ABSTRACT BOOK

NASSAR SCALE AS AN INSTRUMENT FOR PREDICTING CONVERSION OF LAPAROSCOPIC TO OPEN CHOLECYSTECTOMY

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ABSTRACT

Introduction: Difficult cholecystectomy, often associated with a heightened risk of complications, pose a significant surgical dilemma. Risk factors, such as patient age, increased body weight, the presence of gallstones, acute cholecystitis, and prior abdominal surgeries, can complicate laparoscopic cholecystectomy and necessitate conversion to an open procedure for safety.

Aim: The aim of our study was to assess the applicability of the Nassar scale in predicting the need for conversion from laparoscopic to open cholecystectomy. We also sought to identify optimal Nassar scale grades based on intraoperative findings for this purpose, compare grades between emergency and elective cases, and analyze variations in surgery duration across different Nassar grades.

Material and methods: In our prospective cohort study, we included 85 patients who underwent either emergency or elective laparoscopic cholecystectomy between December 2021. and October 2023. The Nassar scale was used to assess the complexity of laparoscopic cholecystectomy, incorporating parameters such as 'Gallbladder, ' 'Cystic pedicle, ' and 'Adhesions' to determine a final score ranging from 1 to 5. Statistical analysis involved descriptive and analytical methods, with a significance threshold set at $p < 0.05$.

Results: ANOVA analysis revealed a statistically significant difference in the duration of operative procedures among different Nassar grades ($p < 0.001$). An increase in the Nassar grade by 1 was associated with a statistically significant 6.23-fold increase in the odds of conversion to an open procedure ($p < 0.001$). Receiver Operating Characteristic (ROC) analysis demonstrated a highly significant association ($p < 0.001$) between the Nassar grade and the conversion event, with an Area Under the Curve (AUC) of 0.881 (95% CI 0.79, 0.96). The optimal cutoff value, identified as >2.5, struck a balance between sensitivity (0.86) and 1-specificity (0.23).

Conclusion: Our study underscores the utility of the Nassar scale in surgical practice. It provides valuable insights into assessing the severity of operations, facilitating informed decision-making, and optimizing treatment outcomes for patients undergoing laparoscopic cholecystectomy at our institution.

Key words: Cholecystectomy, laparoscopy, surgical procedures, gallstones

CLINICAL ASPECTS OF ACUTE MESENTERIC ISCHEMIA

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ABSTRACT

Acute mesenteric ischemia(AMI) is a serious disease with mortality between 50 and 80%. Oxidative stress plays a major role in the patophysiology of AMI. AMI should be considered for any acute abdominal pain that requires analgesia with morphine and for which no other obvious etiology is found. CT is the main diagnostic procedure to confirm the diagnosis of AMI. There is no specific diagnostic biomarker for AMI that can be used in routine practice. AMI is an urgent diagnostic and therapeutic situation. Treatment of AMI includes a protocol combining digestive rest, curative anticoagulant, antiplatelet, antibiotic therapy, arterial revascularization to salvage viable bowel, and resection of necrotic digestive segments. The strategy of revascularization depends on the mechanism of arterial occlusion, the morphological appearance of the lesions, and the indications for exploratory laparotomy. Endovascular and open surgical techniques can be combined and complemented. Open surgical revascularization is indicated in case of failure or impossibility of endovascular revascularization and in case of need for laparotomy. Early diagnosis and timely surgical intervention are the cornerstones of modern

treatment to reduce the high mortality of AMI. The emergence of endovascular approaches and modern imaging techniques is developing and providing new treatment options. A multidisciplinary approach based on early diagnosis and treatment is necessary.

Keywords: acute mesenteric ischemia, oxidative stress, mesenteric artery occlusion, CT diagnosis, treatment

SURGICAL TREATMENT OF CROHN'S DISEASE

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Crohn's disease is an idiopathic, incurable, chronic, inflammatory disease of the gastro-intestinal tract, whose incidence is rising around the world for unknown reasons. The characteristic transmural inflammation of Crohn's disease may occur anywhere along the digestive tract, which results in an inflammatory, fibrostenotic or penetrating phenotype. Although the degree of symptomatology varies, and may increase or disappear during the course of the disease, patients may require chronic immuno-suppressive and surgical treatment, but neither of these can cure the disease. Although the rate of surgical interventions for drug-refractory diseases has decreased over the past six decades, as well as the need for urgent surgical procedures, surgery still has an important place in the treatment of the complications of this serious ailment. After resection, which is not curative, 70 to 90% of patients will suffer endoscopic recurrence within one year, and 35% patients will have repeated intestinal resection within ten years.

THE INFLUENCE OF KRAS BIOMARKERS ON LAPAROSCOPIC SURGEY AND SURVIVAL IN PATIENTS WITH METASTATIC COLORECTAL CANCER

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ABSTRACT

Introduction: Colon cancer is one of the most common forms of cancer, affecting both sexes equally. Most colon cancer occurs as a result of the malignant change of colon polyps. Biomarkers are molecules or genes that are found in the body and give us important information about the disease. Kirsten Rat Sarcoma Viral

Oncogene (KRAS) is a gene, an oncogene. KRAS mutation in colon cancer patients predicts poor response to *panitumumab* and *cetuximab*.

Material and methods: The work is based on a retrospective clinical study. Research period 2017–2021. year with follow-up of patients over a period of 5 years. The research period includes a total of n=732 patients who were operated at the Clinic for General and Abdominal Surgery Clinical center University of Sarajevo, for colorectal carcinoma. Operative approach was were open surgery or minimal invasive (laparoscopic) surgery. Of that number (n=101) were patients with metastatic colorectal cancer. The research included patients with colorectal cancer (stage II and III according to the AJCC) who were operated and then received adjuvant chemotherapy. Those patients who were verified to have distant metastasis during the follow-up period were included in the study. The patients included in the study had biomarker (KRAS) determination. Overall survival calculation was done from the moment of metastasis until the end of the study, until the last written finding or until the death of the patient. Progression free survival calculation was also done from the time of metastasis to verified disease progression, which was established by radiological reevaluation. Statistical processing was done in the SPSS program for Windows application.

Objective: To determine the influence of KRAS biomarker mutations on the type of surgery in patients with metastatic colorectal cancer and the impact of KRAS biomarkers on overall survival (OS) and progression-free survival (PFS) in patients with metastatic colorectal cancer.

Research results: The study included n=101 patients, 52% are M, 48% are F. The youngest patient is 18 years old, and the oldest patient is 80 years old. The average age is 59.69 years. The left colon is the place with the most frequent localization of the malignant process on the colon 74.26%. Out of a total of n=101 examined patients, them (n=82) or 81.19% underwent surgery, and the rest (n=19) or 18.81% were patients without recorded surgical treatment. All patients underwent open surgery. When we look at the total number (n=732), only 2.8% of patients underwent laparoscopy.

Kaplan-Meier survival estimation shows that OS in the KRAS mutant type group was estimated at 15.28 months, while PFS in KRAS mutant type patients was estimated at 7.53 months. Log Rank Mantel Cox test: there is no statistically significant longer evaluation of OS and PFS in the group with wild type compared to the group with mutated KRAS marker.

Key words: colon, cancer, biomarker, KRAS, laparoscopy

SPLENIC FLEXURE MOBILIZATION: WHEN AND HOW

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ABSTRACT

Introduction: Splenic flexure mobilization is a debating question for colorectal surgeons doing laparoscopic and robotic resections worldwide. There are three main principles to do it and we will describe all of them.

Aim: To introduce all techniques for splenic flexure mobilization doing minimally invasive surgery for colorectal resections.

Material and methods: Three main ways to mobilize splenic flexure are medial to lateral, lateral to medial and superior to inferior and mostly on gaining the length doing low anastomosis and doing tumor located in region of splenic flexure.

Results: Whether doing splenic flexure mobilization at the start of the operation or at the end it is always challenging but knowing all the methods and combining them it is feasible.

Conclusion: Splenic flexure mobilization should have a patient tailored approach and should be a combination of all three methods for mobilization to maximize security and minimize complications.

Key words: splenic flexure mobilization, colon cancer, laparoscopy

URINE AMYLASE LEVEL AFTER WHIPPLE RESECTION MIGHT BE A PREDICTIVE FACTOR OF POST-OPERATIVE COMPLICATIONS

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ABSTRACT

The association between urine amylase levels and the development of post-operative complications after Whipple resection is still unknown.

The aim of this study was to determine the prognostic value of urine amylase levels for post-operative complications in patients who under-went Whipple resection. In this retrospective-prospective cohort study we analyzed amylase levels in urine, serum, and drains in 52 patients who underwent Whipple resection preoperatively

and on Post-operative Day 1 (POD1) after the intervention. Patients were followed up for 3 months to assess their predictive value for post-operative complications. In patients with complications, urine amylase levels were signifi- cantly higher on POD1 than before resection (198.89 ± 28.41 vs. 53.70 ± 7.44, p=0.000). Considering the sensitivity and specificity of the urine amylase level on POD1, an area under the ROC curve of 0.918 was obtained (p<0.001, 95% Confidence interval [CI]: 0.894-0.942). Patients with urine amylase levels ≥140.00 U/L had significantly higher risks of post-operative pancreatic fistula (POPF) grade C (definition of POPF done according to the ISGP) (RR:20.26; 95% CI: 1.18-347.07; p=0.038), readmission to hospital (RR: 6.61; 95% CI: 1.53-28.58; p=0.011), reoperation (RR: 5.67; 95% CI: 1.27-25.27; p=0.023), and mortality (RR:17.00; 95% CI: 2.33-123.80; p=0.005) than patients with urine amylase levels <140.00 U/L. Urine amylase levels on POD1 displayed strong and significant positive correlations with serum amylase levels (r=0.92, p=0.001) and amylase levels in drains (r=0.86, p=0.002). We can conclude that urine amylase levels on POD1 have good prognostic value for post-operative complications after Whipple resection and might be used as an additional predictive risk factor.

Keywords: Urine amylase level; Whipple resection; post-operative complications; post-operative pancreatic fistula

ICG-NAVIGATED HEPATO-BILIARY SURGERY - ADVANTAGES AND CHALLENGES ACCORDING TO OUREXPERIENCE

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ABSTRACT

Introduction: The use of indocyanine green (ICG) in liver surgery is gaining increasing attention, with numerous reports highlighting its effectiveness for various applications. However, its optimal utilization has yet to be standardized. Our goal was to investigate the effectiveness of a single application of ICG for assessing functional liver capacity and for intraoperative surgical navigation.

Methods: This prospective study was conducted on patients diagnosed with either primary or metastatic malignant liver tumors. Liver function was evaluated using standard biochemical markers and intravenous administration of ICG (0.5 mg/kg) four to five days before surgery. The goal was to determine the ICG retention rate at 15 minutes (ICG-R15) and to enhance tumor visualization through ICG staining. Near-infrared (NIR) imaging was used to detect ICG fluorescence in liver tumors during surgery.

Results: The ICG-R15 values varied between 2% and 40%. No early postoperative deaths were reported. Transient post-hepatectomy liver failure (POLF) occurred in 15% of cases, exclusively among patients with elevated ICG-R15 levels (p=0.001). A significant correlation was observed between high ICG-R15 values and postoperative complications. Major liver resections were avoided when ICG-R15 exceeded 15% (p=0.001). In contrast, among patients with ICG-R15 below 15%, POLF was not reported, even after extensive resections. Despite the absence of notable abnormalities in static liver function markers, the significant variations in ICG-R15 emphasize the necessity of combining multiple assessment methods for accurate liver function evaluation. The tumor detection rate reached 100%, with a 5% false positive rate. Additionally, preoperative ICG staining revealed previously undetected liver lesions in 10% of cases. The study's limitations include a small sample size, the absence of randomization concerning ICG-R15 values, and the extent of liver resection. The surgical approach was tailored based on both the estimated residual liver volume and ICG-R15 values, aligning with global best practices to mitigate risks.

Conclusions: ICG-R15 is a simple, safe, and effective method for evaluating liver function and identifying patients at risk for POLF. Furthermore, ICG fluorescence serves as a promising intraoperative navigation tool in liver surgery. Further research is required, particularly as this study represents an initial investigation into ICG applications in Bulgaria.

Keywords: liver resection, ICG-R15, ICG-navigated surgery, liver failure, liver tumors

INFLUENCE OF RESECTION MARGINS ON SURVIVAL FOR PATIENTS WITH PANCREATIC CANCER AND TECHNIQUES FOR AVOIDING CANCER RECURRENCE

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ABSTRACT

Introduction: Pancreatic cancer (PC) remains one of the most aggressive malignancies, with surgical resection being the only potentially curative treatment. However, the extent of resection and the status of surgical margins significantly influence patient survival and recurrence rates.

Aim: To investigate the experience of our Department and literature data regarding the treatment of PC, emphasizing the opportunities in improved achieving R0 resection.

Material and methods: A unified approach was used to assess pancreatic cancer specimens by marking the surgical margins with different colors of tissue dyes. Microscopic resection margin distance from the margin closest to the tumor was evaluated for each surgical margin. A distance < 1 mm was considered for R1. The retrospective analysis included 434 patients with resections due to pancreatic cancer – 274 were assessed using nonunified protocols, and 160 patients were evaluated using a unified one. Additionally, patients were divided according to whether neoadjuvant chemotherapy had been performed.

Results: The R1 resection was significantly higher in the unified protocol group (P < 0.001). Median survival was 27.994 months (95% CI 22.212 – 33.776 months). Patients with R0 resection had a median survival of 31 months compared to those with R1 – 23 months. Because of that, during the last years, SMA first approach was applied to improve the results. Evaluation of individual margins (R1<1 mm) showed the SMV and SMA margins were associated with poorer overall and disease-free survival (p 0, 001). Positive anterior and posterior margins in

duodenopancreatectomy were significant predictors of survival. The analysis showed that NC improved survival (HR 0.68, p=0.001) and reduced lymphatic metastases (OR 0.39, p 0.001). In the subgroup of resectable cases, no statistically significant dependence was observed for survival, in contrast to the group of borderline cases (p=0.004).

Conclusions: An individualized approach to patients with PC, including precise staging, aggressive surgery, and assessment of the necessity of neoadjuvant chemotherapy, leads to an increase in the R0 resections and survival improvement, respectively. However, this is possible only with standardizations of the pathologic assessment methods and the criteria for R0 and R1 margins. The significance of the different margins' positivity is not the same.

Keywords: pancreatic cancer, R0 resection, "SMA first approach", surgical margins, tissuemarking, neoadjuvant chemotherapy, survival

THE IMPACT OF NEOADJUVANT CHEMORADIOTHERAPY ON LAPAROSCOPIC RECTAL RESECTION FOR RECTAL CANCER

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ABSTRACT

Laparoscopic surgery has rapidly become a standard procedure for colon cancer, but initially there were some concerns about rectal cancer, mainly about oncologic outcomes. After years of large randomized trials and gaining surgical experience, the evidence demonstrates clinical benefits and laparoscopic resection has become a common surgical technique for rectal cancer.

By significantly reducing incisional trauma, laparoscopy may result in better preservation of cellular immunity in all phases, decreased stimulation of proliferative growth factors for cancer cells, and decreased angiogenesis, as well as decreased pain, less narcotics and estimated blood loss, shorter length of stay, quicker return of bowel function, quicker recovery, and decreased wound infection rate.

Laparoscopy can provide unprecedented, unobstructed views of the rectal dissection planes even in a patient with a narrow pelvis, not only for the surgeon but to the entire surgical team. Magnified views of the surgical planes may allow more precise dissection. The pneumoperitoneum can also help open up the planes for mobilization of the mesorectum.

Neoadjuvant chemoradiotherapy has emerged as an important preoperative strategy in improving outcomes for patients with locally advanced rectal cancer. Neoadjuvant treatment refers to therapies given before surgery, which is the main treatment, to shrink the tumor, making it easier to remove and improving

overall patient outcomes. For rectal cancer, a combination of chemotherapy and radiotherapy has been established as a cornerstone of neoadjuvant therapy. This dual approach not only reduces tumor size but also helps to improve local control and decreases the risk of cancer recurrence.

The extent of tumor shrinkage after neoadjuvant chemoradiotherapy plays a significant role in determining whether laparoscopic surgery for rectal cancer is feasible. The primary goal of neoadjuvant chemoradiotherapy is to reduce the size of the tumor, improve local control, and increase the likelihood of achieving an R0 resection, which is associated with better long-term outcomes. The degree of tumor shrinkage can influence both the technical ease of performing laparoscopic resection and the overall success of the surgical procedure.

In our study we present 48 patients with locally advanced rectal cancer, who have been shown to have benefits from neoadjuvant chemoradiotherapy and have suffered laparoscopic rectal resection. We`ve been performed protective ileostomy in all of the cases for 30 days. Inspite of this procedure, seven patients demonstrated insignificant leakage, without need of reoperation. All of the patients were followed up with tumor markers, CT scan and PET during the first year and some of them five years after the operation.

We conclude that laparoscopic rectal surgery is oncologically safe in locally advanced rectal cancers and has lesser morbidity and shorter hospital stay than open surgery. Oncologic outcomes of rectal cancer patients and the benefits of laparoscopic rectal surgery have been shown to depend on the skills and techniques of the performing surgeons.

LAPAROSCOPIC LIVER RESECTION FOR COLORECTAL CANCER LIVER METASTASES

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ABSTRACT

Background: Laparoscopic liver surgery has experienced tremendous development in the past decade. With superior results in respect to blood loss, hospital stay and post-operative complications, as well as similar oncologic outcomes, it has gained acceptance for the treatment of benign and malignant conditions.

Materials and methods: A retrospective review of our database was performed, searching for patients, who underwent laparoscopic liver resection (LLR) for colorectal cancer liver metastases (CRCLM). The perioperative outcomes were compared to patients, who underwent open liver resection (OLR) for CRCLM. Between January 2009 – January 2025 we identified 545 liver resections with curative intent, for CRCLM. Laparoscopic approach was used in 95x` cases. Two-stage hepatectomy with laparoscopic portal branch ligature was performed in 7

patients and simultaneous colorectal and liver resection was performed in 16.

Results: The median age of the group was 60 years (27-78), with 54 patients being male. Of the performed 90 laparoscopic surgeries, 40 were major liver resections, including 34 right hepatectomies, 2 left hepatectomies and 4 trisegmentectomies. The mean operative time was 216 minutes (96–378min) and the median postoperative stay was 6 days. A total of 23 complications were encountered in 18 patients. Major postoperative morbidity, classified as Clavien-Dindo 3 or higher, was registered in 3 patients (4%). Results show increased duration of Pringle maneuver (38 vs. 23 min, p<0, 05) and operative time (247 vs. 196 minutes, p=0, 046) in the laparoscopic group, compared to the open. However, the rate of hemotransfusion (p=0, 031) and major morbidity (p=0, 002) in the LLR group was significantly less

Conclusion: Experience in the conventional liver surgery and meticulous laparoscopic technique are important prerequisites for the development of laparoscopic liver program. Our results demonstrate reduced major morbidity after LLR for CRCLM.

LAPAROSCOPIC COLORECTAL SURGERY – STANDARDS OF TREATMENT AND EXPERIENCE OF A TERTIARY BALKAN GENERAL SURGERY CENTRE

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ABSTRACT

Introduction: Although conventional surgery is an established modality for colorectal resections (CRs), it predisposes patients to significant postoperative morbidity and discomfort. Laparoscopic colorectal surgery is technically more demanding, but it reduces postoperative hospital stay and rivals conventional approach in terms of oncological and long-term outcomes. Our aim is to summarize the standards in the performance of colorectal operative interventions and to present the 5-year experience of our clinic in the performance of conventional and laparoscopic CRs.

Method: For the period from 01.01.2019 to 01.01.2024, 654 CRs were performed in the First Clinic of Abdominal Surgery, Military Medical Academy - Sofia, of which 431 - laparoscopic. Data from demographic characteristics, perioperative outcomes, pathohistological studies, postoperative complications, short- and long-term outcomes of the patients was prospectively analyzed.

Results: A total of 654 CRs were performed in the clinic (431 laparoscopic) of patients (women – 306/ men – 348) with an average age of 65 years (24–92), with a predominant pathology – colorectal carcinoma (CRC) (n=581; 88.8%). In the patients with CRC, lesions were localized, respectively: colon (68.5%) and

rectum (31.5%) and were staged as follows: Ist (15.8%, n=92), IInd (28.6%, n=166), IIIrd (35.3%, n=205) and IVth (20.3%, n=118) stage. Hundred and fifty-nine right hemicolectomies (24.3%), 46 left colectomies (7%), 183 sigmoid colon resections (28%), 167 anterior rectal resections (25.5%), 26 abdominoperineal resections (4%) and 73 (11.2%) other CRs (subtotal, total, CRC, as part of 'en bloc' and synchronous CRs and liver resections) were performed. Of all CRs, 65.9% were performed laparoscopically (n=431). The average operative time was 189 minutes for conventional and 192 minutes for laparoscopic resections. The average intraoperative blood loss for laparoscopic and conventional resections was 122 and 169 milliliters, respectively. The incidence of R1 resection line was 1.3% in conventional and 1.4% in laparoscopic CRs. The average number of isolated lymph nodes in conventional was 15, while in laparoscopic - 13. Postoperative morbidity was 8.8% (n=58). The average postoperative hospital stay of patients was 9 days for conventional and 7 days for laparoscopic resections. The average 3-year survival rate for patients with CRs is 81% in laparoscopic and 78% in conventional cases.

Conclusion: Laparoscopic colorectal surgery predisposes to rapid recovery and good oncological outcomes, provided it is practiced in centers with extensive experience in minimally invasive surgery, in well-selected and preoperatively optimized patients.

BILE DUCT INJURIES – MANAGEMENT STRATEGY AND FOLLOW-UP

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ABSTRACT

Background: Cholecystectomy is one of the most common surgical interventions performed in abdominal surgery, and with the advent of laparoscopic methods (LC) its share significantly increases. Iatrogenic bile duct injuries (BDIs) are not so common, but quite a serious complication after hepatobiliary operative procedures. They represent a significant clinical problem requiring serious medical, social and financial means.

Patients & Methods: This study aimed to identify the range of complications and the adequacy of their treatment for optimizing the final results. Analysis of 96 patients with BDIs treated in the 2nd Department of surgery for a period of 20 years was made.

Discussion: The most important complications in cholecystectomies are: bleeding from the liver bed – 5-8%; bile duct injuries – 0, 2-0, 8%; minor vascular injuries – 0, 1-0, 2%; major vascular injuries – 0, 07-0, 2%; bowel lesions – 0, 07-0, 4%; abdominal wall hematoma: case reports.

LC accepted as the gold standard in clinically manifested cholelithiasis, but is associated with a higher risk of BDIs compared to OC - 0.4-0.8%.

The diagnostic-therapeutic approach in these lesions is determined by: the time of their recognition, the magnitude of the damage to the biliary tract, the patient's condition and the capabilities of the operative team. Choosing the correct route of action is not always easy and depends much on availability and approaches of imaging and interventional modalities (nonoperative management is possible in many situations – CT, ERCP and MRCP – both diagnostic and therapeutic modalities) and surgical team practice in HPB surgery.

BDIs during cholecystectomy is associated with increased postoperative morbidity and mortality, poor quality of life and often subsequent legal problems. Immediate recognition and recovery of BDIs leads to better results with a minimum of postoperative complications and care.

Conclusion: The key points to successful treatment are characterized by early recognition, control of any intra-abdominal fluid collection and infection, nutritional balance, multidisciplinary approach. The main questions are: *Who? When?* and *How?* to proceed in such patients. Best results with lower morbidity and shorter hospitalization are associated with treatment performed in centers that specialize in hepatobiliary surgery.

Key words: cholecystectomy, complications, bile duct injuries

POSSIBILITY TO PREVENT PERITONEAL METASTASES FOR ADVANCED GASTRIC CANCER (AGC).

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ABSTRACT

Introduction: Laparoscopic gastrectomy shows better postoperative results than open surgery with the same oncologic results. PIPAC is based on breaking up chemotherapy agents into particles of 15-20 microns and delivering them in a concentration of 10% of the systemic dose under pressure of 15mmHg for 30 minutes. Prevention and treatment of peritoneal carcinomatosis (PC) is the main indication for PIPAC, which has promising initial results. The philosophy of PC prevention has been consistently reinforced by several high-quality meta-analyses assessing the role of HIPEC as a prevention and treatment of secondary PC, with a consistent recognition that HIPEC can effectively improve survival rates in patients without peritoneal carcinomatosis (PC). In contrast, its role in patients with PC is quite limited.

Objective: We aim to establish the effectiveness of combined radical laparoscopic gastric surgery with adjuvant PIPAC in AGC to prevent PC.

Material and methods: Patients with resectable diffuse low coherence type advanced gastric cancer cT1-4a N1-3 Mo with a high risk of PC are candidates for this study. In perspective, 18 patients had laparoscopic gastrectomy (8 total and 10 subtotal) with D2 lymph node dissection. After finishing the reconstructive stage, we applied PIPAC using Doxorobicin-1, 5mg/m2 and Cisplatin-11mg/m2 for 30 minutes.

Results: Two complications (16.6%) were established in the laparoscopic surgery group with PIPAC (pancreatic fistula, anastomotic leak: Clavien-Dindo-II). Twelve patients in the aerosol group have reached the end of the first year with no data supporting PC; the others remain to be analyzed.

Conclusion: PIPAC has better pharmacological capabilities than HIPEC and systemic chemotherapy for treating PC, as in vitro and animal studies and clinical data support this statement. Adjuvant application of PIPAC in high-risk GC patients can reduce the incidence of PC. RCTs are needed for complete and exact validation of this method.

Keywords: Laparoscopic Gastrectomy, Advanced Gastric Cancer, PIPAC, Peritoneal Carcinomatosis.

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HEPATIC ARTERY APPROACH IN TECHNICALLY DIFFICULT DISTAL PANCREATECTOMIES

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ABSTRACT

Introduction: Laparoscopic distal pancreatectomy (LDP) has become the gold standard procedure for the management of benign and malignant lesions of pancreatic body and tail. However, it still remains a challenge in some cases when the tumour invades the splenic artery near its origin and the splenic vein near its confluence with the portal vein. A standardized approach of LDP by using the common hepatic artery (CHA) as a landmark has been utilized at our center and we aim to describe the technique and determine the outcomes.

