-3c-4. Thirteen (55%) out of 24 patients had laparoscopic surgery. Primary surgery in 17 cases (70%). In this group of patients, 55% had prophylactic, 36% had curative, 9% had palliative HIPEC. In 45% cases extended surgery with multivisceral resections (gastrectomy plus distal pancreatectomy and splenectomy, colectomy, ovariectomy, etc.). Median OR time 6h, LOS 11 days, ICU 0 patients, 1 patient had insufficiency of the EJ anastomosis (4%), Clavien-Dindo complications ≥ grade III rate was 10%. No patients died 60 days postoperatively. During the follow-up period the mean disease free survival was 13 months, and overall survival – 18 months.

Conclusions
Peritoneal carcinomatosis management and HIPEC program could be safely introduced in the surgical unit with an established surgical oncology expertise and multidisciplinary team. It opens possibilities for new combined treatment strategies, i.e. laparoscopic gastrectomy with minimally invasive prophylactic HIPEC for locally advanced gastric cancer. Preliminary data also shows that adding HIPEC to extended surgery in selected patients does not substantially increase perioperative morbidity and/or mortality. The early survival data of patients with advanced GC after HIPEC appears to be promising and exceeds the OS of 11-12 months achieved by systemic chemotherapy alone. However, the data from large series shows that 25% of patients with stage III GC could achieve a 5 year survival and we are looking forward to repeat these results.

Brief description of the abstract
Granieri et al., in their meta-analysis of randomized controlled trials, reported that a combination of CRS with HIPEC seems to be beneficial for patients with locally advanced GC, in prophylactic as well as curative settings. We reviewed the 3 year experience of the use of radical surgery in combination with HIPEC for management of advanced GC in a single surgical unit. DFS of 13 months and OS of 18 months was achieved without increasing the perioperative complication and mortality rates.

O-18 Management of hereditary diffuse gastric cancer syndrome (HDGC)

Track: Upper gastrointestinal tract malignancy
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Objective
Introduction: HDGC is an autosomal dominant cancer syndrome caused by mutation in tumor supressor gene CDH1. The lifetime risk of diffuse gastric cancer (DGC) has been estimated to be up to 67% for males and 83% for females. The mean age of onset is 37 years. Endoscopic surveillance and early detection of DGC is not reliable due to the fact that cancer development takes place under visually intact epithelium. Therefore prophylactic total gastrectomy (PTG) should be advised to mutation carriers. In those refusing the operation, still eskilled and educated endoscopic surveillance is needed. Besides, there is a risk of up to 60% of developing breast cancer for females. Early detection of this cancer is possible and feasible.

Methods
Patients and methods: We have operated several DGC patients in whom HDGC has been detected in our department. Mostly from their pedigrees 6 HDGC individuals have been found with no gastric cancer history. There are 5 females and 1 male patient. Two of the five females have had breast cancer surgery and treatment before the diagnosis. All mutation carriers have been counceled by geneticist and surgeon and advised for PTG. Of these 3 have passed uneventful operation at ages 46, 52 and 62. No cancer was found in the specimens. Two patients have refused PTG and decided to pass gastroscopic follow-up every 6-12 months with biopsies taken according to Cambridge HDGC protocol. One patient has been lost for surveillance for 5 years. All female patients except for the last one take part in regular breast cancer surveilllance.

Conclusions
There are different management modalities for HDGC of which the patient with the help of the medical team will chose the most suitable.

Brief description of the abstract
Hereditary diffuse gastric cancer syndrome (HDGC) detection and management is the key for thousands of quality lives.

O-19 A decade of Laparoscopy practice in Colorectal cancer surgery at Gailezers Riga East Clinical University Hospital (2013-2022)

Track: Lower gastrointestinal tract malignancy

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Objective
The purpose of this study was to analyze, evaluate and share our results of a 10-year laparoscopic approach in Colorectal cancer surgical treatment at the Department of Coloproctology of Gailezers Riga East Clinical University Hospital.

Methods
This retrospective study included 271 patients with CRC from January 2013 to December 2022 who underwent laparoscopic surgery at the RAKUS Gailezers Coloproctology Department (253 elective and 18 urgent hospitalizations). The data were taken from the hospital information system: patient characteristics, surgical specificity, morbidity, mortality, as well as sample quality from pathological reports were analyzed.

Results
The laparoscopic technique was performed on 115 men and 156 women. The average age of patients was 66.86 years (min 31 - max 90), 65.93 years for men and 67.55 years for women. ASA class was available in 247 cases – I in 38 (15.38%), II in 145 (58.71%) and III in 64 (25.91%). Cancer staging – 0(in situ) in 11 cases (4.06%), I in 71 (26.20%), II in 83 (30.63%), III in 83 (30.63%) and IV in 23 (8.48%). Cancer was localised in: Right hemicolectomy was performed in 54 cases (19.93%), segmental in 12 (4.43%), transverse and splenic flexure), left in 13 (4.80%) cases, high anterior resection in 101(37.27%), low in 36 (13.28%), ultra low in 11(4.06%). Hartmann's procedure was performed in 36 cases (13.28%). APE in 8 (2.95%). Primary anastomosis was created in 227 cases (83.76%), with anastomotic leak rate in 3 cases (1.10%). Preventive ileostomy was performed in 31 cases, 18 in low, 6 in ultra-low and 7 in high rectal resections. Mean operation time was 187.69 minutes (min 85 – max 430). LS by year: 2013 - 12, 2014 - 20, 2015 - 28, 2016 - 30, 2017 - 33, 2018 - 18, 2019 - 26, 2020 – 44, 2021-37, 2022 - 23 cases. Mean postoperative hospital stay was 7.15 days (min 2 - max 54) Intra operative complications were in 54 case (%): Hand assisted technique used in 17 cases , (low rectum, splenic flexure mobilization). Conversion rate to laparotomy in 17 cases , miniLT in 19 and Pfannenstiel LT in 11. Relaparotomy was done in 7 cases, 3 due to anastomotic leak, 4 to ileus and one of them developed eventration. Early postoperative complications – total 42(15.50%) : Late complications in 11 (5.2%) cases: Histopathology: Total of 3613 lymph nodes retrieved, with mean number of 13.53 (min 0 – max 57). Along 84 l/n positive patients, total of 281 metastatic lymph nodes reported, with mean number of 3.34 l/n per case.

Conclusions
In everyday practice, a sufficient number of laparoscopy techniques are used, by 2020 their number has increased significantly, but in recent years there has been a slight decrease. We showed a low rate of anastomotic leaks and reduced need for preventive ileostomy in rectal cancer surgery. We found shorter hospital stays for younger and middle-aged patients. Postoperative complications significantly increased the length of stay in the hospital. The adequacy of specimen quality, including the number of retrieved lymph nodes, has improved in recent years, as confirmed by histopathological reports. To introduce the laparoscopic technique into everyday practice and reduce complications, additional qualifications of the surgeon are required.

Brief description of the abstract
Colorectal cancer is become increasingly important in the modern world of Surgical oncology, where minimally invasive techniques play an important role in the surgical management of patients. Already ten years ago, laparoscopic colorectal surgery was introduced in the department of Coloproctology of our hospital. We present our ten years of experience in laparoscopy(2013-2023).

O-20 Textbook outcomes and long-term results in patients with colorectal cancer

Track: Lower gastrointestinal tract malignancy
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Objective
Colorectal cancer continues to be the third most prevalent cancer worldwide, surpassing 1.9 million new cases annually. Surgery remains the primary curative treatment option; thus, the quality of surgical treatment impacts long-term outcomes. Although, single-quality indicators do not appropriately reflect the complexity of modern perioperative care. Therefore, this study aims to investigate the novel composite quality indicator – Textbook Outcome (TO) impact on long-term survival in colorectal cancer patients.

Methods
This study included all patients who underwent colorectal cancer resection with primary anastomosis at two major cancer treatment institutions in Lithuania (National Cancer Institute and Vilnius University Hospital Santaros Klinikos) between 2014 and 2018. TO was defined if the following criteria were met: no postoperative complications; tumor-free margins; ≥12 lymph nodes retrieved; length of stay <14 days; no 30-day readmission; and no 30-day mortality. Long-term outcomes between patients who achieved TO and those who did not were compared. Factors associated with failure to achieve TO were identified. Statistical analysis: Overall- and disease-free survival was estimated by the Kaplan-Meier method, and the log-rank test compared curves. Univariate analysis was performed to reveal factors associated with the Textbook Outcome, and variables with significance were included in subsequent multivariable logistic regression.

Results
Of 1524 patients included in the study, Textbook Outcome was achieved by 795 (52.2%). Textbook Outcome resulted in improved 5-year overall- (80.2 % vs. 65.5 %, p=0.001) and disease-free survival (76.6 % vs. 62.6 %; p=0.001) rates (Figures 1 and 2). A minimally invasive surgical approach reduced the odds of failure to reach TO (OR: 0.57; 95% CI: 0.46-71), while higher ASA scores increased the odds of failure (III-IV; OR: 1.49; 95% CI: 1.20-1.86).

Conclusions
TO is associated with significantly better long-term outcomes in colorectal cancer patients; thus, it should be a focus for surgical quality improvement programs.

Brief description of the abstract
This study aims to investigate Textbook Outcome (TO) impact on long-term survival in colorectal cancer patients. TO was defined if the following criteria were met: no postoperative complications; tumor-free margins; ≥12 lymph nodes retrieved; length of stay <14 days; no 30-day readmission; and no 30-day mortality. Of 1524 patients included in the study, TO was achieved by 795 (52.2%). TO is associated with significantly better long-term outcomes in colorectal cancer patients.

O-21 Mechanical bowel preparation with oral antibiotics in elective rectal cancer surgery: multicenter randomized controlled trial

Track: Lower gastrointestinal tract malignancy

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Objective
The purpose of the study is to evaluate if full bowel preparation (MBO+OA) prior elective rectal cancer resection surgery is related to a decrease in short-term postoperative complication rate (surgical site infection and anastomotic leak).

Methods
The design involves random allocation of eligible patients into 3 groups: Group A: Mechanical bowel preparation only (MBP) prior elective rectal cancer surgery; Group B: Oral antibiotics only (OA) prior elective rectal cancer surgery; Group C: Full bowel preparation (MBP+OA) prior elective rectal cancer surgery.

Results
Primary Outcome Measures (Time frame – 30 days after elective rectal resection): Surgical site infection rate (SSI – superficial, deep, organ/ space) rate in different patient groups Secondary Outcome Measures (Time frame – 30 days after elective rectal resection): Anastomotic leak rate,

intraabdominal and/or pelvic abscess, deep vein thrombosis, pulmonary embolism, myocardial infarction, haemorrhage, infection of other origin (e.g. pneumonia, urinary tract infection), urinary retention, postoperative ileus occured after initial postoperative bowel movement, iatrogenic lesion and other complication rate in different patient groups.

Conclusions
The estimated period of the study is from 01-08-2021 to 01-08-2024.

Brief description of the abstract
At the moment, there are no clinical trials, which would finally confirm or disprove the benefit of full bowel preparation to short-term postoperative complications rate (surgical site infection, anastomotic leak, etc.) in elective rectal cancer surgery and so our goal is to randomise patients in different preoperative bowel preparation groups and to evualuate the outcomes.

O-22 Surgical Treatment For Chylous Postoperative Ascites After Sigmoid Colon Resection and D3 Lymphadenectomy: A Case Report

Track: Lower gastrointestinal tract malignancy
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Objective
Background. Chylous ascites is rare form of ascites, that results from the leakage of lipid-rich lymph into the peritoneal cavity accounting for less than 1% of cases. [1] An appropriate and step-by-step approach to its management is of key importance. Chylous ascites is caused by the trauma and rupture of the lymphatic vessels or increased peritoneal lymphatic pressure secondary to obstruction that leads to extravasation of thoracic or intestinal lymph into the abdominal space and the accumulation of a triglycerides rich fluid. The most common underlying etiologies for chylous ascites are malignancy, cirrhosis and trauma after abdominal surgery. This condition can lead to chyle depletion, which results in nutritional, immunologic and metabolic deficiencies. The diagnosis is based on the fluid with triglyceride concentration above 200 mg/dL and milky appearance. [2] Chylous ascites represents a difficult management problem due to the serious mechanical, nutritional and immunological consequences of the constant loss of protein and lymphocytes. Treatment is based on identifying and treating the underlying cause, nutritional support and diuretics. Some studies have also supported the use of agents such as orlistat, somatostatin, octreotide and etilefrine. We reviewed the topic of postoperative chylous ascites with special emphasis on the relevant treatment options. We propose a novel management of postoperative chylous ascites – surgical treatment.

Methods
Case presentation. A female patient in her fourties presented at the Latvian Oncology Center due to outpatient verified sigmoid bowel neoplasm. The patient underwent an outpatient examination, performed colonoscopy, because of complaints about blood in the feces. The patient was admitted to the hospital. Laparoscopic sigmoid bowel resection with D3 lymphoid dissection was performed. Inferior mesenteric artery was ligated at the site of origin from the aorta. Lymphoid dissection of apical lymph nodes was performed. Lymph nodes intraoperatively were convincingly enlarged. The postoperative period was with no complaints. On the 4th postoperative day the patient was discharged from the hospital for outpatient care in a satisfactory state of health. Postoperative pathohistological conclusion – sigmoid colon adenocarcinoma pT3N2a(4/25)M0R0, stage III. The patient was presented at the Council of Oncologists at the Latvian Oncology Center, where a decision about adjuvant chemotherapy was made. Two weeks after the surgery, the patient was re-hospitalized with complaints of enlarged abdomen, flatulence and malaise. CT scan revealed severe ascites. The patient started total parenteral therapy for two weeks. Daily 2L of ascites were drained. Due to the lack of positive dynamics and the patient's upcoming chemotherapy, a decision was made to perform a diagnostic laparotomy. Intraoperatively, paraaortic lymphatic vessel was found at the previously ligated inferior mesenteric artery, from which lymph was actively excreted. Lymphatic vessel was sutured with Prolene 3/0 interrupted suture. Adjacent lymphatic vessels were sutured separately around the artery also with Prolene 3/0 suture. Fibrin glue was applied at the site of previously sutured lymphatic vessels. Surgical treatment – laparotomy, suturing of paraaortic lymphatics, sanation, drainage was performed. Postoperative period was without complications.

Results
Outcome and follow up. After a month a control CT of abdominal cavity showed no data on free fluid or suspected peritoneal dissemination. MR of abdminal cavity was performed to clarify the diagnosis – no data on the progression of the oncopathological process. Blood tests were within the reference interval. Discussion. According to the literature, chylous ascites is a rare complication after colorectal surgery. [3] The incidence of laparoscopic sigmoid bowel resection is not known. In all literature sources, it is recommended to start the management of complications with conservative therapy, which includes a diet with a reduced triglyceride content, drug therapy (sandostatin), as well as total parenteral nutrition. Conservative therapy is successful in most cases. [4, 5] Surgical treatment is indicated in patients who fail conservative therapy. Conservative therapy is considered to be unsuccessful if the patient persists in chylous ascites for 6-8 weeks or if the patient's general condition worsens as a result of the therapy, which prevents the continuation of conservative therapy. It should be noted that surgical treatment may result in additional traumatic lymphatic damage, resulting in ineffective surgical treatment. Surgical techniques involve identifying the injured lymphatic vessel and

occluding it by suturing or clipping it. In our clinical case, the decision to discontinue conservative therapy was made earlier, and the main reason for this was the need for the patient to start adjuvant chemotherapy. By retrospectively analyzing the information obtained during laparotomy, complication could be avoided by carefully coagulating and, if necessary, clipping all visible lymphatics, especially in the paraaortic area. Similar recommendations are provided in other literature describing the management of chylous ascites. [5, 6]

Conclusions
Learning points. 1. In this clinical case we want to demonstrate the tactics for the surgical treatment of chylous ascites. This method should be considered in patients who have not responded to conservative therapy, as well as in patients who do not have extensive lymphatic dissection, as it is easier to identify damaged lymphatics. 2. This surgical treatment after systematic paraaortic lymphocysting would be more technically complicated due to the difficulty in identifying the lymphatic vessel. 3. Early surgical treatment should be considered in patients with advanced oncopathology so as not to prolong the time to adjuvant chemotherapy.

Brief description of the abstract
Chylous ascites is rare form of ascites that results from the leakage of lipid-rich lymph into the peritoneal cavity. The most common underlying etiologies for chylous ascites are malignancy, cirrhosis and trauma after abdominal surgery. Chylous ascites represents a difficult management problem due to the serious mechanical, nutritional and immunological consequences of the constant loss of protein and lymphocytes. We propose a novel management – surgical treatment.

O-23 Treatment options for low anterior resection syndrome: multicentre randomised controlled trial

Track: Lower gastrointestinal tract malignancy
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Objective
Removal of a low rectal tumor with the formation of anastomosis in combination with neoadjuvant therapy allows to achieve excellent results in treatment of cancer. However, this leads to a large number of residual symptoms (disorders of the functions of defecation, sexual, urination), which worsen the quality of life, develops low anterior resection syndrome. Lithuanian and NCI data and studies show that the prevalence of LARS after rectal surgery reaches 46.4 percent, and severe form 26.3 percent cases. Given the lack of sound evidence and the often poor quality of the studies, most of the recommendations and conclusions of treatment options are based on the opinions of the experts. To assess for what part of patients, transanal irigation reduces the symptoms of low anterior resection syndrome. To assess for which part of patients, the best supportive treatment relieves the symptoms of low anterior resection syndrome. Compare results between group.

Methods
Prospective experimental trial. About 40 patients will be enrolled in the study, and will be divided in two groups: 20 will participate in transanal irrigation (experimental group) 20 will recieve best supportive care (control group) Duration of the research will be around 2 years During every visit next questionnaires will be filled: LARS scale, MSKCC BI, Quality of life questionnaires Additional Questions (5 points system): Will you recommend this treatment? Did your quality of life get better? Did your defecation get better? Are you satisfied with this treatment? Did your social life change ? Do you think that this treatment will help you ?

Results
Primary aim: to assess whether transanal irigation vs best supportive treatment improves intestinal function more by evaluating LARS and MSKCC bowel function index scales. Secondary aim: to assess whether transanal irrigation vs best supportive treatment better improves the quality of life (international questionnaires).

Conclusions
Transanal irrigation will improve the bowel function in patients undergoing low anterior resection.

Brief description of the abstract
New trial proposal for low anterior resection syndrome

O-24 Predictors for pathologic complete response in locally advanced rectal cancer: single centre randomized controlled trial

Track: Lower gastrointestinal tract malignancy
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Objective
Our aim was to determine whether lengthening the time interval between chemoradiation (CRT) and surgery has a positive effect on treatment outcomes in patients with advanced rectal cancer.

Methods
We included locally advanced rectal cancer patients treated at National Cancer Institute, Lithuania between January 2018 and December 2021. Patients were divided into two study groups (SG) according to treatment interval between surgery and CRT: SG1 and SG2 received chemoradiation 8 and 12 weeks before surgery respectively. Patients' demographics, level of carcinoembryonic antigen (CEA), magnetic resonance imaging (MRI) results, and histological parameters were recorded. Post-operative complications were assessed using the Clavien-Dindo grading system.

Results
One hundred eleven patients were included (49, SG1; 62, SG2). The Dworak tumor regression II and III grades were higher in the SG2 than in the SG1 but the same with IV grade among SGs (II – III 41.3% vs 52.7% and IV 10.9% vs 12.7%, p=0.397). No statistically significant disease-free and overall survival difference between two groups was found. There was no significant difference in postoperative complications between the groups. There were nine patients in SG1 with complications that were classified as grades III and more according to the Clavien-Dindo classification vs 14 in SG2. Two death cases were recorded in SG1 and one in SG2.

Conclusions
Lengthening the treatment interval could moderately increase the pathologic complete response (pCR) rate in patients undergoing rectal cancer surgery for locally advanced rectal cancer.

Brief description of the abstract
The aim of our study was to determine the impact of delaying surgery after chemoradiation in patients with advanced rectal cancer. One hundred eleven patients were included. Patients were randomized into 8- and 12-week interval groups. We concluded that lengthening the treatment interval could moderately increase the pathologic complete response (pCR) rate in these patients.