Method: A retrospective analysis of all patients undergoing LDP from October 2018 to January 2024 was performed in First clinic of abdominal surgery, Military Medical Academy - Sofia. Seventy-three patients underwent LDP. Among them 17 patients,

assessed as technically demanding, underwent LDP by CHA-approach. The technical steps of CHA approach include: (1) dissection of the gastrocolic ligament, (2) identification and taping of CHA, (3) identification and dissection of superior mesenteric vein/portal vein, (4) creation of plan between the superior mesenteric/portal vein and the neck of the pancreas, (5) stepwise pancreatic transection at the neck, (6) dorsal dissection and identification of the splenic artery.

Results: Mean operative time was 180 min (140-235) with mean blood loss of 108 ml (55-235). No conversion to open was observed. POPF grade A was observed in two patients, and grade B in one. Mean hospital stay was 7 days (5-20).

Conclusion: Common hepatic artery approach provides patient safety and predictability of the procedure. It should be performed as a rescue option in technically demanding LDP cases.

VASCULAR RESECTIONS IN PANCREATIC CANCER

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ABSTRACT

Introduction: Pancreatic cancer is the gastrointestinal tumor with the worst prognosis, accounting for 90% of pancreatic malignancies, with an abysmal 5-year survival rate. The only possibility for radical treatment is surgical resection.

Aim: Comparing short- and long-term outcomes among patients with pancreatic head carcinoma who underwent standard and venous resections.

Materials and Methods: A cohort study analyzed 694 patients who underwent radical surgery for pancreatic head carcinoma between 2004 and 2024. One hundred twenty-eight patients (18.5%) underwent venous resection (VR). Analyses were performed using Jamovi version 2.6.23, with a p-value of less than 0.05, which was accepted as significant.

Results: Survival between venous resection (VR) and standard resections (SPDR) showed borderline significance (19.3 mo. vs. 26.9 mo., $p = 0.047$), with a small effect size observed between the groups ($r = 0.42$; 95% CI: 0.35-0.48). The 1-, 3-, and 5-year survival were significant: for VR, the rates were 59.8%, 20.2%, and 8%, respectively, while for SPDR, 78.5%, 37.3%, and 25.2% ($p < 0.0001$, 95% CI: 9.37-28.42, $X^2 = 17.23$; $p = 0.001$, 95% CI: 7.29-25.21, $X^2 = 10.85$; and $p = 0.001$, 95% CI: 7.78-23.68, $X^2 = 10.54$). A difference in survival was found when comparing SPDR, VR, and palliative procedures ($p < 0.05$). Major complications (Clavien-Dindo ≥ IIIa) were not significant (VR 17.1% vs. SPDR 15.9%, $p = 0.75$). However, there was a difference in VR-related mortality (11.1% vs. 3.7%, $p < 0.05$), but after 2014 no significance was observed [SPDR: 18 (3.8%) vs. VR: 6 (8.3%), $p = 0.083$, 95% CI: -0.43-13.28, $X^2 = 3.013$]. Vascular invasion shows no relevance ($p = 0.581$).

Conclusions: Pancreatic procedures combined with venous resection and reconstruction are feasible and safe for achieving R0 resection, mainly when performed by experienced surgeons in high-volume centers.

Keywords: pancreatic carcinoma, venous resection.

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LAPAROSCOPIC SURGERY OF THE STOMACH – 6-YEAR EXPERIENCE OF FIRST CLINIC OF ABDOMINAL SURGERY AT MMA, SOFIA

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ABSTRACT

Background and aims: Nowadays laparoscopic techniques in gastric surgery gain more popularity, because of the advantages of minimally invasive surgery. The current study has the aim to present the 6-year experience of First clinic of abdominal surgery at MMA and to analyze the results after gastric resections.

Materials and methods: We present 135 patients with avg. age – 64.7 years, treated at First clinic of abdominal surgery at MMA between 01.2019 and 01.2025. In 87 patients (64.4% of all gastric resections) laparoscopic surgery was performed. In 56.7% of the cases a total laparoscopic gastrectomy with intracorporal anastomosis was conducted, in 21% - subtotal gastrectomy was performed, in 13.6% partial resection and in 8.7% - 2/3rd resection was performed. In 19 patients the surgical intervention was conducted after neoadjuvant chemotherapy.

Results and discussion: The mean surgical intervention duration was 312 minutes with no significant blood loss recorded. The mean hospital stay was 10, 4 days. No insufficiency of the oesophago-jejunoanastomosis in total gastrectomies was observed. The final pathologic examination showed the presence of gastric cancer in 69 patients (79.3%), gastrointestinal stromal tumor in 10 patients (14.9%), pyloric stenosis in 4 (4.5%) and leiomyoma in 1 patient. The mean number of isolated lymph nodes in oncologic cases was 28.7. Early postoperative complications were observed in 16% of the cases. 38% of them are II-grade according to Clavien-Dindo classification, 27% are III-grade, 19% are IV-grade and 16% are I-grade. After mean follow up of 30 months 62.3% 3-year survival rate in oncologic cases was

observed. There are a lot of published trials comparing open versus laparoscopic method, and they prove the advantages of the laparoscopic surgery in terms of postoperative trauma, systemic inflammatory response, postoperative hospital stay, estimated blood loss, early recovery and others, with similar harvested lymph nodes and oncologic efficacy. The only disadvantages of the laparoscopic method are the need for specific instruments, the dependency on mechanical sutures and the longer learning curve, none of which are harmful for the patient.

Conclusion: Laparoscopic gastric surgery goes with less operative trauma and faster recovery without compromising the oncological effectiveness of the intervention, which imposes it as a method of first choice in our clinic.

RESECTION FOR PERIHILAR CHOLANGIOCARCINOMA: TECHNICAL CONSIDERATIONS AND RESULTS

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ABSTRACT

Cholangiocarcinoma (CCC) is the one of most aggressive malignant hepatobiliary tumors. Perihilar CCC (pCCC) is the most common CCC. They are usually at an advanced stage at initial presentation and poor prognosis. Surgical resection provides the only chance of cure for this disease but is technically challenging because of the complex, intimate and variable relationship between biliary and vascular structures at this location. Preoperative jaundice and stenting are ralated to higher rate of complications. Complete resection with histologically negative resection margins (R0), nodal involvement and metastases are the most important prognostic factors for long-term survival. Adjuvant chemotherapy is the standard of care for resected patients, while neoadjuvant approach has growing evidences. Liver transplantation could be an option for selected patients. This multimodal treatment sould be done in specialized hepato-biliary and transplant centres.

ADVANCES IN THE MANAGEMENT OF RETROPERITONEAL SARCOMAS

Vassos N.

ABSTRACT

Retroperitoneal sarcomas (RPS) are a complex and diverse group of mesenchymal malignancies arising in the retroperitoneal space. RPS constitute less than 1% of all cancers in adults but account for approximately 15% of soft tissue sarcomas. Particular emphasis is placed on the heterogeneity of the disease, as various histological subtypes exhibit distinct biological behaviors. This reflects the significant diagnostic challenges and necessitates a shift away from a one-size-fits-all treatment approach, posing significant challenges in evaluation and management.

Surgery remains the fundamental pillar and the only curative treatment for localized disease. Meticulous surgical planning is crucial and must be personalized based on specific factors such as tumor histology, location, extension, high-risk characteristics, patient age, comorbidities, and tumor biology. Complete resection has been consistently identified as the most important prognostic factor. The implementation of compartmental surgery, inspired by principles used for STS of the extremities, has allowed for minimizing incomplete resections and is currently the recommended approach. This approach involves en-bloc resection of the tumor and adjacent organs, improving oncological outcomes and reducing recurrence rates.

Advances in preoperative and intraoperative technologies (setting) (high-definition imaging technologies, intraoperative navigation) have improved outcomes. The role of radiotherapy also continues to be refined to improve local control, which remains an important goal to prevent RPS recurrence. Furthermore, advancements in understanding the disease have enabled the development of histology-tailored management and novel therapies like targeted therapy and immunotherapy. Ultimately, multidisciplinary collaboration and personalized approaches that consider histological sarcoma types and patient-specific factors are imperative for optimizing the therapeutic strategy in the management of RPS. As understanding of the molecular and genetic underpinnings of RPS continues to evolve, so will strategies for its effective management, underscoring the need for global collaboration among specialists in this field to enhance our collective knowledge and therapeutic options in the future.

LIVER RESECTION INVOLVING RETROHEPATIC IVC

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ABSTRACT

Background: Intrahepatic tumors involving the retrohepatic segment of the inferior vena cava (IVC) have a pessimistic prognosis. Aggressive surgical approaches combined with vascular resection represent the only possibility for radical treatment. Despite advances in surgical techniques, anesthesiology, and intensive care, these interventions are still associated with high morbidity and mortality rates. We sought to evaluate the outcomes of radical liver resection for tumors, involving the retrohepatic IVC.

Methods: A monocentric study was conducted on a prospectively managed database of hepatic resections performed between 2005 and 2024 in a tertiary HBP unit. The analysis included patients who underwent liver resection combined with resection of the retrohepatic IVC. We identified 53 patients with suprarenal IVC resection. Combined liver and IVC resection was performed in 36 patients. In 24 cases, tangential resection of IVC with suturing was performed. Tangential resection and patch reconstruction was performed in 4 patients. Segmental resection with termino-terminal anastomosis was performed in 1 patient, and resection with ligation was performed in 1 patient. Segmental resection and graft reconstruction was performed in 6 patients.

Results: The main indications for liver resection, involving retrohepatic IVC were liver metastases (22 patients), hepatocellular carcinoma (2), intrahepatic cholangiocarcinoma (5), hepatic angiomyolipoma (1), Klatskin tumor (2), gallbladder carcinoma (1), and primary leiomyosarcoma of the IVC (3). The mean operative time was 230 minutes (188-310 min), and the mean blood loss was 300 mL (100-2000 mL). The duration of hospital stay was 8 days (7-49). The overall complication rate was 50%, with severe complications (Clavien-Dindo≥III) observed in 9 patients (25%). The frequency of surgical complications was 22%, with 4 patients requiring reoperation. Perioperative mortality was recorded in 3 patients (8%), with postoperative hepatic insufficiency being the leading cause.

Conclusion: Resection and reconstruction of the IVC, as part of aggressive treatment for malignant diseases, is associated with improved survival in patients often considered inoperable. In the hands of an experienced team, these high-risk interventions are accompanied by an acceptable frequency of postoperative complications.

OAGB- ONE ANASTOMOSIS GASTRIC BYPASS. STANDARD BARIATRIC PROCEDURE IN MONTENEGRO.

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2. University of Montenegro, Faculty of Medicine

ABSTRACT

This presentation introduces the One Anastomosis Gastric Bypass (OAGB), commonly referred to in some literature as the "Mini-Gastric Bypass." This relatively new bariatric procedure demonstrates safety, effectiveness, and favorable outcomes. The aim of this paper is to present the OAGB as a standard treatment option for obesity in Montenegro. Since that the bariatric surgery is still in its early stages in Montenegro, there is insufficient local data to support a comprehensive study on its effectiveness. However, numerous global studies conducted over the past several decades strongly endorse the safety, efficiency, and simplicity of this procedure. Evidence from various studies and scientific literature indicates that OAGB is an excellent choice for achieving significant post-operative weight loss, which is the primary goal. Additionally, improvements in obesity-related comorbidities, such as diabetes mellitus, hyperlipidemia, and hypertension, are evident. Furthermore, patient satisfaction rates are high, and the length of hospitalization is notably shorter compared to more complex bariatric surgeries. This video presentation will demonstrate the technique employed for performing One Anastomosis Gastric Bypass (OAGB) at the Clinical Center of Montenegro, highlighting it as a standard bariatric procedure. The One Anastomosis Gastric Bypass is a validated, short, safe, and effective surgical approach to treating obesity and related disorders. The brevity of the procedure and reduced hospitalization time present clear advantages. A high percentage of patients achieved adequate BMI reduction, while complications related to the surgery are infrequent, primarily concerning non-functioning of the gastro-enterostomy, which has been observed in a limited number of cases.

Keywords: OAGB, One Anastomosis Gastric Bypass, Mini-Gastric Bypass, Bariatric Surgery

CONTEMPORARY APPROACH TO THE SURGICAL TREATMENT OF HEMORRHOIDAL DISEASE WITH A DIODE LASER

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ABSTRACT

Introduction: The use of diode laser, a new page has been opened in the surgical treatment of hemorrhoidal disease. Laser hemorrhoidoplasty (LHP) is minimally invasive surgical treatment of hemorrhoidal disease which obtain full preservation the of hemorrhoidal nodes function.

Purpose: After 6 years of applying the LHP method, the goal is to present the method in the light of the treatment of advanced stages of hemorrhoidal disease, as well as to evaluate its success. Also, certain segments were treated, such as: duration of the procedure itself, postoperative pain syndrome, time to full recovery, frequency of complications, and the percentage of recurrence of the disease.

Material and methods: The research used personal data of the author on a sample of 250 patients with stage III and IV of hemorrhoidal disease.

Conclusion: It can be concluded that laser hemorrhoidoplasty is a method that ensures the appropriate treatment of hemorrhoidal diseases of the III and IV degrees. It is characterized by shorter performance time, precise surgical work, significantly short recovery time for patients, low postoperative pain syndrome and a low frequence rate of complications and recurrence.

Keywords: Hemorrhoids, Laser hemorrhoidoplasty, Minimally invasive surgery

ROLE OF LAPAROSCOPY IN TREATMENT OF SMALL BOWEL OPSTRUCTION/STRANGULATION BY INTERMESOSIGMOID HERNIA, IS IT FEASIBLE?

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Department of General Surgery, Clinical Hospital Center Kotor, Montenegro

ABSTRACT

Case report

A 77-years-old female was admitted urgently for an occlusive syndrome evolving for four days. Laboratory data were unremarkable apart from mildly elevated white cell count of 14.0 ($\times 10^9$/L). CT scan showed small bowel dilatation around 35mm and multiple air-fluid levels. There was no previous history of abdominal operations. Because of her chronic conditions (arterial hypertension, diabetes, hypothyreosis and operation for carotid disease) patient was initially treated conservative with iv

fluids, NG tube and enemas for 24h but without improvement so decision was clear for emergency operation and laparoscopy exploration. Intraoperative we found severe dilation of small bowel but no clear evidence for obstruction or strangulation. With limitations because of severe small bowel dilation and risk of bowel laesion decision was made for conversion to open procedure. Laparotomy was performed and clearly showed strangulation in sigmoid mesocolon (intermesosigmoid hernia), with hernial orifice around 15 mm that was further expanded so small bowel could be release. Bowel was checked, there was no signs of ischaemia and no need for resection. Internal opening was sutured. Postoperative course was delayed because of wound infection. Until this day patient was checked several times and recovered well.

Internal hernias are a rare cause of small bowel obstruction and are estimated to occur in 1-6% of all cases. Sigmoid mesocolic hernia are an uncommon type of internal hernia, accounting for 6% of internal hernias. Historically, Benson and Killen classified sigmoid mesocolon-related hernias into 3 subtypes: intersigmoid hernia, intramesosigmoid hernia, and transmesosigmoid hernia. The rarest type of the mesosigmoid hernias is the intramesosigmoid hernia. The hernial orifice is present only on one side of the sigmoid mesocolon juxtapositioned to the colon itself. Internal hernias are potentially fatal conditions with diagnostic challenges. Patients presenting with acute obstruction, no surgical history and no external hernia should receive an urgent CT scan to facilitate early surgery and to minimise the risk of strangulation and bowel resection.

Original paper of *Yuki Tashiro, Nobuyuki Takeyama, Mana Kachi et al.*(2023.) showed that the diagnosis of internal hernia with CT images consists of identifying the sac-like appearance of the strangulated small intestine and the causative congenital structures on the surrounding vasculature and organs

In Anna Junttila and al. case report and review of literature of all cases untill 2020, laparoscopy was performed in 5 of 16 patients, 2 of them were hand-assisted laparoscopies. Third of patients needed small bowel resection (5/16) and all of them underwent laparotomy. Hence, the bowel resection rate was higher than reported in the Japanese literature.

Laparoscopy is feasible unless there is no delay in diagnosis causing dilatation of the small bowel or high suspicion of bowel ischaemia.

Keywords: laparoscopy, opstruction/strangulation, intermesosigmoid hernia

GIANT GASTRIC TRICHOBEZOAR – A RARE CAUSE OF GASTRIC PERFORATION; CASE REPORT

Authors: Dragan Šarić
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ABSTRACT

Gastric perforation caused by severe dilation due to a pathological mass - trichobezoar, is an extremely rare cause of acute abdomen.

We present the case of a 16-year-old female patient who arrived at the Emergency Surgery Unit with abdominal pain lasting 2–3 days, accompanied by nausea, vomiting of liquid, weight loss, loss of appetite, and a fever. Initial nonspecific symptoms had been present for several months. She was brought in by her parents in a critically poor general condition, appearing severely ill.

Clinical examination revealed a forced body posture, asthenic type, dehydration, and a markedly tender abdomen with muscular guarding, major peritoneal irritation, and a large palpable tumefaction extending from the epigastrium and upper abdomen periumbilically to the right iliac fossa.

A comprehensive diagnostic workup was done. Abdominal CT scan confirmed pneumoperitoneum and a massive pathological mass occupying the entire gastric lumen.

The patient underwent emergency surgery, during which a gastrotomy was performed to extract the trichobezoar.

Keywords: Acute abdomen, gastric perforation, trichobezoar, trichophagia, trichotillomania

LAPAROSCOPIC SUBTOTAL GASTRECTOMY IN LOCALLY ADVANCED GASTRIC CANCER. STEP BY STEP.

Author: Miljan Zindović, MD, PhD, F.E.B.S./MIS Clinical Centre of Montenegro, University of Montenegro Faculty of Medicine

ABSTRACT

The management of locally advanced gastric cancer presents significant challenges in surgical oncology, and needs innovative approaches to improve outcomes. Laparoscopic subtotal gastrectomy (LSG) has emerged as a minimally invasive surgical technique for the treatment of gastric malignancies, benign tumors, and other gastric disorders requiring resection. This video presentation provides a comprehensive step-by-step guide to performing laparoscopic

subtotal gastrectomy, using the Hofmeister-Finsterer reconstruction, a minimally invasive technique that offers potential benefits over traditional open surgery. The laparoscopic technique that is presented offers a safe, effective alternative to traditional open surgery with comparable oncological results, reduced postoperative pain, and a quicker recovery.

Through a detailed visual demonstration, the presentation highlights essential procedural steps, including patient positioning, trocar placement, mobilization of the stomach, resection and reconstruction techniques. Our findings suggest that this technique can be considered a valuable option for appropriately selected patients in locally advanced gastric cancer.

Keywords: laparoscopic subtotal gastrectomy, Hofmeister-Finsterer, locally advanced gastric cancer

THE EXTENT OF LYMPHADENECTOMY FOR THE ADENOCA OF THE GASTROESOPHAGEAL JUNCTION

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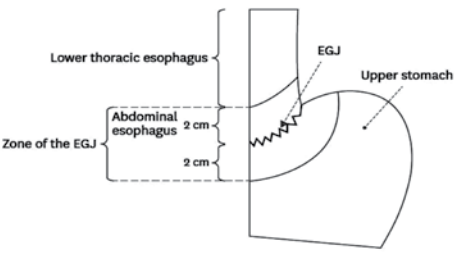
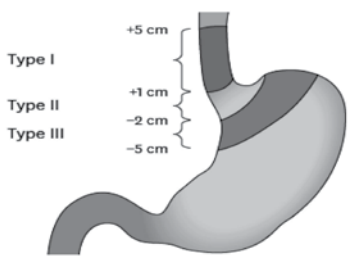
Hippokratio General Hospital of Thessaloniki

DEFINITION

- Tumors whose epicentre is located **2 cm on either side of the gastroesophageal junction** (TNM classification of malignant tumors, 8th edition 2016)



SIEWERT CLASSIFICATION



- Siewert I, II, III
- AEG (Adenocarcinoma of EGJ) I,II,III

Siewert, J.R., A.H. Hölscher, K. Becker, *et al.* 1987. Cardia cancer: attempt at a therapeutically relevant classification. *Chirurg* 58: 25–32.

NISHI'S CLASSIFICATION

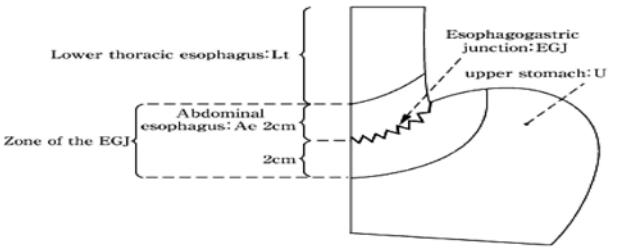
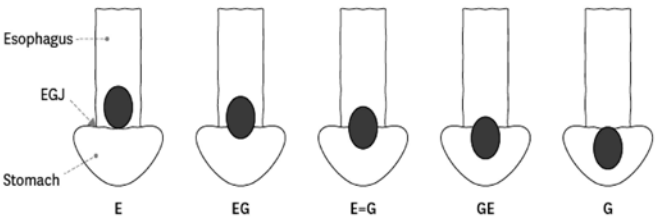
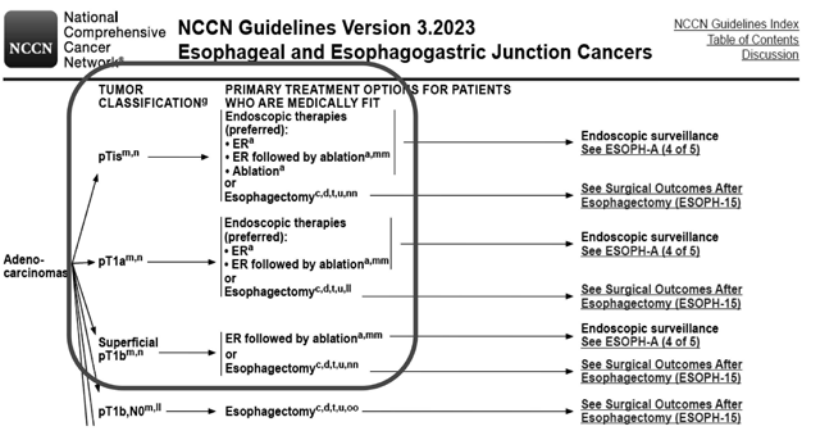


Fig. 2-5 Definition and description of esophagogastric junction according to Nishi's classification

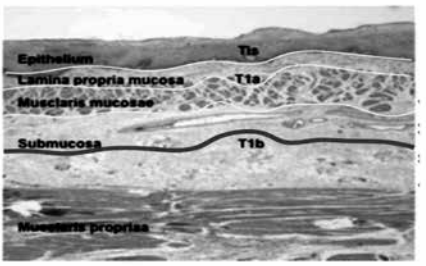
NISHI'S SUBCLASSIFICATION



Japan Esophageal SocietyJapanese classification of esophageal cancer, 11th edition: part II and III. Esophagus. 2017;14:37-65.



Early esophageal cancer



Risk of LNs metastasis %

	SCC	EAC
m1	0%	0%
m2	0%	0%
m3	0-9%	0-2%
sm1	8-21% <200μm	0-11% <500μm
sm2	22-60%	19-42%

Prediction of the invasion depth of superficial squamous cell carcinoma based on microvessel morphology: magnifying endoscopic classification of the Japan Esophageal Society. Oyama T et al. Esophagus14,105–112 (2017)

TRANSHIATAL VS TRANSTHORACIC

Extended Transthoracic Resection Compared With Limited Transhiatal Resection for Adenocarcinoma of the Mid/Distal Esophagus

Five-Year Survival of a Randomized Clinical Trial

Jikke M. T. Omloo, MD, Sjoerd M. Lagarde, MD,* Jan B. F. Hulscher, MD,* Johannes B. Reitsma, MD, PhD,† Paul Fockens, MD, PhD,‡ Herman van Dekken, MD, PhD,§ Fiebo J. W. ten Kate, MD,¶ Huug Obertop, MD,‖ Hugo W. Tilanus, MD, PhD,‖ and J. Jan B. van Lanschot, MD‖*

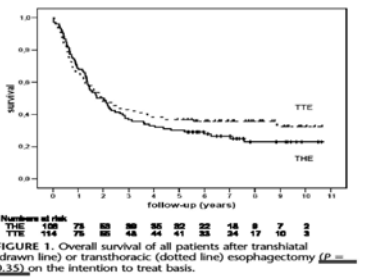
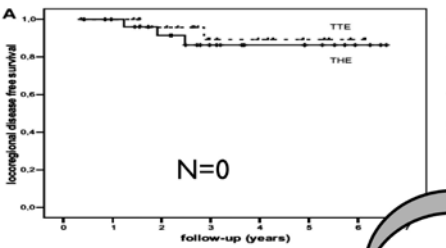
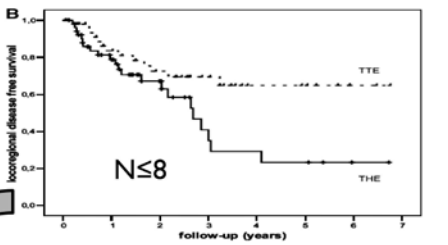
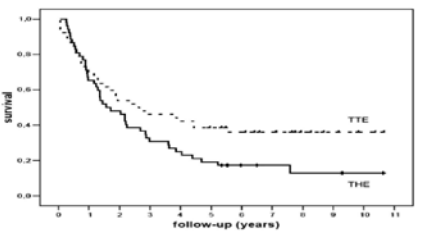


FIGURE 1. Overall survival of all patients after transhiatal (drawn line) or transthoracic (dotted line) esophagectomy ($P = 0.35$) on the intention to treat basis.





Survival x3



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https://doi.org/10.1245/s10434-021-10346-x

Annals of SURGICAL ONCOLOGY

ORIGINAL ARTICLE – THORACIC ONCOLOGY

Esophagectomy or Total Gastrectomy for Siewert 2 Gastroesophageal Junction (GEJ) Adenocarcinoma? A Registry-Based Analysis

Sivesh K. Kamarajah, BMedSci, MBChB, MRCS[1,2], Alexander W. Phillips, MD, MA, FRCSEd[3,4], Ewen A. Griffiths, MD, FRCS[1,2], Lorenzo Ferri, MD[5], Wayne L. Hofstetter, MD[6], and Sheraz R. Markar, MRCS, MSc, MA, PhD[7,8]

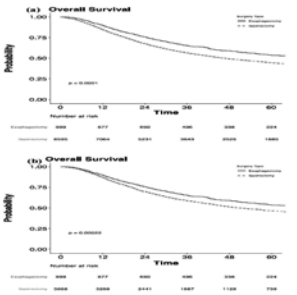

FIG. 2 Overall survival after esophagectomy and gastrectomy for patients with Siewert 2 gastroesophageal junction adenocarcinoma in (A) unmatched and (B) matched cohorts.

Surgery type	Median survival Months (IQR)	HR (95 % CI)	*p* Value
Unmatched cohort			
Esophagectomy	68.1 (59.9–79.0)	Reference	0.001
Gastrectomy	46.6 (44.4–48.8)	1.19 (1.07–1.31)	
Matched cohort			
Esophagectomy	68.1 (59.9–79.0)	Reference	<0.001
Gastrectomy	51.1 (47.5–56.2)	1.22 (1.09–1.35)	

HR, hazard ratio; CI, confidence interval

STUDY PROTOCOL — Open Access

The CARDIA-trial protocol: a multinational, prospective, randomized, clinical trial comparing transthoracic esophagectomy with transhiatal extended gastrectomy in adenocarcinoma of the gastroesophageal junction (GEJ) type II

Jessica M. Leers[1†], Laura Knepper[1*†], Arjen van der Veen[2], Wolfgang Schröder[1], Hans Fuchs[1], Petra Schiller[3], Martin Hellmich[4], Ulrike Zettelmeyer[4], Lodewijk A. A. Brosens[5], Alexander Quaas[6], Jelle P. Ruurda[2], Richard van Hillegersberg[2] and Christiane J. Bruns[1]

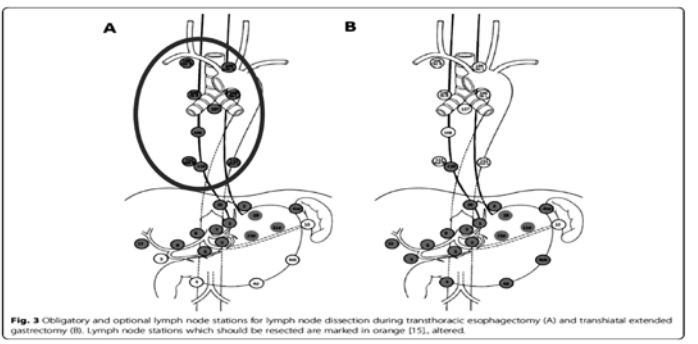

Fig. 3 Obligatory and optional lymph node stations for lymph node dissection during transthoracic esophagectomy (A) and transhiatal extended gastrectomy (B). Lymph node stations which should be resected are marked in orange [15], altered.

THE JAPAN ESOPHAGEAL SOCIETY
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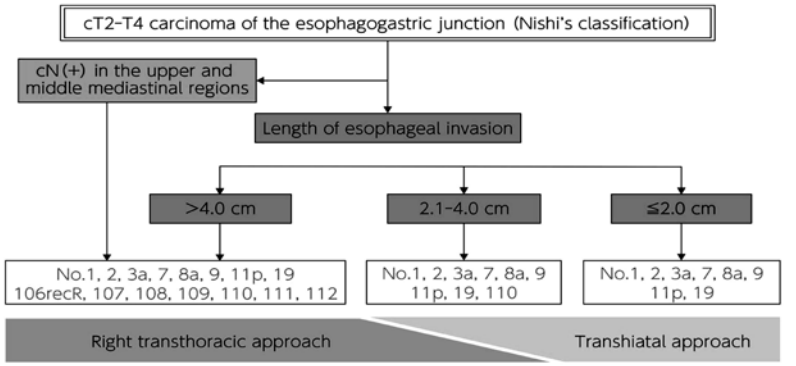


LYMPH NODE STATIONS

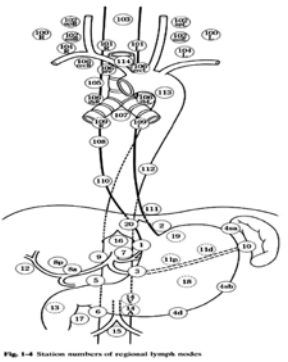


Fig. 1-4 Station numbers of regional lymph nodes

Table 1-3 Numbers and Naming of Regional Lymph Nodes

(1) Cervical lymph nodes* (Figures 1-4, 1-5, and 1-6)
No. 100 Superficial lymph nodes of the neck
No. 100spf Superficial cervical lymph nodes
No. 100am Submandibular lymph nodes
No. 100tr Cervical pretracheal lymph nodes
No. 100ac Accessory nerve lymph nodes
No. 101 Cervical paraesophageal lymph nodes
No. 102 Deep cervical lymph nodes
No. 102up Upper deep cervical lymph nodes
No. 102mid Middle deep cervical lymph nodes
No. 103 Peripharyngeal lymph nodes
No. 104 Supraclavicular lymph nodes
(2) Thoracic lymph nodes (Figures 1-4 and 1-7)
No. 105 Upper thoracic paraesophageal lymph nodes
No. 106 Thoracic paratracheal lymph nodes
No. 106rec Recurrent nerve lymph nodes
No. 106recL Left recurrent nerve lymph nodes
No. 106recR Right recurrent nerve lymph nodes
No. 106pre Pretracheal lymph nodes
No. 106tb Tracheobronchial lymph nodes
No. 106tbL Left tracheobronchial lymph nodes
No. 106tbR Right tracheobronchial lymph nodes
No. 107 Subcarinal lymph nodes
No. 108 Middle thoracic paraesophageal lymph nodes
No. 109 Main bronchus lymph nodes
No. 109L Left main bronchus lymph nodes
No. 109R Right main bronchus lymph nodes
No. 110 Lower thoracic paraesophageal lymph nodes
No. 111 Supradiaphragmatic lymph nodes
No. 112 Posterior mediastinal lymph nodes
No. 112ac Thoracic paraaortic lymph nodes
No. 112pul Pulmonary ligament lymph nodes
No. 113 Ligamentum arteriosum lymph nodes (Botallo lymph nodes)
No. 114 Anterior mediastinal lymph nodes
(3) Abdominal lymph nodes (Figure 1-4)
No. 1 Right cardiac lymph nodes
No. 2 Left cardiac lymph nodes
No. 3 Lymph nodes along the lesser curvature
No. 4 Lymph nodes along the greater curvature
No. 4sa Lymph nodes along the short gastric vessels
No. 4sb Lymph nodes along the left gastroepiploic vessels
No. 4d Lymph nodes along the right gastroepiploic vessels
No. 5 Suprapyloric lymph nodes
No. 6 Infrapyloric lymph nodes
No. 7 Lymph nodes along the left gastric artery
No. 8 Lymph nodes along the common hepatic artery
No. 8a Anterosuperior group
No. 8p Posterior group
No. 9 Lymph nodes along the celiac artery
No. 10 Lymph nodes at the splenic hilum
No. 11 Lymph nodes along the splenic artery
No. 11p Lymph nodes along the proximal splenic artery
No. 11d Lymph nodes along the distal splenic artery
No. 12 Lymph nodes in the hepatoduodenal ligament
No. 13 Lymph nodes on the posterior surface of the pancreatic head
No. 14 Lymph nodes along the superior mesenteric vessels
No. 14A Lymph nodes along the superior mesenteric artery
No. 14V Lymph nodes along the superior mesenteric vein
No. 15 Lymph nodes along the middle colic artery
No. 16 Lymph nodes around the abdominal aorta
No. 16a1 Lymph nodes in the aortic hiatus
No. 16a2 Lymph nodes around the abdominal aorta (from the upper margin of the celiac trunk to the lower margin of the left renal vein)
No. 16b1 Lymph nodes around the abdominal aorta (from the lower margin of the left renal vein to the upper margin of the inferior mesenteric artery)
No. 16b2 Lymph nodes around the abdominal aorta (from the upper margin of the inferior mesenteric artery to the aortic bifurcation)
No. 17 Lymph nodes on the anterior surface of the pancreatic head
No. 18 Lymph nodes along the inferior margin of the pancreas
No. 19 Infradiaphragmatic lymph nodes
No. 20 Lymph nodes in the esophageal hiatus of the diaphragm

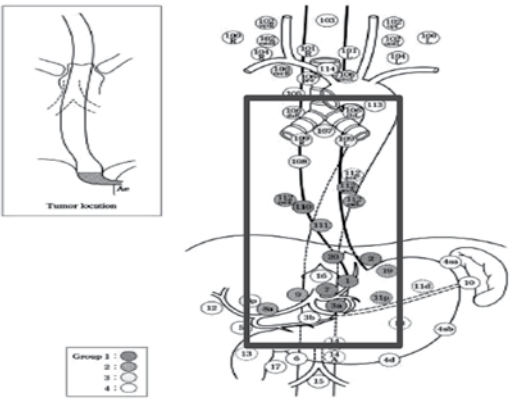
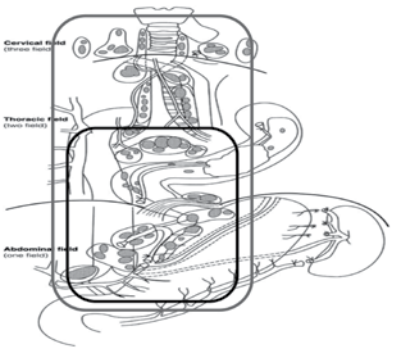


Fig. 1-12 Lymph node groups for tumors located in Ae (EG)

LYMPHADENECTOMY



2 field (D2) vs 3 field (D3) lymphadenectomy

LYMPH NODE METASTASES

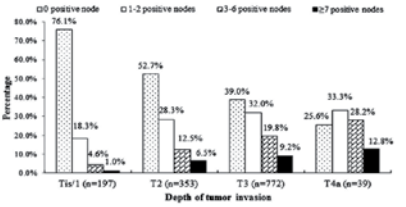


FIGURE 2. The frequency of lymph node metastases according to the depth of tumor invasion.

TABLE 3. Regions of lymph node metastases according to tumor location

Variable	Tumor location			
	Upper (n = 87)	Middle (n = 818)	Lower (n = 456)	Total (n = 1361)
Neck	21 (24.1)	87 (10.6)	25 (5.5)	133 (9.8)
Upper mediastinum	36 (41.4)	156 (19.1)	53 (11.6)	245 (18.0)
Middle mediastinum	9 (10.3)	197 (24.1)	51 (11.2)	257 (18.9)
Lower mediastinum	3 (3.4)	62 (7.6)	96 (21.1)	161 (11.8)
Abdomen	9 (10.3)	196 (24.8)	181 (39.7)	386 (28.4)

Data presented as number of patients, with percentages in parentheses.

❖ *Li et. al, J Thorac Cardiovasc Surg 2012*

The Number of Lymph Nodes Removed Predicts Survival in Esophageal Cancer: An International Study on the Impact of Extent of Surgical Resection

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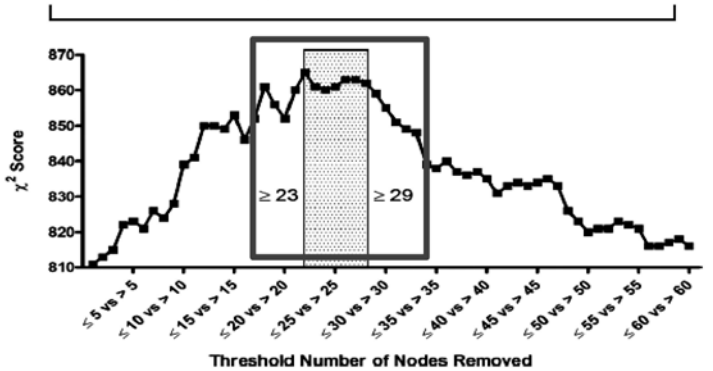

Total Number of Resected Lymph Nodes Predicts Survival in Esophageal Cancer

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TABLE 4. Results From the Multivariable Cox-Regression Analysis to Study the Association Between Numbers of Examined LNs and Survival

Categorical Variable	Hazard Ratio	*P*
T-status		
T1	1	
T2	2.96 (1.58, 5.52)	0.001
T3	4.08 (2.29, 7.29)	<0.001
T4	6.77 (2.47, 18.56)	<0.001
Tumor differentiation		
Poor	1	
Moderate	1.04 (0.74, 1.48)	0.81
Good	0.57 (0.28, 1.13)	0.11
Gender		
F	1	
M	1.54 (1.00, 2.37)	0.05
Age at surgery	1.03 (1.01, 1.05)	<0.001
Tumor size	1.03 (0.95, 1.12)	0.44
No. positive LN	1.05 (1.02, 1.08)	0.002
No. total LN		
≤16	1	
17–25	0.66 (0.41, 1.06)	0.08
26–40	0.52 (0.32, 0.84)	0.001
>40	0.51 (0.31, 0.83)	0.001

THANK YOU

ROBOTICS IN UPER GI SURGERY.

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ABSTRACT

Minimally invasive surgical procedures for the treatment of both malignant and benign pathology of the upper gastrointestinal tract have been well established as treatment ofchoice internationally during the last decades. The complexity of some of the requiredsurgical procedures and often the necessity to access both the abdominal and the thoraciccavity, had made these interventions quite difficult and even prohibitive for some patientsto recover from, before the minimally invasive era. Laparoscopic surgery significantlyreduced trauma, hospital stay, overall complication rates and made more patients suitablefor such procedures, though, like in every other field of gastrointestinal surgery had somelimitations. The introduction of robotics in modern surgery came to overcome most ofthese limitations and expand the limits of minimally invasive techniques in complexsurgical procedures of the upper gastrointestinal tract.Our surgical team has been performing robotic surgical procedures for every pathologyconcerning the upper gastrointestinal tract, malignant or benign, for more than 15 years.This large series of operations include oncologic procedures, routine and complexprocedures for benign diseases such as GERD, hiatal hernias, achalasia, diverticula, stromal tumors, Wilkie's syndrome, often carried out with thoracoabdominal approach. Wehave also performed and published pioneering techniques such the Robotic Strong'sProcedure for Wilkie's syndrome and a large series of complex and recurrent hiatalhernias treated robotically, combined with the innovative use of circumferential resorbablemesh.

Aim of this presentation is to highlight the excellent results and the minimal complicationrates from the establishment of robotics in upper GI surgery, present our experience with itin complex cases, discuss the results from our innovative techniques and also explore the existing limitations and ways to overcome them.

SURGICAL APPROACH FOLLOWING NEOADJUVANT THERAPY IN BREAST CANCER

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ABSTRACT

Neoadjuvant therapy allows for the downstaging of tumors, enabling less surgery in the breast and axilla and improving survival rates, especially in cases with locally advanced or inoperable cancers. The timing, choice, and sequencing of surgery following neoadjuvant therapy are crucial in optimizing outcomes.

One of the key difficulties lies in assessing the pathological response to therapy.

Imaging techniques such as mammography, ultrasound, and MRI may not always accurately reflect the extent of residual disease, leading to potential underestimation of the tumor size or lymph node involvement. This can affect surgical planning, as a tumor that appears to be well-controlled on imaging may still have residual disease that requires more aggressive surgical intervention. Complete response is associated with a higher likelihood of achieving clear margins with breast conservation, but a partial response or stable disease may necessitate a more extensive approach.

Surgical options in the breast include mastectomy or breast-conserving surgery with the decision influenced by factors such as response to therapy, tumor size, location, biological subtype and patient preferences.

Regarding axillary surgical options, in patients who have no evidence of disease in the axilla before neoadjuvant therapy, sentinel lymph node biopsy can be performed with high confidence. For patients who present with clinically positive axillary nodes at diagnosis, axillary management following neoadjuvant therapy depends largely on the response to treatment. If there is a complete clinical response, sentinel lymph node biopsy or targeted axillary dissection can be utilized. If there is persistent clinical or radiologic evidence of node involvement, axillary lymphnode dissection is usually required.

In conclusion, personalized approaches based on a patient's tumor biology and response to neoadjuvant therapy are needed for patients who receive neoadjuvant therapy and ongoing research is exploring further refinements to the current guidelines.

GASTROESOPHAGEAL JUNCTION ADENOCARCINOMA – TREATMENT STRATEGY

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ABSTRACT

Gastroesophageal Junction adenocarcinoma is rising in incidence mainly due to gastroesophageal reflux and Barrett's esophagus epidemic. It's optimal diagnosis, staging and treatment remain controversial despite significant medical advances.

Multimodality team discussions and decisions are based on proper oncological staging, with the use of advanced endoscopic and imaging modalities and sophisticated histopathological examination, whereas molecular markers are integral.

Neoadjuvant oncological treatments are notoriously debated over their effectiveness over two decades, however improving overall survival.

Surgery remains the cornerstone of treatment, and therapeutic endoscopic procedures as well as minimally invasive approaches are becoming part of modern treatment armamentarium.

15 YEARS AFTER INITIATION OF MIS ESOPHAGECTOMIES IN THE BALKANS AND SOUTH EASTERN EUROPE, IS THERE STILL PLACE FOR OPEN PROCEDURES?

Haris Konstantinidis, Director of Robotic General & Oncologic Surgical Department, Interbalkan Medical Center, Thessaloniki Greece

ABSTRACT

Minimal invasive esophagectomies, as a standard procedure for cancer treatment, were initially introduced in the region of southeastern Europe before 15 years from our surgical team. At first a lap/vats access was utilized, and after 2015 totally robotic thoracoabdominal interventions were preferred due to better visibility and ergonomics.

No open procedures took place in our practice, with no selection of cases.

Nevertheless open esophageal resection is the majority of choice in most hospitals, and also an access that every upper GI surgeon should be familiar with.

Based on international literature and also on our experience, we would like to discuss the value of these several interventions and try to determine the path of future esophageal surgery strategies.

ROBOTICS AT COLORECTAL SURGERY.

Smyrlis Christos, Consultant at Robotic General & Oncologic Surgical Department, Interbalkan Medical Center, Thessaloniki Greece.

ABSTRACT

23 years have passed from the first published robot-assisted colectomy in 2002. Since then, many studies concerning robot-assisted surgery of the colon and rectum have been published, marking a progressive amelioration of technical practices and a wide spread of competences, but failing to prove evident advantages in favor of the robotic or laparoscopic approach in colon cancer surgery.

15 years after the initiation of robotic colorectal program by our surgical team and with the experience of hundreds of unselected cases falling into a wide spectrum of pathologies, benign and malignant, we would like to discuss the true advantages and disadvantages of robotic techniques in colorectal surgery. How do we overcome the inherent limitations of robotic surgical systems, is there true value for the patient and surgeon in robotic procedures and is there still room for improvement in minimally invasive colorectal surgery?

CURRENT CHALLENGES IN BOWEL OBSTUCTION

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ABSTRACT

Bowel obstruction, a condition that leads to ileus, still remains a significant clinical challenge due to its varied etiology, diagnostic complexities, and management dilemmas. The condition can be caused by mechanical factors such as adhesions, hernias, tumors, as well as functional issues like paralytic ileus.Despite advances in medical imaging and surgical techniques, bowel obstruction continues to pose diagnostic and therapeutic difficulties.

One of the primary challenges is accurate and timely diagnosis. Symptoms such as abdominal pain, vomiting, and constipation are nonspecific and can mimic other abdominal pathologies. Imaging modalities like CT scans are crucial for identifying the cause and location of the obstruction, but access to advanced imaging can be delayed in emergency settings, or limited in resource-poor settings. Additionally, differentiating between partial and complete obstruction, as well as identifying strangulation or ischemia and perforation, is critical for determining the urgency of proper surgical intervention.

Management of bowel obstruction is another area of ongoing debate. While conservative treatment with nasogastric decompression, intravenous fluids, and bowel rest is often attempted for partial obstructions, surgical intervention is necessary for complete obstruction or complicated cases. However, the timing of surgery remains controversial, as delayed intervention can lead to complications like bowel necrosis, perforation, and consequent fecal peritonitis, while premature surgery may increase morbidity. Minimally invasive techniques, are gaining traction but are not always feasible, especially in cases of dense adhesions or extensive disease.

Postoperative complications, including recurrence of adhesions, infection, and prolonged ileus, further complicate the management of bowel obstruction. Adhesion prevention strategies, such as the use of barrier agents, have shown promise but are not universally adopted. Moreover, the rising incidence of bowel obstruction due

to malignancies, particularly in aging populations, adds another layer of complexity, as these cases often require multidisciplinary approaches and management under a geriatric point of view.

In conclusion, bowel obstruction remains a challenging condition due to its diverse causes, diagnostic uncertainties, and management controversies. Ongoing research into improved diagnostic tools, surgical techniques, and preventive strategies, as well as personalized treatment, is essential to enhance patient outcomes and reduce the burden of this condition.

CURRENT CONCEPTS IN RISK-REDUCING MASTECTOMY

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National and Kapodistrian University of Athens

ABSTRACT

Risk-reducing mastectomy (RRM) is a surgical procedure aimed at lowering the risk of breast cancer in high-risk individuals, particularly those with specific genetic mutations, strong family history, or prior breast tissue abnormalities. Current concepts emphasize a patient-centered approach, integrating genetic testing, risk assessment models, and shared decision-making. Advances in surgical techniques, including nipple-sparing and skin-sparing mastectomies, have improved cosmetic and psychological outcomes while maintaining oncologic safety. The role of immediate breast reconstruction, using implants or autologous tissue, further enhances patient satisfaction.

Recent studies suggest that RRM significantly reduces breast cancer risk, with up to a 95% risk reduction in BRCA mutation carriers. However, ongoing debates concern optimal patient selection, psychosocial implications, and long-term quality of life. Furthermore, approaches, such as contralateral prophylactic mastectomy in unilateral breast cancer patients, remain controversial, although recent data suggest survival benefit at least for a subset of this group. Finally, non-surgical alternatives, including chemoprevention and intensive surveillance, provide options for risk management.

Future research focuses on refining risk prediction models, improving reconstructive outcomes, and understanding the psychological impact of RRM. Personalized approaches are essential to balancing risk reduction with patient preferences, ensuring optimal outcomes in high-risk individuals.

CHALLENGES IN THE SURGICAL MANAGEMENT OF ESOPHAGEAL CANCER

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ABSTRACT

In recent years, the surgical management of esophageal cancer has evolved significantly, driven by advances in diagnostic imaging, the integration of neoadjuvant chemoradiotherapy and immunotherapy, and innovations in surgical techniques. Despite these developments, current surgical practice still needs to address several critical challenges to further improve patient outcomes.

One key area of ongoing research is the classification of gastroesophageal junction tumors based on whether they originate from the gastric or esophageal component, rather than relying solely on anatomical location. More refined classification systems are crucial for guiding optimal surgical approach, determining the extent of resection and tailoring neoadjuvant and adjuvant therapies to improve overall survival and quality of life.

Another critical challenge is the management of T4b esophageal tumors, which invade adjacent vital structures and pose substantial technical difficulties. Novel operative strategies, including en bloc resection of involved organs and refined reconstructive techniques, coupled with updated chemoradiation therapy protocols, are expanding the criteria of surgical resectability while reducing the risk of postoperative morbidity and mortality.

Robotic-assisted esophageal surgery is one such emerging technology offering enhanced precision, reduced postoperative complications, and shorter recovery times. However, its successful adaptation relies on the development of structured training programs to mitigate the steep learning curve and minimize adverse events.

Centralization of esophageal cancer care remains essential in ensuring high-quality, multidisciplinary treatment, as demonstrated by improved outcomes at specialized, high-volume centers. Concentrating expertise and resources enables more accurate diagnosis, comprehensive perioperative care, surgical expertise as well as access to research protocols. While centralization can be challenging in regions with limited infrastructure, guidelines increasingly endorse this model for optimal care.

Addressing these challenges and opportunities will be pivotal in driving future progress and improving patient outcomes worldwide. A collaborative, evidence-based approach remains essential for delivering optimal, patient-centered care and improving long-term patient survival worldwide.

THE ROLE OF MINIMALLY INVASIVE SURGERY IN ACUTE COLORECTAL PATHOLOGIES

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ABSTRACT

Laparoscopic surgery has become a well-established part of elective colorectal surgery for both benign and malignant disease, with indisputable advantages including shorter hospital stay, faster recovery, and less morbidity. Nevertheless, while laparoscopic surgery is universally regarded as appropriate in elective cases, its role in emergent colorectal pathology remains rather uncertain. Over one-third of acute surgical admissions are for colorectal pathologies, including diverticular, malignant and inflammatory bowel diseases. A systematic review of twenty-two comparative studies and case-series, compared outcomes of laparoscopic versus open colorectal emergency resections (Harji DP, et al, Br J Surg. 2014;101:e126–33). Except for an expected longer operating time, the laparoscopic approach was associated with a significantly lower complication rate and LOS. Despite the benefits in terms of lower mortality, morbidity, LOS and hospital costs, a large population-based study in the USA published two years later, found that less than 5% of urgent and emergent colectomies were performed laparoscopically (Keller DS, et al. The current status of emergent laparoscopic colectomy: a population-based study of clinical and financial outcomes. Surg Endosc. 2016;30:3321–6).

Acute obstruction is common in patients with more advanced colorectal carcinoma and may be the first manifestation mainly of left-sided obstruction and in elderly individuals. Emergency surgical resection and primary anastomosis accompanied or not accompanied by proximal defunctioning stoma must be the first treatment choice for fit, hemodynamically stable patients. Hartmann's two-stage procedure remains a valuable alternative. Emergency endoscopic self-expendable metal stents (SEMS) may be preferred in unfit patients as a bridge to surgery and for palliative treatment in inoperable cases.