O-25 The progress of histopathology reports after decade of Laparoscopic colorectal cancer surgery at Gailezers RAKUS, LV

Track: Lower gastrointestinal tract malignancy

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Objective
The aim of this study was to review and evaluate the lymph nodes count per specimen and size correlation between non-metastatic and metastatic lymph nodes in histopathological specimen reports after laparoscopic resections for CRC at Gailezers Riga East Clinical University Hospital, 2013-2022.

Methods
A retrospective study analyzed the pathology reports of 271 colorectal cancer patients over 10 years from January 2013 to December 2022 who

underwent laparoscopic resection of colorectal cancer. The data was collected from the hospital information system: the lymph node status(the quantity and quality) was analyzed from pathological reports.

Results
A total of 271 laparoscopic resections with histopathology reports were reviewed. Tumor size was from 0.5 to 12.0 cm with mean size of 3.7 (2.9 - 4.5 cm). Ca in situ was found in 10(3.69%) cases, T1 in 15(5.54%), T2 in 77(28.41%), T3 in 148 (54.61%) and T4 in 21 (7.75%(T4a-18 and T4b-3) cases. Grade 1 tumors were found in 42 (15.50%) cases, grade 2 in 211 (77.86%), grade 3 in 16 (5.90% cases), unknown in 2 (0,74%) cases. Average specimen length was 22.4 ± 9.7cm(3.8-66), in total 19.3meters of intestines were removed. On average, 16.4 ± 8.6 lymph nodes were retrieved in the right-sided hemicolectomy (HE) specimens, 14.8 ±5.9 in left-sided HE and 12.8±7.6 in sigmoid/rectosigmoid/rectum resections, p=0.002 (right HE vs sigmoid/rectosigmoid/rectum resections). A total of 285 metastatic lymph nodes were recorded along 85 l/n positive patients with mean number of 3.35 l/n per case and mean N ratio of 0.22. Only 147 (54.24%) patients had 12 or more lymph nodes retrieved. The number of cases in which 12 or more lymph nodes were retrieved by year: 2013 – 0 from 11 cases, 2014 – 6/20, 2015 – 6/28, 2016 – 12/30, 2017 – 13/33, 2018 – 7/18, 2019 – 20/26, 2020 – 32/43, 2021 – 28/39 , 2022 – 23/23cases. Differences in l/n size by stages and in patients with negative vs. positive metastatic l/n: the size of the lymph nodes in patients with stage 0/in situ was 0.18-4.70 cm(mean 0.93 cm); stage I 0.07-0.90 cm(mean 0.38 cm); stage II 0.10-1.25 cm(mean 0.43 cm); in patients with stage III, the lymph nodes are 0.15-1.75 cm in size(mean 0.50 cm); IV stage 0.2-1.35 cm(mean 0.54). At stages 0, I and II - the mean size (SD) of lymph nodes was 0.45±0.43cm, But at stages III and IV - the mean size of lymph nodes was 0.47cm±0.37cm, p=0.002. We determined the size correlation between non-metastatic and metastatic lymph nodes: mean l/n size 0.47 ± 0.37 cm, non-metastatic l/n 0.46±0.43cm, metastatic l/n 0.50 ± 0.21cm, with ratio 0.92.

Conclusions
In recent years, with the same operation technique, the identification of the necessary 12 lymph nodes and, accordingly, histopathological staging has been improved. The quality of specimen reports with lymph node counts in 2022 has reached satisfactory results. We determined the size ratio between non-metastatic and metastatic lymph nodes. We found a correlation in the size of metastatic lymph nodes in accordance with the increase in the size of the lymph nodes.

Brief description of the abstract
The pathohistological evaluation of the specimen plays a significant role in assessing the quality of the surgical intervention, and even more importantly, it affects proper staging, disease prognosis and further tactics of the subsequent chosen treatment. In CRC, a minimum of 12 lymph nodes per specimen is necessary to evaluate. We analyzed the histopathology reports of our laparoscopic surgery(2013-2022).

O-26 Disease-free survival in rectal cancer patients depends on tumor regression grade after neoadjuvant chemoradiation therapy.

Track: Lower gastrointestinal tract malignancy
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3) Jurijs Nazarovs, Pauls Stradiņš Clinical University Hospital, Latvia
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Objective
Pathohistological changes in rectal cancer after neoadjuvant chemoradiation therapy (nCRT) form a spectrum of the morphological picture – from complete tumor response to complete resistance to therapy. Tumor response in the specimen is evaluated by various tumor regression grade (TRG) classification systems. Although TRG cannot be considered the only prognostic factor, it has a significant role in predicting disease-free survival.

Methods
A retrospective study including patients with rectal adenocarcinoma localized up to 15cm from the anal verge, cTanyN0M0 or cTanyN+M0 (according to the TNM Classification of Malignant Tumours, 8th Edition) which received and finished nCRT or radiotherapy alone and had following total mesorectal excision from 2016 to 2021. Patients with lost follow-up were excluded. Four study groups were created according to the Dworak (Dw) TRG: Dw0-1 (TRG0, TRG1), Dw2 (TRG2), Dw3 (TRG3), and Dw4 (TRG4). Disease recurrence was evaluated according to location – locoregional and systemic. Survival time was defined as the interval between the surgery and the date of the last observation. Oncologic outcomes were evaluated for overall survival (OS), local recurrence (LR), and distant metastases (DM). The Kaplan-Meier method was used to estimate survival probabilities. The Logrank non-parametric test for comparison of survival distributions was used to compare survival differences between groups Dw0-1, Dw2, Dw3, and Dw4. A multivariate Cox regression was performed to assess the relation between “LR” or “DM” and the grade of tumor regression. Data were checked for multicollinearity with the Belsley-Kuh-Welsch technique and Proportional hazards were checked according to Schoenfeld residuals. P value < 0.05 was considered significant. The statistical analysis was done using IBM SPSS Statistics version 22 and EasyMedStat version 3.25.

Results

There was a difference between survival distributions between the groups (p=0.0052) regarding LR-free survival (p=0.0052) and DM-free survival (p=0.047). At 12 months, the LR-FS was 93.8% (95% CI: 63.2-99.1) for Dw0-1 group, 96.4% (95% CI: 77.2-99.5) for Dw2, 100.0% (95% CI: 100.0-100.0) for Dw3 and 100.0% (95% CI: 100.0-100.0) for Dw4 group. At 24 months, the LR-FS was 78.7% (95% CI: 47.0-92.7) for Dw0-1, 85.7% (95% CI: 66.3-94.4) for Dw2, 100.0% (95% CI: 100.0-100.0) for Dw3 and 100.0% (95% CI: 100.0-100.0) for Dw4. At 12 months, the DM-free survival was 71.4% (95% CI: 44.3-87.0) for Dw0-1, 92.6% (95% CI: 73.5-98.1) for Dw2, 90.9% (95% CI: 68.3-97.6) for Dw3 and 100.0% (95% CI: 100.0-100.0) for Dw4. At 24 months, the DM-free survival was 56.3% (95% CI: 28.6-76.7) for Dw0-1, 88.9% (95% CI: 69.4-96.3) for Dw2, 80.6% (95% CI: 55.9-92.3) for Dw3 and 93.3% (95% CI: 61.3-99.0) for Dw4. The median follow-up time was 40 months (15-83). At 12 months, the OS was 91.9% (95% CI: 83.7-96.0), and at 24 months – 86.9% (95% CI: 77.5-92.5). As compared to Dw4, the hazard ratio (HR) of death was 4.89 ([1.05, 22.88], p<0.05) for group Dw0-1, 0.749 ([0.136, 4.13], p=0.74) for Dw2 and 1.11 ([0.202, 6.11], p=0.903) for Dw3.

Conclusions

There is a statistically significant difference in disease-free survival between the groups with different responses to nCRT. Longer LR-free survival is observed as the degree of tumor response increases. The longest DM-free survival is observed in Dw4, followed by Dw2, Dw3, and Dw0-1. As compared to Dw4, the statistically significant hazard ratio of death was observed in Dw0-1. Pathological tumor regression grade after nCRT is a prognostic factor for LR and DM-free survival.

Brief description of the abstract

Pathohistological changes in rectal cancer after neoadjuvant chemoradiation therapy form a spectrum of the morphological picture – from complete tumor response to complete resistance to therapy. Although tumor regression grade cannot be considered the only prognostic factor, it has a significant role in predicting disease-free survival.

O-27 Energy metabolism is reprogrammed during colorectal cancer development

Track: Lower gastrointestinal tract malignancy

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Objective

The rapid proliferation and elevated cell growth observed in cancer cells are crucial factors contributing to their elevated energy requirements compared to normal cells. Consequently, cells undergo metabolic reprogramming during tumorigenesis to meet these energy demands. In the 1920s, Otto Warburg demonstrated a fundamental difference between cancer cells and normal cells: cancer cells rely on glycolysis even in the presence of oxygen, a phenomenon known as the Warburg effect. Warburg proposed that this glycolytic switch was due to irreversible damage to the mitochondria in cancer cells. However, we now understand that most cancer cells possess fully functional mitochondria, and not all of them exhibit a shift to a glycolytic phenotype. In fact, certain cancer types, including colorectal cancer (CRC), continue to utilize oxidative phosphorylation (OXPHOS) as their primary energy production pathway. While our understanding of metabolic changes in CRC has advanced, the energy production patterns in the benign stage of colon polyps have remained largely unexplored and therefore, the metabolic adaptations that occur during the tumor development are still unknown. Gaining insights into the intricate interplay between genetic and metabolic changes that initiate tumor formation could offer valuable biomarkers for early cancer diagnosis and identify potential targets for novel cancer therapeutics.

Methods

Cell metabolism is commonly studied using cell cultures; however, it is increasingly evident that the metabolic phenotype of cells is heavily influenced by the specific culture conditions employed. Factors such as the composition of the growth media and the oxygen levels have critical roles in shaping cellular metabolism. In recognition of this limitation, our study took a different approach. We collected tumor and control tissue samples from CRC patients at the North Estonia Medical Centre, as well as polyp samples from patients at the West Tallinn Central Hospital. By directly analyzing tissue samples from actual patients, we aimed to investigate metabolic reprogramming throughout the development of CRC, focusing on changes across different stages of tumorigenesis. To evaluate mitochondrial function and cellular respiration, we employed high-resolution respirometry which allowed us to directly assess the functioning of mitochondria and the respiratory activity of cells. Additionally, we utilized quantitative real-time polymerase chain reaction to accurately quantify the expression levels of genes associated with metabolic processes. This enabled us to gain valuable insights into the molecular mechanisms underlying metabolic alterations during CRC development. By combining the results obtained from both molecular and functional analyses, our study aims to uncover the fundamental basis of metabolic reprogramming in CRC.

Results
High-resolution respirometry was utilized to assess the oxidative capacity of mitochondria by gradually increasing the concentration of ADP. We calculated two key parameters: the apparent Michaelis-Menten constant for exogenous ADP (Km(ADP)) and the maximal ADP-activated respiration (Vmax). Interestingly, the results revealed that polyps exhibited the highest average Vmax level, indicating a greater capacity for ADP-activated respiration. Following polyps, CRC samples demonstrated a lower Vmax, while control tissue exhibited the lowest Vmax among the three groups. This disparity suggests variations in mitochondrial activity and respiratory capacity between the different tissue types. Furthermore, Km(ADP) reflects the permeability of the mitochondrial outer membrane and the regulation of the voltage-dependent anion channel. Remarkably, polyps displayed the lowest Km(ADP) values compared to tumors and control tissue. Conversely, CRC and control exhibited similar Km(ADP) values. The study also examined gene expression levels in the three tissue groups. Glucose transporter (GLUT) 1 expression was found to be increased in polyps compared to controls, and its expression was even higher in CRC. Conversely, CRC samples exhibited lower levels of hexokinases (HK) 1 and 2 compared to both control and polyp samples. While HK2 expression remained similar in control and polyps, HK1 expression was significantly higher in polyps compared to controls. Moreover, polyps displayed increased expression of lactate-producing enzyme lactate dehydrogenase A (LDHA), as well as monocarboxylate transporters 2 and 4, which facilitate lactate transport across the cell membrane. Furthermore, the study assessed the gene expression of adenylate kinases (AK) and creatine kinases (CK), enzymes involved in the transport of energy from their production site to ATPases. Interestingly, both AK and CK pathways were found to be upregulated in polyps and downregulated in tumors compared to controls.

Conclusions
The study's results revealed significant differences in Vmax and Km(ADP) values between polyps and CRC, indicating distinct bioenergetic alterations between the premalignant and malignant stages. Contrary to the Warburg hypothesis, which suggests high dependence on glycolysis in cancer cells, the findings in CRC indicate a pattern where OXPHOS is actually a main supply of energy. The low Km(ADP) value observed in polyps suggests a lack of regulatory control over transport through the mitochondrial outer membrane, indicating a glycolytic metabolism. The increased expression levels of genes encoding for GLUT and HKs, which are key regulators of glucose metabolism, further support the glycolytic phenotype observed in polyps. These genes play crucial roles in controlling the flux of glucose metabolism. In contrast, while CRC cells may still exhibit increased glucose uptake, the lower expression levels of HKs suggest a potential decrease in glycolytic activity in CRC. Furthermore, the increased expression levels of LDHA and monocarboxylate transporters in polyps indicate an increase in lactate production and transport. During polyp formation, intracellular energy transfer pathways become rearranged mainly by increasing the expression of mitochondrial AK and CK isoforms. However, the causal relationship between these changes in energy transfer and CRC is still unknown. Additionally, further investigation is needed to understand how the AK and CK energy shuttles can be impacted and potentially utilized to prevent the malignant progression of polyps.

Brief description of the abstract
Colorectal cancer, like other cancer types, is characterized by the rapid proliferation of cells, necessitating a great energy supply. This study examines the reprogramming of cell energy metabolism during the progression of colorectal cancer using clinical samples from patients with cancer or polyps. The findings indicate that colon polyps predominantly rely on glycolysis, whereas cancer cells revert to mitochondrial respiration, resembling the energy metabolism of healthy colon tissue.

O-28 "Watch and Wait" strategy in rectal cancer – the challenges and opportunities

Track: Lower gastrointestinal tract malignancy
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Objective
The incidence of rectal cancer in the European Union is 125 000 per year, i.e., 35% of the total colorectal cancer incidence, reflecting 15–25 cases/100 000 population per year, and is predicted to increase further in both genders. According to the Latvian Cancer Registry data, the incidence of colorectal cancer in 2020 in Latvia was 34,6/100 000 (in 2020, 1.9 million inhabitants were registered in Latvia). In 2020, 1745 new cases of colorectal cancer were detected, 780 (44,7%) of them – rectal cancer. It is the third most common type of cancer in men and the second most common in women in Latvia. In the last decade the non-operative management of rectal adenocarcinoma (RA) after neoadjuvant chemoradiation therapy (nCRT) has gained increasing attention. The "Watch and Wait" ("W&W") strategy allows to avoid a surgery-related reduction in quality of life (permanent pelvic organ dysfunction or irreversible stoma), thus becoming attractive to both – the patient and the doctor. Still, the oncological safety of this approach is under evaluation.

Methods
The implementation of the "W&W" strategy in our center was initiated in 2017. Patients with rectal adenocarcinoma (RA) localized up to 15cm from the anal verge, cTanyN0M0 or cTanyN+M0 (according to the TNM Classification of Malignant Tumours, 8th Edition) which received and finished nCRT or radiotherapy alone and were re-staged as a complete clinical response (cCR) according to ESMO (2017) criteria, were included into the study. The re-staging was done 6-12 weeks after the completion of nCRT by a multidisciplinary team and included digital rectal examination (DRE), proctoscopy or colonoscopy, pelvic magnetic resonance imaging (MRI) using mr-TRG criteria, and levels of CEA and CA 19-9 were evaluated.

Patients with uncompleted nCRT, missing follow-up after nCRT, multiple risk factors of tumor recurrence or distant metastases, and lack of compliance to follow the protocol were excluded. The "W&W" protocol was applied to the selected patients.

Results
10 patients were involved in the study – 7 female, 3 male; mean age 67,3 years. RA stage at the time of diagnosis: stage II – in 2 patients, stage III – in 8 patients. Lymph node positivity (N1 in all cases) – 7 patients. Tumor morphology in the biopsy before nCRT: G1 adenocarcinoma (AC) – in 6 patients, G2 AC – in 3 patients, unknown – in 1 patient. According to endoscopy data, the infiltrative nature of the tumor was most often found – in 9 cases, exophytic tumor – in 1 case. The mean distance of the tumor from the anal verge according to MRI data – 5.85cm (min 2.5cm, max 10cm). The mean size of the tumor – 3.87cm (min 1.5cm, max 5.1cm). The mean tumor circumference – 71% (min 25%, max 100%). All patients had received standard nCRT. The time frame for achieving complete RA remission in response to nCRT in our study was between 6 and 12 weeks (time of pelvic MRI). The mean follow-up time was 36 months (min – 26, max – 66). At 12 months, the disease-free survival (DFS) was 80,0% (95% CI:40,9-94,6), and at 24 months, the DFS was 70,0% (95% CI: 32,9-89,2). After the involvement of the first 10 patients, in 2022 a review of the protocol was performed within a multidisciplinary team and local recommendations in Pauls Stradiņš Clinical University Hospital were developed. The protocol update provides that the first follow-up is done on the 10th week after nCRT by particular multidisciplinary team members. In case of cCR the "W&W" strategy is initiated: for the first 2 years – DRE and proctoscopy, CEA and CA 19-9, pelvic MRI every 3 months; CT-scan of abdomen and thorax every 6 months; colonoscopy every 12 months; for the following 3 years – DRE and proctoscopy, CEA and CA 19-9 every 6 months; pelvic MRI, CT of abdomen and thorax, colonoscopy every 12 months. The follow-up data are stored in a local data collection system and International Watch and Wait Database (IWWD).

Conclusions
Most of the patients following the "W&W" strategy have benefited. The cases of the relapses have served for the local improvement of the "W&W" protocol. To improve the results of the non-operative strategy it's important to ensure the quality of a follow-up plan – the patient is monitored by the same team, a united protocol is applied, and follow-up data are collected in a single, traceable system.

Brief description of the abstract
The non-operative management of rectal adenocarcinoma after neoadjuvant chemoradiation therapy has gained increasing attention. We share the experience of the implementation of the "Watch and Wait" strategy at Pauls Stradiņš Clinical University Hospital in Riga, Latvia.

O-29 A new MSH2 gene mutation found in Lynch syndrome patient with 13 tumours

Track: Lower gastrointestinal tract malignancy
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Objective
Lynch syndrome (LS), also known as hereditary nonpolyposis colorectal cancer (HNPCC), is the cause of 2-3 % of all colorectal cancers. This article reports a case of a 70-year-old female patient with extracolonic Lynch syndrome who underwent operations over a 30-year period for thirteen different malignancies. A deleterious pathogenic gene MSH2 (NM_000251.2) variant (mutation) c.1174_1775insT was detected in the 12th exon; this variant is novel and was previously not reported in other databases or literature. No other case of 13 metachronous malignancies in a patient with Lynch syndrome was found in the literature. This case report aims to show the connection between Lynch syndrome, the tremendous number of underwent surgeries, and reduced quality of life due to newly developed short bowel syndrome and parenteral nutrition.

Methods
This study was a retrospective study analysing the patient's with Lynch syndrome medical records of the last thirty years since her first cancer diagnosis in 1993.

Results
Using the previously gathered patient's medical records numerous surgeries were seen to cause short bowel syndrome and reduce the quality of life for the patient. Another outcome of the study was that after genetic counselling and molecular genetic testing, a deleterious pathogenic gene MSH2 (NM_000251.2) variant (mutation) c.1174_1775insT was detected and this patient became the first example of this gene variant.

Conclusions
Our study shows that the patient with Lynch syndrome who underwent various resections of the small intestine because it was crucial for her

survival and the spread of the cancer suffers from the short bowel syndrome as the consequence of such treatment measures. Our experience shows that diagnosing Lynch syndrome is essential as more preventative measures and screenings can be used to avoid the development of cancer or lead to detecting it early.

Brief description of the abstract
This article reports a case of a 70-year-old female patient with extracolonic Lynch syndrome who underwent operations over a 30-year period for thirteen different malignancies. A deleterious pathogenic gene MSH2 (NM_000251.2) variant (mutation) c.1174_1775insT was detected in the 12th exon; this variant is novel and was previously not reported in other databases or literature. No other case of 13 metachronous tumours in a patient with Lynch syndrome was found in the literature.