The applicability of emergency laparoscopic surgery for left-sided obstructed colorectal carcinoma is limited. A nationwide study conducted in the Netherlands compared the results of 158 patients who underwent emergency laparoscopic surgery and 474 patients who underwent emergency open surgery. They found that the laparoscopic approach was favored over open surgery. It was associated with fewer 90-days complications (26.6% vs 38.4%), similar 90-days mortality, increased 3-year overall survival (81% vs 69.4%) and disease-free survival (68.3% vs 52.3%). Laparoscopic surgery in an emergency setting exhibits lower morbidity and higher 3-year survival rates but requires expertise and equipment to overcome the difficulties of a distended bowel to avoid causing iatrogenic perforation injury (Zwanenburg ES et al, Dis Colon Rectum 2023; 66: 774-84). A US study included 1293 patients and compared the outcomes of laparoscopic and open approaches to emergent and urgent partial colectomy for colonic obstruction from colonic cancer using data from the National

Surgical Quality Improvement Program (NSQIP) database (Moghadamyeghaneh Z et al, Surg Endosc. 2021; 35:2986–96). The laparoscopic approach was used for colonic obstruction in 19.3% of operations with a conversion rate of 28.5%. The laparoscopic approach to obstructing colonic cancers was associated with lower morbidity (50% vs. 61.8%, P = 0.01) and shorter hospitalization length (10 days vs 13 days, mean difference: 3 days, P < 0.01) compared with an open approach. However, the mean operation duration was longer in laparoscopic operations than open operations (159 min vs 137 min, P < 0.01). The authors concluded that the laparoscopic approach to malignant colonic obstruction was associated with decreased morbidity and that efforts should be directed towards increasing the utilization of laparoscopic approaches for the surgical treatment of colonic obstruction. On the other hand, the 2017 World Society of Emergency Surgery (WSES) guidelines on colon and rectal cancer emergencies stated that the use of laparoscopy inthe emergency treatment of obstructed left-side colon cancer, cannot be recommended and should be reserved for selected favorable cases and performed preferentially in specialized centers. It is known that the use of SEMS as a bridge to surgery could increase the odds of laparoscopic resection, allowing better short-term outcomes than upfront emergency surgery, with significantly lower stoma rates. Due to controversies about long-term outcomes, the 2017 WSES guidelines stated that SEMS could not be considered as the treatment of choice in the management of obstructed colon cancer but may represent a valid option as a bridge to surgery in selected cases and in tertiary referral hospitals (Pisano M, , et al. World J Emerg Surg. 2018;13:36). A recent meta-analysis found that colonic stenting and decompressing stoma strategies as a bridge to surgery is associated with better 5-year overall survival and disease-free survival rates than upfront emergency resection (Tan L, et al. World J Emerg Surg. 2021;16:11).These findings support the recommendation that stable patients with obstructed colon cancer may benefit from a laparoscopic approach and a decompressive stoma or colonic stenting, allowing for higher rates of subsequent minimally invasive resection.

Regarding obstructed right-sided colon cancer, the 2017 WSES guidelines considered an upfront right hemicolectomy with primary anastomosis as the preferred option. A 2020 meta-analysis of postoperative outcomes showed similar results between the laparoscopic and open right colectomies at the emergency setting in terms of surgical site infection, time to bowel movements and length of hospital stay, while laparoscopic surgery showed statistically significant lower rates of postoperative complications and shorter mean time out from bed after surgery compared to the open approach (Podda M et al, Ann Laparosc Endosc Surg 2020; 5:40-54).

The 2020 update of the WSES guidelines for the management of acute colonic diverticulitis in the emergency setting, advises for an emergency laparoscopic sigmoidectomy, if technical skills and equipment are available, in patients with diffuse peritonitis due to perforated diverticulitis (Sartelli M, et al, World J Emerg Surg. 2020;15:32). A recent analysis in the USA showed that laparoscopic sigmoid resection was associated with lower morbidity, shortened length of stay (LOS) and fewer complications when compared to open surgery. Nevertheless, a low rate of laparoscopic approach (11.4%) and a high conversion rate (38.6%), were reported. Conversion, although frequent, didn't increase mortality and morbidity when

compared to an upfront open approach (Moghadamyeghaneh Z, et al, Am Surg. 2021;87:561–

7). Zhang et al. in a 2022 systematic review and meta-analysis, compared laparoscopic versus open Hartmann's procedure in clinically suitable patients. The laparoscopic approach allowed for a shorter LOS, and a lower risk of overall surgical site infections. The single-arm analysis of the laparoscopic Hartmann procedure also showed a high colostomy reversal rate by more than 80% (Zhang Y, et al, Int J Colorectal Dis. 2022;37:2421–30). It remains unclear what the real benefits of laparoscopic lavage are in Hinchey III Diverticulitis compared to sigmoid resection. Long-term follow-up of the SCANDIV randomized controlled trial (RCT) and a systematic review of 3 RCTs conducted in the last decade showed no differences in severe complications and mortality, despite recurrence of diverticulitis after laparoscopic lavage was more common and often leading to sigmoid resection, especially within 30 days postoperatively (Marshall JR, et al, Ann Surg. 2017;265:670–6). Another systematic review and meta-analysis found no difference in terms of postoperative mortality and early reoperation rate but significantly higher rate of postoperative intra-abdominal abscess in patients who underwent laparoscopic lavage compared to those who underwent surgical resection (Cirocchi R, et al, Tech Coloproctol. 2017;21:93–110). In the most recent meta-analysis, long-term follow-up of patients who underwent emergency surgery for perforated diverticulitis showed that laparoscopic lavage had lower odds of long-term ostomy and reoperation, but more risk for disease recurrence when compared with resection in purulent peritonitis. Colonic resection with primary anastomosis had better long-term outcomes than the Hartmann's procedure for fecal peritonitis (Horesh N et al, Ann Surg. 2023;278:e966-72).

Curfman et al. compared the outcomes of over 2500 emergency sigmoid resections for diverticulitis with robotic, laparoscopic and open approaches [292]. Emergency robotic sigmoidectomy showed many benefits compared to open approach, with a significant decrease in ICU admission rates, anastomotic leaks, and reduced LOS. When compared to the laparoscopic approach, robotic sigmoidectomy showed similar outcomes but it was associated with a statistically significant improvement in anastomotic leak rates, respectively 4.5%, and 0.8% Furthermore, there was a striking difference in conversion rates. Laparoscopic cases were converted in over 28.7% versus 7.9% of robotic cases (Curfman KR, et al, Int J Colorectal Dis. 2023;38:142-150).

Emergency surgery for acute severe ulcerative colitis entails total colectomy and end ileostomy as a life-saving procedure. Minimally invasive surgery is the preferred approach in most referral centers whenever feasible. The decision between laparoscopic and open surgery must be individualized, considering the patient's condition, the surgeon's expertise, and institutional resources. Despite longer operative times, laparoscopic surgery is associated with shorter postoperative recovery and lower overall complication rates compared to open surgery. Nash et al. compared the peri-operative outcomes of 32 patients who underwent laparoscopic surgery with 36 patients that had open surgery for acute colitis. They found no difference in morbidity but longer operating times in the laparoscopic cases (mean difference of 59 min) (Nash GM, et al, Colorectal Dis 2010; 12: 480-84).

Similar findings were also noted by Watanabe et al. in a comparison of 30 patients undergoing laparoscopic surgery and 30 patients having an open procedure. In addition, they reported a shortened recovery time for bowel function (4.8 days in the laparoscopic

group vs 5.9 days in the open group) (Watanabe K, et al, Dis Colon Rectum 2009; 52: 640-45). Earlier oral intake was a benefit also seen by Marcello et al. in their case-matched study of acute colitic patients (Marcello PW, et al. Dis Colon Rectum 2001; 44: 1441-45). While most reports found complication rates and morbidity to be similar between open and laparoscopic surgery, Seshadri et al found fewer peri-operative complications in the laparoscopic group (9 patients in laparoscopic vs 24 in open group), in their series of 37 patients despite longer operating times (270 min vs 178 min) (Seshadri PA, et al. Surg Endosc 2001; 15: 837-42).

PANCREATIC CYSTIC LESIONS AND THEIR MANAGEMENT GUIDELINES. WHERE DO WE STAND

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ABSTRACT

Incidental pancreatic cystic lesions (PCLs) are increasingly identified due to advancements in cross-sectional imaging technologies. The challenge posed by the prevalence and variability of these lesions necessitates a comprehensive understanding of their classification and management. Current diagnostic methods, while improving, still exhibit limitations in distinguishing between mucinous and nonmucinous PCLs, as well as in accurately assessing the risk of malignancy associated with these lesions.

Mucinous lesions, including main duct intraductal papillary mucinous neoplasms (MD-IPMNs), branch duct intraductal papillary mucinous neoplasms (BD-IPMNs), and mucinous cystic neoplasms (MCNs), have malignant potential. Among nonmucinous cysts, cystic neuroendocrine tumors and solid pseudopapillary neoplasms can undergo malignant transformation, whereas serous cystadenomas have a malignancy risk of less than 1%, and pseudocysts remain benign. Among neoplastic PCLs, IPMNs are the most frequently encountered in clinical practice.

Recent innovations, such as cyst fluid next-generation sequencing and endoscopic ultrasound (EUS)-guided needle-based confocal laser endomicroscopy, have demonstrated high accuracy in both classifying cyst types and stratifying the risk of malignancy, particularly for intraductal papillary mucinous neoplasms (IPMNs). Despite their diagnostic efficacy, these techniques are invasive, dependent on the expertise of the clinician and the availability of facilities, which may hinder their widespread application in clinical practice.

Given the low overall risk of malignancy associated with PCLs and the significant morbidity associated with pancreatic surgery, there is an urgent need for evidence-based guidelines to optimize the surveillance and management of these lesions. Guideline development must carefully consider the

balance between the risks associated with unnecessary resection of benign lesions and the potential consequences of inadequate management of malignant cysts. Additionally, the economic implications and risks associated with both invasive and noninvasive surveillance strategies must be factored into the guidelines.

Multiple organizations have published consensus-based guidelines aimed at informing the management and surveillance protocols for PCLs; however, these guidelines often exhibit variability in terms of target audiences, criteria for patient inclusion, types of cysts addressed, and the recommended approaches to surveillance and management.

This abstract serves as a foundation for discussion regarding the optimal approaches to the diagnosis, , and management of PCLs, emphasizing the importance of standardized guidelines that facilitate evidence-based decision-making in this complex clinical domain.

PERSONALIZED MANAGEMENT OF DCIS

Speaker: VANIA STAFYLA, MD, PhD, FEBS, CEBS
Breast Surgeon

ABSTRACT

DCIS is known to be a precursor breast lesion of invasive cancer. Its incidence has grown with the implementation of screening mammogram. The natural history of DCIS and its genomic evolution is poorly understood due to lack of longitudinal data and thus it usually gets overdiagnosed and overtreated by the physicians. In the diagnostic setting, apart from mammography, that detects the microcalcifications, MRI findings, like non-mass enhancement, contribute to a more detailed mapping of the disease. Minimally invasive techniques, like vacuum assisted biopsy, offer a modern approach to pre-operative diagnosis and lately can also serve as definitive treatment option in selected cases. Therapeutic strategies vary from active surveillance to radical surgical approaches, like mastectomy, and depend on several factors like the pathological characteristics (degree of differentiation, presence of comedo necrosis), the extend of the disease, the margins of a possible initial excision, the age and preference of the patient. In order to achieve a more efficient and personalized treatment of DCIS, molecular signatures have been developed -similar to those well established for invasive cancer- that stratify patients to low or high risk for invasive recurrence. Based on these results, the addition of Radiotherapy and chemoprophylaxis with hormonal therapy can be evaluated and offered to those patients that will have the maximum benefit.

HUNGARIAN EPIDEMIOLOGICAL AND SURVIVAL TRENDS OF COLORECTAL CANCERS IN THE LAST TWO DECADES

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ABSTRACT

Aim: Colorectal cancer (CRC) is the second most common type of cancer in men and the third most common cancer in women. Our aim was to investigate the epidemiological aspects of colorectal cancer in Hungary over the last 15 years.

Method: Our nationwide cohort study was based on data from the National Directorate General for Hospitals in Hungary. We examined the incidence of CRC for both sexes between 2008 and 2022. We used the number of new cases /100, 000 inhabitants per year as outcome measure. We also stratified data by 10-year age groups. Finally we also examined 5-year survival comparing data from CRC detected in 2008 and 2017.

Result: For both colon and rectum cancer, the incidence showed a slight decrease over the 15 years study period (rectum: from 84.22 to 78.22 new cases/100, 000 inhabitants/year; colon: from 30.57 to 27.90 new cases/100, 000 inhabitants/year (colon: coef=-0.27, p=0.177; rectum: coef=-0.25, p=0.018). While the incidence of colon cancer was stagnating in men, the incidence of rectum cancer was decreasing, while in women we observed a decrease in cancer incidence in both localisations. In the age subgroup analysis, the decline in incidence rates started between 50-60 years and were the steepest the age group above 80 years. During the COVID pandemic, especially in 2020, the incidence rate declined. For colon cancer, during 10 years the 5-year survival showed slight, but significant increase (50 vs 52%, p=0.019). The change is significant only for women (p=0.049). The 5-year survival for rectal cancers remained essentially unchanged between 2008 and 2017, around 50%.

Conclusion: In Hungary, the CRC incidence was decreasing, especially in the older age groups. The 5-year survival of CRC did not improve significantly during the 10 years of the study.

THE EVOLUTION OF LOW RECTAL SURGERY IN LIGHT OF THE AVAILABILITY OF DA VINCI XI ROBOTIC SYSTEM

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ABSTRACT

Introduction: Low rectal cancer represents one of the mostly investigated fields of abdominal surgery. The quality of total mesorectal excison (TME) has been proven to be a key factor in local recurrence and survival. However, the lower the rectal cancer is sitting in the narrow pelvis the more challenging is to maintain free resection margins, keep mesorectal facia intact and preserve sphyncter integrity, as well as perform a safe anastomosis. Two competing techniques received popularity over the past decade to effectively tackle these issues: transanal total mesorectal excision (TaTME) and robotic assisted surgery (RAS).

Methods: Since 2016, TaTME has been included in the routine practice of our team. Right after reaching plateau of the long learning curve, DaVinci Xi robotis system became available for the same team.

Prospective database has been led for laparoscopic, transanal and robotic assisted rectal resection case series, as well. Learning curve effects, changes in indication and morbidity results were collected and assessed over an 8-year time period.

Results: TaTME learning curve was proven to be reaching plateau at about 50 cases in our hand. Indication of TaTME changed dinamically in the direction of the very low rectal cancers (median tumor height 8 cm). This change was more predominant in female, while the choice of TaTME technique gradually moved to the male predominance. Abdominoperineal exstirpation rate has dropped below 10% in accordance. The appearance of robotic assisted low anterior resection technique has resulted in a decreased case number of TaTME since 2022, by completing „difficult" low rectal cancer cases without transanal access in about 50% of the indicated cases.

Conclusion: Even though robotic assisted surgery with DaVinci Xi system provides with an excellent technical support to prform good quality TME with sphyncter sparing even in the lowest sitting rectal cancer cases, due to some incompatible advantages of TaTME, i.e. granting safe distal resection margin, TaTME remained present in our practice even in the robotic era.

THE MINIMALLY INVASIVE TREATMENT OF GIANT HIATAL HERNIAS – A SINGLE CENTER EXPERIENCE

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ABSTRACT

Introduction: Giant hiatal hernias negatively damage patients' health and life quality. Laparoscopic cruroplasty with total or partial fundoplication is currently the standard of care for patients with large hiatal hernias. However laparoscopic large hiatal hernia repair remains a challenge despite three decades of ongoing attempts at improving surgical outcome. In our lecture we discuss our operative experience, short and long term results of nearly 200 patients treated laparoscopically.

Methods and results: During a 13 year period we performed 198 repair of giant hiatal hernias. Elective procedures (190 cases) were performed laparoscopically with the exception of one case. The type of fundoplication were Nissen in the most cases, but there is a trend toward a partial shift toward Toupet procedures. Emergency cases were usually treated with an open procedure. 85% of the patients had a type III hernia. 15% of the patients were operated because of type II or IV or post-esophagectomy hiatal hernia. In the acute setting we often had to perform resectional procedures (subtotal or total gastrectomy, even esophagogastrectomy in one case). 30 day operative mortality was 0, 49% (1 case). We performed 4 operations due to recurrent hernia. 1 Merendino-operation was performed due to late onset gastroesophageal stenosis.

Discussion: Elective laparoscopic repair of hiatal hernia is the best method of treatment for patients with symptom of large hiatal hernias. It is a safe procedure in the hands of experienced surgeons. The treatment of complicated or emergency cases can be challenging, sometimes resectional procedures are needed, which often compromises the quality of life of the patients. We need to gain more experience and evidence with the use of mesh reinforcement.

TATME - DOOM OR BOON?

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ABSTRACT

In 2010, Patricia Sylla published a series of 20 rectal cancer patients who underwent surgery via trans-anal total mesorectal excision (TaTME). This novel procedure complements other surgical techniques, such as open rectal resection, laparoscopic rectal resection, and robotic-assisted rectal resection. Where does TaTME fit in the landscape of rectal surgery? Does it offer new solutions, or does

it simply introduce new problems? At our department, we have been practicing TaTME for 10 years. Based on the literature and our experience, we assess the possible drawbacks and benefits of the procedure. TaTME is a technically complex operation that requires two surgical teams working together. It involves a challenging surgical technique and a bottom-up approach, with a long learning curve. There are new types of complications, and we must also address concerns about oncologic safety. However, TaTME makes it significantly easier to achieve safe distal and circumferential resection margins. It is especially advantageous for obese male patients with narrow pelvises. TaTME has a low conversion rate, and the double purse-string, single-stapled anastomosis eliminates the potential problems of zig-zag cross staple lines and dog-ears.

In conclusion, TaTME is not meant to replace, but rather complement, other abdominal approaches to achieve optimal outcomes in complex rectal cancer patients.

LAPAROSCOPIC LIVER SURGERY IN A TERCIER CENTER - EVOLUTION, STANDARDS, RESULTS

Kristóf Dede

ABSTRACT

Introduction: in liver surgery, significant changes have taken place in our department in the last 9 years regarding the surgical treatment of malignant lesions. After the introduction of the minimally invasive technique, more and more cases were operated with laparoscopic technique over the years, and from 2022 the number of laparoscopic liver resections surpassed the number of open surgeries.

Methods, patients: in the last 9 years, we analyzed the data of 493 patients who underwent liver resection due to malignant disease in our department. The aim of our study was to summarize the safety, advantages and currently experienced limits of the laparoscopic technique.

Results: We operated on 139 (28%) patients using the laparoscopic technique. In the last 3 years, 52% of the patients were operated laparoscopically. In the case of minimally invasive liver resections, we demonstrated all the advantages of laparoscopic operations. The laparoscopic approach proved to be safe both surgically and oncologically. Even in the case of major resections, we strive for minimally invasive solutions in our department, but in some cases open resection is still mandatory. These are: in the case of resection of lesions affecting multiple segments/lobes, in the case of certain great vessel proximity and infiltration, in part of repeated liver resections, in extended hemihepatectomies, when the resection is planned to be supplemented with other alternative therapy.

Conclusions: overall, it is statable that minimally invasive surgery is gaining more and more ground in liver surgery, it can be considered the “gold standard”.

MECHANICAL BOWEL PREPARIATION AND ANTIBIOTIC PROPHILAXIS BEFORE ELECTIVE COLORECTAL SURGERY. LESSONS LEARNT FROM THE SOAP STUDY

Géza Papp

ABSTRACT

Arguably the most important and controversial aspect of the preoperative period is the use of mechanical bowel preparation (MBP) and oral antibiotic prophylaxis (OAP). The recommendations of the European and American ERAS societies are currently very different. This is interesting in the light of the fact that data from the NSQIP National Surgical Quality Improvement Program (NSQIP), which was conducted in the USA in 2015, have been processed and published by several research teams since 2016, and ti has been shown that it is not the benefit of mechanical bowel prep alone that should be investigated, but the effect of mechanical bowel prep in combination with oral antibiotic prophylaxis, which together significantly reduce SSI, AL, and POI.

Our SOAP multicentre clinical trial was published in 2021 and demonstrated with prospectively collected data that the combination of MBP+OAP significantly reduces SSI, AL. Our results have since been published in Cochrane metaanalysis, SAGES, EAES and ESCP joint rapid guideline, among others.

ROBOTIC ASSISTED LIVER SURGERY IN SEMMELWEIS UNIVERSITY FROM PERIPHERAL SEGMENT 6 RESECTION TO TWO STAGE PERIHILAR CHOLANGIOCARCINOMA PROCEDURE

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ABSTRACT

Introduction: Patients with liver tumours can benefit from minimally invasive liver surgery compared to open hepatectomies. The place of robotic assisted liver resections is still not exactly defined.

Patients and metods: Consecutive robotic assisted liver surgery patients' data were collected in the Department of Surgery, Transplantation and Gastroenterology, Semmelweis University, Budapest, Hungary

Data collection was performed directly from the software of the robot system.

Results: Between 2022 and Jan. 2025 109 robotic assisted liver surgeries were performed in our institute. Most of the indications were colorectal liver metastasis (62 pts). The number of primary liver tumour cases – especially intrahepatic cholangiocarcinoma - are increasing, in this series14 hepatocellular carcinoma (HCC) and 22 intrahepatic cholangiocarcinoma (I-CCC) and 2 hepatoblastoma patients were operated. Among these resections 15 major, 85 minor hepatectomies, 4 Complex (two stage procedures) were performed. Average operating time was 118 min, conversion rate 12%, complication rate C-D III: 3/97, IV: 1/97, mortality was 0%.

Conclusion: For patients with liver tumours (especially with tumours in difficult locations) robotic assisted liver surgery can be the first choice, especially for those with difficult located tumours.

OUR PRELIMINARY EXPERIENCES IN LIVER RESECTIONS AFTER VENOUS DEPRIVATION

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ABSTRACT

The resectability of a liver malignancy is often limited by the volume of the future liver remnant (FLR). There are many known procedures of the enlargement of the FLR. Some of them are already outdated. For a while the ALPPS procedure seemed a promising solution for the FLR enlargement. Since August 2024 we have the opportunity to perform total venous deprivation (TVD)at the Pecs University Clinical Centre. This method for the enlargement of FLR is less invasive, and at the same time as effective as the ALPPS procedure is.

We had 7 patients in whom TVD was performed. Five of these patients had right extended hepato-lobectomy (trisectionectomy) in two weeks following the TVD procedure. One patient needed only right hepato-lobectomy. Whereas one patient became irresectable according to the surgeon who performed the operation.

Due to our experience we had to change our customary way of closing the right hepatic vein.

One patient of the five, who had trisectionectomy had transient significant liver enzyme elevation what solved during n-acetylcysteine administration. The remaining patients had eventless postoperative course. Up till now no tumour recidivae were experienced.

In our opinion, similarly to other experts' opinion, the TVD is a reliable procedure of FLR enlargement, which makes possible the removal of large malignant foci of the liver.

CYTOREDUCTIVE SURGERY AND HIPEC OUR EXPERIENCE AND HUNGARIAN SITUATION

Lajos Barna Tóth

ABSTRACT

Cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) have become standard care for many peritoneal malignancies in selected patients.

The aim of this lecture is to present our experience in peritoneal carcinomatosis treatment and the technical details of cytoreductive surgery (CRS) and hyperthermic intraperitoneal chemotherapy (HIPEC) in the light of our experience.

We started these interventions in 2012. The Nyíregyháza hospital was the first to perform this surgery in Hungary. Over the past 12 years, only one surgeon has performed over 400 CRS + HIPEC procedures. Our patients suffered from several types of peritoneal cancers. The origin of peritoneal carcinomatosis were ovarian-, colorectal-, appendiceal cancer, malignant mesothelioma, gastric- and pancreatic cancer. Our complications were less than 10%, and the 30-day mortality was less than 1%.

We are very proud that after our surgical department, 3 more hospitals have started this surgical procedure in our country in the last 5 years, working with us.

Based on international data and our own experience, we can say that CRS + HIPEC is a safe and effective method in the treatment of patients with peritoneal carcinomatosis.

CRS + HIPEC has favorable results. Our own surgical results are consistent with the literature and are encouraging, which is perhaps why it has recently become a popular treatment in our country and has been started by 3 more hospitals. Careful perioperative evaluation, appropriate patient selection, and a multidisciplinary approach are essential for the success of the curative treatment of peritoneal carcinomatosis.

NEOADJUVANT THERAPICAL OPTIONS OF LOCALLY ADVANCED ESOPHAGEAL(GEJ) AND STOMACH CANCERS FOLLOWING SURGICAL TREATMENT

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ABSTRACT

Introduction: Recently the therapeutic treatment for advanced stage(T2-T4) esophageal adenocarcinoma and gastroesophageal junction(GEJ) and stomach cancer and those adjacent to the regional lymphnodes involves neoadjuvant chemotherapy with subsequent surgical intervention.

Method: the authors presents the actual therapical options of neoadjuvant oncological treatment for esophageal and GEJ cancers.

The GEJ and stomach cancer previously consisted of the intravenous administration of epirubicin, cisplatin and fluorouracil (ECF) or epirubicin, cisplatin and capecitabine(ECX) combination (Group I). In the course of the new protocol (FLOT-, F: 5-FU, L: leucovorin, O: oxaliplatin, T: docetaxel), patients were included with resectable GEJ and stomach cancer who had a clinical stage cT2 or higher nodal positive cN+ disease (Group II). Between 31th of December 2008 and 31st of October 2022 we retrospectively analyzed the effect of these different oncological protocols in terms of surgical outcomes in cases of T2-T4 tumors. We compared the results the randomly assigned patients from earlier ECF/ECX protocol (n=36) (Group I) and from new FLOT protocol (n=52) (Group II). We analyzed the effect of the these different neoadjuvant therapy on tumor regression, evaluated the types of possible side effects, type of surgery, the oncological radicality of surgical procedures (number of removed regional lymph nodes, resection margins).

Results: Comparing the two groups we found that in cases of FLOT neoadjuvant chemotherapy (Group II, n=52) complete regression was achieved in 6 patients (13, 95 %), while in cases of intravenous administration ECF/ECX (Group I, n=36) complete regression in 2 patients (9, 10%) occurred. Furthermore, in cases of FLOT treated patients, the average number of removed lymph nodes slightly increased from 20, 13 (ECF/ECX) to 24, 69 pcs/pts.

In terms of the safety resection margin (proximal) no significant difference was found between the two therapical groups. Nausea and vomiting was the most frequently encountered side effect. Leukopenia and nausea occurred more frequently in cases of the old protocol (Group I). The number of Neutropenia was increased (p= 0.294) under the previous ECF/ECX treatment.

Anaemia occured significantly higher (p=0.036) rate due to the ECF/ECX protokol.

Conclusions: As a result of the FLOT neoadjuvant oncological protocol for advanced gastro-esophageal junction and stomach cancer, the number of cases with complete tumor regression has significantly increased. The present results strongly suggest a significant advantage in favor of FLOT neoadjuvant treatment following surgery.

Keywords: neoadjuvant treatment options, FLOT-neoadjuvant therapy, advanced gastroesophageal junction and gastric tumors

MULTIMODAL TREATMENT OF OLIGOMETASTATIC DAC OF THE PANCREAS

Tamás Tölgyes

ABSTRACT

Background: Pancreatic ductal adenocarcinoma (PDAC) remains the fourth leading cause of cancer-related death worldwide and is projected to become the third in the near future. At diagnosis, less than 20% of patients are eligible for surgical resection due to locally advanced disease or distant metastases. Despite advancements in surgical and oncological treatments, prognosis remains poor, with a 5-year survival rate of only 10%. In selected cases of stage IV PDAC, local consolidative treatment (LCT) with curative intent, including surgery, radiofrequency ablation (RFA), and stereotactic body radiotherapy (SBRT), has demonstrated a survival benefit.

Definition: There is no internationally accepted consensus on the definition of oligometastatic PDAC. A literature review indicates that this terminology is typically applied in cases where a single organ is involved (liver, lung, peritoneum, or other) and the number of metastatic lesions is limited to fewer than three, with variations depending on the affected organ. These metastases may present in a synchronous or metachronous manner.

Results: At our department, four patients with oligometastatic PDAC underwent liver resection following pancreatic operation. The mean overall survival in this small size cohort was 29 months.

Conclusion: While surgical resection of liver metastases in PDAC remains controversial, emerging data suggest that it may provide a survival advantage in well-selected patients with oligometastatic disease. Standardized criteria for defining oligometastatic PDAC are needed to improve treatment strategies and patient outcomes. Ongoing clinical trials and molecular biomarker research will be crucial in refining patient selection and developing personalized therapeutic approaches.

Keywords: pancreatic ductal adenocarcinoma, PDAC, oligometastatic, local consolidative treatment

ENDOSCOPIC TREATMENT OF VARICEAL BLEEDING IN PATIENTS WITH LIVER CIRRHOSIS

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ABSTRACT

The survival rate in patients with liver cirrhosis and variceal bleeding are directly linked to the volume of the hemorrhage and the efficiency and timing of the primary endoscopic hemostasis procedure, as well as the degree of functional liver reserves. The aim of the study was to evaluate the performance of the fibrin glue blockage of hemorrhagic varices and to observe the mortality rate correlated with the hepatic functional reserves and the speed of performance of endoscopic hemostasis from the moment of hemorrhage onset.

This study included 1834 patients with liver cirrhosis and variceal bleeding treated from 2015 to 2024 (Child A/B/C-221/1086/527). Endoscopic hemostasis was performed using fibrin glue blockage (through intra-variceal injection), up to the complete blockage of all variceal cordons. We conducted a post-surgery mortality rate analysis, in relation to the endoscopic hemostasis performing time from the onset of variceal hemorrhage, by dividing patients into two groups: (1) in less than 6 hours from onset (886 patients) and (2) in more than 6 hours from onset (948 patients).

Control of variceal hemorrhage was achieved in 1809 cases (98.6%). In 25 patients (1.4%), the hemorrhage from the bottom gastric varices could not be stopped. No significant statistical relation was observed between the degree of hepatic dysfunction and the mortality rate in patients with variceal bleeding controlled within the first 6 hours from hemorrhage onset. In this first group, 49 patients (5, 5 %) died as a result of an irreversible hemorrhagic shock. In the second group, a direct correlation was noted between the degree of hepatic dysfunction and the mortality rate in patients submitted to endoscopic hemostasis within more than 6 hours from bleeding onset (18.9%, or 179 patients). According to the degree of functional liver reserves, the mortality rates in stages Child A/B/C/ (198/494/256 patients) represented to 8, 9% (16 pts.) /13.1% (65 pts.) /38.3% (98 pts.) due to hepatic failure.

Endoscopic hemostasis with injection fibrin glue blockage is an efficient method to control variceal bleeding in liver cirrhosis. The survival of cirrhotic patients with variceal bleeding is directly related to the speed of the primary endoscopic hemostasis procedure. Paradoxically, the results of endoscopic hemostasis within the first 6 hours from bleeding onset did not depend on the functional hepatic reserves but were rather determined by the severity of the hemorrhage.

LAPAROSCOPIC GASTRIC DEVASCULATION IN PATIENTS WITH ESOPHAGEAL VARICES IN DECOMPENSATED LIVER CIRRHOSIS.

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ABSTRACT

Aim: Evaluation of the results of laparoscopic esophagogastric devascularization in patients with grade IV esophagogastric varices in decompensated liver cirrhosis.

Materials and methods: 7 surgical interventions were performed in patients with grade IV esophagogastric varices in decompensated liver cirrhosis - laparoscopic esophagogastric devascularization, liver biopsy, sanitation and drainage of the abdominal cavity with postoperative peritoneal lavage. All patients were hospitalized in the Holy Trinity Hospital, Surgery Clinic No. 2, "Constantin îbîrnă", investigated for complications caused by portal hypertension with the administration of treatment for the correction of liver function and ascites syndrome. Positive bacteriological examination of ascitic fluid was diagnosed in all cases. (E. coli – 7 patients).

Results: During the postoperative period observed within 1 year, according to the esophagogastric endoscopic examination, regression of the degree of esophageal varices was observed, in 4 cases in gr.III, 2 cases in gr.II, 1 case the disappearance of gastric varices with the preservation of esophageal varices grIII. Recurrences or episodes of bleeding from esophagogastric varices were not observed. Histological examination - hepatocytes have different sizes, sometimes with dysplasia, protein dystrophy. The capsule is thickened, fibrotic. The portal tracts are dilated due to pronounced lymphohistiocytic infiltration and fibrosis with the formation of lymphoid follicles. Gradual necrosis, proliferation of bile ducts are noted. Bacteriological examination of ascitic fluid - in 4 cases at 1 month the presence of bacterial flora was not attested. The decrease in the volume of ascitic fluid with a decrease in the dose of diuretics was established.

Conclusions: Laparoscopic esophagogastric devascularization in patients with esophagogastric varices in liver cirrhosis presents a minimally invasive surgical method effective in the treatment and prophylaxis of bleeding from esophagogastric varices with the possibility of performing associated treatment for ascites-peritonitis in ascitic syndrome.

Keywords: azygoportal disconnection, laparoscopy, liver cirrhosis

MALIGNANT COLONIC OBSTRUCTION TREATMENT OPTIONS IN "BALKAN CONDITIONS"

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ABSTRACT

Colorectal cancer presents as an emergency in about 15-30% of cases with obstruction being the most common complication (10-18%). These patients often present in poor condition, sometimes during night emergency shifts. In part of the Balkan countries, diagnostic tools aren't usually accessible in some surgical centers or are insufficient. Hence, surgeons are forced to extort some emergency procedures (endoscopic or surgical). Self-expanded metallic stents (with all the complications following their placement) are also rarely accessible or the lack of expertise exists. As a result, one is left to perform a diverting enteral ostomy, Hartman's procedure, or create a primary anastomosis after colon resection, depending on the patient's condition. Understandably, these patients are condemned to higher rates of postoperative morbidity and mortality and have a worse prognosis when compared to others. Improvement of the postoperative outcome and the overall prognosis in such patients in the Balkans is still questionable.

Keywords: colorectal cancer, obstruction, treatment

COLO- COLONIC INTUSSUSCEPTION CAUSED BY GIANT POLYP OF TRANSVERSE COLON A CASE REPORT WITH LITERATURE REVIEW

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ABSTRACT

Introduction: Colonic intussusception in adults is a rare condition, usually caused by malignant lesions, which require surgical treatment. However, there are cases

where the cause of the disease is benign, such as stromal tumors, lipomas, appendiceal mucocele, and polyps.

Case Presentation: An 81-year-old female patient was admitted to the surgical department as an elective case with a colonoscopic finding of a tumor in the colon causing obstruction. The pathological findings from the biopsy were inconclusive. The patient reported a history of episodes of constipation accompanied by abdominal pain over the past few months, which were resolved with laxatives. During surgery, a tumor was identified in the transverse colon, pedunculated and causing intussusception of approximately 20 cm of the colon. A right hemicolectomy with ileocolic anastomosis was performed. The postoperative course was uneventful, and the patient was discharged home on the 8th postoperative day. The histopathological diagnosis was an *atypical polypoid lipomatous tumor*.

Conclusion: The treatment of intussusception is typically surgical, whether it occurs in the small intestine or due to the predominance of malignant lesions in the colon. However, in rare cases where colonic intussusception is caused by a polypoid lesion, it can be managed by endoscopic resection.

Keywords: colonic intussusception, malignant polyp, surgery

ABDOMINAL WALL HERNIA / WHERE DO WE STAND NOW

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ABSTRACT

Minimal invasive surgery is in its decade, more and more surgeries are done in this manner, and we have reached the point where almost all abdominal surgeries can be performed with minimal invasive techniques. And yet abdominal wall hernia represents a problem for the surgeon and patients. In the last decade we have seen big change in the perception and understanding what is abdominal wall in anatomical layers and its dynamics.

Among all the techniques their eis one that I prefer. The eTEP.

The eTEP technique is closest to ideal because the abdominal cavity is not entered, is lessening the risk of visceral lesions and trocar site hernias, allows local or regional anesthesia, gives unsurpassed views of inguinal region and hernias.

It reproduces the technique of Rives – Stoppa and in favor of this technique is that it is modified based on the normal anatomy of the abdominal wall and depending of the extension of the dissection and the location of the hernia.

The eTEP technique is based on the anatomical principle that the extraperitoneal space can be reached from almost anywhere in the anterior abdominal wall. It provides the most of the benefits for the patients but also requires great surgical skill and understanding of the anatomy of the anterior abdominal wall.

Keywords: minimal invasive surgery, TEP, eTEP, ventral hernia, lapraoscopy

OPEN OR LAPAROSCOPIC SURGICAL TREATMENT FOR CYSTIC ECHINOCOCCOSIS OF LIVER: 10 YEARS EXPERIENCE

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Background: Liver cystic echinococcosis remains a significant challenge in surgical parasitology. This study aims to analyze the effectiveness and safety of laparoscopic versus open surgical approaches based on a 10-year, single-institution experience.

Methods: Between January 2011 and January 2021, 54 patients with hepatic hydatid disease were treated in the authors' department. The selection criteria for laparoscopic surgery included cysts located on the liver surface with corticalization and no evidence of intrabiliary rupture. Among the 12 patients who underwent laparoscopic treatment, 1 required conversion to open surgery. The remaining 11 patients (Group 1) were analyzed. During the same period, 42 patients underwent conventional open surgery, and their outcomes were retrospectively reviewed (Group 2).

Results: The mean cyst diameter was 6.82 cm (range, 3–15 cm) in Group 1 and 7.73 cm (range, 4–18 cm) in Group 2 ($p = 0.677$). The mean operative time was 62 minutes (range, 50–120 minutes) in Group 1 and 75 minutes (range, 55–130 minutes) in Group 2 ($p < 0.001$). Conversion to open surgery occurred in one case (0.83%).

The overall complication rate and abdominal wound complication rate were 0% in Group 1 ($p = 0.025$) compared to 4.33% and 7.52%, respectively, in Group 2 ($p = 0.017$). The mean hospital stay was 5.32 days (range, 3–10 days) in Group 1 and 9.7 days (range, 6–21 days) in Group 2 ($p < 0.003$).

The mean follow-up period was 24.4 months (range, 6–36 months) in Group 1 and 26.2 months (range, 6–40 months) in Group 2. Two recurrences (4.78%) were observed in Group 2 during this period.

Conclusion: Laparoscopic surgery is a safe and effective approach for most hepatic hydatid cysts. However, large, prospective, randomized trials are needed to confirm its superiority over conventional open surgery.

Keywords: Hepatic hydatid cyst, Laparoscopic surgery, Hydatid disease treatment

COLORECTAL EXPERIENCE AND OUTCOMES IN A TERTIARY HOSPITAL IN BANAT

Balanoiu L, Pirvu C.A, Lazea R, Talpai T, Albu R, Popoiu T, Voinea A, Pantea S

ABSTRACT

Our presentation, titled “Colorectal experience and outcomes in a tertiary hospital in Banat, " analyzes the outcomes of 638 colorectal cancer patients treated at our hospital between 2018 and 2024, focusing on the differences between elective and emergency presentations. Elective cases, typically involving earlier-stage cancers, allowed for comprehensive preoperative evaluation and optimal treatment planning. These patients experienced better surgical outcomes, fewer complications, and higher survival rates. In contrast, emergency cases, often presenting with advanced disease or complications such as bowel obstruction or perforation, required urgent surgery, limiting preoperative planning and leading to higher complication rates, including infections, anastomotic leaks, and longer recovery times. Emergency patients also faced delays in receiving necessary adjuvant therapies, resulting in poorer long-term outcomes and lower survival rates. This study underscores the critical importance of early detection and timely intervention for colorectal cancer, highlighting the significant difference in outcomes based on the type of presentation. Continued refinement of emergency protocols and enhanced preoperative management are essential to improving patient outcomes and survival rates in colorectal cancer treatment.

SURGICAL TREATMENT OF GASTRIC CANCER IN THE ERA OF NEOADJUVANT CHEMOTHERAPY

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ABSTRACT

Introduction. The benefits of neoadjuvant chemotherapy are well recognized for the locally advanced gastric adenocarcinoma creating a paradigm shift in the multidisciplinary treatment protocols. In this setting surgery still remains the only chance for cure but is no longer the first step of treatment while the decision to proceed to surgery or neoadjuvant chemotherapy becomes crucial for the long-term survival of patients.

Material and method. In this presentation we review the role of surgery in patients with early and locally advanced gastric adenocarcinoma as it is present in the literature and applied in our clinical practice.

Results. In the early gastric cancers or when the preoperative staging tools give contradictory results, staging laparoscopy is a useful tool to accurately stage the tumor and thus differentiate between patients that can be referred for upfront surgery (e.g T1-2N0M0) from those that require neoadjuvant chemotherapy followed by interval surgery (e.g T3-4N0 or anyT N1-2).

Upfront surgery can be now performed safely using a minimally-invasive approach without compromising on the oncological outcome.

For the locally advanced tumors, laparoscopic staging performed before the onset of neoadjuvant chemotherapy correctly identifies areas of peritoneal carcinomatosis and may influence the extent of the interval surgery, including the need for peritoneotectomy.

In the stenosing gastric cancer, laparoscopic gastrojejunostomy followed by neoadjuvant chemotherapy and interval radical surgery reduces the risks of upfront surgery in malnourished patients and offers them the survival benefits associated with neoadjuvant chemotherapy

Conslusion. In the new era of increased efficacy of chemotherapy, surgery has reinvented itself for the better. It is no longer the first violin in this multidisciplinary concert but certainly is the most important one. It offers valuable guidance for the treatment decision making while having multiple variants, from open to robotic and from sentinel node evaluation to extended D3 lymphadenectomy, each tailored to the specific need of the patient.

THE JOURNEY FROM OPEN TO MINIMAL INVASIVE OESOPHAGECTOMY: ONE WAY OR TWO WAY ROAD.

Calin Popa, Diana Schlanger, Andra Ciocan, Nadim Al Hajjar

ABSTRACT

Minimally invasive esophagectomy has become the gold standard procedure in many high-volume centers, with increasing number of studies showing its undeniable benefits. However, this is a technical challenging procedure, and therefore difficult to adopt and implement in day-to-day practice. Moreover, this procedure has its limitations, and we always need to be aware of situations that prompt conversion to open surgery is of high importance. Our presentation will address the steps towards moving from open surgery to minimally invasive surgery, while keeping in mind the importance of recognizing the cases that might need conversion.

In our experience, the first step towards implementing minimally invasive esophagectomy as the main approach was the implementation of hybrid

interventions, more specifically the use of thoracoscopy during the McKeown procedure and laparoscopy during the Ivor Lewis procedure. In the last 2 years, we gradually shifted towards totally minimally invasive procedures, by introducing this procedure firstly to benign cases and selected oncological cases with small tumors and afterwards, by using it as a first choice in all cases. We reviewed during this time the cases that needed conversion to open surgery: the rate of conversion slowly decreased as the time passed by, but we still identified some clear situations which require conversion. The reasons for conversion from laparoscopy to laparotomy were previous abdominal surgery with adhesions, bleeding arising from an aberrant left hepatic artery and large esophagogastric tumor with difficult laparoscopic mobilization. Conversion from thoracoscopy to thoracotomy was performed in all cases due to large tumors that were not able to be properly dissected from the surrounding tissues; in one case, there was a suspicion of invasion in the trachea, while in 2 other cases, suspicion of invasion in the aorta existed.

Minimally invasive approach should be the first option of treatment for esophagectomy, being a safe procedure, even though some selected cases will need conversion. Conversion to open surgery should not be seen as a failure of the procedure.

LEFT PORTAL HYPERTENSION - DIFFICULTIES OF DIAGNOSIS AND THERAPEUTICAL MANAGEMENT

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ABSTRACT

Esophageal and gastric varices, accompanied with upper gastrointestinal haemorrhage, thrombocytopenia, and splenomegaly, suggest portal hypertension. After hepatic evaluation via venous catheterisation, revealing a porto-systemic gradient under 10 mmHg and liver fibrosis assessed between stages 0 and 3 Metavir, a diagnosis of left-sided portal hypertension is proposed, requiring the determination of its aetiology and the exclusion of any associated porto-systemic disorder. A set of examples demonstrate the clinical manifestations and the timeline of treatment in individuals with various causes of left-sided portal hypertension exacerbated by hemorrhagic shock.

BIOMARKERS IN COLORECTAL CANCER

Anda Cristescu, Romania

ABSTRACT

Worldwide, colorectal cancer is the third most common type of cancer and the fourth leading cause of cancer-related mortality. Curative treatment of early-stage colorectal cancer provides a substantial survival advantage. Currently, there is undeniable evidence that screening individuals at average risk by assessing the serum levels of tumor markers DKK3 and CD 27.6 offers a significant survival benefit due to early diagnosis and the implementation of therapeutic strategies in initial stages.

The primary objective of this study is to evaluate the significance of tumor markers DKK3 and CD 27.6 in colorectal cancer. This objective will be achieved through the quantitative measurement of these tumor markers' serum levels in two study groups:

A cohort of patients histopathologically confirmed to have colorectal cancer via colonoscopy and tumor biopsy. These patients will be assessed during preoperative preparation through blood sample collection, as well as postoperatively, to evaluate serum level dynamics.

A control group consisting of patients undergoing colonoscopy with biopsy, where histopathological examination rules out colorectal cancer.

The study will be conducted through clinical research involving young researchers from the General Surgery Clinic in collaboration with the Pathological Anatomy Clinic at the University of Medicine and Pharmacy of Craiova, aiming to provide a relevant contribution to oncological surgery research.

The project's working strategy includes a documentation period focused on colorectal cancer research. This phase will be followed by the creation of a database of the patients included in the study:

Patients diagnosed with colorectal cancer at various stages, currently undergoing preoperative therapy. For these patients, demographic data, clinical and paraclinical (imaging, endoscopic, and histopathological) data will be collected and correlated with the serum levels of tumor markers DKK3 and CD 27.6 in the preoperative phase.

The second study group will consist of patients evaluated colonoscopically.

Patient enrollment in the study will take place over 12 months, with quantitative assessment of the mentioned tumor markers in both groups.

Data analysis and interpretation will involve an initial evaluation of epidemiological, clinical, and paraclinical data. A statistical assessment of the tumor markers' significance will be conducted based on quantitative measurements in both study groups, aiming to demonstrate the high sensitivity and specificity of DKK3 and CD 27.6 in the positive diagnosis of colorectal cancer. Additionally, the study seeks to explore a potential correlation between serum marker levels and disease stage, as well as to monitor dynamic serum level changes preoperatively and postoperatively.

IATROGENIC BILE DUCT INJURY: FROM HOW TO AVOID TO WHAT WE DO AFTER.

Diana Schlanger, Calin Popa, Andra Ciocan, Nadim Al Hajjar

ABSTRACT

The laparoscopic cholecystectomy is the most often performed minimally invasive surgery and one of the interventions seen as „easy"; however, there are an important number of problems that can contradict this concept and underline the importance of undertaking a safe approach and the familiarization with the potential problems and solutions. Iatrogenic bile duct injuries are encountered in a small percentage during laparoscopic cholecystectomy, but they represent a significant problem that needs to be addressed correctly, the recommendation is to refer these injuries to a specialized center for treatment, the results being better when the repairing surgeon is different from the injuring surgeon. Several classifications have been used to describe these lesions; a comprehensive classification of the bile duct lesion is advised. The ATOM classification has been developed as an attempt for uniformization and it includes a comprehensive description: A (for anatomy), To (for time of), M (for mechanism).

We have identified several categories of problems that can occur during laparoscopic cholecystectomies: anatomical variations (aberrant right hepatic artery, aberrant bile ducts), difficult cystic pedicle dissection (cystic duct necrosis, cystic duct rupture during dissection). We present a series of strategies that can be undertaken in order to perform a safe cholecystectomy and prevent bile duct injury. When a bile duct injury occurs, the most important thing is to identify early, diagnose and classify it correctly. Most injuries were located on the non-main bile ducts, or on the low and middle portion of the main bile ducts; higher lesions were less common. Avoiding a correct classification of BDI creates confusion especially when discussing the adopted definitive treatment. Non-main bile duct injuries were treated either endoscopically, through sphincterotomy and bile duct stenting or by primary closure of the bile duct; a few well selected cases (low debit biliary leakage) could be managed conservatively, but with a careful monitorization. Bilio-digestive anastomosis was the treatment of choice in most main bile duct injuries.

The „difficult" laparoscopic cholecystectomy is more common than expected and all surgeons should be familiarized with good laparoscopic technique in order to avoid potential disasters. The ATOM classification is the best suited for accurately describing the complexity of a bile duct injury, serving as a template for discussing the correct management for each lesion. Efforts should be made towards increasing the use of this classification in day-to-day clinical practice.

RESECTION OF "INVISIBLE" LIVER METASTASES

Florin Botea

ABSTRACT

Liver metastases that are disappearing after chemotherapy or are too small to be detected during surgery represents a challenging scenario even for experienced liver surgeons. This paper discusses the surgical techniques that enables the surgeon to safely and effectively remove this liver lesions.

LIVER RESECTION FOR HEMANGIOMA: PUSHING THE LIMITS

Irinel Popescu

ABSTRACT

Liver hemangioma had always been a debated indication for surgery. The largest diameter as indication for surgery has progressively increased over time from 4cm to more than 15cm, and even ignored as indication. Significant symptoms strongly related to liver hemangioma remain an indication for surgical treatment. However, new interventional treatments, such as percutaneous sclerotherapy with bleomycin, tends to replace surgery. Our paper discusses the current therapeutical treatments and supports a 10- cm cut-off for treatment.

OXIDATIVE STRESS IN COLORECTAL CANCER SURGERY

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ABSTRACT

Introduction: Colorectal cancer is a leading cause of death worlwide, despite progress made in detection and management trough surgery, chimiotherapy, radiotherapy and immunotherapy.

Oxidative stress (OS) and inflammation are known to play an important role in chronic diseases, including cancer, specifically colorectal cancer (CRC).

Methods: The pathogenesis of CRC is a complex multistep process. Sporadic human CRC may be attributable to various environmental and lifestyle factors, such

as dietary habits, obesity, and physical inactivity. In the last decades, association between oxidative stress and CRC has been intensively studied.

Among other factors, inflammation and oxidative stress have been reported to be involved in the initiation and development of colorectal cancer.

The aim of this presentation is to briefly summarize proposed mechanisms of oxidative stress that are implicated in carcinogenesis, to review evidence linking oxidative stress with colorectal cancer and to provide essential background information for accurate interpretation of future research on oxidative stress and CRC risk.

Recent studies on the relationship between reactive oxygen species (ROS), redox signaling pathways and targeted therapeutic strategies were examined.

Evidence suggests that a prooxidant-antioxidant imbalance promotes DNA mutations, cell proliferation, and treatment resistance.

Conclusions: In a subsequent phase, this presentation will be complemented by our own analysis of oxidative stress markers – malondialdehyde, advanced glycation end products, and 8-epi-prostaglandin F2α in correlation with the stage of colorectal cancer at the time of surgery, to assess their role in disease progression.

Identifying oxidative stress biomarkers may be a source of useful information for earlier diagnostic methods and implementing the personalized therapies in a treatable stage.

ENHANCED RECOVERY AFTER SURGERY IN EMERGENCY COLORECTAL SURGERY

Lecturer Dr Marius BICA

ABSTRACT

Authors: Introduction: "Enhanced recovery after surgery" (ERAS) programs have demonstrated unquestionable advantages for elective colorectal surgery. But, up to 1/3 of colorectal operations are performed in emergency conditions. Can ERAS programs be applied, with similar benefits, to patients undergoing emergency colorectal surgery?

Material and method: ERAS has been applied in our department for elective colorectal patients for more than 15 years. Most measures from the ERAS protocol have become standard and some are being applied for all patients, even emergency colorectal surgery patients. We performed a retrospective study for emergency colorectal surgery cases admitted in the past 5 years. 162 patients underwent emergency colorectal surgery in our department between 2020 and 2024. We studied patient's compliance with each item of the ERAS protocol. We selected 121 patients that had a minimum of 12 ERAS measures applied. We compared

this group of patients with a similar group selected from previous years admitions through a matching case process. The variables that we followed were GI recovery time, complications, hospital stay and cost and 30 day mortality.

Results: The highest compliance was registered for intraoperative ERAS measures. The lowest compliance rate was noted for preoperative measures. GI recovery time was significantly lower in the ERAS group (59.7 hours vs. 76.1 hours) as was the hospital stay (6.8 vs. 10.6 days). Complication rate and 30 day mortality rate ware similar in both groups.

Conclusions: Growing evidence demonstrating the safety, feasibility and benefits of ERAS program on surgical outcome following emergency colorectal surgery (more so for cases with no abdominal sepsis). The ERAS program is associated with a lower rate of overall complication and shorter length of hospital stay – without increased risks of readmission, reoperation and death after emergency colorectal surgery.