O-30 Diversity in colorectal surgery: bowel rest and total parenteral nutrition or diverting loop ileostomy for high-risk colorectal anastomosis? Results of the prospective comparative study

Track: Lower gastrointestinal tract malignancy
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Objective
Anastomotic leakage is one of the most serious complications in colorectal surgery. Diverting loop ileostomy is usually formed for high-risk colorectal anastomosis. However, this technique might affect general nutritional status, decreases quality of life and has other negative aspects. In addition, these patients require additional operation for closure. Around 20% of these ileostomies are never closed. We hypothesize that bowel rest with total parenteral nutrition (BR-TPN) could replace diverting loop ileostomy in high-risk colorectal anastomoses and might protect anastomosis by defunctioning the distal bowel. Our aim is to compare the effectiveness and safety of postoperative BR-TPN as an alternative to diverting loop ileostomy in patients with high-risk colorectal anastomosis. Also, we aim to evaluate the timing of ileostomy reversal, most common postoperative complications of each performed technique, and the rate of permanent ileostomy.

Methods
This is a first single-centre prospective, nonrandomised, comparative study including 59 patients who underwent elective colorectal resection with high-risk anastomosis since May 2021. 22 patients had postoperative bowel rest with BR-TPN and 37 patients underwent preventive loop ileostomy with enteral feeding after the operation. Criteria for high-risk anastomosis: low anastomosis (<10cm from the dentate line), previous radiotherapy, obesity, other comorbidities or/and intraoperative conditions. Statistical analysis was performed in each group and compared.

Results
Demographic characteristics, body mass index, risk factors, indications for surgery and type of operation and also criteria for high-risk anastomosis were similar between BR-TPN and diverting loop ileostomy groups. No statistically significant differences were seen in the rate of postoperative complications and anastomotic leakage. Approximately 65% of the patients had no complications. 3 patients in TPN group required emergency reoperation with creation of diverting ileostomy (2 patients (9%) had early anastomotic leak) but only one of these patients (4.5%) remained with ileostomy 15 months after surgery. 3 patients (8%) underwent repeated emergency surgery in the ileostomy group (one (2.7%) due to early leak and two (5.4%) due to small bowel obstruction). 43% of the patients in the ileostomy group had their ileostomy reversed within 150 days. 35% of others were left with stoma for unknown duration (average 9 months, ileostomy at 1 year 23%). Additional resection of small bowel was performed for 3 patients during ileostomy closure due to damage caused by ileostomy prolapsus and scar tissue of bowel. One patient had a reoperation after ileostomy reversal, while another patient had a late anastomotic leak after ileostomy reversal and underwent repeated ileostomy.

Conclusions
Bowel rest and total parenteral nutrition is a promising and reliable alternative to diverting loop ileostomy in high-risk colorectal anastomosis. Diverting loop ileostomy remains an effective technique to prevent postoperative anastomotic leakage but has a significant associated morbidity and some ileostomies become permanent.

Brief description of the abstract
We hypothesize that bowel rest with total parenteral nutrition is a safe and effective alternative to diverting loop ileostomy in high-risk colorectal. It is a first single-centre prospective, nonrandomised, comparative study, including 59 consecutive patients who underwent elective colorectal surgery. Bowel rest with total parenteral nutrition gives promising results to be used in patients with high-risk colorectal anastomosis.

O-31 Laparoscopy assisted endoscopic polypectomy for multiple Jejuno-Duodenal polyps in patient with Peutz – Jeghers Syndrom

Track: Lower gastrointestinal tract malignancy
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Objective
Background. Y.Peutz, a Dutch pediatrician, described in 1921 a family with skin pigmentation and polyps of the small bowel. Similar cases were reported in US by H. Jeghers and colleagues in 1949 and consequently the name of PJS was adapted - it is an autosomal dominant disorder with variable inheritance (2). Previous research has suggested that mutation of the STK11 gene could be responsible for PJS–it is tumor suppressor gene that encloses a serine/threonine kinase. Studies have shown that the loss of STK11 protein kinase activity is associated with the occurrence and development of tumors (8). The cumulative risk of developing any type of cancer was 81% while the cumulative risk of developing any gastrointestinal cancer was 66% by the time they were 70 years of age (10).

Methods
(Case presentation). The incidence of PJS is estimated to be between 1in 50,000 to 1in 200,000 live births (7,9).The most patients become symptomatic between the ages of 10 to 30 years. Frequent complications in patients with PJS include bleeding, obstruction, and intussusception. In literarure review presents other syndromes with GIT polyps, their uniqueness, but the outcome of all such polyps is malignancy. Are reviewed options for surgical and endoscopic treatment, as well as modern possibilities for interventional endoscopy. We had more complicated situation-polyps were from stomach to rectum. Our 21 years old woman was operated 9 years ago due the bowel obstruction - the PJS was diagnosed after the genetic examinations, but till now she don‘t have any diagnostic investigations for a long time due to disease progression in GIT. In our case of 21 years old woman presented with symptoms of intermittent upper intestinal obstruction and anemia last two years.

Results
The combined endoscopic and surgical treatment is considered to be the best in terms of quality of life. We performed laparoscopy assisted endoscopic polypectomy.

Conclusions
The patient’s history, physical examination, radiological and endoscopic findings are critical in any case of multiple polyps in GIT. Identification and follow-up of these patients can decrease morbidity and expenses to the health system.

Brief description of the abstract
Our case may start and help in the management of this rare disorder and establishment of related surveillance project in future.

O-32 CRP, Presepsin and Procalcitonin as Predictors of Anastomotic Leak after Colorectal Surgery

Track: Lower gastrointestinal tract malignancy
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Objective
Background: Leakage of the bowel anastomosis is one of the most significant complications after colorectal surgery, predisposing to developing sepsis and requiring reoperation, possibly resulting in the patient's death. Until now, surgeons face the most critical concern in detecting anastomotic leakage early [1]. Computed tomography is neither reliable nor cost-effective as the first-choice diagnostic method for diagnosing anastomotic leakage [2]. The inquiry for new diagnostic methods is a priority in surgical research. One of the most innovative, widely researched methods of preventing/diagnosing anastomosis leakage is indocyanine green fluorescence angiography, which allows intraoperative assessment of the durability of the formed connection, blood flow disorder, and micro-perforations [3]. Although satisfactory results are published, such a method

can only be applied in large surgery centers, so more affordable diagnostic methods based on blood biomarkers are required. We hypothesized that blood inflammation biomarkers predict the anastomotic leak. [1] Smith SR, Pockney P, Holmes R, et al. Biomarkers and anastomotic leakage in colorectal surgery: C-reactive protein trajectory is the gold standard. ANZ J Surg. 2018 May;88(5):440-444; [2] Gessler, B., Eriksson, O. & Angenete, E. Diagnosis, treatment, and consequences of anastomotic leakage in colorectal surgery. Int J Colorectal Dis 32, 549–556 (2017); [3] van Manen L, Handgraaf HJM, Diana M, et al. A practical guide for the use of indocyanine green and methylene blue in fluorescence-guided abdominal surgery. J Surg Oncol. 2018;118(2):283-300; Objectives: 1. To identify the significance of CRP, Procalcitonin, Presepsin, Leukocytes, and Neutrophiles for the anastomotic leak 2. To estimate the cut-off values and determine the combinations of the biomarkers which could foresee the outcome of Anastomosis failure.

Methods
In a prospective study, we evaluated the concentration of procalcitonin, presepsin, CRP, neutrophils, and leukocytes on the 5th postoperative day. One hundred thirty-one patients underwent a colorectal resection with anastomosis at the Hospital of LUHS Kaunas Clinics Surgery Department from June 2019 to March 2020. We excluded patients hospitalized less than five days post-surgically. The cohort was divided into three groups: • Patients with no postoperative complications • Patients with postoperative complications • Patients with postoperative complications and anastomotic leakage Statistical data analysis was calculated using SPSS 26.0. The results were considered statistically significant when the reliability coefficient was $p<0.05$. In the statistical analysis, quantitative data was measured by median and interquartile range, the qualitative data by units and percent. The Mann - Whitney U criterion was used to compare the data. Odds Ratio was obtained from logistic regression (binary) and the calculations were presented with confidence intervals of 95%. Statistically significant calculations were included in the Ordinal logistic regression with the clinical features – age and gender. The ROC curve was applied to assess the cut-off values, sensitivity, and specificity. The area under the curve was used as an estimation of diagnostic significance.

Results
There was a statistically significant difference between the first and third groups of CRP, presepsin, procalcitonin, and neutrophils ($p=0.001$). Cut-off values obtained with ROC curve analysis were: CRP 130 mg/l (AUC=0.89, $p=0.003$), presepsin 340 pg/ml (AUC=0.78, $p=0.035$), neutrophils 78% (AUC=0.88, $p=0.04$). The Odds Ratio for the diagnosis of Anastomotic leak when were: CRP 1.016(95% (1.006-1-026)), procalcitonin 1.511(95% (1.179-1.936)), neutrophiles 1.143(95% (1.040-1.143)) ($p<0,05$), and the combinations of biomarkers: Presepsin-CRP 24 times, Neutrophiles-CRP-Presepsin – 38 times, Neutrophiles-CRP – 93 times ($p<0.05$). After applying the multivariate analysis, the odds ratios were 109, 23, 40 ($p<0.05$).

Conclusions
1. CRP critical value predicting complications of anastomosis - 130 mg/l. When the value increases by 1mg/l, the probability of anastomosis complications increases by 1.6% ($p=0.007$). 2. A one-unit increase in procalcitonin increases the probability of an anastomotic leak complication by 51% ($p=0.001$). 3. The critical value of presepsin predicting complications of anastomosis is 340 pg/ml. 4. The critical value of the neutrophil percentage fraction predicting an anastomosis complication is 78%. When it increases by 1%, the probability of anastomosis complications increases by 14% ($p=0.005$). 5. The highest risk of anastomosis complications is predicted if the percentage fraction of neutrophils and the amount of CRB exceed the critical values - they increase 93 times. Meanwhile, when the Presepsin-CRP combination exceeds the critical values, the probability of anastomosis complication increases 24 times. The presence of neutrophil CRP-presepsin above the critical values increases this risk 38 times.

Brief description of the abstract
In this research, we aimed to evaluate the most significant biomarkers and their combinations to predict anastomotic leak after colorectal surgery. We examined 131 patients who underwent colorectal surgery with anastomosis formation during 9 months at the Hospital of LUHS Kaunas Clinics Surgery Department. We found a statistically significant difference in CRP, presepsin, procalcitonin, and neutrophils between the uncomplicated and complicated with anastomotic leak patient groups.

O-33 Endoluminal vacuum treatment in rectal anastomotic dehiscence

Track: Lower gastrointestinal tract malignancy
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2) Jaan Soplepmann, Tartu University Hospital, Estonia
3) Taavi Põdramägi, Tartu University Hospital, Estonia

Objective
Anastomotic dehiscence is one of the most severe complications after rectal surgery. It has a wide range of manifestations from radiological finding only to peritonitis and multi-organ failure. This condition often leads to a permanent stoma and thus has a significant impact on quality of life. According to different studies, the incidence of colorectal anastomotic leakage ranges from 3 to 24%. There are many methods of the treatment of rectal anastomotic leaks depending on it severity. Patients with general peritonitis require a laparotomy and takedown of the anastomosis. In

patients who remain in a stable condition, conservative treatment and salvage of the anastomosis is possible. Conservative management includes percutaneous drainage of the peri-anastomotic abscess, and faecal diversion if no stoma was fashioned at the primary operation.

Methods
The use of an endoluminal vacuum system has been developed as a minimally invasive method of treatment with a higher success rate. First described in a case series by Weidenhagen and colleagues in 2008, it involves an open-pored polyurethane sponge placed in the abscess cavity attached to a low-vacuum suction device. Studies have shown that in suitable patients, this method represents a successful and safe approach.

Results
Since June 2022, 5 patients with colorectal anastomosis dehiscence have received endoluminal vacuum treatment with Endo-SPONGE system (B. Braun). The average time to diagnosis was 14.2 days after primary surgery. The average number of procedures was 10 and the average duration of treatment was 28 days. All patients had their diverting ileostomy reversed and have showed no signs of residual leak.

Conclusions
Endoluminal vacuum treatment in rectal anastomotic dehiscence has proven to be a safe and successful approach.

Brief description of the abstract
This oral abstract gives an overview of endoluminal vacuum treatment and presents initial results of this treatment method in Tartu University Hospital.

O-34 Renal cancer survival in clear cell renal cancer compared to other types of tumor histology: a population-based cohort study

Track: Urogenital malignancy
1) Teesi Sepp, North Estonia Medical Centre, Estonia*

Objective
Renal cancer (RC) is a great challenge with its rising incidence and mortality. RC survival depends on multiple factors, incl. tumor stage and histology. Most guidelines are based on evidence for the most prevalent histological type- clear cell RC. In this population-based study, we compared RC outcomes by the histological subtype, emphasizing its effect on cancer-specific survival (CSS) and overall survival (OS), as well as treatment outcomes.

Methods
The study is a retrospective population-based cohort study. All RC cases from 1995 until the end of 2017 were identified from the Finnish Cancer Registry. Comorbidities and procedure information for 1995-2018 were gathered from the national health care registry. Data on deaths was gathered from the national death certificate registry. RC cases were categorized according to tumor histology. CSS and OS were compared by the histological subtype using Cox regression with adjustment for age, tumor stage, Charlson comorbidity index and surgical treatment strategy.

Results
The most common type of RC was clear cell RCC (ccRCC)(74.7%), followed by papillary RCC (pRCC, 5.7%) and chromophobe RCC (chRCC, 2.1%). CSS was higher among ccRCC compared to all non-ccRCC combined (HR 1.62, 95% CI 1.52-1.72). Regarding specific histological subtypes, CSS was higher in chRCC (HR 0.21, 95% CI 0.12-0.37) and other known histological subtypes (HR 0.20, 95% CI 0.15-0.28), pRCC (HR 0.57, 95% CI 0.46-0.70). Surgical treatment improved CSS more in non-ccRCC, but less in pRCC and chRCC. In time trend analysis, CSS improved in RC, but statistically significant improvement in CSS was noted in ccRCC, but not in non-ccRCC.

Conclusions
RC survival varies greatly depending on the histological subtype. Histology should be used more widely in the clinical decision-making process, as it may aid selecting proper treatment: surgical managemennt for aggressive tumors and conservative management for less aggressive histological types.

Brief description of the abstract
This study and abstract has found that, not all renal cancer histological types respond the same way. Our guidelines do not put great emphasis on getting a histological confirmation pretreatment, but maybe this is a place for future studies regarding that, as CSS and OS varies among different histological subtypes.

O-35 Renal-cell cancer's surgical treatment at Tartu University Hospital, from open to laparoscopic surgery: A retrospective study

Track: Urogenital malignancy

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2) Ülle Kirsimägi, Tartu University Hospital, Estonia
3) Jaanus Kahu, Tartu University Hospital, Estonia

Objective

Renal cancers comprise about 4% of all newly diagnosed cancers in Estonia. The most common malignancy in the kidneys is renal cell carcinoma (RCC), which makes up more than 90 % of all renal cancers. RCCs are usually treated surgically, especially in the early stages, when complete remission is still feasible. We reviewed and evaluated surgically treated RCC patients at Tartu University Hospital to clarify long-term results and risk factors for tumor recurrence among these patients. In the last decade, there has been a shift in surgery towards the introduction of less invasive laparoscopic surgical techniques, which have the distinct advantage of faster recovery for patients. The benefits of laparoscopy in terms of recurrence and survival are less clear. The aim of our study was to retrospectively compare the effectiveness of surgical treatment of RCCs with open and laparoscopic technique. We analyzed recurrences, overall and cancer-specific survival, as well as risk factors affecting long-term outcomes during the transition period from open to laparoscopic operations starting in early 2010s.

Methods

Our study included 416 RCC patients who had undergone partial and/or radical nephrectomy at our hospital from 2011 to 2017 with a follow-up period of at least 5 years (maximum 11 years). Information regarding age, sex, surgical approach, tumor size, RCC subtype and histological features, TNM-stage, recurrence and survival were evaluated using patients' medical history and Estonian death registry. We identified 227 male and 189 female patients (mean age 67.4 years). The most common type of RCC was clear-cell RCC (n=360, 86.5%), followed by papillary RCC (n=36, 8.7%) and chromophobe RCC (n=20, 4.8%). 335 patients (80.5%) had undergone radical nephrectomy with the remaining 81 (19.5%) being treated with partial nephrectomy. Additionally, operation method, tumor stage and grade of differentiation were evaluated.

Results

During a follow-up period of five years, 72.4% (n=301) patients remained free of recurrence. 22.1% (n=92) and 3.8% (n=16) were diagnosed with distant and local recurrence, respectively. 1.7% (n=7) patients were diagnosed with both local and distant metastasis. From our analysis, the risk factors for recurrence were male sex, RCC subtype, higher stage and grade, presence of sarcomatoid features, infiltration of perirenal fat and presence of tumor thrombus/venous infiltration. The effect of the described risk factors on recurrences was similar in both open and laparoscopic surgery groups. Patients with a positive resection line (R+) did not have statistically more recurrences. A total of 64 patients required one or more reoperations due to recurrence or metastasis of kidney cancer, but despite this, 20 of them later died of kidney cancer during the follow-up period. There was no difference in kidney cancer recurrence rate between the laparoscopy and open surgery groups, but both overall and cancer-specific survival were better in the laparoscopy group. 5-year overall survival was 59% in the open surgery and 74.5% in the laparoscopy group, 5-year cancer-specific survival was 77% and 90.9%, respectively. We compared the changes in kidney cancer treatment and outcomes during the study period, dividing the period into two: 2011-2014 and 2015-2017. Although the frequency of recurrence did not change over time, cancer-specific survival improved significantly during the study period. During these periods, 60% and 85% of local recurrences were treated surgically, respectively.

Conclusions

Kidney cancer recurrences did not depend on the surgical approach, while patient survival was significantly better after laparoscopic surgery. The reason for this may be less trauma, but also improved complex treatment after relapse: more aggressive treatment of local relapses and improved possibilities of systemic treatment. A positive resection line after renal tumor resection does not always require resection because usually it does not lead to local recurrence.

Brief description of the abstract

Our retrospective study includes 416 surgically treated RCCs from 2011 to 2017 with a follow-up period of up to 11 years to compare the results of laparoscopic and open surgical methods. We determined that there was no difference in RCC recurrence between laparoscopic and open operations, even in the case of positive resection lines. Significance of risk factors was assessed with univariate and multivariate analysis. Overall and cancer-specific survival were better for the laparoscopy group.

O-37 Evaluation of breast skin/nipple-areolar complex sensation and quality of life after nipple-sparing mastectomy

Track: Breast malignancy

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2) Jeļena Maksimenko, Riga Stradiņš University, Pauls Stradiņš Clinical University Hospital, Latvia*

Objective
It is commonly assumed that following a nipple-sparing mastectomy (NSM) with implant/expander reconstruction, the sensation of the breast skin and the nipple-areolar complex (NAC) is diminished or not regained at all. The purpose of this study is to evaluate postoperative 1 month-1 year breast skin/NAC touch pressure sensibility after NSM followed by reconstruction with implant/expander and patients' quality of life (QoL) consequent to this procedure, hypothesizing that sensibility may diminish after the procedure with small progressive return.

Methods
This was achieved by performing sensation tests using Semmes-Weinstein monofilaments in 9 predefined points of the breast and NAC, 2-point discrimination test in the 4 quadrants of the breast, and QoL assessment using the BREAST-Q. We have evaluated 34 patients in Pauls Stradiņš Clinical University Hospital, with a total of 61 breasts, who underwent NSM between 2021 and 2023, performing the breast sensation tests before surgery, 1/3/6 months, and 1 year after surgery. The BREAST-Q was also administered to evaluate patients' satisfaction and well-being. Inclusion criteria involved patients that have undergone NSM followed by reconstruction with an implant or expander; nipple has not been excised; able to provide written consent; able to answer questionnaire; over the age of 18 years old. While exclusion criteria were: sensibility examination cannot be performed; different surgical technique other than nipple-sparing mastectomy; if nipple was excised; patient doesn't meet inclusion criteria.