POSTOPERATIVE RECOVERY OF GASTROINTESTINAL MOTILITY AFTER DIGESTIVE ONCOLOGIC SURGERY

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ABSTRACT

Postoperative ileus (POI) is a common complication of abdominal surgery, affecting 3–30% of cases and leading to prolonged hospital stays and increased healthcare costs. POI is defined as a transient impairment of bowel motility that resolves spontaneously within 2–3 days, whereas prolonged POI persists beyond this period. Management strategies include preoperative, intraoperative, and postoperative interventions to reduce risk factors and stimulate intestinal peristalsis.

Preventative measures within Enhanced Recovery After Surgery (ERAS) protocols focus on electrolyte balance, glycemic control, medication assessment, and anesthesia techniques. Surgical factors, such as laparoscopic versus open approaches, bowel handling, and operative stress, also influence POI risk. Supportive care includes gastric decompression, optimized nutrition, early mobilization, and pharmacological treatments, including opioid antagonists, prokinetic agents, and anti-inflammatory drugs.

Persistent POI requires diagnostic imaging, such as abdominal X-rays or CT scans, to rule out mechanical obstruction. A multimodal approach integrating ERAS principles, optimized anesthesia, early recovery protocols, and targeted medical interventions is the most effective strategy for managing and preventing prolonged POI.

HARD WAY TO FAR AWAY- STARTING AND DEVELOPING A HPB PROGRAM

Pirvu C.A., Lazea R. Talpai T., Balanoiu L, Albu R, Popoiu T, Voinea A, Pantea S.

ABSTRACT

The establishment of a specialized Hepatic-Biliary-Pancreatic (HBP) center represents a pivotal advancement in the treatment of complex hepatic and pancreatic disorders. The paper titled "Hard Way to Far Away" explores the challenges and successes encountered in the creation and development of such a center, with a focus on our clinical experiences. Over the course of three years, we have treated a progressively increasing number of patients who underwent duodenopancreatectomy, a critical surgical procedure for the management of various malignancies and other complex diseases of the pancreas and surrounding organs.

In 2022, our center initially included 17 patients who underwent duodenopancreatectomy, marking the early stage of our specialization. By 2023, this number grew to 23 patients, highlighting an expansion of both our surgical volume and expertise. The year 2024 saw a further increase to 32 patients, underscoring the success of our approach in addressing the growing demand for advanced HBP surgery. This paper discusses the logistical, technical, and multidisciplinary challenges encountered in setting up the center, including the integration of highly specialized surgical teams, advanced technology, and post-operative care protocols. We also evaluate the outcomes and lessons learned from these 72 patients, providing insights into the evolving nature of HBP surgery and the ongoing refinement of our treatment strategies.

Through a combination of patient outcomes, procedural refinements, and institutional collaboration, the creation of our Hepatic-Biliary-Pancreatic center reflects the "hard way" towards providing exceptional care in a complex, high-risk field, with a future perspective aimed at improving patient quality of life and surgical success rates.

MULTIDISCIPLINARY APPROACH IN EMERGENCY GENERAL SURGERY – CAN WE GO MIS?

Talpai T., Pirvu C.A., Balanoiu L, Albu R, Popoiu T, Voinea A, Pantea S.

ABSTRACT

Aims: The field of emergency general surgery presents numerous challenges due to the critical condition of most patients, who typically necessitate open abdominal procedures. The prevalence of minimally invasive procedures is steadily increasing, demonstrating advantages in postoperative outcomes.

Methods: This study presents a comparative analysis of laparoscopic procedures conducted at five-year intervals, alongside a case series of patients who underwent a minimally invasive approach. The procedures examined include laparoscopic splenectomy for traumatic spleen injury, exploratory laparoscopy following embolization for high-grade liver trauma, ICG-guided evaluation of acute mesenteric ischemia post-SMA stenting, and laparoscopic decompressive laparotomy for abdominal compartment syndrome.

Results: The frequency of laparoscopic procedures has consistently risen over the analyzed years, the conversion rate has progressively declined, and more complex cases have been managed using minimally invasive techniques. The postoperative course for the aforementioned cases was unremarkable, with patient discharge occurring once clinical criteria were satisfied. Video recordings were utilized from the built-in video library for the postoperative overview of the cases.

In conclusion, the application of MIS in emergency situations may serve as a viable solution for specific cases. Patients who fulfill the criteria for minimally invasive surgery, including hemodynamic stability, surgeon skill, and availability of necessary equipment, may experience advantages in terms of length of stay, recovery, and surgical site infections.

FUTILITY OF PANCREATECTOMIES IN PANCREATIC ADENOCARCINOMA – IDENTIFICATION OF PATIENTS AT HIGH RISK.

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ABSTRACT

Pancreatic ductal adenocarcinoma (PDAC) represents a highly lethal disease. Although pancreatectomies, in the context of a multimodal approach including adjuvant chemotherapy with eventually neoadjuvant therapy, represent the single hope for long-term survival in a patient diagnosed with PDAC, less than 15% of the patients are considered as potential resectable at the time of diagnosis. Furthermore, even for localized, resectable PDAC patients, the survival rates with potential curative pancreatectomies are still poor, reflecting the aggressive biological behavior of this type of cancer. Early recurrence is observed in many patients after pancreatectomies for PDAC, while the 90-day mortality rates after pancreatectomies (particularly after pancreaticoduodenectomies) are not neglectable. Thus, a proportion of patients with potentially resectable PDAC would not benefit for real from pancreatectomies. The paper aims to present the current status regarding the futility of pancreatectomies in PDAC, discussing potential factors that could influence the outcomes and may drive the patients' selection for pancreatectomies. Besides the anatomical resectability of a patient diagnosed with

PDAC, a few other essential factors (including but not limited to CA 19-9 serum level) should be considered for clinical decision-making of performing a pancreatectomy in a patient with resectable PDAC.

SURGICAL MANAGEMENT OF THE CHRONIC STENOSATING DIVERTICULITIS

Valeriu Surlin, Romania.

ABSTRACT

Colonic diverticulitis is a common condition in Western countries that is steadily increasing in incidence in Eastern Europe countries due to adoption of a western diet. It's incidence is 10% in patient around 40 y af age and up to 70% in patients over 80 years. Chronic diverticulitis occurs after recurrent attacks of acute diverticulitis that are managed conservatively and may progressively evolve to colon stenosis that poses important diferential diagnostic problems and requires surgical intervention. This intervention could be performed by a minimally invasive technique as laparoscopic approach.

In this paper we aim to present the most important aspects related to the surgical approach of the chronic stenosating diverticulosis in a review of the litterature and a case that was operated in our clinic.

We present the case of a female patient of 64 years old, with multiple attacks of acute diverticulitis treated conservatively, that had 4 colonoscopies in the last 4 years revealing a sigmoid stenosis with benign biopsies at 40 m from the external anal sphincter. In her surgical antecedents there are an abdominal midline open histerectomy and postoperative incisional hernia repair with preperitoneal mesh. CT-scan confirmed the stenosis located at the apex of the sigmoid loop that is adherent to the vaginal cuff. After an open laparoscopy introduction of the optic trocar, adhesiolisys was performed and then, after a difficult pelvic dissesction a rectosigmoidectomy with colorectal transanal stapled anastomosis with fast track perioperative management. The postoperative course was uneventful the patient being discharged in the 5th postoperative day. Histopathological report confirmed the presence of diverticula and chronic inflammation.

Conclusion. The laparoscopic approach in chronic stenosating diverticulosis is a difficult but a possible one offering the patient all advantage sof a minimally invasive approach.Minimal Invasive Esophagectomy in Prone Position with Linear

FIVE YEARS OF EXPERIENCE IN THE DIAGNOSIS AND TREATMENT OF BREAST CANCER AT THE ČAČAK GENERAL HOSPITAL

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ABSTRACT

Breast cancer is one of the most common forms of cancer that affects women worldwide and it is one of the most leading causes of death for women worldwide. According to statistics published by the International Agency for Research on Cancer (IARC), the incidence of breast cancer is on the rise year by year in most parts of the world.

This disease occurs when cells in the breast tissue begin to grow uncontrollably, forming a tumor. It can also affect surrounding tissues and other parts of the body through metastasis. In addition to genetic factors, there are a number of risks such as age, hormonal status, diet, and exposure to certain chemicals.

Breast cancer diagnosis often includes mammography, ultrasound, and biopsy. Early detection is critical to the success of treatment, which can include surgery, radiation, chemotherapy, hormone therapy, and targeted therapy. Research is constantly increasing, bringing new hopes in the form of personalized therapies and preventive measures.

The diagnosis and management of breast cancer are undergoing a paradigm shift from a one-size-fits-all approach to an era of personalized medicine. Sophisticated diagnostics, including molecular imaging and genomic expression profiles, enable improved tumor characterization. These diagnostics, combined with newer surgical techniques and radiation therapies, result in a collaborative multidisciplinary approach to minimizing recurrence and reducing treatment-associated morbidity.

Breast cancer remains a challenge for the medical community, but also for society as a whole. Awareness-raising, education and support are key elements in the fight against this disease, making the path to possible prevention and cure part of a collective effort.

This article reviews the diagnosis and treatment of breast cancer, including screening, staging, and multidisciplinary management.

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THE RISING TIDE OF REVISIONAL BARIATRIC SURGERY

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ABSTRACT

Background: The global shift from open esophagectomy (OE) to minimally invasive esophagectomy (MIE) for treating esophageal cancer is well-established. Recent data indicate that transitioning from hybrid minimally invasive esophagectomy (hMIE) to total minimally invasive esophagectomy (tMIE) can be challenging due to concerns about higher leakage rates and lower lymph node counts, especially at the beginning of the learning curve. This study aimed to demonstrate that a safe transition from OE to tMIE for cancer is possible using process management methodology.

Methods: A step-change approach was adopted in process management planning, with hMIE serving as an intermediate step between OE and tMIE. This single-center, case-control study included 150 patients who underwent the Ivor Lewis procedure with curative intent for esophageal cancer. Among these patients, 50 underwent OE, 50 hMIE (laparoscopic procedure followed by conventional right thoracotomy), and 50 tMIE (laparoscopic and thoracoscopic approach). A preceptored training scheme was implemented during execution, and treatment results were monitored and controlled to ensure a safe transition.

Results: During the transition, the tMIE group was not worse than the hMIE and OE groups regarding operation duration ($p = 0.135$), overall postoperative complications ($p = 0.020$), anastomotic leakage rates ($p = 0.773$), 30-day mortality ($p = 1.0$), and oncological outcomes (based on R status ($p = 0.628$) and 2-year survival ($p = 0.967$)). Additionally, the tMIE group showed superior results in terms of major postoperative pulmonary complications ($p = 0.004$) and ICU stay duration ($p < 0.001$).

Conclusions: Utilizing managerial methodology and practice in surgery, as a bridge between interdisciplinary and transdisciplinary approaches, demonstrated that transitioning from OE to tMIE, with hMIE as an intermediate step, is safe and feasible without compromising outcomes.

COMBINED VASCULAR INJURIES AND PERIPHERAL NERVES TRAUMA

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ABSTRACT

Neurovascular trauma is a growing surgical chalenge! Important lesssions on penetrant injuiries are learned during war time, procceding with civilian trauma (criminal) and culminated with traffic injuries focused on blind trauma! Finaly picture is completed with jatrogenic injuries during diagnostic and interventional radiological and surgical proccedures.

Vascular trauma refers to penetrant extremity injury, and due to close position, peripheral nerves are affected. Sharp stub wound in vessel projectory or blunt trauma with closed bone fracture and luxation could decive! The degree of tissue damage is a feature of energy transfer. The available kinetic energy of a missile is determined by its mass and velocity! Pulsating of the temporary cavity and the shock waves induced by a high-energy missile striking an extremity may indirectly injure the peripheral nerves and vessels, even though the projectile did not directly hit them.

Key role in proper solving vessel injuries is shortening the time between injury and definitive care: bleeding control, prompt diagnostic investigation, resusitation, fast and proper revascularisation with adequate tretament of fractured bones and injured peripheral nerves!

Postponed nerves repair comes along with a nature of penetrant injuries as a dominant profile. Sharp injuries permits primary neurosurgical repair! Neglected injuries rate is more frequent than expected! Repaired nerves revascularisation remains unclear whether an optimal recipient bed or immediate vascularization ("vascularized grafts") is beneficial to functional result in nerve grafting.

A small-caliber grafts revascularize rapidly and do not depend on the surrounding tissue as an initial source of neuro vascularization but are rather supplied by longitudinal inosculation.

Iinsertion of long vein grafts results in damaged or insufficient inosculation at the ends of a divided nerve because of impairment of nerve nutrient vessels at the site of injury. Centripetal neovascularization is also compromised because of the scarred, often "avascular", surrounding tissue bed, common in secondary reconstruction of war injuries.

This leads to conclusion: optimal extremity recovery is linked to both vessel and peripheral nerve repair!

Key words: neurovascular trauma, penetrant injury, tissue damage, revascularization, nerve repair, neovascularisation

AXILLARY SURGERY FOR BREAST CANCER

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ABSTRACT

The surgery of axillary lymph nodes in breast cancer is continually evolving. It is movingaway from the 'one size fits all' radical approach towards the deescalation surgery inpart because of the association between axillary lymph node dissecton (ALND) andlymphedema. The goal is to avoid morbidity whilst maintaining oncologic safety.

Sentinel lymph node biopsy (SLNB) allowed us to ommit ALND, if proven metastatic freeor with micrometastatic disease in clinically and radiologically negative axilla.

The Z 11 study proved that patients with clinically and radiologically node-negativebreast cancer and up to two positive SLNs can safely be spared of ALND, the newerstudies showed the same even in the context of mastectomy or extranodal extension.

Omission of the SLN procedure should be considered in most postmenopausal patientswith T1-2, HR+ HER2– breast cancer, if the axilla is negative on ultrasound.

After neoadjuvant chemotherapy (NACT), targeted lymph node dissection (TAD) with orwithout SLNB showed a lower false-negative rate to determine nodal pathologicalcomplete response (pCR) compared to SLNB alone. However, oncologic outcomes donot appear to differ in patients with nodal pCR determined by either one of the twoconcepts, according to a recently published global, retrospective, real-world study.Another global real-world study provides evidence that even patients with residualisolated tumor cells can be safely spared from ALND. In general, few indications forALND remain. Three randomized controlled trials are ongoing for patients with clinicallynode-positive BC in the upfront surgery setting and residual disease after NACT.Pending the results of these trials, ALND remains indicated in these patients.

SAFE TRANSITION FROM OPEN TO TOTAL MINIMALLY INVASIVE ESOPHAGECTOMY FOR CANCER

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ABSTRACT

Over the years, the feld of metabolic and bariatric surgery has seen peaks and troughs in the types of weight loss procedures performed. The International Federation for the Surgery of Obesity and Metabolic Disorders (IFSO) published a worldwide survey showing procedure trends from 2008 to 2016. There was an increase in total number of bariatric surgical procedures performed, with signifcant increases in sleeve gastrectomy and decreases in gastric band placement. Revisional procedures represented 7% of the total procedural volume, with the majority of cases being performed in Europe and North America. Furthermore, the American Society for Metabolic and Bariatric Surgery (ASMBS) estimated a 10% increase in the last decade in revisional surgeries. In 2019, 16.7% of total bariatric surgery cases were revisions. As a result, it is important that bariatric surgeons and fellows familiarize themselves with re-operative procedures. As the feld of metabolic and bariatric surgery grows, many general surgery graduates in the US have chosen to pursue additional fellowship training in programs accredited by the Fellowship Council (FC), but not in Serbia and the South-East Europe.

Unfortunately, a small number of facilities and surgeons perform a disproportionate volume of revisional surgical procedures. Revisional procedures are typically more complicated with longer operative times, potentially increased complication rates, and the necessity for an advanced technical skill set. As revisional surgery continues to increase, future bariatric surgeons interested in a comprehensive practice can seek out training programs that ofer strong revisional experience, look for additional training courses, and attend conferences related to this matter.

DEFINING LYMPHADENECTOMY FOR ADEQUATE TREATMENT OF COLON CANCER

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ABSTRACT

The aim of this work is to define extent of lymphadenectomy and the regions of lymphadenectomy in the light of anatomical landmarks as well as the current state of CME

Material and methods: Anatomical dissection data on lymphatic clearances as well as the pattern of irrigation of the colic arteries is presented from previous publications of our study group. The other source of data are the 3D reconstructions of vascular anatomy derived from the staging CTs of 623 patients, also from our previous publications pooled together to better highlight the impact of personalized surgery.

Results: are presented for the right and transverse colon including the left flexure. Two personalized volumes of lymphadenectomy are described (D1/D2 and D3 volumes) for all colonic and small bowel segments, and crucial anatomical information provided for the performance personalized surgery. Conclusion: Current surgical technique implies only two levels of dissection when personalized surgery tailored to the patient's vascular anatomy is performed.

SLEEVE GASTRECTOMY – WHEN AND HOW

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ABSTRACT

Sleeve gastrectomy (SG) has become the leading bariatric surgical procedure worldwide due to its efficacy and safety. This presentation will provide an in-depth review of SG, focusing on patient selection criteria, surgical techniques, perioperative considerations, and long-term outcomes.

The session will begin by discussing the indications for SG, emphasizing its role as part of a comprehensive, multidisciplinary weight-loss management program, as bariatric surgery is not a standalone intervention but is integrated with lifestyle modifications, including dietary changes, increased physical activity, and the management of comorbid conditions such as type 2 diabetes mellitus (T2DM) and thyroid disorders. Proper patient selection is crucial, taking into account factors such as body mass index (BMI), obesity-related comorbidities, psychological readiness, and long-term compliance. The role of a multidisciplinary team—including endocrinologists, nutritionists, psychiatrists, anesthesiologists, and surgeons—will be highlighted as essential in optimizing patient outcomes.

The surgical technique will be discussed in detail, both theoretically and through video presentation. This procedure promotes weight loss through both mechanical restriction and hormonal changes, particularly the reduction of ghrelin, the hunger hormone.

While SG is highly effective in achieving substantial weight loss—studies indicate that patients may lose up to 60% of excess weight within six months and 77% within a year—long-term success depends on adherence to postoperative care and lifestyle changes. The presentation will address common complications, including de novo gastroesophageal reflux disease (GERD), portal vein thrombosis, staple line leaks, and weight regain. GERD is a particularly significant concern, with some patients experiencing worsening symptoms postoperatively, necessitating medical

management or revision surgery. The factors contributing to weight regain, such as poor dietary compliance, metabolic imbalances, mental health challenges, and anatomical issues, will be examined alongside strategies to minimize these risks.

Postoperative care is a critical component of successful SG outcomes. Patients must adhere to a structured dietary regimen, undergo regular follow-ups, and receive continuous support from their healthcare team. The role of patient motivation and behavioral modifications in maintaining long-term weight loss will be emphasized, reinforcing the notion that surgery alone is not a cure but a tool within a broader treatment plan.

By integrating current research findings, clinical experience, and patient-centered approaches, this presentation will provide surgeons and healthcare professionals with a comprehensive understanding of when and how to perform sleeve gastrectomy to maximize patient benefits while minimizing risks.

PREOPERATIVE VOLUME ASSESSMENT IN EXTENSIVE LIVER RESECTIONS

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ABSTRACT

The rapid expansion of liver surgery is attributed to advances in safety that allowed extensive resections to be performed even in patients with underlying parenchymal disease. The definition of resectability is no longer determined the portions of liver removed, rather by volume of remains liver. Complex liver resections are performed with a perioperative mortality of less than 5%. However, posthepatectomy liver failure remains a major cause of morbidity and mortality after resections. To minimize this complication, surgeons must have a solid understanding of the available methods for preoperative risk assessment in extensive resections.

Various tools have been proposed to predict the functional remnant liver function. These include biochemical tests based on hepatic clearance of compounds and volumetric studies based on radiological imaging. Biochemical tests to assess liver function, have been developed in patients with chronic liver disease, and as such they reflect the function of the entire liver. Measurement of future liver remnant (FLR) volume, mainly based on computed tomography analysis, has become popular to estimate the risk of postoperative liver insufficiency in patients undergoing major or extended liver resections. The volume of the FLR correlates with surgical outcome in which patients with smaller FLR had more complications.

The aims of this review are to describe the use of preoperative volumetric analysis in extensive liver resection surgery.

Keywords: extensive liver resection, volume assessment, liver remnant function

LAPAROSCOPIC CME FOR RIGHT COLON CANCER – ROUTINE OR NOT

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ABSTRACT

Laparoscopic right hemicolectomy, based on oncological principles, involves removing the tumor with intact mesocolon and associated vessels. In addition to conventional surgery for right colon cancer involving D2 lymphadenectomy, in 2009. Hohenberger introduced the principle of central mesocolic excision with central vascular ligation (CME with CVL) wich is similar to that of D3 lymph node dissection, advocated by the Japanese Society for Cancer of the Colon and Rectum (JSCCR) in the twentieth century It is well established today that laparoscopic surgery for colorectal cancer offers numerous benefits, including faster recovery, reduced post-operative pain, and shorter hospital stays, while achieving oncological outcomes comparable to those of open surgery. The concept of CME with CVL in right colon cancer recently has been adopted in laparoscopic surgery. Complicated mesenteric dissection and central vascular ligation in laparoscopic surgery imposes a longer learning curve for the surgeons and a higher surgery-related risk for patients due to the variable surgical anatomy. Recent randomized studies have provided further insight into the effectiveness of laparoscopic CME. These studies have demonstrated that, when performed by experienced surgeons, laparoscopic CME can lead to similar or even better oncological outcomes compared to traditional open surgery. Despite this results, currently there are no clear guidelines on the extent of lymphadenectomy in radical right colectomy, and the routine use of CME with CVL in laparoscopic surgery remains uncertain until further clinical evidence is available. For most patients with right-sided colon cancer, especially those with advanced stages, laparoscopic CME is considered a standard option and should be discussed as a routine approach. However, the decision should be individualized based on the patient's specific case, including tumor stage, overall health, and surgeon experience.

Keywords: Colon cancer, Laparoscopic surgery, CME, CVL, lymphadenectomy

SURGICAL ANATOMY AND ANATOMICAL SURGERY OF THE LIVER BASED ON LAENNEC'S MEBRANE

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ABSTRACT

The Glissonean pedicle approach in liver surgery provides new knowledge of the surgical anatomy of the liver and advances the technique of liver surgery. Extrafascial dissection of the Glissonean pedicle without opening the liver substance, proposed by Takasaki, represents an effective and safe technique of anatomic liver resection. The presented approach allows early and easy ischemic delineation of appropriate anatomic liver teritory (hemiliver, section, or segment) to be removed with selective inflow vascular control. It is not time-consuming and it is very useful in re-resection, as well as oncologically reasonably. According to Sugioka's proposal, for technical standardization, it is important to recognize the four anatomical landmarks; the Arantial plate, the umbilical plate, the cystic plate, and the Glissonean pedicle of the caudate process (G1c), and six Gates defined by the four anatomical landmarks. For the right extrahepatic Glissonean pedicle isolation, the cystic plate cholecystectomy should be the first procedure, whereas for the left, the Arantius plate or the umbilical plate should be detached from Laennec's capsule at first. Pedicles can be isolated by connecting Gates. Further peripheral pedicles could be pulled out to the hepatic hilum and transected safely. In conclusion, the extrahepatic Glissonean pedicle approach based on Laennec's capsule would standardize anatomical liver resection including laparoscopic and robotic liver resection.

Keywords: anatomical liver resection, Glissonean approach, Laennec's capsule, extrafascial dissection

60 YEARS OF OPERAVE TREATMENT OF THYROID CANCER AT THE INSTUTE OF ONCOLOGY OF VOJVODINA 1965.-2025.

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ABSTRACT

Since its establishment as a small surgical department within the cityhospital of Novi Sad in 1965 and the years of development of oncologicalsurgery by obtaining its building on the first site of the clinic forGynecology and then by moving to the building of the Institute in SremskaKamenica, the conditions for the development

of surgery were obtained and itbegan with operations on the abdomen, breast and thyroid gland. With theformation of the surgical team, the anesthesiologist team, the intensive careunit and pathology, and the opening of the Nuclear Medicine unit 1971., theexistence of a multidisciplinary team dealing with thyroid surgery has beencompleted. At first, surgical treatment of the thyroid gland consisted ofsurgery for giant Basedow's goiters, but over time a group of patients withmalignant diseases began to be selected. Not infrequently in the first yearsof work, anaplastic carcinomas were treated, and over time, with betterselection and diagnostics, well-differentiated thyroid carcinomas weredifferentiated in the earlier stages. There is a noticeable annual increase inthyroid cancer operations, as well as metastatic cancers in all stages of thedisease, and autoimmune nodular diseases of the thyroid gland/Hashimotothyroiditis/ are a clear sign of malignancy, and IOV stands out on the Serbianhealth scene as a leading institution in the treatment of thyroidmalignancies, since the entire problem can be taken care of within theInstitute, from diagnostics, operative therapy, as well as the administrationof RAJ therapy, with a minimum of complications.

TREATMENT OF RECTAL CANCER – WHERE ARE WE NOW?

Miljan S. Ćeranić

ABSTRACT

Rectal cancer management has evolved significantly, embracing a personalized, multidisciplinary approach that strives to optimize both oncologic outcomes and quality of life. Historically, the standard treatment for locally advanced rectal cancer has involved preoperative chemoradiotherapy followed by total mesorectal excision, a strategy that has substantially improved local control. However, recent advances have paved the way for novel approaches.

A major development is the adoption of total neoadjuvant therapy (TNT), which integrates systemic chemotherapy into the preoperative phase. This shift not only enhances tumor downstaging but also addresses micrometastatic disease earlier, potentially reducing distant relapse rates. Improved imaging techniques and molecular profiling now allow for more accurate staging and patient stratification, enabling tailored treatment plans. In carefully selected patients who achieve a complete clinical response, non-operative management—or a "watch and wait" strategy—has emerged as a viable option, offering the possibility of organ preservation and reduced morbidity.

Additionally, the identification of molecular subtypes, such as mismatch repair-deficient tumors, has opened avenues for immunotherapy, providing promising outcomes in select cases. Concurrently, ongoing trials continue to explore the integration of targeted agents and the optimal sequencing of therapeutic modalities.