Results
Our results reflect a decline in breast skin and NAC sensation in the 1 month evaluation after NSM (Mean: 4.23) when compared to the assessment before surgery (Mean: 2.84), with a small progressive return reflected in the 3 months (Mean: 3.86), 6 months, and 1 year evaluation. The following were the mean scores obtained from BREAST-Q: Psychosocial Well-being (Mean: 41, IQR: 38-49), Sexual Well-being (Mean: 19.79, IQR: 16-24), Satisfaction with Breasts Pre-OP (Mean: 12.21, IQR: 11-14), Satisfaction with breast reconstruction (Mean: 41.5, IQR: 38.5-50), Satisfaction with Implants (Mean: 5.5, IQR: 4.25-6.75), Satisfaction with nipple reconstruction (Mean: 2.94, IQR: 2.5-3.5), Physical Well-being Chest/Abdomen/Back and shoulder, Adverse effects of radiation, and Satisfaction with Information/Surgeon/Medical Team/Office Staff.

Conclusions
This study confirms that sensibility diminishes after this procedure, as observed when comparing the sensation evaluation results before the operation with the 1-month evaluation, with small progressive return reflected in the following months. The obtained conclusions from the sensibility evaluation combined with the questionnaire, will contribute further insight and evidence, therefore providing information to the medical community that may facilitate the improvement of the observed results. Authors: Researcher Beatriz Soares Domingues Polita Research Supervisor MD., PhD Jeļena Maksimenko Coauthors: Dr. Jānis Lapiņš Dr. Ansis Ģīlis Dr. A Irmejs, Prof. J Gardovskis

Brief description of the abstract
This study evaluates breast skin/NAC sensibility after NSM followed by reconstruction and patients QoL after this procedure. This was achieved by performing sensation tests before surgery, 1/3/6months, and 1year after surgery, using Semmes-Weinstein monofilaments in 9 predefined points of the breast and NAC, 2-point discrimination test in 4 quadrants of the breast, and QoL assessment using BREAST-Q. Results reflect that sensibility diminishes after this procedure with small progressive return.

O-38 West-Tallinn Central Hospital based evaluation of different surgical approaches in the treatment of cervical cancer from 2010

Track: Gynecological malignancy
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2) Helen Vahar, West-Tallinn Central Hospital, Estonia
3) Jüri Piirsoo, West-Tallinn Central Hospital, Estonia

Objective
The primary treatment for early-stage cervical cancer (FIGO stages IA1 with lymph-vascular space invasion (LVSI), IA2, IB1, IB2, and IIA1) is simple or radical hysterectomy with or without pelvic lymphadenectomy. In 2018 LACC trial showed that minimally invasive radical hysterectomy was associated with lower rates of disease-free survival and overall survival than open abdominal radical hysterectomy among women with early-stage cervical cancer. The aim of this review is to evaluate and describe the outcomes of different surgical approaches in the treatment of cervical cancer in West-Tallinn Central Hospital from 2010 to 2017. The surgical treatment was in accordance with the standard treatment guidelines at that time.

Methods
Data was gathered retrospectively from all cervical cancer cases in West-Tallinn Central Hospital from 2010 to 2017 that were managed surgically with either minimally invasive approach or open abdominal surgery with or without pelvic lymphadenectomy. The primary outcome was the disease free survival at 5 years. This review will not take into account the use of adjuvant therapy. Secondary outcome was the reported complication rate.

Results
From 2010 to 2017 there were 83 cervical cancer cases that were managed surgically - 58 laparoscopically and 25 with open abdominal surgery. Most of the patients had stage IB1 disease (29%), following stage IA1 disease (23%). There where 10 cases of stage IIIB and 1 case of stage IVA

disease. Overall the mean age of the patients was 54. The rate of disease free survival of 5 years after minimally invasive surgery was 94.0% and after open abdominal surgery 95.0%, a difference of 1 percentage points (95% confidence interval [CI], 1,7 to 0,3). 9% of patients were lost to follow-up. There were 2 cases of post-op parametritis and lymphocele reported (1 after laparoscopy and 1 after laparotomy). One patient had post-operative sepsis and deep vein thrombosis, but made a full recovery. One laparoscopic operation was complicated by a bladder injury.

Conclusions
This data does not show a significant difference between disease free survival rates in cervical cancer between minimally invasive and open abdominal surgery. However, this is a descriptive review of one hospital's experience with cervical cancer's surgical management. No definitive conclusions can be made based on this data especially considering the small number of cases.

Brief description of the abstract
The aim of this review is to evaluate the outcomes of different surgical approaches in the treatment of cervical cancer in West-Tallinn Central Hospital from 2010 to 2017. The primary outcome was the disease free survival at 5 years. This data does not show a significant difference between disease free survival rates in cervical cancer between minimally invasive and open abdominal surgery. However no definitive conclusions can be made due to the small number of cases.

O-39 Exstensive primary cytoreductive surgery for ovarian cancer

Track: Gynecological malignancy
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3) Jaan Soplepmann, Tartu University Hospital, Surgery Clinic, Department of surgical and gynaecological oncology, Estonia

Objective
Before the 21st century, the standard surgical approach for advanced stages of ovarian cancer consisted of a hysterectomy with bilateral salpingo-oophorectomy, omentectomy, and lymphadenectomy. However, the landscape of ovarian cancer treatment has since undergone a paradigm shift, propelled by studies revealing the profound impact of radical cytoreductive surgeries in advanced ovarian cancer cases. These procedures have demonstrated a correlation with increased survival rates and the potential for cure, particularly when achieving complete cytoreduction (CCR0). Leading societies in gynecological oncology, such as the National Comprehensive Cancer Network (NCCN), the European Society for Medical Oncology (ESMO), the European Society of Gynaecological Oncology (ESGO), and the Gynecologic Cancer InterGroup (GCIG), advocate for a primary cytoreductive surgery approach followed by chemotherapy, as opposed to neoadjuvant chemotherapy and interval debulking surgery, whenever feasible. According to the LION trial findings, achieving a complete resection of ovarian cancer in advanced stages involves performing parietal peritonectomy in 90% of patients, with diaphragm peritonectomy included in 53-60% of cases. Additionally, gastrointestinal resection is conducted in 52% of patients, stoma placement in 7-10%, splenectomy in 17-19%, surgery involving the port hepatis or lesser omentum in 19-21%, partial pancreatectomy in 2.2%, partial hepatectomy in 9%, and pleurectomy in 7%. Besides, sometimes urinary bladder or ureteral resection is needed. These technically demanding operations required in average 5-7 hours to complete, necessitating an interdisciplinary approach.

Brief description of the abstract
The current presentation aims to provide insight into the contemporary literature surrounding primary cytoreductive surgery. Furthermore, it will elucidate the outcomes of cytoreductive surgeries performed at Tartu University Hospital after November 2022, underscoring the ongoing efforts to optimize treatment approaches and improve patient outcomes.

O-40 Does laparoscopic enucleation result in more postoperative pancreatic fistulas compared to laparoscopic distal pancreatectomy

Track: HPB malignancy
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Objective
Advancement in radiological diagnostics lead to better detection of pancreatic lesions which results in more patients undergoing minimally invasive surgical treatment. Laparoscopic resection or laparoscopic tissue sparing technique (enucleation) are often chosen in case of benign lesion. However, pancreas surgery carries high risk of postoperative pancreatic fistula and there is conflicting data whether enucleation result in more fistulas. Aim of this study is to determine and compare the rate of postoperative pancreatic fistula following laparoscopic enucleation or laparoscopic distal pancreatectomy in case of benign pancreatic lesion.

Methods
A retrospective study of patients who underwent elective laparoscopic enucleation (LE) or laparoscopic distal pancreatectomy (LDP) for benign pancreatic lesion in the Department of Surgery of Lithuanian University of Health Sciences was performed. Patients' characteristics and medical data were extracted from medical case files. Postoperative complications were analyzed according to Clavien-Dindo classification. Postoperative pancreatic fistula (POPF) was evaluated in accordance to revised 2016 definition and grading of POPF by International Study Group on Pancreatic Surgery (ISGPS). Student's t-test was used to compare parametric, chi-square test and Mann-Whitney U test – nonparametric variables between groups. Results are reported as mean (SD).

Results
46 patients underwent laparoscopic procedure for benign pancreatic lesion between September 2015 and March 2023. Median follow-up time was 35.5 months (1-75). There were 15 males (32.6%) and 31 females (67.4%). The mean age of patients was 60.87 (16.31) years. Median postoperative hospital stay was 8 days (2-59). 13 patients underwent LE (28.3%) and 33 patients – LDP (71.7%). Both groups were similar by gender distribution (p=0.869), age (p=0.557), median postoperative hospital stay (p=0.867). Lesions that were removed during LDP were larger by diameter in milimeters (15.3 (3.8) vs 27.1 (14.6), p=0.006). Overall POPF grade B rate in our study was 17.4% (8 patients). 10 patients (21.7%) developed biochemical leak (BL). We had no grade C fistulas. Difference of POPF rate between LE and LDP groups was not significant (15.4% (n=2) vs. 18.2% (n=6), p=0.520). Complication rate and severity were not different between LE and LDP (grades 1-5, 53.8% vs. 42.4%, p=0.495). There were no differences in reoperation and readmission within 90 days. Postoperative mortality rate was similar in both groups (LE 7.7% (n=1) vs. LDP 3.0% (n=1), p=0.496).

Conclusions
Laparoscopic enucleation did not result in more postoperative pancreatic fistulas and complication rates were similar in both groups. It is a safe and feasible alternative to laparoscopic distal pancreatectomy when performed in expert centers for select group of patients.

Brief description of the abstract
In this retrospective study we compared the rate of postoperative pancreatic fistula following elective laparoscopic enucleation or laparoscopic distal pancreatectomy for benign pancreatic lesion. Postoperative pancreatic fistula, complication, reoperation and readmission rates were similar in both groups. According to our data laparoscopic enucleation is a safe and feasible alternative to laparoscopic distal pancreatectomy when performed in expert centers for select group of patients.

O-41 Transcystic intraoperative balloon dilatation of the papilla Vateri and laparoscopic cholecystectomy as single-stage therapy

Track: HPB malignancy
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Objective
The Gallstone disease is a common and daily routine in surgeons practice. Clinical manifestations of gallstone disease are different – acute cholecystitis, choledocholithiasis, cholangitis, biliary pancreatitis and etc. Usually treatment of acute cholecystitis is laparoscopic cholecystectomy, but in case of choledocholithiasis the treatment is more difficult. Two-stage therapy is a standard treatment of choledocholithiasis with acute cholecystitis in our hospital. The first stage is endoscopic retrograde cholangiopancreatography with papillotomy and stone evacuation (ERCP) from common bile duct (CBD) and second stage is laparoscopic cholecystectomy (LS). The single-stage method is laparoscopic cholecystectomy with intraoperative transcystic balloon dilatation of the papilla Vateri and anterograde evacuation of gallstones to duodenum (BD/LS). The aim of this study is to compare single-stage BD/LS with two-stage ERCP/LS and evaluate the outcomes of both methods.

Methods
A retrospective, comparative study in Riga East University Hospital Gailezers was done from January 2021 to May 2023. The patients with acute calculous cholecystitis and choledocholithiasis with gallstone diameter in CBD less then 10 millimeters, ASA score from I to III were included in our study. All patients were divided in to the two groups. First group underwent single-stage treatment - laparoscopic cholecystectomy with intraoperative transcystic balloon dilatation of the papilla Vateri and anterograde evacuation of gallstones to duodenum (BD/LS) and the second patient group underwent two-stage therapy - endoscopic retrograde cholangiopancreatography with papillotomy and stone evacuation from common bile duct and second stage is laparoscopic cholecystectomy (ERCP/LS). The following parameters where analysed - hospitalization time, success rate, gallstones diameter and number in CBD, lipase level after procedure and postoperative complications.

Results
A total of 85 patients with choledocholithiasis and acute calculous cholecystitis were included in our study in time frame from 2021 to 2023. Of which

43 patients underwent BD/LS and 42 patients used an ERCP/LS. The Median (Me) diameter of gallstones in the CBD was 5,8 mm (IQR 4,5-7 mm) in BD/LS group and 6.5 mm (IQR 4,75-8mm) in the ERCP/LS group, p=0.038. Me gallstones number in CBD was 2 (IQR 1-3) in PD/LS group while in the ERCP/LS group Me gallstones number in CBD was 1 (IQR 1-2,75), p=0.064. Median hospitalization time for patients in BD/LS group was 8 days (IQR 7 – 10,5 days), and in ERCP/LS group 13 days (IQR 9,75-18,25 days), p=0.001. Lipase Me level in BD/LS group was 38 U/L (IQR 28,5-82,5 U/L) but lipase Me level in ERCP/LS group was 66U/L (IQR 34-212,5 U/L) p=0.049. The success rate in BD/LS group was 95, 4% (N=41) and in ERCP/LS group was 85, 6% (N=36), p=0.255. Complications rate in BD/LS was 4.65% (N=2) but in the ERCP/LS group, 11.9% (N=5) after ERCP, p=0,27. Remarcable that in BD/LS group where only mild complications (mild acute postoperative pancreatitis) while in ERCP/LS group where four moderate complications (moderate postERCP acute pancreatitis) and one patient severe complication (postERCP duodenal perforation).

Conclusions
Laparoscopic cholecystectomy with intraoperative transcystic balloon dilatation of the papilla Vateri and anterograde evacuation of gallstones is associated with a shorter hospitalization time, higher success rate and lower complication rate.

Brief description of the abstract
Transcystic intraoperative balloon dilatation of the papilla Vateri and laparoscopic cholecystectomy (BD/LS) as single-stage therapy in patients with choleidocholitiasis and acute calculouse holecystitis.

O-42 Mucinous Cystic Neoplasm of the Liver presenting as Liver Cystic Echinococcosis: a case report

Track: HPB malignancy
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Objective
Cystic liver disease and liver cysts are relatively common, affecting 5-10% of the world population. Cystic liver lesions can be classified into infectious and non-infectious. In the latter both benign and malignant lesions can occur (Figure 1). The prevalence of cystic liver lesions varies by disease. For instance, simple hepatic cysts are the most common (prevalence rate of 2.5–18.0%), while mucinous cystic neoplasms of the liver (MCN-L) are rare. MCN-L constitute <5% of liver cystic lesions. They may also be referred to as 'biliary cystadenoma' or 'biliary cystadenocarcinoma' in the literature and only around 100 cases have been described. The lesion was redefined and classified by the World Health Organization (WHO) in 2010 and is subdivides into non-invasive and invasive types. These lesions present as an important clinical challenge since radiologically no specific features are known and malignant transformation rates of up to 30% have been described. This neoplasm occurs almost exclusively in women, usually has no communication to the bile duct. The histopathological presence of ovarian-like stroma is the cornerstone of diagnosis. Human echinococcosis is a parasitic disease caused by tapeworms of the genus Echinococcosis and is spread through fecal-oral route, carnivores like foxes and domesticated animals like cats and dogs acting as definitive hosts. The most important forms in humans are cystic echinococcosis (CE) or hydatidosis and alveolar echinococcosis (AE). One important manifestation is liver cystic disease. Some parts of the world are considered to be endemic for echinococcosis, but the disease is distributed globally due to migration of humans and dogs.

Methods
A 24-year-old female patient with no significant comorbidities other than allergic asthma, presented to her local emergency department. She reported having worsening symptoms of upper abdominal pain, nausea, weight-loss, and fullness after eating over the past year. Previously esophagogastroduodenoscopy had been performed, which revealed no significant findings. No other diagnostic studies had been performed. Laboratory findings in the emergency department revealed cholestatic changes. Abdominal ultrasound was done to identify possible cause and it was suggestive of a cystic liver lesion with a size of 8,7 x 12 cm. Magnetic resonance Imaging (MRI) and Contrast Enhanced Computer Tomography (CECT) were ordered for further investigation- a unilocular large liver cystic lesion with lobulated profile was described, which measured 14 x 9,5 x 13 cm, located mostly in liver segment 4. Inside the large cyst calcifications and smaller cystic lesions with contrast-enhanced borders were seen-radiologically both septated areas and daughter cysts were possible. The cyst was in direct contact with portal vein and hepatic artery causing them to be dislodged dorsally, the left branch of the portal vein compressed. The intrahepatic biliary tracts of left hepatic lobe were mildly dilated. No connection between the cyst and biliary tract was described. Routine laboratory studies such as hemogram, renal function test were within normal limits. Viral hepatitis markers (Hepatitis B Surface Antigen (HbsAg), Hepatitis C Virus Antibody (HCV Ab)) and Human Immunodeficiency Virus (HIV) were negative. Serology for Echinococcus granulosus and alveolaris antibody titer was done seven times and reported back negative every time. The patient was started on albendazole by infectious disease specialist, which the patient tolerated, and referred to a tertiary care center.

Results
According to available WHO guidelines for Echinococcal disease the preferred method of treatment for liver hydatid cyst over 10 cm is surgery. Considering the location and large size of the cyst left hepatectomy was not plausible. Ulm University Hospital in Germany as an expert center was contacted for second opinion and alternative management options. Considering the MRI findings and negative serology Ulm University Hospital offered an alternative differential diagnosis of biliary cystadenoma. Since CE could not be ruled out it was suggested that surgery should be done in

a center experienced with the surgical management of CE and certainly under albendazole treatment. A multidisciplinary discussion in Tartu University Hospital took place and a decision was made to treat the liver cyst as a possible CE and to schedule surgery, goal being a complete resection of the cyst. A biopsy from the cyst was not taken to prevent anaphylactic shock from cyst fluid leak into the abdomen. A preoperative magnetic resonance cholangiopancreatography (MRCP) and endoscopic retrograde cholangiopancreatography (ERCP) were performed- a biliary communication between the cyst and left biliary tract was seen. Operation - under general anesthesia a total pericystectomy with the use of hypertonic sodium chloride, duodenotomy, papillotomy and drainage of biliary tract was done. The histopathological examination revealed a cyst delimited by a fibrous capsule. The inner surface of the cyst was lined by single layer of flattened, biliary-type cuboidal to columnar and mucinous type epithelium that contained neutrophiles. Focally underlying the epithelium ovarian-like hypercellular stroma was seen with immunohistochemical progesterone and estrogen expression. The mucinous epithelium showed no high-grade dysplasia or malignancy. The description was compatible with the diagnosis of liver mucinous cystic neoplasm (MCN-L).

Conclusions
Cystic hepatic lesions, especially simple hepatic cyst, are common, but large unilocular cystic liver lesions represent a diagnostic and therapeutic challenge. Although echinococcal disease is considered a rare disease, Eastern Europe is a known endemic region for the disease and every year a few cases in Estonia are reported. According to Estonia's National Registry for Infectious Disease in the years 2013-2022 the prevalence of echinococcal disease has been 0,3-4,1 cases per 100 000 person/year, making it a considerable differential for unilocular large liver cysts. MCN-L is also a rare disease and until now no cases in Estonia have been reported, but given the potential for malignant transformation, early recognition and correct choice of therapy is key. Since radiological discrimination between the two diseases can be impossible, serology (using ELISA IgG or indirect hemagglutination) for Echinococcus is recommended if accessible. Even so 10% of patients with CE do not produce enough IgG antibodies and report false-negative results (as was assumed in this case). Considering the prevalence of echinococcal disease in this region, in this case the decision was made to treat the cystic liver lesion as CE, even when another likely differential diagnosis was known. Although the surgical management for both diseases is the same (total resection of the cyst is necessary for both diseases), it is important to remember that the surgery for cystic echinococcosis comes with greater risk for the patient (anaphylaxis from fluid leak, use of hypertonic saline). Therefore, careful consideration of the broad differential diagnosis for cystic liver disease should be done even when the radiological diagnosis seems apparent.

Brief description of the abstract
Mucinous Cystic Neoplasm of the Liver presenting as Liver Cystic Echinococcosis: a case report.

O-43 Hyperexpression of EMT factors is associated with tumor aggressiveness and worse overall survival in pancreatic cancer patient

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Objective
It has been suggested that Epithelial-mesenchymal transition (EMT) program might be associated with carcinogenesis of pancreatic adenocarcinoma. Furthermore it has been described the association between ZEB1 and worse survival of PDAC patients. However the post-transcriptional regulation pathways remain unclear as well as the role of other EMT-TFs. The purpose of our study to determine the association of EMT-TFs expression with clinicopathological parameters and prognosis of PDAC.