In summary, the treatment landscape for rectal cancer is shifting from a one-size-fits-all approach to a more nuanced, patient-specific strategy. Future research will be essential in refining these approaches, ensuring that intensified treatment regimens lead to improved survival without compromising patient quality of life.

ENSURING SAFETY IN LAPAROSCOPIC CHOLECYSTECTOMY: A GUIDE TO BEST PRACTICES

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ABSTRACT

Laparoscopic cholecystectomy (LC) is the standard procedure for gallbladder removal and remains one of the most frequently performed abdominal surgeries worldwide. While generally safe, the procedure requires meticulous surgical technique to minimize the risk of bile duct injuries. Ensuring safety in LC relies on precise identification of anatomical structures, proper dissection methods, and adherence to established guidelines.

The Critical View of Safety (CVS) is a fundamental principle in LC that significantly reduces the risk of iatrogenic injuries. It involves clearing the hepatocystic triangle of all fibro-fatty tissue, dissecting the gallbladder off the cystic plate, and ensuring that only two structures—the cystic duct and the cystic artery—are identified before ligation and division. Achieving CVS is essential for distinguishing these structures from the common bile duct and right hepatic artery, which are at risk of misidentification during surgery.

Anatomical variations of the biliary and vascular structures can further complicate the procedure. Recognizing key landmarks such as Rouviere's sulcus, the cystic lymph node, and the hepatocystic triangle is crucial in guiding safe dissection and avoiding misinterpretation of anatomical structures. Preoperative imaging, including ultrasound and MRCP in selected cases, aids in identifying patients with an increased risk of surgical difficulty.

Intraoperative strategies to improve safety include fundus-first dissection, subtotal cholecystectomy in cases of severe inflammation or fibrosis, and routine use of intraoperative cholangiography when bile duct anatomy is unclear. Maintaining hemostasis, minimizing the use of electrocautery near critical structures, and avoiding excessive traction on the gallbladder are additional measures that contribute to safe outcomes.

Keywords: Laparoscopic cholecystectomy, Critical View of Safety, bile duct injury, hepatocystic triangle, intraoperative cholangiography, surgical safety

ABSTRACT: CASE REPORT SERIES – OPEN SURGICAL REVASCULARISATION FOR CHRONIC OCCLUSIVE MESENTERIC ARTERIAL DISEASE

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ABSTRACT

Introduction: Chronic mesenteric ischemia (CMI) is relatively rare disease which if not diagnosed and nottreated properly has high mortality. Etiology is mainly atherosclerosis but in some minorpercentage it can be caused by vasculitis, fibromuscular displasia or spontaneus dissection ofmesenteric arteries. Vascular sugery clinical practice guidelines strongly recommend that allpatients with CMI should be treated with revascularisation in order to prevent future morbidity and mortality.

Case report: We present four patients with CMI that were treated with open surgical revascularisationtechnique. In all patients CT angiography was performed and three vessel occlusivemesenteric arterial disease was diagnosed. In three patients antegrade aortic-mesentericbifurcated bypass was performed with distal aanstomosis ti common hepatic artery andsuperior mesenteric artery, while in one patient we performed singled bypass from aorta tosuperior mesenteric artery.

Conclusion: Endovascular revascularisation remains the first option in treatment of patients with CMI.Unfortunatelly, many patients are diagnosed late with no endovascular options. Antegradeaorto-mesenteric bypass still remains first option in treatment of patients with three vesselocclusive mesenteric disease. Every delay in diagnostic and treatment makes great risk ofcomplication development and letal event.

ALVEOLAR ECHINOCOCCOSIS OF THE LIVER WITH INITIALLY SUSPECTED INTRAHEPATIC CHOLANGIOCARCINOMA: CASE REPORT – THE SIGNIFICANCE OF PREOPERATIVE SEROLOGICAL DIAGNOSTICS

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ABSTRACT

Introduction: Cysts of the liver pose a significant differential-diagnostic problem, considering that the etiology of which can be various. Until recently, alveolar echinococcosis (AE) of the liver in a differential diagnostic analysis of cystic liver lesions with a solid component had little significance in the Vojvodina region. The Syrmia area of Vojvodina is an endemic zone of multilocular echinococcus among wildlife, and the first case of human AE was documented in April 2023. In order to denote the significance of preoperative serological AE diagnostics, we will present a case of AE of the liver initially suspected to be cholangiocarcinoma.

Case report: A patient from the Syrmia area of Vojvodina, reports in November 2023, after the appearance of icterus and epigastric pain. Laboratory results display slightly increased proinflammatory markers, while hepatogram results indicate cholestasis with reactive hepatitis. MRI of the abdomen indicates a focal lesion in the S5/S8 segment of the liver of primarily infiltrative MRI characteristics, which may indicate cholangiocarcinoma. Total body CT scan excludes other lesions. Patient has undergone extended right hepatectomy and the PH results proved the presence of multilocular echinococcus.

Conclusion: Despite epidemiological risks, diagnosis of infiltrative cystic focal lesions of the liver does not include testing for echinococcus. The reported case indicates the necessity of testing all focal lesions of the liver for AE. The awareness of the epidemiological situation in the region where the patient resides must be raised in order to add serological testing of focal lesions of the liver for multilocular echinococcus to guidelines.

Keywords: Hydatid disease, Echinococcus multulocularis, liver resection, cholangiocarcinoma

NEMA NASLOV

Pasternak Janko

ABSTRACT

Background: Patients with symptomatic carotid stenosis remain at high risk of early recurrent stroke without revascularization. The benefit of carotid endarterectomy for preventing recurrent stroke is maximal when surgery is performed within 2 weeks after acute neurological ischemic events. Objective of this retrospective study was to review the results of early (≤14 days from symptom onset) carotid endarterectomy (eCEA) performed in patients with recent (<24 h) or crescendo (at least 2 episodes in 24 h) transient ischaemic attack (TIA) or with non-disabling (modified Rankin Scale <3) acute ischemic stroke in a single Centre experience.

Material & Methods: A retrospective review of patients who underwent eCEA at our Clinical Centre between January 2012. and December 2024. was done. Our protocol selected 82 patients who can safely undergo eCEA after acute brain ischemia presenting to the emergency department stroke units. Primary outcome events included any perioperative stroke, myocardial infarction (MI) or death occurring during the 30-day follow-up period. Secondary outcome events included cranial nerve palsy, and neck hematoma.

Results: The mean age was 66.72 years with 66.2% of males. The average time for intervention was 9.5 days. The overall postoperative stroke rate including transient ischemic attack within 30 days of the treatment was 1.7%. Major stroke rate with morbidity and death rate within 30days was 6, 1% (3 : major stroke, 2 : death). The cause of death in 2 patients was hemorrhagic transformation ischemic stroke. Intracranial hemorrhage relating to the hyperperfusion syndrome developed on the first postoperative day in both patients. Cranial nerve palsy developed in two patients (2, 4%) and neck hematoma in seven patients (8, 6%).

Conclusion: Early CE for severe carotid artery stenosis after a nondisabling ischemic stroke can be performed with rates of morbidity and mortality comparable to those who receive delayed endarterectomy. These results support the recommendation for eCEA after acute neurological ischemic events.

SURGICAL TREATMENT OF METASTASIS TO THE THYROID GLAND: A SINGLE CENTER EXPERIENCE AND LITERATURE REVIEW

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ABSTRACT

Background: Metastasis to the thyroid gland or nonthyroid malignancy (NTM) is rarely an indication for thyroidectomy and constitute 1-3 % of all thyroid carcinomas.

NTM has a poor prognosis, due to the advanced stage of the primary tumor. This study aimed to present the incidence, clinical characteristics, and treatment outcome of NTM in a single, high volume center.

Case series: We retrospectively analyzed all patients who had undergone thyroidectomy at the Center for Endocrine Surgery in Belgrade, during the period from 1995 to 2015. Out of 13, 385 patients who were submitted to thyroidectomy, 3, 344 (24.2 %) patients had thyroid malignancy. The diagnosis of NTM, based on the histopathological findings, was found in ten patients (0.075 % of all patients who had thyroid surgery, i.e., in 0.3 % of patients with thyroid cancer), with a mean age of 59.5 years. The most frequent primary tumor location in NTM was kidney in four patients, esophagus in two patients, and pharynx, breast and lungs (one case each). Total thyroidectomy was performed in four patients and lobectomy in two patients. Mean survival time following thyroid surgery was 43.2 months.

Conclusion: NTM are uncommon, and their prognosis is generally poor and depends on the characteristics of the primary tumor. Nevertheless, in selected cases, surgical treatment of NTM should be considered.

TREATMENT OF EXTENSIVE PANCREATIC TRAUMA

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ABSTRACT

Introduction: Extensive pancreatic trauma uncommon .Pancreatic trauma is a rare but potentially catastrophic injury that is uniquely challenging to diagnose.It is estimated that approximately 2-4% of patients who suffer abdominal injuries also experience pancreatic trauma. The integrity of the pancrteatic duct remains the single most important factor in prognostication and is foundation for tne grading of injury severity.

The first available data were published by Travers in Lancet in 1827, where he described the findings from an autopsy.
Injury Mechanism and Classification of injuries
Grade Type of injury
Description of the injury

I Hematoma	Minor contusion without duct damage
Laceration	Superficial lateration without duct damage
II Hematoma	Major contusion without duct damage or loss of tissue
Lateracion	Major lateration without duct damage or losss of tissue
III Lateration	Distal division or parenchymal damage with duct injury
IV Lateration	Proximal division or parenchymal damage affecting the ampulla of Vater
V Lateration	Massive disruption of the head of the pancreas

Treatment: In general, grades I and II can be resolved with conservative treatment, while above grade III surgical treatment is indicated.

Initially, the use of ERCP was only diagnostic, but recently its use has increased as a therapeutic tool both safely and satisfactorily, shortening hospital stay, and it has been shown to be an effective option in the treatment of late-onset complications.

Surgical treatment, however, is not only relegated to grade III or higher lesions, but also patiens who present signs of peritoneal irrit, hemodynamic instabillity. Factors that determine the choice of surgical technique include patient stability, injury grade possible existe associated lesions, integrity of the pancreatic duct, anatomical location and extension of the injury.

Morbidity: Thirteen series with 1009 patiens reported the complications associated with pancreatic trauma and found a general complications ranging from 35% to 80% and pancreas-related complications in 30%-36%.The most frequent organ-specific complication acute pancreatitis (15%), pseudocysts (9%) abcesses (6%) and pancreatic fistulas (4%).

Mortality: After analyzing 14 series and 1354 patients, the observed mortality rate was 18 % which is in agreement with data from the literature 30% . In the articles analyzed factors for a poor prognosis included advanced age, hemodynamic instabillity blunt trauma and ass injuries.Other influences include the degree of pancreatic duct injury, infra-staging of the lesions, and delayed diagnosis.

Conclusions: In cases of suspected pancreatic injury, the majon pancreatic duct should be evaluated meticulously since the main predictor of morbid mortality is duct damage, which will define the treatment to be followed:

- Non –surgical treatment is recommender when duct injury has been ruled out by CT, ERCP, or MRCP, with AAST grade I and III secondary to blunt trauma and in patients with hemodynamic stability.
- In grades IV and V lesions with no damage to the duodenum or the ampulla of Vater, drain placement in recommended.
- In hemodynamically unstable patiens, damage control surgery is recommended because quick control of the hemorrage and recover hemodynamic shock is essential to reduce high immediate mortality.
- In non-bleeding pancreatic lesions with important associated injuries, on therapeutic option would be the placementof a closed suction the lesser sac.
- If there is duct injury or late-onset complications, the placement of a transpapillary stent by means of ERCP or a nasopancreaticfavors healing, especially if the placement is done in early stages, interrupting the leak point and blocking the discharge of pancreatic.

NEMA NASLOV

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ABSTRACT

Hydatid disease is a parasitic ailment predominantly affecting the liver (in more than 60% of cases), followed by the lungs, with other organ localizations comprising less than 10%. The most common symptoms are upper abdominal pain, nausea, and in some cases, jaundice. The surgical approach to this condition includes open surgery or laparoscopy. The coexistence of hepatic and intraperitoneal hydatidosis often leads to the preference for open surgery. If the disease is limited to the liver, a minimally invasive surgical approach should be considered due to less invasiveness, rapid recovery and reduced postoperative morbidity. However, the literature review points to the preference for open surgical approach. The reasons are the following: localization of the hydatid cyst, features of the cysts (multilocular-unilocular, presence of septa), technical limitations of laparoscopic approach, the risk of intraoperative spillage and cysto-biliary communication. While partial pericistectomy is the most frequently employed procedure for the management of hydatid cyst irrespective to the surgical approach in the cases of cysto-biliary communication the suture with or without T tube drainage is mostly used as a treatment option. Medicament and interventional procedures in the management of hydatid disease are part of multimodal treatment strategies in the management of this group of patients.

LESSONS LEARNED IN MINIMALY INVASIVE SURGERY OF PANCREAS

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Minimally invasive pancreatic surgery (MIPS) has become increasingly popular in the last decades and is now considered an important part of current pancreatic surgery practice. The role of laparoscopic techniques in pancreatic surgery is still controversial especially regarding to malignancies. Operative time, conversion rate, adequacy of dissection, and morbidity do represent factors of major concern. MIPS is complex and technically demanding; long learning curve and high postoperative morbidity rates, so it calls for stringent implementation of evidence-based guidelines to minimize patient harm aiming to guide the safe adoption of MIPS

Whereas laparoscopic resection of left sided pancreatic lesions requires no anastomosis and therefore has gained worldwide acceptance in pancreatic surgery over the last years, excision of cephalic lesions by minimal access has no frequent place in surgeons' practice because of its technical complexity and duration of surgery.

Very important factor in safe adoption of MIPS is defining and adhering to the sequence of operative steps. For example operative steps for RAMPS procedure are: Retraction of the liver and stomach; Ligation of the SpA; Exposure of the left renal vein (LRV); Transection of the pancreas and splenic vessels; En bloc lymphadenectomy; Dissection of the retroperitoneal tissue and retrieval of the specimen

Folowing the sequence (order) of operative steps we create adequate exposure of avascular disection planes, also secure aproache to major blood vessels and its disection with prevention of major bleeding. Aproach to blood vesles is imortant provision for proper radical lymphadenectomy.

For pancreatic cancer (PC) surgery adequate lymphadenectomy is a measure of adequate surgery. Lymph node metastasis has been reported to be an independent prognostic risk factor for resected left and right-sided pancreatic cancers . The extent of lymph node dissection is one of the key points of pancreato-splenectomy or duodeno-pancreatectomy. Lymphadenectomy is a time-consuming and requires advanced laparoscopy surgery technique.

Regarding tumor size while several studies evaluating patients with surgically resected PC had validated the 4 cm tumour size cut-off. This is likely because the 4 cm tumour size cut-off was determined using data from resected PC cases only. In study, over 95% of the patients with a tumour size > 4 cm had arterial invasion (T4) or distant metastasis (M1). According to our experience tumour size is no restrictive factor for left sided tumours if it is operable (no infiltration SMA and SMV).

Very important step in left sided pancreatic resection are technical aspects of pancreatic tissue resection- type of stapler, gradual compression, speed of cutting and reinforcement of pancreas stump. Respecting and correctly performing of all steps will markedly reduce rate of pancreatic stump fistulas.

After the cephalic duodeno-pancreatectomy delicate and most demanded part is creation off all anastomosis. All gold standards in creation of pancreatico-jejuno, hepatico-jejuno and gaastro-jejuno anastomoses has to be followed and taken from open surgery. All of this need high surgery skill proficiency and time consuming training.

The bottom-line of lessons learned in MIPS is that training of surgeons for this type of surgery need long learning curve through gradual improvement within less complicated laparoscopic surgical procedures.

SURGICAL TREATMENT FOR BRCA POSITIVE PATIENTS

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ABSTRACT

Introduction: Breast cancer is a significant global health challenge, with high incidence and mortality rates. Approximately 10% of breast cancer cases come from BRCA-1/2 genes mutations. A positive BRCA-1/2 status obtained through genetic testing significantly influences surgical and medical treatment decisions. Therefore, genetic counseling, proper surveillance and customized (tailored) interventions for BRCA1/2 carriers are essential to maximizing the benefits of monitoring, chemoprevention and risk-reducing surgeries (RRS) for breast and ovarian cancers.

Aim was to present our results at Oncology institute of Vojvodina, Clinic for operative oncology treating BRCA positive breast cancer patients.

Materials and patients: eleven patients treated with bilateral subcutaneous mastectomy and bilateral laparoscopic oophorectomy.

Conclusion: Prophylactic interventions significantly reduce the risk of breast/ovarian cancer relapses in BRCA genes mutation carriers.

Keywords: BRCA-genes mutation; breast cancer.

RECONSTRUCTION OF THE ESOPHAGUS IN CHILDREN - ESOPHAGEAL SURGEONS IN THE PEDIATRIC ARENA

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Introduction: Reconstruction of a part or the whole esophagus is a big challenge, particularly in the pediatric population. There is no solid evidence of the absolute advantages of any described reconstructive method, and the main goal remains to achieve the best possible quality of life.

Methods: We analyzed treatment results in 26 pediatric patients in whom there were indications for repair or replacement of part or the whole esophagus in the period from 1998 to 2023. Years. All patients were operated in collaboration of esophageal surgeons and pediatric surgeons (in two pediatric and two surgical institutions).

Results: There were 26 patients, out of which 18 were male and 8 were female. Six patients were aged 1 day - 17 months, 10 patients aged 2-8 years, and 10 aged 9-17 years. The indications for operative treatment were: corrosive stenosis in 9, alkaline battery ingestion with perforation in 1; congenital stenosis in 2; benign stenosis of different etiology in 4; malignant tumors of the esophagus and stomach in 2 ; dehiscence/stenosis of the esophageal anastomosis in 2; esophageal atresia in 4(6) and previous failed reconstructions – 2 patients. Previous treatment was carried out in 19/26 patients, 16 of whom were operated 1-10 times (36 operations in total). 3 patients were treated with two stage approach. Esophageal exclusion with pharyngo/esophagostomy and gastrostomy were performed in two patients, and subtotal esophagectomy with esophagostomy and gastrostomy in one. Embolisation of AV pulmonary fistula was performed in one patient before esophageal reconstruction. The surgical approach in 29 operations was: cervico-abdominal in 10; thoraco-abdominal in 3; cervico-thoracic in 2; cervico-thoraco-abdominal in 11; cervical in 1 and abdominal in 2 patients. As a single stage procedure with reconstruction, subtotal esophagectomy was performed in 11 patients, and distal esophagectomy in 6 (in one of them including total gastrectomy). Previous esophageal conduit was resected in two patients (1 colon and 1 reversed gastric tube). Different reconstructive procedures were used: gastric pull up - 1; short segment colon interposition with thoracic anastomosis (Belsey) – 2; long segment colon interposition with cervical anastomosis – 17 (left colon - 15, ileocolon - 2); interposition of jejunum (Merendino procedure modified by Gerzić) – 4. Primary reparation with T-T esophageal anastomosis was performed in 2 patients. The conduit was positioned orthotopically in 13, retrosternal in 10, and antethoracic in one patient. Gastrostomy and/or jejunostomy was performed in 23 patients. Postoperative complications occurred in 4 patients, one of whom one died. Multisystem inflammatory syndrome in children (MIS-C), without surgical complications, was fatal in one patient. Of the 25 survivors, we followed 22 patients; 1 patient died after 4 years due to recurrence of gastric malignancy. Functional result are excellent in 20 patients. Only one patients with colon interpostition has redudancy with intermitent symptoms.

Conclusion: Collaboration of expirienced esophageal surgeons and pediatric surgeons can lead to satisfactory results in reconstruction of the esophagus in pediatric population. Esophageal reconstruction in children is basically done according to the same principles as in adults, with consideration of all the specificities of the pediatric population.

CEPHALIC DUODENOPANCREATECTOMY, OUR EXPERIENCE (GH VALJEVO)

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ABSTRACT

Cephalic duodenopancreatectomy (CDP) is a complex and demanding surgical procedure most commonly used in the treatment of malignant diseases of the pancreas and duodenum, as well as in certain benign conditions such as chronic pancreatitis. This procedure involves the removal of the entire duodenum and pancreas, along with the head of the pancreas, where it is crucial to ensure adequate resection in order to achieve long-term disease control and prevent recurrences. In this paper, based on the experiences from the General Hospital Valjevo, we present our findings and experiences with the application of minimally invasive approaches in performing cephalic duodenopancreatectomy, with a particular focus on the resection and reconstructive phases of the surgery.

The paper is based on a video presentation of four clinical cases, including one case of a distal choledochal tumor and three cases of pancreatic head tumors. For all cases, detailed presentations of the histopathological findings of the specimens are provided, which are essential for establishing the final diagnosis and determining the subsequent course of treatment. In all cases, the minimally invasive approach allowed precise resection and reconstruction of anatomical structures, resulting in shorter operation times and faster postoperative recovery for the patients. The minimally invasive approach, which involves the use of laparoscopic equipment and techniques, proved to be highly effective, reducing postoperative complications and hospital stays.

One of the key aspects of this procedure is achieving an R0 resection, which means complete excision of the tumor with clear margins. This is especially important in oncological cases, where precision in removing tumor tissue is essential for disease control and preventing recurrences. In our study, special attention was paid to the total excision of the mesopancreas, which represents the standard in achieving R0 resection, that is, removing all tissues that may serve as sources of microscopic metastases. This step is critical for achieving optimal oncological results and long-term survival of the patients.

Additionally, we analyzed the advantages of the minimally invasive approach in the context of the postoperative course. In addition to reducing postoperative complications, patients who underwent the minimally invasive procedure had shorter hospital stays, faster return to daily activities, and better pain control. Furthermore, this technique provided better aesthetic results, considering the smaller size of incisions, which has a significant impact on the patients' quality of life.

Our experiences from the General Hospital Valjevo indicate that the minimally invasive approach in cephalic duodenopancreatectomy represents a significant breakthrough in surgical practice, as it allows

precision in resection, a lower risk of complications, and faster recovery for patients. In the future, we believe that this technique will continue to evolve, and its application will expand, especially in centers dealing with oncological surgeries, which could have a positive impact on the treatment outcomes for patients with malignant diseases of the pancreas and duodenum.

CHOLEDOCHOLITHIASIS, MINIMALLY INVASIVE APPROACH

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ABSTRACT

This paper begins with a video presentation that demonstrates the surgical techniques used in the minimally invasive approach for treating choledocholithiasis, providing a comprehensive view of the procedure's key aspects. The video serves as an instructional tool, showcasing the step-by-step process of the intervention and highlighting the advantages of using minimal access techniques for this condition. In addition to the procedural demonstration, the study incorporates statistical data from over 150 surgical interventions conducted by the Department of Abdominal Surgery at the General Hospital in Valjevo. This data offers valuable insights into the outcomes, efficiency, and safety of the minimally invasive approach, contributing to the broader understanding of its clinical application in the treatment of choledocholithiasis.

The paper further examines the latest guidelines and recommendations from the Society of American Gastrointestinal and Endoscopic Surgeons (SAGES) concerning the Endoscopic Retrograde Cholangiopancreatography (ERCP) procedure, a key diagnostic and therapeutic tool in the management of choledocholithiasis. In addition, the study explores the transcystic approach for treating choledocholithiasis, focusing on its role in facilitating biliary drainage and achieving primary closure of the common bile duct (choledoch). The research aims to offer a thorough review of the current best practices in the field, with particular attention to the integration of minimally invasive techniques and the most effective strategies for managing choledocholithiasis. This comprehensive overview not only highlights the technical advancements but also emphasizes the importance of adhering to established guidelines and recommendations for achieving optimal patient outcomes.

EXPERIENCES OF THE GENERAL HOSPITAL IN VALJEVO WITH OVER 400 LAPAROSCOPIC COLORECTAL SURGERIES

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ABSTRACT

This paper provides a detailed overview of the experiences at the General Hospital in Valjevo, focusing on over 400 laparoscopic colorectal surgeries performed over a six-year period. The analysis is based on data collected through the LAPSERB project, a unique database designed to track outcomes and procedural details. Each patient is examined using over 20 parameters, including gender, age, body mass index (BMI), and American Society of Anesthesiologists (ASA) status, among others. This extensive data set is subjected to statistical analysis and compared with official data from global studies that address similar surgical practices in the field of laparoscopic colorectal surgery. The comparison aims to identify trends, assess the effectiveness of different techniques, and evaluate patient outcomes in relation to international benchmarks.

In addition to the statistical analysis, the paper also includes video recordings that document the standardization process for laparoscopic procedures related to right and left colon resections, as well as rectal surgeries. These videos serve as an educational tool, providing a step-by-step guide through the surgical techniques employed and offering insight into the best practices adopted by the institution. By combining data analysis with practical visual demonstrations, this study aims to contribute valuable knowledge to the growing field of laparoscopic colorectal surgery. The findings not only reflect the specific outcomes at the General Hospital in Valjevo but also provide a broader perspective on how these practices compare to global standards, making this paper an essential resource for understanding the evolution and effectiveness of laparoscopic approaches in colorectal surgery.

RIGHT HEMICOLECTOMY, EXTRACORPOREAL & INTRACORPOREAL ANASTOMOSIS.

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ABSTRACT

This paper provides a comprehensive exploration of laparoscopic right hemicolectomy, with a particular focus on the techniques of creating both extrakorporal and intrakorporal anastomosis. The primary section of the study

is based on a detailed video presentation that demonstrates the laparoscopic procedure for right hemicolectomy, showcasing the intricacies involved in the formation of an intrakorporal anastomosis. This is followed by an in-depth analysis comparing the two types of anastomoses—extrakorporal and intrakorporal—highlighting the advantages and disadvantages of each approach. The discussion is further enriched with findings from various significant studies that have contributed to the understanding and evaluation of these surgical methods.

Additionally, the paper includes statistical data derived from over 50 cases of intrakorporal anastomosis performed following laparoscopic right hemicolectomy in the Department of Abdominal Surgery at the General Hospital in Valjevo. This data serves as an empirical basis for assessing the outcomes and efficiency of the intrakorporal technique in clinical practice. The paper also reflects on the author's personal experiences and insights gained from these procedures, offering a practical perspective on the application of laparoscopic techniques in abdominal surgery.

The combination of video presentation, comparative analysis, statistical review, and personal reflections aims to provide a thorough understanding of laparoscopic right hemicolectomy and the use of intrakorporal anastomosis, contributing valuable insights to the field of minimally invasive abdominal surgery.