Methods
Data of 45 patients following pancreatoduodenectomy for PDAC between 2009- 2017 were analyzed. Patient's mRNA expression levels of Snail1, Snail2, ZEB1, ZEB2 and TWIST in PDAC were compared with normal pancreatic tissue. The correlations among EMT-TFs and HuR as well as clinicopathological parameters were analyzed. The Kaplan-Meier method and log-rank tests were used for univariate analysis.

Results
Snail1, Snail2, ZEB1 and Twist expression were accordingly 1643.05 fold, 2186.02-fold, 1723.33-fold and 3.72-fold higher, while ZEB2 expression were 0.53-fold lower when compared to normal pancreatic tissue. Univariate analysis revealed that high expression of all EMT-TFs was associated with worse overall survival (0S) of PDAC patients. High expression levels of ZEB1 were associated with peripancreatic invasion.

Conclusions
Hyperexpression of EMT-TFs is associated with more aggressive clinicopathological features of pancreatic cancer and worse overall survival.

O-44 Single center experience in pancreatic surgery: Long term survival and complication analysis

Track: HPB malignancy
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Objective
Pancreatic cancer is an oncological disease with an overly aggressive course and poor long term survival and high mortality rate. As of 2020 Latvia ranks 14th in total incidence rate for pancreatic cancer in the world according to WHO data. Latvian Oncology Centre (LOC) is tertiary center providing healthcare to the majority of patients with pancreatic cancer in Latvia. Study aims to evaluate the quality of curative surgical intervention in patients with pancreatic cancer evaluating short term effects on patients health as well as long term survival.

Methods
All patients who underwent radical surgery at Riga East Clinical University Hospital - LOC for pancreatic cancer, from January 1, 2016, to December 31, 2022, were enrolled in the retrospective analysis. Patients that underwent surgical intervention from 2016-2018 were considered for a 5-year survival analysis, simultaneously group was divided by hystological diagnosis. Furthermore data on postoperative complications was gathered.

Results
In total 176 patients undergoing surgical resection for pancreatic cancer, from January 1, 2016, to December 31, 2022 were enrolled into a retrospective study. 138 (78,4%) patients were treated for a ductal adenocarcinoma, while 38 (21,6%) received treatment for neuroendocrine tumors. In total 38 (21,6%) patients developed postoperative complications corresponding to Grade 2 or higher according to Clavien-Dindo classification. Total in hospital mortality for the whole group was 12 (6,8%) cases. Furthermore 70 cases undergoing surgical resection from January 1, 2016 to December 31, 2018 were analyzed for a 5-year survival evaluation. 17 (24,3%) patients had neuroendocrine tumour pathology, while 53 (75,7%) underwent resection for adenocarcinoma. Kaplan-Meier survival analysis was used for both groups to calculate 5-year survival, which was 82,4% (3 deaths) in neuroendocrine tumour group and 15,1% (45 deaths) in adenocarcinoma group.

Conclusions
Total in hospital mortality and long term post operative mortality is still high in our department, although the postoperative complication rate is comparable to other similiar studies. 5-year survival analysis is comparable to other big center studies on long term survival. Learning curve in pancreatic surgery is especially steep as it is considered as one of the most complicated divisions in abdominal surgery and further improvement in surgical technique and perioperative patient care should improve short and long term survival for patients undergoing curative resection for pancreatic cancer.

Brief description of the abstract
Pancreatic cancer is an oncological disease with an overly aggressive course and poor long-term survival and high mortality rate. As of 2020, Latvia ranks 14th in total incidence rate for pancreatic cancer in the world, according to WHO data. Total in-hospital mortality and long-term postoperative mortality is high in LOC, although the postoperative complication rate is comparable to other similiar studies. 5-year survival analysis is comparable to other major center studies.

O-45 First Clinical Experience of Advanced Imaging of Sarcoma in Latvia

Track: Melanoma/soft tissue cancer
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Objective
For determining appropriate treatment strategies accurate staging of sarcoma is pivotal. There is a diversity of modalities available for the non-invasive imaging of soft tissue and skeletal sarcomas. While PET imaging as well as CT can detect distant metastases, MRI provides detailed anatomical information, such as tumor size, precise location and invasion of surrounding structures. ESMO 2021 guidelines suggest using MRI and CT as the main imaging modalities and [18 F] PET/CT as a problem-solving tool. Both PET and MRI play reciprocal roles in this regard, but the exact role of [18 F] PET/CT is not fully understood. This single centre observation focuses on the role of a relatively new method in Baltics positron emission tomography (PET) and compares it with CT and magnetic resonance imaging (MRI) in helping to guide treatment choices for sarcomas. In this review we looked at our first experience with various types of sarcoma patient PET/CT, CT, MRI scans and biopsy results and analyzed its impact to the decision making regards to treatment planning. We also analyzed literature and guidelines to give some future recommendations for local practice.

Methods
Retrospective single centre study enrolled 32 sarcoma patients, who underwent [18 F]FDG PET/CT and CT and MR scans from November 2018 to May 2023. [18 F] FDG PET/CT were performed at different time points to determine diagnostic value for initial staging, therapy response assessment or restaging for patients with history of treated sarcoma with suspicion or confirmed local recurrence. PET was done only after the decision of multidisciplinary consilium. It was performed on a new generation digital PET/CT scanner with reduced dose and reduced scanning time. Patients had injection of 2 MBq per kg of [18F]FDG 60 min before scanning and whole body imaging was done (body scanning 60 sec per bed and head and limbs 15 sec per bed). Images were analyzed by 1 experienced radiologist/nuclear medicine physician. Current local clinical practices were analyzed and compared to guidelines and recent publications.

Results
Our first clinical experience showed that advanced imaging were used for wide variety of soft tissue sarcomas and bone sarcomas (10 Ewing sarcomas, 7 synovial sarcomas, 3 leiomyosarcomas, 2 rhabdomyosarcomas and other types one to two patient per morphology). Clinical situations where PET was used also were different – most patients underwent PET for staging or restaging (54% and 25%). 20% underwent it for disease recurrence and 1% for surveillance. Mostly (75%) PET and CT, MR data matched the clinical stage of the disease, but 25% differed. From those there were 10% PET negative while CT and MR were considered positive and 15% vice versa.

Conclusions
[18 F] FDG PET/CT in high-grade bone and soft tissue sarcoma can add significant benefit to routine CT/MRI staging. We suggest to local clinicians to keep using advanced imaging methods according to guidelines, but also to take into account histological grading to use PET/CT where it is most relevant. Further prospective and multi-center evaluation of PET/CT is warranted to determine the actual predictive value and cost-effectiveness of PET/CT in directing clinical management of clinically complex and heterogeneous high-grade sarcomas.

Brief description of the abstract
This study examines the role of positron emission tomography (PET) in guiding treatment choices for sarcomas. This research compares PET with computed tomography (CT) and magnetic resonance imaging (MRI) in a retrospective single-center study of 32 sarcoma patients. The findings suggest that [18F] FDG PET/CT can provide additional benefits in staging high-grade bone and soft tissue sarcomas beyond routine CT/MRI.

O-46 One-stage reconstruction of distal biceps tendon with adductor magnus free flap after sarcoma excision:New use of technique

Track: Melanoma/soft tissue cancer
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Objective
Myxofibrosarcoma is a rare soft tissue sarcoma type with high local recurrence rate. Infiltrative growth into the surrounding tissues, challenging identification of the actual size of tumour and local aggressive nature of lesion leads to more frequent amputations in myxofibrosarcoma compared to other soft tissue sarcomas. The necessity of wide excision of myxofibrosarcoma inevitably leads to functional deficit if musculotendinous units are involved. Secondary tendon injury reconstruction is challenging, as it requires healthy tissue that is capable of weight bearing and adequate tendon gliding. For bigger defects vascularized tendon or musculotendinous flaps are necessary to provide optimal functional outcomes. Reconstruction of distal biceps brachii tendon by numerous techniques is described in literature, however main indications for reconstruction remain acute or chronic traumatic injuries of the tendon.

Methods
We herein report the case of a complex functional reconstruction of distal part of biceps brachii tendon using novel application of previously described adductor magnus myotendinous flap in a 54-year-old woman presenting a primary low grade myxofibrosarcoma in her right elbow region. Post-surgical functional outcomes after 3 years are evaluated.

Results
Surgery was performed under plexus brachialis block combined with spinal anesthesia in two surgical teams. Wide excision of the tumor was performed - tumor invaded distal biceps brachii tendon, part of the pronator teres, part of the wrist extensors, ulnar artery, motor branch of the median nerve to pronator teres. Radial bone periosteum was also included in excision. The second team raised based on descending genicular artery adductor magnus myotendinous flap. Thereafter adductor magnus tendon was reinserted in radial tuberosity with titanium tendon fixation device and sutured to the remaining biceps muscle. Microvascular anastomosis of descending genicular artery and proximal part of ulnar artery with accompanying veins was performed. The wound was closed with multiple Z-plasties over suction drain. Elbow was splinted in 90 degrees. Early post-surgical period was uneventful, and patient was discharged on seventh day. Final histological results revealed Grade 1 Myxofibrosarcoma T1N0M0 L-V-R0. The patient underwent adjuvant radiotherapy, that was uneventful. The elbow was immobilized in 90 degrees for 4 weeks, following 4 weeks of immobilization in 45 degrees. Further hand therapy in full range of motion was encouraged. Patient returned to all pre-surgical activities. In three years after the surgery, the patient has comparable range of motion and strength to other hand with no signs of tumour recurrence.

Conclusions
Limb-sparing soft tissue sarcoma excision with following functional reconstruction is the gold standard of treatment whenever possible. Novel use of the adductor magnus myotendinous free flap is a reasonable alternative to previously described techniques for reconstruction of distal biceps brachii tendon. It can be easily and safely harvested within the acceptable donor incision and gives reliable coverage of small- to medium-sized soft tissue defects with high functional outcomes.

Brief description of the abstract
Novel application of previously described technique with excellent functional outcomes is described. Patient presented with low grade myxofibrosarcoma in elbow, involving distal biceps tendon. The need of wide excision would lead to functional deficit, therefore one-stage reconstruction of distal biceps tendon with adductor magnus myotendinous free flap was performed. In 3 years after the surgery, range of motion and strength is comparable to the other hand with no signs of tumour recurrence.

O-47 Limbsalvage surgery for soft tissue sarcoma - a tailored approach combining surgery and postoperative brachytherapy

Track: Melanoma/soft tissue cancer
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Objective
Soft tissue sarcomas (STS) represent a rare group of tumors that are heterogeneous in character and arise from mesenchymal origin. Over 50 subtypes of STS have been described with the largest cohort arising from the extremities. Evidence on the use of brachytherapy in STS is sparse. Therapy regimens are determined more by local interdisciplinary tumor conferences than by standardized protocols.

Methods
We report results of a retrospective single centre study of difficult to treat limb STS were wide margin resection due to involvement of vital structures was considered unrealistic. Tumor splitting surgery aiming for minimal residual tumor with concurrent application of brachytherapy (BRT) followed by additional external-beam radiotherapy (EBRT) was performed in all of the patients. Surgery was performed by experienced sarcoma surgeons in all cases. For brachytherapy, catheters were placed intraoperatively in the tumor bed and loaded two to three days later with low-dose 192-iridium for three to five days followed by EBRT.

Results
The median age at diagnosis was 58 years (range 43-72) with an equal distribution between sexes. A recurrence-free state was achieved in all of the patients with a median follow-up of 20 months (range 4-48). Patients treated with BRT would leave the hospital within two weeks after having completed all treatment.

Conclusions
The administration of brachytherapy perioperatively appears to be associated with improved local control and a lower rate of recurrence in patients with difficult to treat STS. Although a wide margin resection should be aimed, limb-sparing surgery with tumor splitting to preserve vital structures with concurrent application of brachytherapy to the tumor-bed appears to give good local control and overall response.

Brief description of the abstract
The administration of brachytherapy perioperatively appears to be associated with improved local control and a lower rate of recurrence in patients with difficult to treat STS. Although a wide margin resection should be aimed, limb-sparing surgery with tumor splitting to preserve vital structures with concurrent application of brachytherapy to the tumor-bed appears to give good local control and overall response.

O-48 The preliminary results of the treatment of perianal fistulas with autologous fat grafting in Estonia

Track: Miscellaneous
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Objective
Perianal fistula is a chronic debilitating disease, the treatment of which is complex and the treatment results often dissatisfactory. Traditional surgical treatment modalities such as fistulectomy or fistulotomy, though effective in the treatment on certain types of fistulas, have a high risk of anal incontinence. Thus, safer methods, such as autologous fat grafting have been investigated. This pilot study was conducted on patients from two Estonian hospitals from 2021-2023 to assess the feasibility and effectiveness of the procedure.

Methods
Patients with complex perianal fistulas were selected for autologous fat grafting. All patients had previously been treated for perianal abscess and the fistula tract had been drained. Autologous fat grafting was done as a single step procedure. 70 - 250ml of abdominal fat was harvested using a blunt tip needle and a 20ml syringe. The lipoaspirate was decanted to extract oil and tumescent solution. The fistula tracts were curetted, and the internal rectal opening of the fistula was closed with a suture. Autologous fat tissue was grafted around the fistula tract. The follow up period has been from 1-18 months.

Results
At the time of surgery none of the eight patients had active inflammation or visible discharge from the fistula tract. 75% (6/8) of the patients had presented with a perianal abscess and had had drainage with or without Seton placement. Six patients had undergone previous fistula specific surgery (mucosal advancement flap or fistulectomy). Six out of eight patients experienced complete treatment response. One patient had a partial response (new fistula formation) with intent for a repeat procedure. One patient experienced treatment failure with no clinical improvement. The overall response to autologous fat transplantation was 87.5%. One patient had slight serous discharge from the fistula after surgery, one patient developed a small area of fat necrosis which was probably due to too large of a quantity of grafted fat in the area. No major complications were observed.

Conclusions
Autologous fat grafting is a promising, safe, and repeatable procedure. It is a simple one step operation with low cost and low complication rate.

Brief description of the abstract
This is a pilot study to assess the feasibility and effectiveness of autologous fat grafting in the treatment of perianal fistulas in two Estonian hospitals. The study included patients with complex fistulas, a majority of whom had had previous failed perianal fistula surgery. The preliminary results of this simple one step operation are promising with a good treatment response ratio and low complication rate.

O-49 First experience of VERSIUS robotic surgical system implementation in Vilnius University Hospital Santaros Clinics

Track: Miscellaneous
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Objective
On June, 2023, Vilnius University Hospital Santaros Clinics officially announced that it has acquired VERSIUS robotic surgical system (CMR, Cambridge, UK) and started performing robotic operations. VERSIUS surgical system was purchased with funding from the European Regional Development Fund. This system should not only improve outcomes of patients but is also more comfortable for the surgeons. It can be used while sitting or standing, allowing the surgeon to choose the most comfortable personal operating position. Rigorous training has been organized for surgeons and nurses to ensure the successful implementation of robotic system into the hospital's clinical practice. Our goal is to share the initial experience with robotic VERSIUS surgical system and evaluate its implementation in Vilnius University Hospital Santaros Clinics.

Methods
VERSIUS robotic surgical system consists of a surgeon console and 4 bedside units. Six different instruments, including a needle holder, a bipolar Maryland grasper, a fenestrated grasper, a monopolar hook, curved scissors, and monopolar curved scissors, can be used when attached to the bedside units. The system is mobile and can be easily transported from one operating room to another. To ensure efficient implementation of VERSIUS robotic system, training courses for surgeons and nurses were organized. They consisted of online theoretical training modules, a one-week learning course including technical skills training with simulator, and dry runs as well as cadaveric surgical cases. Furthermore, additional learning module included dry runs in the operating room prior to the first operations, following live and online proctored surgical cases. A total number of 32 persons were trained within the period of 3 months to gain sufficient skills to use VERSIUS robotic system, forming 8 independent teams, each consisting of 2 surgeons and 2 nurses.

Results
During the first 3 weeks of implementation process, 29 patients underwent robotic-assisted surgery. Abdominal surgeons performed 14 operations, including 2 right hemicolectomies, 8 cholecystectomies, 3 unilateral and 1 bilateral inguinal hernia repairs. Urologists used VERSIUS surgical system for 8 robotic-assisted prostatectomies, 1 robotic nephrectomy and 1 pyeloplasty. Gynaecologists performed 1 radical hysterectomy with pelvic lymphadenectomy, 1 subtotal hysterectomy, 1 cystectomy for endometrioid cysts and 2 cystectomies for ovarian cysts. All surgeries were without major complications and are considered a success. Subsequently, thoracic surgeons are underway to begin thoracic robotic-assisted surgeries, completing the multidisciplinary VERSIUS surgical system implementation at Vilnius University Hospital Santaros Clinics.

Conclusions
Robotic assisted surgery is the major step of advancement in laparoscopic surgical approach. The first weeks of VERSIUS surgical system implementation in Vilnius University Hospital Santaros Clinics have shown good initial outcomes as a significant number of operations have been performed during the first weeks of implementation. Abdominal surgeons, urologists, and gynecologists have already performed surgeries with the VERSIUS surgical system and no major complications have been reported. Thoracic surgeons are starting robotic operations to complete the multidisciplinary implementation process. Standardized precise learning courses are essential for fast and smooth introduction of robotic surgical system in clinical practice.

Brief description of the abstract
On June, 2023, Vilnius University Hospital Santaros Clinics started robotic-assisted operations using VERSIUS robotic surgery system and performed 29 robotic surgeries within the first 3 weeks. Comprehensive training courses for 16 surgeons and 16 nurses were accomplished for the successful implementation of VERSIUS robotic system. This system will help to achieve better outcomes of patients and is more comfortable for surgeons to use.

O-50 Reduction of migration and colony formation of pancreatic cancer in response to AHR modulation and gemcitabine treatment

Track: Miscellaneous
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Objective
The aryl hydrocarbon receptor (AHR) is a transcription factor that is commonly upregulated in pancreatic ductal adenocarcinoma (PDAC). AHR

overexpression in linked to increased tumour cell migration, invasion, cancer progression and aggressiveness. It can also be linked to gemcitabine resistance through AHR – Human antigen R (ELAVL1) - Deoxycytidine kinase (DCK) which plays a part in gemcitabine (GEM) phosphorylation and activation. With upregulated AHR expression the cells become more aggressive, motile and on top of that more resistant to gemcitabine through AHR-ELAVL1-DCK pathway. We hypothesize that targeting AHR synthesis reduces PDAC cell migration, colony formation and resistance to gemcitabine.

Methods
PDAC cell line (BxPC-3) was used for experiments. AHR gene was silenced for 24-hours by lipofectamine mediated siRNA transfection or completely knocked-out (KO) by CRISPR-CAS9 gene editing which was validated by Western Blot assay and DNA sequencing. Cells were treated for 48-hours with IC50 doses of gemcitabine previously determined for unmodified and AHR KO cell separately. Afterwards the cells were seeded into 24-well plates for scratch assay to determine migration. After 24 hours of seeding, a wound (scratch) was inflicted with a pipette tip and the cell growth medium was changed into medium without serum. The wells were photographed after making the wound and after 24 hours of incubation. Colony formation assay was performed by treating the cells for 48-hours with IC50 doses of gemcitabine and subsequently seeding the cells in low concentration into 6-well plates. After 7 days the colonies were fixed, stained and counted.

Results
The results of migration assay showed that the untreated cells and KO vector control cells almost fully covers the inflicted wound after 24-hours of infliction. Silencing of AHR gene caused the cells to migrate slower and cover only 36 % (+/- 12%) after 24 hours. Moreover, AHR KO covered only 37 %(+/- 23%) of the wound after 24 hours. Treatment of gemcitabine affected control cells in order to migrate slower and cover only 41%(+/-31%) of the wound. KO vector control cells were more sensitive to GEM treatment and covered 29% (+/-14%) of the wound. Silencing of AHR gene and treating cells with GEM greatly lowered cell migration capabilities – cells covered only 17 %(+/-8 %) of the wound. AHR KO cells treated with GEM had similar response as silenced cells covering only 19 % (+/-16 %) of the wound after 24 hours. The results of colony formation assay showed similar patterns as migration assay. Treating cells with IC50 doses of gemcitabine had an irreparable effect of cell colony formation – only 18 % (+/- 19 %) colony formation compared to untreated control. Vector control had similar response to GEM – 18% (+/- 22 %) colony formation. Silencing of AHR alone decreased colony formation to 19 % (+/- 7 %) compared to control and addition of GEM to AHR silenced cells decreased colony formation even further – to 4 % (+/- 4 %). When treating AHR KO cells with GEM there were almost no colony formation – only 1 % (+/- 1 %) compared to untreated AHR KO cells.

Conclusions
AHR gene is an important gene to PDAC cells in terms of migration and colony formation. Targeting AHR by silencing had adverse effect on cell migration and colony formation and increased the effects of gemcitabine. Completely knocking-out AHR gene lowered PDAC cell migratory capabilities and increased cell sensitivity to gemcitabine both in migration and colony formation. Targeting AHR in PDAC can prove to be a viable strategy allowing to reduce cell migration and colony formation which in turn lowers the risk of metastasis. On top of that targeting AHR can also reduce gemcitabine resistance which is a major problem is PDAC treatment.

Brief description of the abstract
AHR is often overexpressed in pancreatic cancer. This increases cell aggressiveness and can be linked to gemcitabine resistance. In vitro experiments show, that targeting AHR gene in cancer cells lowers their migratory abilities and colony formation. At the same time their response to gemcitabine treatment increases. This shows that targeting AHR can be a viable strategy in pancreatic cancer treatment both alone or in combination with gemcitabine treatment.

O-51 Nearest future endoscopic directions – how efforts will be made to fill gaps?

Track: Miscellaneous
1) Romualdas Maskelis, Lithuanian National Cancer Institute, Lithuania*

Objective
The GI endoscopy has undergone rapid and significant evolution in last two decades. Endoscopic procedures will remain the cornerstone in the GI practice and it will be result in continued high demand for endoscopic procedures. The Endoscopy Devices Market (EDM) and research providers value from 2017 to 2021 increased at around 7,6% per year, and in 2021 it was valued at 44,8 Billion USD, and according this tendency all EDM revenue would increase 2,3 X between 2022 and 2032 , reaching roughly in USD till the 113,8 Billion on 2032 year.

Methods
Today, for the next decade are distinquished four directions : Home testing (HT). Sequencing technologies (ST). Artificial intelligence (AI) Endo-Robotics (E-R). The breakthrough in DNA-based testing allow for in home screening of CRC has opened a new avenue in HT, making care accessible to large population. The declining cost of DNA sequencing we can expect on ST both diagnostics as well as data – developing therapeutics targeting the GIT microbiome. We will see an increasing move toward molecular diagnostics and patient selection for therapies based

upon predicted responses and outcomes. The future may also bring advances in cancer prevention, either with life style and behavioral change, chemoprevention or alteration of the microbiome. Since theses first two directions are non-interventional and non-surgical area , it would be appropriate to discuss them with fellow immunologists, genetics and pharmacologists at others conferences.

Results
AI & E-R). AI has already used in deep learning process to detect polyps and GI bleeding. The rapid accumulation of clinical imaging and data laying the path for precision medicine (video-presentation). But mainly hope for us to begin to see widespread application of AI- based models aimed at improving diagnosis and outcomes of GI diseases, such as well as early detection of GI cancers. The disruptive technologies, particularly genetics and molecular – based testing, may make a dent in routine endoscopic procedures, newer procedures and technologies like motorized enteroscopy (video-presentation). The endoscopic ultrasound interventions will continue to expand the gap between surgery and endoscopy. Defect closure and bleeding control devices will evolve to help conquer more complex endoscopic challenges and will be simpler to use in emergency situations. (Video-presentation). The current innovations will open the way for E-R for complex organ-sparing endoscopy surgery, nonthermal ablation and regenerative therapies for chronic GI diseases. The advances resection platforms into interventional endoscopy and R-E would have come of age and be firmly established by 2030, thereby transforming to the third – space endoscopy and the entire endo-surgery field (video-presentation).

Conclusions
My home message - I am excited to see what the next decade brings for GI surgery and our patients.

Brief description of the abstract
What we can to expect in the next decade in GI surgery? GI surgery and endoscopy will evolve into that will be increasingly specialized and patient - centered, driven by advances in technology.

Type of abstract: poster abstract

P-01 Preoperative localization of parathyroid adenomas with 18F-FCH PET/CT. First experience in East Tallinn Central Hospital

Track: Endocrine surgery
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2) Rein Rander, East Tallinn Central Hospital, General Surgeon, Endocrine Surgeon, Estonia
3) Eve Kelk, East Tallinn Central Hospital, Nuclear Medicine Physician, Estonia

Objective
Introduction Primary hyperparathyroidism (pHPT) is a common endocrine disorder, most often (80-85%) caused by single parathyroid adenoma, followed by multiglandular hyperplasia (10-15%), double adenoma (4-5%) and parathyroid cancer (<1%). Surgery is the only definitive treatment for pHPT. Vast majority undergo curative initial exploration, between 2 and 10% of patients develop persistent or recurrent disease after initial surgery. Reoperation is associated with higher complication and failure rate and should be planned only with convincing localization. Ultrasonography and 99mTc-sestamibi scintigraphy are the most commonly used techniques for initial imaging but first-line imaging modalities are less accurate in the reoperative setting because these patients can exhibit distorted anatomy, altered perfusion of remaining glands and interference of radiotracer uptake. 99mTc-MIBI SPECT/CT seems to be limited with a reported sensitivity of 30% to 80%. Four-dimensional computed tomography (4D-CT) with sensitivity 83-97% is superior to ultrasound and scintigraphy in localizing reoperative disease. Magnetic resonance imaging (MRI) is occasionally used as a second-line modality, in reoperative setting it has shown a sensitivity of up to 82%. During the last decades, the imaging techniques have rapidly developed in nuclear medicine. Previous studies have shown that hybrid imaging with positron emission tomography and computed tomography (PET/CT) were more sensitive than first-line imaging modalities and might provide the answers for patients with recurrent or persistent pHPT and non-localized parathyroid glands. 18F-fluormethylcholinechloride (18F-FCH) and 11C-Methionine have been introduced as the most promising radiotracers for pHPT imaging.

Methods
Between 2019 and 2022, 204 operations due to primary hyperparathyroidism were performed at the East Tallinn Central Hospital. After initial surgery seven patients (3,4%) had persistent disease. In one case ultrasound, 99mTc-MIBI SPECT/CT, 4D-CT and even 18F-FCH examinations did not recognize parathyroid adenoma. The adenoma was found during the full neck revision and was successfully removed. PET/CT with 18F-fluormethylcholinechloride (MAP Medical Technologies OY, Finland) was performed in these patients who had persistent disease and inconclusive first-line imaging. In 2019-2022, at East Tallinn Central Hospital An Endocrinologist ordered 18F-FCH from Finland and referred the patients to North Estonian Regional Hospital for Chol/PET studies (isotope ordered from Helsinki, choline half-life is 110 min). From the 1st of November 2022 the PET camera has been installed in East Tallinn Central Hospital and the examinations will take place in East Tallinn Central Hospital. PET/CT protocol: 18F-FCH dose 2 MBq/kg is injected to the patient intravenously, aquisition being started 60 minutes after administration. PET/CT scan of

the neck, chest, abdominal cavity and small pelvis will be performed (PET scan 18F labelled and CT scan in native: neck, lung, mediastinum, heart, chest, abdomen, pelvis, cervical spine, thoracic spine, lumbar spine).

Results
Case Report A 66-year-old female patient with pHPT was diagnosed in 2019 having the history of fatigue, renal stones and compression fractures in vertebraes. Ultrasonography showed an enlarged thyroid gland, especially the multinodular left lobe. Parathyroid adenoma was not found neither in ultrasound nor in scintigraphy. The Patient was operated on, the left lobectomy was performed. Postoperative histological examination revealed papillary thyroid cancer pT1a pN0. Four typical parathyroid localizations were checked and 3 normal parathyroid glands were estimated. A parathyroid adenoma (2x1,5 cm) was removed from the right anterior mediastinum. After the operation the Patient had a transient RLN paresis. Elevated PTH levels persisted after surgery. 3 months after surgery, 4D-CT and neck MRI were performed, both with inconclusive findings. Therefore a 18F-fluorocholine PET/CT scan was performed before the REDO surgery. There were two metabolically active nodules in the left side of the neck. (Figure 1). The Patient was reoperated and two more parathyroid adenomas were removed. Postoperatively the calcium and PTH levels have been normalized. The vocal cord function has been completely recovered.

Conclusions
Discussion Reoperation can be technically difficult due to scarring, altered anatomy of nerves and encasement of abnormal parathyroid glands in scar tissue following initial surgery. Because of the higher rate of complications and failure, accurate diagnosis before reoperation is important. Rates of inconclusive first-line imaging have been reported as high as 63 percent in the reoperative setting. 18F-FCH PET/CT was more sensitive than ultrasound, sestamibi scintigraphy and 4D-CT, and demonstrates strong potential for localizing persistent or recurrent disease with sensitivities between 80-100 percent and specificity of 95 to 100 percent. Potential advantages of the use of PET/CT compared to scintigraphy include the higher spatial resolution of PET tracers, resulting in the detection of smaller adenomas, and lower radiation burden. 4D-CT has a much higher radiation dose compared to 18F-FCH PET/CT. By contrast, the main advantage of 4D-CT is its wide availability. 18F-FCH PET/CT is a highly efficient but expensive imaging test, therefore it does not have a role in routine imaging for hyperparathyroidism and should be reserved for patients who have undergone previous surgery and in whom other imaging techniques have failed. The number of these patients is relatively small, but many earlier studies have shown that this technique may offer a good answer for this problematic group. Conclusion 18F-FCH PET/CT is a highly efficient imaging test for second-line modality in the reoperative setting, particularly when first-line modalities are discordant or inconclusive.

Brief description of the abstract
In 2019-2022, 204 operations due to primary HPT were performed at the East Tallinn Central Hospital, 7 patients had persistent HPT. We describe a case of a patient with triple parathyroid adenoma. Postoperatively was diagnosed persisting HPT with negative localization studies. 18F-FCH PET/CT was performed with positive results and the patient was successfully operated on. PET/CT is a highly efficient second-line modality in the reoperative setting, when first-line modalities are inconclusive.

P-02 Neck Oncological Endocrine Surgery in University Hospital

Track: Endocrine surgery
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Objective
This study aims to compare neck oncological endocrine surgery at a University Hospital with the European endocrine surgical registry Eurocrine. We analyze trends and outcomes in thyroid and parathyroid oncological operations over a seven-year period, focusing on the distribution of thyroid cancer, surgical procedures and postoperative results.

Methods
Retrospective analysis of patient data from our University Hospital's endocrine surgery unit over seven years included 610 thyroid and 11 parathyroid cancer operations. We collected data on patient demographics, preoperative findings (ultrasound TIRADS classification, cytological results by TBSRTC), types of operations and lymph node dissections, and postoperative complications. Comparative analysis was conducted against the Eurocrine registry, encompassing 3798 thyroid and 20 parathyroid oncological operations performed in 2022 across European surgical centers.

Results
Our University Hospital's endocrine surgery unit reported a higher proportion of papillary thyroid carcinoma (PTC) cases (87%) compared to the Eurocrine registry (84.4%). Follicular thyroid carcinoma (FTC) accounted for 5.8% in our unit and 6.2% in Eurocrine, while medullary thyroid carcinoma (MTC) represented 4.5% and 3.8%, respectively. Lymph node dissections performed in our unit aligned with Eurocrine, encompassing central and lateral neck dissections based on preoperative findings. Analysis of the types of operations performed revealed similarities between our unit and Eurocrine. Both datasets included total thyroidectomy and hemithyroidectomy as the primary surgical approaches for thyroid cancer. Parathyroidectomy was performed for parathyroid cancer cases in both datasets as well. Postoperative complications, including RLN palsy, parathyroid insufficiency, and reoperation due to hematoma, showed comparable rates between our unit and Eurocrine. This indicates alignment in surgical management and techniques, leading to similar complication rates.

Conclusions
This comparative analysis between our university hospital's endocrine surgery unit and the Eurocrine registry sheds light on neck oncological endocrine surgery trends and outcomes. Although slight variations in the distribution of thyroid cancer subtypes were observed, overall surgical approaches, including lymph node dissections and types of operations performed, aligned with European practices. Similar postoperative complication rates imply that our unit's techniques and perioperative care adhere to European standards. These findings contribute to the understanding of endocrine surgical practices, supporting ongoing improvements and standardization in this specialized field.

Brief description of the abstract
This study compares neck oncological endocrine surgery at a University Hospital with the European registry Eurocrine. Analysis shows alignment in cancer subtypes, operations, lymph node dissections, and complications. Findings underscore the importance of international surgical registries, especially for small countries, enabling benchmarking and enhancing endocrine surgical practices.

P-03 The first experience of laser ablation as an alternative treatment for thyroid cancer

Track: Endocrine surgery
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Objective
Over recent decades, there has been an increasing interest in thyroid cancer treatment approaches. International publications and treatment guidelines recommend the use of active surveillance instead of aggressive surgery for low-risk tumours. However, the patient's quality of life is impaired by the diagnosis of an oncological disease that is simply monitored. As a result, alternative treatments are constantly being sought to improve the patient's outcome and quality of life. The increasing availability of thermal ablation technologies such as laser ablation, which is successfully used in other malignant lesion treatment, has encouraged the exploration of the feasibility of applying these technologies to patients with thyroid cancer. The European Thyroid Association guidelines and an international multidisciplinary consensus statement of the American Head and Neck Society Endocrine Surgery Section, published in 2021, indicate that thermal ablation procedures could be an alternative treatment method for malignant thyroid nodules, avoiding surgical complications or hypothyroidism. According to the recommendations of the 2022 Expert Consensus on the use of laser ablation in the treatment of papillary thyroid microcarcinoma, laser ablation is indicated for small papillary thyroid carcinomas due to the precision of the laser ablation, the complete destruction of the tumour and the safety of the procedure. The aim of this study is to evaluate the feasibility and histological effect of laser ablation in patients with thyroid carcinoma.

Methods
Vilnius Regional Ethics Committee in February 2023 gave permission (No. 2023/2-1481-958) to conduct the experimental study. Patients, who were 18 years old and over, consent to participate in the study, were evaluated for TI-RADS III-V in ultrasound, and Bethesda V-VI in cytology, and whose

tumour size was up to 4 cm, were included in the study. Patients with ASA (American Society of Anesthesiologists) >3 or thyroid tumours other than of follicular origin as well as pregnant women were excluded from the study. Patients who met the inclusion criteria underwent a detailed thyroid ultrasound to assess whether laser ablation was feasible. If, after ultrasound evaluation, the patient was not suitable for laser ablation, ultrasound rejection criteria for laser ablation were established and the standard surgical treatment - thyroidectomy - was carried out. If laser ablation is safe for the surrounding structures, calcitonin was tested to rule out non-follicular cancers. After the normal results, under general anesthesia and under the control of the ultrasound, a core needle biopsy is taken, and laser ablation of the tumour node is performed at a wavelength of 1064 nm (power of 3 W). The standard surgery for thyroid tumour treatment - thyroidectomy - is then started. After the incision is made, neurostimulation of the nervus vagus is performed to ensure that the nerves have not been damaged during the laser ablation. Once the thyroid gland is removed, it is sent for histological examination.

Results
From February 2023, 10 patients have so far been enrolled in the study. 3 of them have undergone laser ablation and the remaining 7 were considered not suitable for laser ablation. The mean age of the patients undergoing laser ablation was 57.33 (±19.60) years and the mean age of patients excluded from laser ablation due to ultrasound evidence of unsafety was 47.71 (±16.00) years. The mean maximum thyroid nodule dimension in patients undergoing laser ablation was 18.93 mm (±5.8) while for the other group with no laser ablation – 16.67 mm (±5.91 mm). An 18 G diameter laser fiber was introduced into the node. Thyroid nodules were ablated according to the recommendations of the 2022 Expert Consensus Statement on the Use of Laser Ablation in the Treatment of Papillary Thyroid Microcarcinoma and the recommended parameters set by the laser manufacturers (Biolitec biomedical technology GmbH) at 3 W until the node seems coagulated echoscopically. There were no complications (intraoperative and postoperative) due to laser ablation. Histological examination of two thyroid glands (maximum node diameter – 22 and 24 mm) showed a zone of complete coagulation (carbonization) and thermal changes, which did not completely cover the entire area of the tumour tissue, and there was the tumour tissue that looked unchanged on histological staining. In the third patient (with a maximum nodal dimension of 10 mm), a zone of carbonisation was also observed and the hyperthermic lesions covered the entire tumour area.

Conclusions
We found that laser ablation is feasible in 30 percent of thyroid carcinoma patients in our experience. Of the patients, who underwent laser ablation, there remains the possibility of incomplete thermal effect on the tumour. To the best of our knowledge, this is the first study to evaluate the histological effect of laser ablation. Further studies are needed on the exact parameters, the coagulation technique, and the application of histological stains to assess the viability and possible reversibility of the cells in the hyperthermic zone.

Brief description of the abstract
Laser ablation was presented in the 2022 consensus as an alternative treatment for papillary thyroid microcarcinomas. In addition to laser ablation, our study continues to perform thyroidectomy and histological evaluation of laser ablation. Our initial findings suggest that histologically there remains an area of unclear tumour viability, which requires further study using histological stains.

P-04 Parathyroid carcinoma: an analysis of 10 consecutive patients treated in the Hospital of LUHS Kauno Klinikos

Track: Endocrine surgery
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Objective
Parathyroid carcinoma (PC) is considered a rare malignancy which accounts for less than 1% of hyperparathyroidism cases in reported literature. In B. C. James study there were only 348 cases of PC reported in SEER database 2000-2012, which compose 0,36 (per 1 million) incidence rate. PC occurrence is equal in men and women, while benign parathyroid diseases incidence is higher in women with ratio 3-4:1. Diagnostic criteria were established in 1973 by A. Schantz and B. Castleman which include thick fibrous bands, mitotic activity, vascular and capsular invasion in pathomorphological tests. The variations and pathognomic features are debated as there have been reported large series of patients with metastatic tumours of which as many as 50% were initially misdiagnosed as benign tumours, therefore preoperative diagnosis and staging is often incorrect or not available. Imaging techniques such as sestamibi scintigraphy and neck ultrasound are only used in localizing the parathyroid tissue preoperatively and >3cm size mass may raise suspicion of PC as denoted in Cetani study, however these techniques are in no way diagnostic of PC. This lead to diagnostic markers application such as Ki-67, Cyclin D1, which are more specific to PC than parathyroid adenoma. The course of disease is indolent and most deaths occur due to untreated complications of hypercalcemia. Ten cases of PC were treated in our hospital during the period of 17 years. This review focuses on our experience with the diagnosis, treatment and survival of the patients. Our aim was to review the demographics, diagnostics, treatment and outcomes of the patients, who were surgically treated for parathyroid carcinoma in the Hospital of

Lithuanian University of Health Sciences Kauno Klinikos. As large part of contemporary literature on the topic is referencing the older studies from the year 2000 and before, we think that a more recent standpoint can contribute to better understanding the PC.

Methods
The model of the study was retrospective. Data on demographics, initial symptoms, preoperative diagnostic blood tests and instrumental procedures, surgical operations, complications, postoperative blood tests, and histology of tumours was collected. The data concerning patients' survival was acquired from the Lithuanian National Cancer Institute's Cancer Registry.

Results
There were 10 patients who were treated surgically for parathyroid carcinoma. During the study period patients with PC accounted for 2,2 percent of all the patients with parathyroid gland pathology treated surgically in our clinic. Among PC patients there were 7 females, age distribution was from 54 – 74, mean – 64 years. Eighty percent of admitted patients suffered from complications. The most prevalent symptoms were renal function impairment, nephrolithiasis and subsequent pyelonephritis. Three patients had suffered from spontaneous bone fractures. Other common complaints included joint pain and malaise, hoarseness of voice.. Five patients had palpable disease at time of admission. One patient was asymptomatic (Table 1). Preoperative blood tests showed increased serum calcium 2,62-3,4 mmol/l (normal range (NR) – 2,15-2,55 mmol/l), ionized calcium 1,15-1,57 mmol/l (NR – 0,98-1,13 mmol/l), and PTH 23,91 – 210 pmol/l (NR – 1,2-5,3 pmol/l), which plunged to normal range after surgical treatment. All patients were tested with ultrasound and scintigraphy. Five fine needle aspirational (FNA) punctures of nodules were performed (Table 3). None of the tests were diagnostic of parathyroid carcinoma preoperatively, nevertheless 5 out of 5 cytology showed features of malignancy. En-bloc parathyroidectomies were performed on all patients with various extents of thyroid gland removal. The diagnoses of PC were confirmed with histologic tests. Most prevalent features included vascular invasion (70%), capsular invasion (60%) and presence of fibrous bands (60%). There were no cases with distant metastases at initial surgery and lymphonodectomies were not performed. Data from Cancer registry showed, that 8 out of 10 patients were alive (survivability ranging from 4 months to 16 years postoperatively). Two of the patients have deceased due to carcinoma of pancreas and thyroid gland 2 and 4 years respectively after the operation.

Conclusions
Parathyroid carcinoma has complex diagnostics and staging because of its rarity and lack of studies. Majority of PC patients present with hypercalcemia and its complications – renal insufficiency, nephrolithiasis. Palpable neck mass is prevalent in half of the patients. Lesser than 3,5 mmol/l values of serum calcium should not lessen the suspicion of PC. The outcome of non-metastasized PC is favourable when en-bloc resection of the tumour is performed.

Brief description of the abstract
Objective: Review the diagnostics, treatment and outcomes of the patients, who were surgically treated for parathyroid carcinoma in the Hospital of LUHS Kauno klinikos from 2003 to 2019. Conclusions: Majority of PC patients present with hypercalcemia and its complications – renal insufficiency, nephrolithiasis. Lesser than 3,5 mmol/l values of serum calcium should not lessen the suspicion of PC. The outcome of non-metastasized PC is favourable when en-bloc resection of the tumour is performed.

P-05 Minimally invasive surgery in the treatmnent for esophageal cancer

Track: Upper gastrointestinal tract malignancy
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Objective
Esophageal cancer represents a major public health problem worldwide. Several minimally invasive esophagectomy (MIE) techniques have been described and represent a safe alternative for the surgical management of esophageal cancer. The aim of this study was to investigate the safety, survival and complication rate after MIE.

Methods
Between 2018 and 2022, 60 patients with esophageal cancer underwent minimally invasive esophageal resection were treated in Hospital of Lithuanian University of Health Sciences Kauno klinikos. Demographics, comorbidities, complications and surgical technique were analysed.

Results
Forty-nine men and 11 women with an average age of 59.6 ± 10.19 years underwent MIE. 93% received neoadjuvant chemoradiotherapy before surgery. 76% of all patients have squamous cell carcinoma. The average operation time was 307 ± 43.9 min. The most common individual complication being pneumonia (44.4%). Anastomotic leak, conduit necrosis, conduit perforation in 14.8%, 3.7%, and 3.7% of cases, respectively. Clavien-Dindo complications ≥ III occurred in 20.4% of patients. There was no statistically significant difference in complication rate or operation time between MIE junction with linear or circular stapler. 2 patients died within 30 days, deaths related to Covid-19 infection.

Conclusions
Minimally invasive esophagectomies are safe operations with similar radicality and long-term survival as open esophagectomies. Minimally invasive esophagectomies are associated with a trend towards lower rates of cardiovascular and pulmonary complications and mortality.

P-06 Neoadjuvant intensified chemotherapy vs Standard Therapy in Locally Advanced Rectal Cancer

Track: Lower gastrointestinal tract malignancy
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Objective
The modern management of rectal cancers continues to evolve. This is a prospective single institution clinical trial (ClinicalTrials.gov Identifier: NCT05378919). Objective: To determine the differences in rates of pathologic complete response (pCR), mesorectal fascia (MRF) involvement, disease-free survival (2 year DFS) between patients receiving NIC vs standard CRT.

Methods
The study included patients with locally advanced stage II-III rectal cancer. Patients were randomized 1:1 for neoadjuvant concomitant chemoradiation or neoadjuvant intensified chemotherapy (FOLFOX4 regimen, a total of 8 cycles). 4-6 weeks after completion of treatment radiological examination was performed and the patients underwent surgery. For those from NIC arm who did not achieve MRF (neg.) additional concomitant chemoradiation was given before surgery. 85 patients (pts.) were included into the study and analyzed. The median follow-up of patients is 36 months (1-77 months). Both groups are well balanced: by age, sex, disease stage, MRF status.

Results
At baseline, MRF was involved in 21/42 patients (pts) (50%) in the NIC arm and in 25/43 pts (58%) in CRT arm.The pelvic MRI was performed after neoadjuvant treatment. Radiologically,MRF remained involved after initial treatment in 13/42 pts (31%) NIC group and 11/43 pts (26%) in the CRT group. Surgery was not performed in 5/42 pts.(12%) from NIC arm due to disease progression (1) or early deaths during neoadjuvant treatment (thromboembolism (2), stroke (1), covid-19 infection (1) and in 6/43 pts. (14%) in the CRT arm (1 pts.remained not resectable, 2 cases of disease progression, 3 refused surgery but one of them achieved a complete response). Additional neoadjuvant CRT was given to 7 / 42 pts. in the NIC arm. After this treatment, surgery was performed 6/7 pts. and R0 surgery was achieved. After surgery, circumferential resection margin (CRM) was involved in 2/30 pts. (7%) in NIC and in 3/33 pts. (9%) CRT groups with no statistically significant difference between these groups (p=0.6).pCR was achieved in 9/30 pts (30%) NIC group and in 12/33 pts. (36%) CRT group (not sig. diff.). After treatment in NIC arm, a reduction in the tumor stage (evaluated by radiologist) was observed in 5/42 (12%) pts, and in pathologists report – in 20/30 pts (67%). In CRT arm, radiological down staging was achieved in 12/43 pts. (28%) and pathologically in 24/33 (73%), but no statistical difference was observed.Two-year DFS was 66.7% and 80% in NIC and CRT groups, respectively (p = 0.2). Two-year overall survival (OS) did not differ statistically significantly between groups to. 14 patients have died during the follow-up period: 10/42 pts. (24%) in the NIC group, of whom 6/42 (14%) due to disease progression, 4/42 have died due to other reasons (thromboembolism (2), stroke (1), covid-19 infection (1)); 4/43 pts. (9%)have died in the CRT group: 2/43 (5%) due to disease progression, 2 have died due to other reasons (thromboembolism (1), pneumonia (1)); respectively (p = 0.071).

Conclusions
The preliminary findings of this ongoing prospective clinical trial did not show statistically significant difference in 2 year DFS and OS between neoadjuvant intensified chemotherapy and neoadjuvant concomitant chemoradiation arms but numerically chemoradiation arm was more benefitial.

Brief description of the abstract
Standard therapy for locally advanced rectal cancer includes concurrent chemoradiotherapy (CRT) followed by surgery and adjuvant chemotherapy. An alternative strategy - neoadjuvant intensified chemotherapy (NIC) involves administration of neoadjuvant chemotherapy (FOLFOX4) before surgery plus CRT (in those only who did not achieve MRF (neg.)) with the goal of delivering optimized systemic therapy to eradicate micrometastases. A comparison of these 2 approaches was the aim of study.

P-07 Serum tumour markers frequency in breast cancer patients

Track: Breast malignancy

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Objective

Tumour antigen 15-3 (CA 15-3) is a glycoprotein produced by normal breast cells. CA 15-3 production is markedly increased in women with breast cancer. CA 15-3 test can help determine whether the therapy is effective or to start treatment for recurrence. It is useful in determining the prognosis of breast cancer and it is shown that the serum concentration and the proportion of patients with elevated values of this marker tend to increase with the severity (stage) of the disease and/or size of the tumour. Tumour antigen 125 (CA 125) is a tumour marker found on most ovarian cell surfaces, but other tumours (such as breast cancer) can secrete it as well. It can be used to predict poor outcome and prognosis of breast cancer patients. Carcinoembryonic antigen (CEA) is a tumour marker for breast cancer and other cancers, it can help determine whether the therapy is effective or to start treatment for recurrence. Also, patients with advanced cancer or metastatic cancer may have higher CEA levels.

Methods

After patient selection from 692 patients altogether 160 patients with stage III or stage IV breast cancer were enrolled in the study. The selection of patients was carried out using Pauls Stradins Clinical University Hospital Oncology clinic multi-disciplinary tumour board conclusions in 2022. Then, using the laboratory data of the selected patients and the DataMed system, tumour markers and their numbers were determined. After selecting the necessary data, calculations were made to determine the percentage data of tumour markers in each stage.

Results

Of the 692 patients with breast cancer, 17.7% (n=123) were stage III and 6.5% (n=45) stage IV cancer. The average age of women with stage III and IV tumours was 45 years. Of 123 patients with stage III tumour, 75% had CA 15-3 tumour markers determined, of which 52% had elevated levels. Of the 45 patients with stage IV, 71% had CA 15-3 tumour markers determined, of which 48% had elevated levels. Of 123 patients with stage III tumour, 42% had CA 125 tumour markers determined, of which 17% had elevated levels. Of the 45 patients with stage IV, 53% had CA 125 tumour markers determined, of which 33% had elevated levels. Of 123 patients with stage III tumour 56% had CEA tumour markers determined, of which 13% had elevated levels. Of the 45 patients with stage IV, 55% had CEA tumour markers determined, of which 36% had elevated levels.

Conclusions

In general, the CA15-3 marker was both more common and more elevated in breast cancer than the CA125 and CEA markers. CA15-3 marker was increased in stages III and IV in almost half of the patients. The CA 125 marker was more elevated in stage IV than in stage III breast cancer. CEA was the least common and least elevated tumour marker in breast cancer patients. It was more increased at stage IV than at stage III.

Brief description of the abstract

Tumour markers CA 15-3, CA 125 and CEA are found in breast cancer patients. In general, the CA15-3 marker was more common and more elevated in breast cancer than the CA125 and CEA markers. CA15-3 marker was increased in stages III and IV in almost half of the patients. The CA 125 marker was more elevated in stage IV than in stage III breast cancer. CEA was the least elevated tumour marker in breast cancer patients.

P-08 Prognostic Role of SPOCK2 mRNA Expression in Breast Cancer

Track: Breast malignancy

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Objective

Breast cancer is the most common cancer in women worldwide. In breast cancer, biomarkers such as estrogen receptor (ER), progesterone receptor (PR), and human epidermal growth factor receptor 2 (HER2) play an important role in prognosis and treatment decisions. Other than ER, PR, and HER2, there could be other genes that would play an important prognostic role in breast cancer. Accurate prognosis is of great importance for the efficacy of treatment for breast cancer patients, thus accurate biomarkers are needed. SPARC (Osteonectin), cwcv and kazal like domains proteoglycan 2 (SPOCK2) gene is located at 10q22.1 and consists of 14 exons. SPOCK2, also known as testican-2, which is a member of the SPOCK gene family encodes a protein that binds to glycosaminoglycans to form part of the extracellular matrix. In previous studies, SPOCK2 is known to be associated with ovarian cancer, lung adenocarcinoma, endometrial cancer, and prostate cancer. However, the prognostic role of SPOCK2 in breast cancer is still unclear. A previous study has shown that SPOCK2 is a candidate biomarker for breast cancer with the combination of EGFR4 or TOX. Another previous study has reported SPOCK2 overexpression is associated with brain metastasis of primary breast cancer. The Cancer Genome Atlas (TCGA) Research Network has discovered molecular aberrations of a large number of human tumors such as DNA, RNA, protein, and epigenetic levels. There are also comprehensive molecular portraits of breast cancer including invasive ductal breast cancer and invasive lobular breast cancer in the TCGA database. Therefore, in this study, we investigated the prognostic role of SPOCK2 mRNA expression in breast cancer using the TCGA database.

Methods

TCGA database was acquired from cBioportal (https://cbioportal.org). The dataset includes clinical data on 1,097 patients and their mRNA microarray, RNA sequencing (RNA-seq), linear-copy number alteration (CNA), nonlinear-CNA, methylation, and reverse-phase protein array (RPPA). We utilized the RNA sequencing version 2 (RNA-seq V2) expression median data in the TCGA database The mRNA expression level of SPOCK2 was classified as low vs. high based on the median value of 'RNA-seq V2 expression median'. Accordingly, the patients were divided into two groups based on the SPOCK2 mRNA expression level. TNM categories and anatomic stage was described according to the breast cancer staging system of the American Joint Committee on Cancer. The estrogen receptor (ER) or progesterone receptor (PR) status was described according to the result of immunohistochemical test. The hormone receptor (HRc) status was defined as positive if the immunohistochemical test for either ER or PR status was positive. The human epidermal growth factor receptor 2 (HER2) status was defined according to the results of immunohistochemical test and in situ hybridization assay. The breast cancer was classified into 4 different subtypes according to the statuses of HRc and HER2 as follows: HRc(+)/HER2(−), HRc(+)/HER2(+), HRc(−)/HER2(+), and HRc(−)/HER2(+). The overall survival (OS) indicates the number of months from time of initial diagnosis to time of death or last follow up. The disease-free survival (DFS) indicates the number of months from time of initial treatment to time of recurrence or progression. Kaplan-Meier estimation was used to analyze survival rates regarding OS and DFS and a log-rank test was used to determine the significance of the difference between the survival curves. For the univariate and multivariate analyses, the Cox proportional hazards model was used to calculate the hazard ratio (HR) and the 95% confidence interval (CI).

Results

The total number of subjects was 1,093 and their mean age was 58.4 ± 13.2 years (median, 58.0 years; range, 26-90 years). The mean follow-up durations for OS and DFS were 40.91 ± 39.12 months (median, 27.70 months; range -0.23-282.69 months) and 37.11 ± 35.35 months (median, 24.70 months; range -0.23-281.08 months), respectively. The subjects with low and high expression level of SPOCK2 mRNA were 546 (50.0%) and 547 (50.0%) respectively. In TCGA dataset, the high SPOCK2 mRNA expression group showed both favorable OS ($p<0.001$) and DFS ($p=0.014$) compared to the low SPOCK2 mRNA expression group. The group with high expression of SPOCK2 mRNA showed superior OS for HRc(+)/HER2(-) ($p=0.026$) and HRc(+)/HER2(-) subtype ($p<0.001$). Furthermore, the high SPOCK2 mRNA expression group showed better DFS for HRc(+)/HER2(+) subtype ($p=0.004$). The expression level of SPOCK2 mRNA was a strong significant prognostic factor for OS in the univariate analysis (HR, 0.575; 95% CI, 0.414-0.799; $p=0.001$). In multivariate analyses, the SPOCK2 mRNA expression level was an independent significant prognostic factor in both Model 1 (HR, 0.654; 95% CI, 0.452-0.944; $p=0.023$) and Model 2 (HR, 0.661; 95% CI, 0.459-0.951; $p=0.026$). In addition, the SPOCK2 mRNA expression level was a significant prognostic factor for DFS in the univariate analysis (HR, 0.631; 95% CI, 0.435-0.915; $p=0.015$). The SPOCK2 mRNA expression level was also a strong independent prognostic factor according to the multivariate analyses in both Model 1 (HR, 0.577; 95% CI, 0.384-0.867; $p=0.008$) and Model 2 (HR, 0.586; 95% CI, 0.391-0.879; $p=0.010$). High SPOCK2 mRNA expression was a significant favorable prognostic factor for OS in all of the subjects and its favorable prognostic value was statistically significant regardless of the age and PR status.

Conclusions

We attempted to determine the prognostic role of SPOCK2 mRNA expression in breast cancer based on the TCGA database in this study. Regarding both OS and DFS, the high SPOCK2 mRNA expression group was significantly associated with a more favorable prognosis when compared to the low SPOCK2 mRNA expression group. According to the subtype analysis, the prognostic role of SPOCK2 mRNA expression level was effective in OS of HRc(+)/HER2(-) and HRc(+)/HER2(+) subtype and in DFS of HRc(+)/HER2(+) subtype. Moreover, the SPOCK2 mRNA expression level was proven to be a significant independent prognostic factor in univariate analysis and multivariate analyses. The present study is the first to confirm that the expression level of SPOCK2 mRNA greatly affects breast cancer prognosis. Although the high expression level of SPOCK2 is proven to be a favorable prognosis factor in this study, the exact mechanism of SPOCK2 is unclear. A previous study reported that SPOCK2 is related to the regulation of MT1-MMP and MMP2 in endometrial cancer. Also, several previous studies reported that upregulation of SPOCK2 inhibits cell proliferation, invasion, adhesion, and apoptosis and downregulation of SPOCK2 promotes cell proliferation, invasion, and adhesion of endometrial epithelial cells. These previous studies suggest the mechanism of SPOCK2 expression in cancer development. With some limitations of this study, further studies are needed to elucidate the exact mechanism for the prognostic impact of SPOCK2 mRNA expression. Furthermore, we hope to conduct the research using tissue microarrays and immunohistochemistry in the near future so that the SPOCK2's prognostic value in protein level and the usefulness of SPOCK2 as a biomarker in real clinical settings can be revealed. Still, this study suggests that the expression level of SPOCK2 mRNA may be a useful biomarker and therapeutic target for breast cancer prognosis and treatment.

Brief description of the abstract

We attempted to determine the prognostic role of SPOCK2 mRNA expression in breast cancer based on the TCGA database in this study. Regarding both overall survival and disease-free survival, the high SPOCK2 mRNA expression group was significantly associated with a more favorable prognosis when compared to the low SPOCK2 mRNA expression group. The SPOCK2 mRNA expression level was proven to be a significant independent prognostic factor in univariate analysis and multivariate analyses.

P-09 Current trends of small cell lung cancer epidemiology in Latvia and worldwide

Track: Lung cancer

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Objective

Small cell lung cancer (SCLC) is an extremely aggressive, smoking associated disease with poor prognosis. No studies in Latvia have previously analyzed the epidemiological characteristics of SCLC patients. The aim of this study was to provide information on SCLC epidemiology for comparison of Latvian and worldwide data, as well as for a reference for the prevention of SCLC in Latvia.

Methods

The epidemiological characteristics of SCLC patients using available data from population cancer registry and single hospital study in Latvia between 2010 and 2017 were analyzed. Published worldwide data reporting on SCLC patients in cancer registries and information derived from single- or multi-center studies was used for comparison.

Results

SCLC was about 11% of all lung cancers in 2010 - 131 patients, men mostly (106 men; 25 women), as compared to approximately 8% in 2017 - 94 patients (74 men; 20 women). The incidence of small cell lung cancer in Latvia is declining mainly in men - the annual incidence was 11.0 in 2010 and 8.3 per 100 000 - in 2017; in women it remained virtually unchanged - 2.2 in 2010 and 1.9 per 100 000 - in 2017. 95% of patients were over 50 years of age, with 65-69 years being the most common age of onset. Centralized data on stage distribution and mortality are not available for small cell lung cancer in Latvia. Extrapolation of information from the single center in Pauls Stradins Clinical University Hospital (PSCUH) data analysis is possible. In 2012, 58 primary small cell lung cancer patients were treated in PSCUH out of a total of 152 primary cases detected in Latvia in 2012. Limited stage (without distant metastases) was found in 25 patients (43%) and extensive stage (with distant metastases) - in 33 patients (57%). SCLC stage distribution was similar in published reports from US, Spanish and Korean populations. Published mortality data in Latvia available only from one single center retrospective study with 100 SCLC patients at the PSCUH in 2006-2009. The median overall survival (mOS) for the patients with limited stage was 10.2 months, 1-year survival - 42%, 2-year survival - 14%, 3-year survival - 6%, and for patients with extensive stage the mOS was 7.1 months, 1-year survival - 27%, 2-year survival - 0%. Survival data are close to reported in published reports from US, Spanish, Korean and Japanese populations.

Conclusions

Incidence, demographic, clinical and survival data on SCLC in cancer registries are scarce. As the proportion of smokers in populations shrank, the incidence of small cell lung cancer in Latvia and worldwide has slightly declined over the last 10 years. When analyzing the incidence of small cell lung cancer by gender, mostly men are affected in majority of countries around the world, as it is in Latvia. However in some populations (Canada, Sweden and white residents in the USA) proportion of women among SCLC patients currently is almost as high as men, most probably reflecting changing gender distribution among smokers. Survival of small cell lung cancer patients worldwide has not improved significantly in the last 15 years and remains low, with median survival of 8 - 9.5 months in overall population and the 2-year survival rate around 15%.

Brief description of the abstract

Small cell lung cancer (SCLC) is an extremely aggressive, smoking associated disease with poor prognosis. No studies in Latvia have previously analyzed the epidemiological characteristics of SCLC patients. The aim of this study was to provide information on SCLC epidemiology for comparison of Latvian and worldwide data, as well as for a reference for the prevention of SCLC in Latvia.

P-10 Prevalence of PD-L1 Expression Among Patients With Non–Small-Cell Lung Cancer stage III-IV one center experience

Track: Lung cancer

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3) Anastasija Vasečko, Student, Latvia

Objective

Lung cancer is the primary cause of cancer-related deaths worldwide. PD-L1 is prognostic and potential predictive biomarker for sensitivity to immune checkpoint blockade. Determination of the level of PD-L1 expression and a personalized approach to the selection of therapy based on the results of immunohistochemical examination make it possible to make the treatment of non-small cell lung cancer patients more effective and safer in the 1st line of therapy. The aim of this work is to determine the percentage distribution or the ratio between three groups of PD-L1 levels in our selected patients with non-small cell lung cancer stage III and IV - for which PD-L1 is negative or below 1%, positive - PD-L1 1-49%, high positive - PD-L1 > 50%. This gives the opportunity to better understand the patient's prognosis and apply the treatment options to each case and indicates whether the treatment will be effective.

Methods
In total, 98 patients ≥18 years with histologically comfirmed stage III-IV NSCLC from Pauls Stradiņš Clinical University Hospital Oncology clinic were included in this study. The section of patients was established using oncological councils in 2022 I-XII. Selection criteria: non-small cell lung carcinoma stage III-IV, excluding patients with ECOG-3/4. PD-L1 expression was assessed by immunohistochemistry. Surgical or biopsy material from a primary or metastatic tumor can be used for testing. The assessment is performed by calculating the ratio of tumor cells with positive membrane staining to the total number of tumor cells (TPS - tumor proportion indicator), the result is expressed as a percentage from 0 to 100. The following groups are distinguished according to the level of PD-L1 expression: negative and positive expression, depending of the number of stained cells. The results are found from laboratory data and DataMed system. Expression levels were independently evaluated and it should be determine to choose the best treatment. Then, calculations and charts were made to determine percentage data of PD-L1 expression.

Results
A total of 98 patients were included in study. Of the all patients: 61% were in stage III and 39% in stage IV. The most common histologic type was (48%) squamous cell carcinoma, second (46%) adenocarcinoma, 6% was not differentiated. Metastases are most often observed in the lungs, lymph nodes, pleura, bones, brain and liver, rarely in adrenal glands, kidneys, pericardium, chest. Of the 98 patients with NSLSC, positive PD-L1 expressions were seen in 63%. Overall, 30% of patients had TPS< 1%, 39% a TPS of 1-49%, 24 % a TPS >50%. Dividing into subgroups- 47 patients with squamous cell carcinoma had 26% a TPS< 1%, 45 % a TPS of 1-49%, 23 % a TPS >50%. 45 patients with adenocarcinoma had 31% a TPS< 1%, 36 % a TPS of 1-49%, 27 % a TPS >50%. Analyzing the date from the hospital average waiting time until therapy was 24 days.

Conclusions
In general, conducting PD-L1 examinations in patients with non-small cell lung cancer is very informative and important, as it provides the physician with useful and important information about treatment options, expected treatment outcome and prognosis for a particular patient. Analyzing the data from Pauls Stradiņš Clinical University Hospital Oncology clinic Latvia stage III-IV NSCLC in 2022 - one year average percentages of patients with PD-L1 TPS ≥ 50% and TPS ≥ 1%, respectively were 24%/63%. It should also be added that the results obtained in our study were similar to the statistics in other studies on PD-L1 levels in patients with non-small cell lung cancer worldwide. Percentages of patients with PD-L1 TPS ≥ 50% and TPS ≥ 1%, respectively were: 22%/52% in Europe; 22%/53% in Asia Pacific; 21%/47% in the Americas, and 24%/55% in other countries.

Brief description of the abstract
In local one center study was analyzed the prevalence of non–small-cell lung cancer (NSCLC) III-IV stage with PD-L1 tumor proportion score (TPS) of ≥ 50%, 1-49% and <1% negative. The prevalence of PD-L1 expression was similar across geographic regions- patients with PD-L1 TPS ≥ 50% and TPS ≥ 1%, respectively were 24%/63%. Of the 98 patients with NSLSC, positive PD-L1 expressions were seen in 63%. Overall, 30% of patients had TPS< 1%, 39% a TPS of 1-49%, 24 % a TPS >50%.

P-11 The effect of aryl hydrocarbon receptor on immune response after hyperthermic intraperitoneal chemotherapy and cytoreductive

Track: Miscellaneous
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Objective
Cytoreductive surgery (CRS) combined with hyperthermic intraperitoneal chemotherapy (HIPEC) is now used as an effective strategy in patients with peritoneal carcinomatosis. The main origin of metastatic spread into peritoneal cavity is gastrointestinal or ovarian cancer. It is known that CRS-HIPEC is a double hit of surgical trauma, which causes inflammatory response, the development of immune suppression and worsens patients' recovery. Aryl hydrocarbon receptor (AHR) is the transcriptional factor which plays an important role in the regulation of immune response. However, there is no data about suppression of immunity and changes of AHR expression after CRS-HIPEC trauma. AHR regulation could be one of the additional strategies for immune function recovery. The aim of this study was to identify the effect of AHR on immune response after CRS-HIPEC trauma in peritoneal carcinomatosis patients.

Methods
PBMCs from 10 patients (H) with confirmed diagnosis of gastric or ovarian cancer and 20 healthy controls (C) were obtained from venous blood and isolated by Ficoll-Paque gradient centrifugation. Blood was taken for the study before surgery (1st point), after surgery 2nd -3rd day (2nd point) and 4th -8th day (3rd point). Expression of AHR, HO1, IL1b, IL4, IL6 and IL10 genes were evaluated by qRT-PCR. Free IL1b, IL4, IL6 and IL10 cytokines were measured in sera with enzyme linked immunosorbent multiplex assay. Monocytes differentiation was evaluated by FACS analysis. Fluorometric assays were used to measure phagocytosis and ROS production activity after stimulation by LPS and TBHP. Statistical analysis was performed using GraphPad software and data presented as medians.

Results
Our results showed that before treatment, expression of AHR (H-1=1.3; C=0.93) and IL10 (H-1=1.3; C=1) mRNA were increased in HIPEC patients' PBMC compared to healthy controls. AHR (H-2=0.64; H-3=0.84) mRNA expression decreased after surgery but at last measure point AHR expression increased, however was still downregulated. mRNA expression of IL1b (H-1=0.65; H-2=0.98; H-3=0.7; C=1.01) and HO1 (H-1=0.86; H-2=1.33; H-3=0.95; C=0.90) was increased temporally at the 2nd point of measure. While free protein of IL1b (H-1=120pg/ml; H-2=114pg/ml; H-3=121pg/ml; C=120pg/ml) was opposite decreased at 2nd point of measure. mRNA expression of IL6 (H-1=0.67; H-2=0.63; H-3=0.38; C=0.92) and free protein concentration (H-1=49pg/ml; H-2=44pg/ml; H-3=36pg/ml; C=35.3pg/ml) decreased gradually after surgery. mRNA expression of IL4 (H-1=0.31; H-2=0.41; H-3=0.67; C=0.99) increased gradually after surgery. While free protein of IL4 (H-1=98pg/ml; H-2=105.5pg/ml; H-3=104pg/ml; C=109pg/ml) and IL10 (H-1=52pg/ml; H-2=56pg/ml; H-3=53pg/ml; C=51.5pg/ml) increased shortly at 2nd point of measure. Cell sorting showed that M1 (Classical) monocytes in cancer patients were increased compared to healthy donors but gradually decreased after surgery (H-1=84%; H-2=82%; H-3=75%; C=74%). Ratio changes of M2 (H-1=3%; H-2=4%; H-3=3%; C=2%) were increased mostly at 2nd point of measure. Non-activated monocytes increased on the last point after surgery (H-1=6%; H-2=4%; H-3=10%; C=10%) and were equal to healthy control. Phagocytosis (H-1=110%; H-2=110%; H-3=94%; C=107%) decreased the most at the last point of measure. While ROS (H-1=105%; H-2=100%; H-3=110%; C=107%) production increased at this point.

Conclusions
Downregulation of AHR expression and upregulation of cytoprotective HO1 expression after the 2nd -3rd day of surgery induced immunosuppression. Immunity disbalance appeared through cytokines dysregulation gradually after surgery. Also, monocytes were less differentiated after 4th -8th day of surgery. Therefore, phagocytosis was weakest, but ROS production was most activated at last point. Nevertheless, direct PBMC' AHR upregulation immediately after surgery could be an additional strategy for better recovery of peritoneal carcinomatosis patients.

Brief description of the abstract
CRS-HIPEC is a double hit of surgical trauma, which causes immunity disbalance and worsens recovery. AHR plays an important role in the regulation of immune response. However, there is no data about suppression of immunity and changes of AHR expression after CRS-HIPEC trauma. AHR regulation could be one of the additional strategies for immune function recovery. The aim of this study was to identify the effect of AHR on immune response after CRS-HIPEC trauma in peritoneal carcinomatosis patients.

P-12 Erysipelas and cellulitis are not surgical diseases

Track: Miscellaneous
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Objective
Erysipelas and cellulitis are frequent skin and subcutaneous tissue infections. Clinical presentation of the two diseases is quite similar, therefore the diagnoses can be used interchangeably in many cases. In both diseases there is a risk for the development of complications which may need surgical attention. As the rate of complications was high during the pre-antibiotic era, erysipelas/cellulitis were considered as surgical diseases. Nowadays, most cases can be treated conservatively and surgical intervention is rarely required. In Europe, the approach to the in-patient treatment of erysipelas/cellulitis varies: the patients may be treated in a surgical ward as well as in departments of internal or infectious diseases or dermatology. In Estonia, traditionally, most of the erysipelas/cellulitis patients are hospitalized in surgical units. This may result in fewer hospital beds being available for patients requiring surgery, longer waiting lists and excessive workload for staff. Our goal was to describe the erysipelas/cellulitis cases hospitalized in the East-Tallinn Central Hospital (ETCH) surgical department in 2016-2020 and estimate the surgical activity. We also aimed to explore the case's characteristics at admission that predict the need for surgical intervention.

Methods
The retrospective cohort study used the data from the hospital's clinical database. The search was limited to the cases hospitalized at the ETCH General and Oncology Surgery Center from January 1, 2016, to December 31, 2020, with diagnoses of erysipelas or cellulitis (ICD-10 codes A46, L03). Data retrieved described the diagnosis based on the ICD-10, patient gender, comorbidities, and age at hospitalization, the severity and stage of the disease during hospitalization, the course of the disease, consultations and treatment procedures during the hospital stay, the duration and end of hospitalization. The data were analyzed with Stata14.2 tools. Absolute figures and percentages were used to describe categorical and grouped data. Chi-square and Fisher's exact test were used to compare groups formed on the basis of surgical treatment and progression to the necrotic stage. The odds of surgical treatment and development of the necrotic stage based on the characteristics assessed at admission were compared using adjusted logistic regression. The association was considered statistically significant at a p-value <0.05.

Results
There were 270 cases of erysipelas/cellulitis in 243 unique patients. In 78% of cases, the diagnosis was erysipelas; limb cellulitis was diagnosed in

58 cases and facial cellulitis in 1 case. 53% of the cases were men and in 46% of cases the age of the patients was between 60-79 years. 68% had at least one of the comorbidities associated with an increased risk of erysipelas/cellulitis. 72% of the cases were in the erythematous stage on arrival and the blistering and necrotic stages were present in 46 and 29 cases, respectively. Consultations from other specialties were necessary in 47 cases. Primary antibacterial therapy was applied in all cases and a change of antibiotic was required in 59 cases. Surgical treatment was applied in 29 cases. Surgical activity during the entire observed period was 11%, varying from 7% in 2019 to 15% in 2020. The most frequent surgical procedure was abscess incision (19 cases). Necrotomy was performed in four cases, wound debridement and skin grafting in three cases each. Amputations at different levels of the lower extremity were performed in five cases. The duration of hospitalization was between 0-9 days. The median length of hospitalization for conservatively and surgically treated patients was 5 and 9 days, respectively. In total, the number of hospitalization days for erysipelas/cellulitis treated non-surgically and surgically in 2016-2020 were 1455 and 387, respectively. Multiple logistic regression showed higher odds of surgical treatment on arrival in patients with necrotic stage (compared to patients with erythematous stage OR=17.2, 95%CI 5.9-50.7, p<0.001), men (compared to women OR=5.3, 95%CI 1.6-16.7, p=0.007) and members of the youngest age group (compared to the age group 60-79 years OR=4.1, 95%CI 1.0-16.1, p=0.046). Compared to women, men hospitalized in the erythematous or bullous stage of the disease have higher odds of developing necrosis (OR=11.1, 95%CI 1.2-100.0, p=0.033).

Conclusions
Most of the hospitalized patients with erysipelas/cellulitis do not require surgical interventions and can be successfully treated with antibiotics and alleviation of comorbid conditions. Admission of those to a surgical unit then results in a considerable bed load which comes at the expense of patients requiring surgery. In ETCH 2016-2020, surgical activity on erysipelas/cellulitis was 11 %. The majority of the procedures were abscess incisions performed under local anesthesia, which could also be easily executed in non-surgical wards. We advise to review the Estonian policy of admitting erysipelas/cellulitis cases for in-patient care uncritically to surgical departments. Based on our results, we suggest reserving the surgical beds for patients with necrotic disease at presentation. Factors that can be used to predict the disease progression to the necrotic stage during hospitalization should be assessed further on larger samples.

Brief description of the abstract
Our study addresses erysipelas/cellulitis, an infection of skin and subcutaneous tissue, which in Estonia is traditionally treated in surgical units. We demonstrated that most of the hospitalized patients with erysipelas/cellulitis do not require surgical interventions and can be successfully treated with antibiotics and alleviation of comorbid conditions. We advise to review the Estonian policy of admitting erysipelas/cellulitis cases for in-patient care uncritically to surgical departments.

P-13 Cytoreduction and hyperthermic intraperitoneal chemotherapy in patients with pseudomyxoma peritonei syndrome

Track: Miscellaneous
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Objective
Pseudomyxoma peritonei is a rare condition characterized by mucinous ascites and peritoneal deposits that arise most often from a perforated mucinous tumour of the appendix. The mucus and the cells contained within are distributed throughout the peritoneal cavity. The peritoneal carcinomatosis index (PCI) is used to assess the disease extensity. Despite the estimated incidence of approximately one per million per year or 2 per 10'000 laparotomies, the disease is associated with high mortality if not treated properly. The current treatment involves resection of as much of the tumour as possible (cytoreduction or CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC). Even in experienced centers, the 30-day postoperative mortality rate is up to 10%, whereas 25-35% of patients will develop serious complications. The main objective of this study was to assess the management of pseudomyxoma peritonei in the Surgical Oncology clinic in Latvian Oncology center since CRS and HIPEC were introduced in our department as the treatment approach for these patients.

Methods
The study involved a retrospective case note gap analysis of eight patients with a histologically proven low-grade or high-grade appendiceal mucinous neoplasia and a clinical diagnosis of pseudomyxoma peritonei syndrome who underwent surgical management in Latvian Oncology center between January 2021 and March 2023. Descriptive statistics were used to summarize and analyse the perioperative data in order to assess our performance and improve further management pathway.

Results
Among the eight patients in the study, six were female and two were male with the median age being 61.5 years (SD=10.4 years). The median

hospital stay was 17.5 days (SD=5.9 days), including a median ICU stay of 6.5 days (SD=5.3 days), with the longest being 20 days. Four patients experienced significant complications that presented as bilateral pneumonia. Unfortunately, there was one death among those with complications, however, the patient had a history of chronic myelomonocytic leukemia that exacerbated in the postoperative period; she developed fungal pneumonia and sepsis as a result of acute immunosuppresion. Another patient developed asymptomatic covid-19 respiratory infection. The median operative time to perform CRS and HIPEC (60 minutes with mitomycin-C, 43°C) was 700 minutes (SD=160 min; longest: 865 min; shortest: 295). The patients involved in this study had a median PCI of 27 (SD=7.6; largest: 30; smallest: 11). Completeness of cytoreduction score of 0 (CC-0) was acchieved in four patients. As of March 2023, there is no evidence of disease progression in the seven patients who were discharged postoperatively.

Conclusions
CRS and HIPEC is an extensive surgical procedure, and appropriate candidates must have a good performance status. Recognizing the low number of patients undergoing treatment as expected according to the rare incidence of the disease, and keeping in mind the morbidity and mortality rate, multidisciplinary approach to managing these patients throughout the whole perioperative period is of utmost importance. An enhanced management pathway for patients with pseudomyxoma peritonei should be introduced with an emphasis on specialist perioperative care training.

Brief description of the abstract
Pseudomyxoma peritonei is a rare condition characterized by mucinous ascites and peritoneal deposits that arise most often from a perforated mucinous tumour of the appendix. The current treatment involves cytoreduction and hyperthermic intraperitoneal chemotherapy. Keeping in mind the low number of patients undergoing treatment and acknowledging the extensive surgical procedure, multidisciplinary approach is of utmost importance with an emphasis on specialist perioperative care training.

P-14 ERCP induced iatrogenic duodenum or bile duct injury

Track: Miscellaneous
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Objective
To estimate the frequency of iatrogenic duodenum or bile duct injury following ERCP and evaluate the methods and results of the treatment.

Methods
The study was retrospective observational. Subjects' selection was done by targeted selection method. Data of patients who underwent ERCP procedure from 2017.09.01 to 2022.09.01 was collected and analyzed.

Results
4970 cases were analyzed. Iatrogenic duodenum or bile duct perforation occurred in 20 patients (0.4%). There were 3 cases type II or III perforation according to Stapfer (all of them treated conservatively) and 17 cases – type I. 2 cases were already diagnosed during ERCP and both were clipped endoscopically. The remaining 18 cases were diagnosed by means of CT imaging. It is worth to mention that in majority of cases (18), during the initial phase of ERCP cannulation was unsuccessful and additional steps were taken during the procedure. 9 cases were treated conservatively, 11 – underwent surgery. Overall mortality rate was 25 % (5 patients). Four patients died in surgical treatment group and one – in conservative treatment group.

Conclusions
Complicated cannulation during the initial phase of ERCP was the major risk factor for subsequent iatrogenic perforation. If there are no clinical signs of retroperitoneal phlegmon, conservative treatment is an option with low mortality rate. Surgery was performed when retroperitoneal phlegmon and sepsis were present, it was the predictor of high risk of mortality.

Brief description of the abstract
ERCP may result in iatrogenic duodenum or bile ducts injuries that could lead to serious complications and even death. This study aim is to estimate the frequency and to evaluate treatment methods and results of iatrogenic duodenum or bile duct injury following ERCP. It was found out that the risk of perforation is higher after complicated cannulation of the bile duct; if there are no clinical signs of the retroperitoneal phlegmon, conservative treatment is an option with low mortality rate.

P-15 Results of axilla conserving surgery in node positive breast cancer after preoperative systemic therapy (PST)

Track: Breast malignancy

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Objective

Aim of the study is to evaluate the overall and disease free survival in 100 node positive breast cancer cases who underwent axilla conserving surgery after PST from 2016-2020.

Methods

From January 2016 – October 2020 106 node positive stage IIA-IIIC breast cancer cases undergoing PST were included in the study. 18 (17%) were carriers of pathogenic variant in BRCA1/2. After PST restaging of axilla was performed with ultrasound and FNAC of the marked and/or the most suspicious axillary node. In 72/106 cases axilla conserving surgery and in 34/106 cases axillary lymph node dissection (ALND) was performed.

Results

False Positive Rate (FPR) of FNAC after PST in whole cohort and BRCA1/2 positive subgroup is 8% and 0% and False Negative Rate (FNR) – 43% and 18% respectively. Overall Sensitivity - 55%, specificity- 93%, accuracy 70%.

Conclusions

FNAC after PST has low FPR and is useful to predict residual axillary disease and to streamline surgical decision making regarding ALND both in BRCA1/2 positive and negative subgroups. FNR is high in overall cohort and FNAC alone are not able to predict ypCR and omission of further axillary surgery. However, FNAC performance in BRCA1/2 positive subgroup is more promising and further research with larger number of cases is necessary to confirm the results.

Brief description of the abstract

Aim of the study is to evaluate the overall and disease free survival in 100 node positive breast cancer cases who underwent axilla conserving surgery after PST from 2016-2020.