TECHNIQUES OF RECONSTRUCTION AFTER GASTRECTOMY USING MINIMALLY INVASIVE APPROACH.

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ABSTRACT

This paper provides a comprehensive and detailed overview of the minimally invasive techniques employed following total, 95%, and subtotal gastrectomy with D2 lymphadenectomy. The study emphasizes the importance of the technical aspects involved in reconstructing the esophago-jejunostomy or gastro-jejunostomy, which are recognized as the most critical and high-risk components of this complex surgical procedure. The paper explores the nuances of these techniques, outlining the challenges faced and the methods used to minimize complications and improve patient outcomes. By focusing on these specific types of anastomoses, the study highlights the importance of precision and skill in achieving successful reconstructions after gastrectomy.

Additionally, the paper presents statistical data from over 80 procedures of this kind, providing an in-depth analysis of the outcomes, complications, and overall effectiveness of the minimally invasive approach. This data serves as an empirical

foundation for evaluating the advantages of minimally invasive techniques in gastrectomy, comparing them to traditional open surgery in terms of recovery time, complications, and long-term patient survival. Furthermore, the study includes a reflection from the author, offering valuable insights and personal experiences based on these 80 cases. The author discusses the learning curve, the evolving proficiency with these techniques, and the broader implications for the future of gastric cancer surgery. Ultimately, the paper contributes to the understanding of minimally invasive approaches to gastrectomy and underscores their potential in enhancing surgical outcomes and patient quality of life.

ACUTE MESENTERIC ISCHEMIA: IDENTIFYING EARLY SIGNS AND OPTIMIZING TREATMENT

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Acute mesenteric ischemia (AMI) is a life-threatening vascular emergency characterized by a sudden reduction in intestinal blood flow, leading to ischemia and secondary inflammatory changes. Despite its low incidence (0.09–0.2% of emergency surgical admissions), AMI carries a high mortality rate due to diagnostic delays and the rapid progression of ischemic injury.

The condition predominantly affects elderly patients, with an incidence tenfold higher in individuals over 80 years of age compared to those in their 60s. Early diagnosis is crucial and relies on a high index of clinical suspicion. The hallmark symptom is severe, disproportionate abdominal pain, often accompanied by nausea, vomiting, diarrhea, and hematochezia. Laboratory findings such as leukocytosis, elevated lactate, and D-dimer levels may aid in diagnosis, but abdominal computed tomography angiography (CTA) remains the gold standard, offering 95–100% diagnostic accuracy.

The cornerstone of AMI treatment is rapid intervention, emphasizing the "3 R's": Resuscitation, Rapid diagnosis, and Early revascularization. Initial management involves fluid resuscitation with crystalloids, oxygen supplementation, and broad-spectrum antibiotics to mitigate bacterial translocation. Definitive treatment depends on the underlying etiology—surgical embolectomy, endovascular thrombectomy, or bypass procedures for arterial occlusions, and anticoagulation for venous thrombosis.

Surgical decision-making requires careful assessment of bowel viability, often complicated by hypotension and concurrent vasopressor use. Intraoperative techniques such as Doppler ultrasound, fluorescein angiography, and indocyanine green angiography can aid in viability assessment. In cases of extensive necrosis, bowel resection is necessary, with temporary abdominal closure and damage control surgery considered in critically ill patients. The role of second-look laparotomy remains crucial in preventing unnecessary bowel resection and ensuring optimal outcomes.

Finally, post-resection management focuses on preventing complications such as short bowel syndrome, where emerging treatments, including somatropin and teduglutide, may aid in adaptation. Timely recognition and optimized treatment strategies are essential for improving survival and reducing morbidity in patients with AMI.

Keywords: Acute mesenteric ischemia, early diagnosis, computed tomography angiography, surgical revascularization, bowel viability, short bowel syndrome

CHANGING TRENDS IN THE DIAGNOSIS AND TREATMENT OF LIVER HYDATIDOSIS OVER A 60-YEAR PERIOD: EXPERIENCE OF A TERTIARY REFERRAL CENTER IN AN EUROPEAN ENDEMIC REGION

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ABSTRACT

Serbia is a well-known endemic region for hydatid liver disease (LH). Although surgery remains the primary treatment modality, there have been significant changes in the diagnosis and treatment of this disease in recent years. The aim of this study is to retrospectively analyze the demographic and clinical characteristics of patients who underwent surgical treatment for LH at a tertiary referral institution

over the past 60 years. The authors conducted a comparative analysis across three 20-year periods: Period I (1960-1980), Period II (1980-2000), and Period III (2000-2020). The ratio of surgeries performed due to LH in the last peroiod (1.23%0) was significantly lower than in the first two periods (5.15%0 and 4.86 %0 respectively). Higher incidence in females (1:2.2), cyst localisation and complications rate has been consistent over time. Ultrasound, computed tomography, ELISA and IHA test was during the last two periods. While the management of LH shifts towards less invasive procedures, open surgery remains the gold standard. The tissue-sparing operations was performed in most cases (61.91%). However, there has been a slight increase of the radical surgeries, rising from 25.4% in the first period to 43.15% in the second and 46% in the third period. The surgical approach by Papadimitriou, -partial cystopericystectomy plus omentoplasty (PCPCO), maybe the preferred method as it balances the need for radical treatment with tissue preservation in LH surgery. Minimally-invasive techniques such as PAIR and laparoscopy have gradually been introduced over the last two periods, in a small number of carefully selected cases (increasing from 3.4% to 8.1%, respectively).

Key words: echinococcosis, hydatide disease, liver, diagnosis, therapy

V.A.C. IN WOULD HEALING

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ABSTRACT

VAC (Vaccum Assisted Closure) – controlled local negative pressure is used to treat wounds.

It works by draining secretions from the wound, maintaining optimal wound moisture, improving tissue perfusion, removing bacteria and devitalized tissue - reducing wound contamination, inflammation, edema and pain, unpleasant odor, stimulating granulation, which results in wound reduction. In KBC "Zvezdara" it has been used in the treatment of wounds since 2010. and excellent results were achieved.

Presentation of patients with ischemic wounds, orthopedic wounds, wounds after hernia surgery, fistula after nephrological surgery, ulcer cruris.

By using V.A.C. therapy, according to the indications and proper application, we achieved significantly faster and better quality treatment in the treatment of wounds.

Key words: treatment, negative pressure, wound.

STAPLER ANASTOMOSIS: A TWO-PHASE TECHNICAL APPROACH

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ABSTRACT

Background: Minimally invasive esophagectomy (MIE) with linear stapler anastomosis represents an advanced surgical technique combining laparoscopic abdominal and thoracoscopic prone approaches. This technical paper describes our standardized two-phase surgical technique and perioperative management protocol, demonstrated in a case of adenocarcinoma of the esophagogastric junction.

Methods: Our procedure is performed in two distinct phases. Initially, the abdominal phase is completed laparoscopically with the patient in supine position, involving gastric mobilization and lymphadenectomy with gastric conduit creation. Subsequently, the patient is repositioned to prone position for the thoracic phase, which is accomplished through three strategically placed ports, optimizing access to the posterior mediastinum. We present a case where the patient received neoadjuvant chemotherapy with four cycles of FLOT regimen prior to surgery.

Surgical Technique: The procedure begins with the laparoscopic abdominal phase, establishing gastric conduit preparation and abdominal lymphadenectomy. Following completion of the abdominal phase, the patient is carefully repositioned to prone position. The thoracic phase is performed through three ports, benefiting from gravity-assisted lung retraction. The esophagogastric anastomosis is completed using a linear stapler technique, ensuring precise and secure anastomotic closure. This approach provides superior visualization of the posterior mediastinum and optimal ergonomics for the surgical team.

Results: This two-phase approach with linear stapler anastomosis demonstrates several advantages, including improved surgical exposure, enhanced ergonomics, reduced operative time, and decreased pulmonary complications. In our demonstrated case, the postoperative course was uneventful despite COVID-19 infection. Water-soluble contrast studies on days 3 and 5 confirmed anastomotic integrity and satisfactory pulmonary status. Notably, the pathological examination revealed complete tumor regression (ypT0N0M0) with all 43 harvested lymph nodes being negative, demonstrating the oncological effectiveness of this approach combined with appropriate neoadjuvant therapy.

Conclusion: The combination of laparoscopic abdominal approach followed by prone position thoracic phase MIE with linear stapler anastomosis represents a technically feasible and reproducible approach. This standardized technique emphasizes safety, oncological principles, and optimal surgical outcomes while

potentially reducing anastomotic complications. However, this complex procedure should be implemented only in highly specialized centers.

Keywords: Minimally invasive esophagectomy; prone position; linear stapler anastomosis; laparoscopic surgery; thoracoscopic surgery; esophageal cancer; FLOT regimen

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VATS SEGMENTECTOMIES – OUR EXPERIENCE: TRENDS AND OUTCOMES FROM THE THORACIC SURGERY DEPARTMENT AT UKC MARIBOR (2022–2024)

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Anton Crnjac, MD, PhD, Professor of Thoracic Surgery

ABSTRACT

Objective: This study evaluates the growing adoption and outcomes of video-assisted thoracoscopic surgery (VATS) segmentectomies at the Thoracic Surgery Department of UKC Maribor over the past three years (2022–2024), focusing on procedural trends, conversion rates, and postoperative results.

Methods: A retrospective analysis was conducted on all segmentectomies performed between 2022 and 2024. Data included the proportion of VATS segmentectomies, conversion rates to thoracotomy, postoperative complications, and hospital stay.

Results: Over the three-year period, VATS segmentectomies increased significantly, comprising 6% (2022), 14% (2023), and 18% (2024) of all segmentectomies. Conversion to thoracotomy was required in 12% of VATS cases, primarily due to bleeding, adhesions, or inadequate margins. Postoperative complications occurred in 15% of cases, including prolonged air leak and minor bleeding. The median hospital stay for segmentectomies was 4 days..

Conclusion: The progressive adoption of VATS segmentectomies at UKC Maribor reflects evolving expertise in minimally invasive techniques. Segmentectomy is on its way to becoming the standard of care for resecting tumors smaller than 2 cm, offering comparable oncological outcomes while preserving lung parenchyma. However, it is technically more demanding for surgeons, requiring advanced skills and precision. Our conversion rates and outcomes align with reported global benchmarks, underscoring the feasibility of VATS in selected patients. Continued refinement of surgical techniques and patient selection may further optimize outcomes, solidifying VATS segmentectomy as a preferred approach for small lung cancers.

Keywords: VATS segmentectomy, thoracotomy conversion rate, minimally invasive thoracic surgery, postoperative outcomes, small lung cancer.

TOO LATE FOR THE TRAIN OF MINIMALLY INVASIVE SURGERY? OUR RESULTS IN LAPAROSCOPIC DISTAL PANCREATECTOMY WITH SPLENECTOMY

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ABSTRACT

Laparoscopic distal pancreatectomy is a minimally invasive approach for the surgical treatment of neoplasms in the distal pancreas. This study aimed to compare this approach to the open procedure. A retrospective analysis of a prospectively maintained database of 800 pancreatectomies was performed. The laparoscopic distal pancreatectomy group (LDP) was compared to the open distal pancreatectomy group (ODP). A propensity score matching analysis (PSM) was performed. From 2016 to 2023, 108 distal pancreatectomies were carried out, 19 (17.6%) laparoscopically and 89 (82.4%) openly. The conversion rate was 13.6%. The severe morbidity rates were 28.1% in the ODP group, 47.4% in the LDP group, and 15.8% in the ODP-PSM group. The difference between the latter two was statistically significant (p = 0.034) due to the high rate of Clavien–Dindo grade 3a complications (42.1% versus 10.5%, p = 0.042) in the LDP group. The 90-day mortality rates were 3.3% in the ODP group and 5.3% in the other two groups. The LDP group had a shorter duration of intravenous narcotic analgesia (5 versus 7 days, p = 0.041). There was no difference in the R0 resection or postoperative pancreatic fistula rates. Our attention should be drawn to preventing postoperative complications because the oncological outcomes are already comparable with those of the open procedure, and postoperative pain management is promising.

Keywords: laparoscopic distal pancreatectomy; postoperative pancreatic fistula; morbidity; mortality; resection rate

LAPAROSCOPIC MAJOR LIVER RESECTIONS – FROM SAFE IMPLEMENTATION TO STANDARDIZATION

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ABSTRACT

Introduction: Laparoscopic liver resection (LLR) is radically different from open hepatectomy because of the distinct surgical perspective of these two techniques.

The lack of a complete hepatic overview and tactile feedback during laparoscopic hepatectomy may result in fatal intraoperative complications despite the advantages of a magnified laparoscopic view and the effects of pneumoperitoneum pressures. This study aims to demonstrate the pitfalls associated with major LLRs.

Methods: Consecutive patients who underwent pure LLR between 2008 and 2024 at a single center were retrospectively reviewed. In this video, we demonstrate intraoperative pitfalls associated with different steps of laparoscopic right hemihepatectomy (LRH) and show some tips how to avoid them.

Results: A total of 267 consecutive patients underwent pure LLR. The rate of LLRs among liver resections was at 5-10% until 2015 and reached 50% in the following years. We performed our first major LLR in 2014 after 7 years of experience with minor LLRs. Major LLRs now represent 86/267 (32%) of our practice. LRH constituted a homogeneous group of major LLRs suitable for critical analysis. We performed 11 LRH and two of them were converted to open liver resection (bleeding and oncological concern). Postoperative complications occurred in two patients, including fluidothorax and bile collection, both treated with ultrasound guided drainage. The mortality in this series of LRHs was zero. Different scenarios are presented in this video.

Conclusion: LRH in skillful hands is an alternative to open surgery in selected cases. However, it is a technically demanding and potentially hazardous procedure.

Key words: laparoscopy, major hepatectomy, intraoperative complication

EARLY VERSUS DELAYED CAROTID ENDARTERECTOMY AFTER ACUTE NEUROLOGICAL DEFICIT

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ABSTRACT

Objectives: The aim of this study was to investigate the safety of early carotid endarterectomy (CEA) in relation to the delayed CEA after acute ischemic neurological events (TIA / CVI).

Methods: A total of 157 patients in the prospective study followed 30 days postoperatively. Group I or early CEA, had 50 patients operated from 3 to 14 days after TIA / CVI event. Group II or delayed CEA, had 107 patients operated from 15 to 180 days after the TIA / CVI. Accompanied by the general and specific procedural morbidity and mortality in 30-day postoperative folow up. In the statistical analysis we used the Pearson chi test, Student's test, ANOVA analysis of variance. The significance level was 0.05.

Results: The mean age was 66.72 years with 66.2% of males. In Group I is the average time to intervention was 9.5 days, and in group II 72.22 days. The groups were homogeneous in relation to risk factors and co-morbidities. Group I had 54% of unstable atherosclerotic plaques compared with group II, where it was 31.8% ($\chi 2$ = 7.084; p <0.01). In the group I TIA had 50% of respondents, while in group II CVI was 68.2% ($\chi 2$ = 4.825; p <0.05). CVI to 1 cm in size were significantly more frequent in the group I, a CVI to 2 cm in group II ($\chi 2$ = 6.913; p <0.05). CVI rate in the group I was 2.0%, and in group II was 2.8% (F = 0.083, p> 0.05). Postoperative myocardial infarction (MI) in the group I is 2.0%, and in group II was 1.9%. Specific surgical morbidity rate in the group I and 4.0% in the group II 3.7%. In group I total morbidity was 6.0% in group II 7.5%, the difference was not statistically significant (F = 0.921; p> 0.05). Mortality in both groups was not. CVI/IM/death rate in group I was 4.0% in group II was 4.7% (F = 0.122; p> 0.05). Hyperlipidemia is a significant risk factor for CVI/IM/death ($\chi 2$ = 4.083; p <0.05). Improving mRS in the group I had 52% and in group II 31.8% of patients ($\chi 2$ = 5.903; p <0.01).

Conclusions: Early CEA is as safe as the delayed CEA in respect incidence of perioperative morbidity and mortality.

Key words: Carotid Endarterectomy ; Time-to Treatment; Ischemic Attack, Transient; Stroke; Morbidity; Mortality; Severity of Illness Index; Myocardial Infarction; Risk Factors; Treatment Outcome

DEVELOPMENT OF BARIATRIC SURGERY IN GENERAL HOSPITAL SLOVENJ GRADEC

Gregor Kunst

ABSTRACT

First bariatric procedure in our hospital was done in 2005 by dr. Breznikar. We started with Laparoscopic Adjustable gastric band operation. In that first year 10 of these procedures were done.

Next year the number of procedures raised to 50. In third year first laparoscopic Roux en y gastric bypas and sleeve gstrectomy were done. All new procedures where at first adopted with experts from abroad.

From the very beginning our idea was to form a bariatric team of coworkers, not only surgeins but also anestesiologist, nurses, scrub nurses, psychcolgist, dietitian, … We thoght that only a small dedicated team brings good long term results.

Our work was recognised in 2016 when we became the European center of exellence for bariatric and metabolic surgery.

We are continuing dr. Breznikars work and his vision of constantly evolving. Just before covid-crisis we performed more than 250 procedures per year. We did more difficult revisional surgeries and started with malabsorptive procedures.

Our goal is to be a leading bariatric center in this region.

PREVENTION OF POST SPLENECTOMY INFECTIOUS COMPLICATIONS – AN AUDIT AT CLINICAL DEPARTMENT FOR ABDOMINAL AND GENERAL SURGERY IN CLINICAL CENTRE MARIBOR

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ABSTRACT

Patients who have had splenectomies are at increased risk for severe infections and overwhelming sepsis. Prophylactic measures are important to reduce mortality in this group; among them are vaccinations, antibiotic prophylaxis, and education. We performed a retrospective audit of post-splenectomy prophylactic measures, focusing on vaccinations and antibiotic prophylaxis coverage.

We included 156 adult patients who had splenectomies between January 2013 and December 2021 in a study conducted at a single tertiary medical center. Data regarding vaccinations, antibiotic prophylaxis, and severe infections in the post-splenectomy period were obtained from medical records and supplemented by a patient-devised questionnaire.

Our study shows that there is adequate basic pneumococcal vaccination coverage among patients after a splenectomy particularly after an elective splenectomy, but there is a lack of and an inadequate implementation of other prophylactic measures.

Keywords: antibiotic prophylaxis; education; overwhelming infections; post-splenectomy; vaccination

Introduction: An overwhelming post-splenectomy infection (OPSI) caused by encapsulated bacteria was first described 1952 in a cohort of children who had splenectomies. Not only pneumococcal infection, but also infections with other encapsulated bacteria such as Neisseria meningitidis, Haemophilus influenzae, intra-erythrocytic parasitic infections and animal bites can be fatal in asplenic patients. The incidence of post-splenectomy sepsis is reported to be the highest in the first two to three years after splenectomy. Because of a possibly fatal outcome of infections in patients who have had splenectomies, it is important to implement preventive measures to reduce the risk of severe infections in this special group. Preventive measures in patients who have had splenectomies include vaccinations, antibiotic prophylaxis, and patient education. If there is an overall consensus regarding the vaccinations there are varying approaches regarding the recommended antibiotic prophylaxis after a splenectomy.

Patients and Methods: We conducted a retrospective cohort study. We included the medical data of all adult patients who had splenectomies for various reasons at the University Medical Centre Maribor (UKC MB) between January 2013 and December 2021 who were still alive at the end of 2021. We observed the compliance

of post-splenectomy preventive measures, focusing on vaccination coverage and the post-splenectomy antibiotic prophylaxis. We also observed the number of severe infections in the post-splenectomy period. Severe infections were defined as infections that required hospitalization. We collected data on the administered vaccinations from the Maribor regional unit of the National Institute of Public Health. We fulfilled the questionnaire by a telephone interview. In surviving non-responders, the questionnaires were sent per mail.

Results: Between January 1, 2013 and December 31, 2021 (nine years), 279 patients had splenectomies at our institution for various reasons. One hundred twenty (43.0%) patients died before December 2021, mostly because of malignancies. Among 120 deceased patients, none died from OPSI or a severe infection. Of 159 surviving patients, the data from 146 patients were obtained from their medical records and a questionnaire completed either by a telephone interview or by mail.

We observed the highest coverage in pneumococcal vaccination. Overall, 77.5% of patients received a basic pneumococcal vaccination. Antibiotic prophylaxis with phenoxymethylpenicillin or an alternative for two years was recommended at hospital discharge only for 57 (39.0%) patients. Among them, only half of the patients (52.6%) followed the recommendation completely and continued the antibiotics for a total of two years after splenectomy. Most patients, 128 (87.7%), did not suffer severe infections in the observed period. Most patients, 128 (87.7%), did not suffer severe infections in the observed period.

Conclusion: Our study presents the current situation of prophylactic measures among asplenic patients in a Slovenian tertiary care center, with adequate basic pneumococcal vaccination coverage yet a low re-vaccination rate, as well as a low proportion of patients receiving antibiotic prophylaxis. Our findings indicate that among all prophylactic measures, education seems to be a core preventative measure, because it could improve compliance with the other two arms of prophylaxis: vaccination and antibiotic prophylaxis.

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FEASIBILITY AND SAFETY OF ROBOTIC-ASSISTED PANCREATIC RESECTIONS IN PATIENTS WITH NEUROENDOCRINE NEOPLASM

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ABSTRACT

Introduction: Patients with pancreatic neuroendocrine neoplasm (pNEN) have usually high-risk pancreatic gland - soft pancreas with non-dilatated pancreatic duct. Complete removal of the tumour with adequate lymphadenectomy is of paramount importance. Aim of this study was to assess feasibility and oncological safety of robotic-assisted resections in patients with pNEN

Methods: Between 2022 and 2025, 5 patients with pNEN in head of the pancreas and 14 patients with left-sided pNEN were treated. We analysed prospectively collected data from the robotic registry. Due to the small number of patients involved, no statistical analyses were performed.

Results: We performed 5 robotic assisted pancreatoduodenectomies (RPD), 7 distal pancreatosplenectomy (RDPS), 6 spleen preserving distal pancreatectomies (SPDP) and 1 central pancreatectomy (RCP). The median operating time was 320 (RPD) vs 139 (SPDP) vs. 133 (DPS) min, length of hospitalization 9 vs 6 vs. 6 days respectably. Median blood loss was 100 ml across groups. The median tumour size was 16.5 in RPD, 15 in SPDP and 25 mm in RDPS. The median number of retrieved lymph nodes was 16 in RPD, 5.5 SPDP and 8 in RDPS. CR-POPF developed in one patient in RDPS group (grade B, 5, 2%). Radical resection was achieved in all but one patient in the DPS group (94, 7%). All patients were followed-up by an oncologist without signs of local or distant recurrence.

Conclusion: Robotic-assisted pancreatic resections por pNEN are safe with oncological outcomes comparable to open surgery. However, a larger patient series is needed for the proper evaluation.

ROBOTIC LIVER SURGERY FOR MALIGNANT TUMORS IN UMC LJUBLJANA

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ABSTRACT

With rapid technological advancements, minimally invasive techniques have become integral to liver surgery. This approach offers significant benefits, including reduced surgical trauma and blood loss, shorter hospital stays, and faster recovery. Moreover, the robotic surgery platform enhances precision by providing three-dimensional visualization and wristed instruments with a wide range of motion and tremor filtering, ensuring surgical freedom comparable to open procedures.

As a high-volume liver surgery center with expertise in laparoscopic liver procedures and equipped with the DaVinci Xi robotic platform, we adopted a step-by-step approach to establishing our robotic liver surgery program. All robotic resections were performed by an experienced HPB surgeon who completed specialized robotic training at a high-volume center at UT Southwestern, Dallas, USA.

Over a 22-month period, we performed 22 robotic liver resections for malignant tumors. The most common pathology was hepatocellular carcinoma (9 cases), followed by intrahepatic cholangiocarcinoma (5 cases). Using the IWATE difficulty scoring system, which classifies minimally invasive liver resections into low (L), intermediate (I), advanced (A), and expert (E) difficulty levels, we conducted 8 intermediate, 11 advanced, and 3 expert-level resections of malignant tumors. The average operative time was 160 minutes for intermediate, 178 minutes for advanced, and 227 minutes for expert-level procedures. Estimated intraoperative blood loss averaged 191 ml (I), 213 ml (A), and 200 ml (E), with only 2 patients (9.1%) requiring a blood transfusion during hospitalization. Notably, no conversions to open surgery were necessary. The median hospital stay was 6 days for intermediate and advanced procedures and 7 days for expert-level cases. The R0 resection rate was 86.4%. Two patients (9.1%) experienced Clavien-Dindo grade 3 complications, and there was no 90-day mortality.

In our initial experience, robotic liver resections demonstrated feasibility, with a low conversion rate and operating times comparable to open procedures. A strong safety profile was achieved through attentive procedure planning and standardization of robotic techniques. We believe that, when combined with the ERAS protocol, the benefits of minimally invasive robotic resections lead to faster recovery without an increase in complication or mortality rates.

TREATMENT OPTIONS FOR HAEMORRHOIDAL DISEASE, IS THERE ANYTHING NEW? GETTING AWAY FROM PAIN

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ABSTRACT

Introduction: Hemorrhoidal disese (HD) is the most prevalent disease in the anorectal region, influencing about 25% of the population. The classification of HD between internal and external comes from their location to the denteate line. HD is the disease of internal nodules and manifests with rectal bleeding, mucosal disharge, and other symptoms, like prolapse. The symptoms usually have major effect on quality of life of the affected patients. Grading comes form Goligher classification.

Therapy: Conservative management like dietary measures and topical medications can reduce bleeding and anal discharge. Low grade HD can resolve for some time. Medical therapy of HD with flavonoids can significantely reduce amount and freqency of bleeding. Medical therapy is usualy indicated for acute worsening of the symptoms, especialy the bleeding. This might be important in patients on anticoagulants and in patinets with other medical or subjective reasons for postponing definitive surgical intervention.

About 10% of all patients will need any surgical approach, conventional hemorrhoidectomy, hamorhoidal artery ligation, circular haemorhoidal suture pexy or stapled hemorrhoidopexy. Radical surgery by open or semiclosed hemorrhoidectomy was available almost exclusively to 1998. The most bothersome effect of these procedures are postoperative pain for weeks, long recovery time, scarring up to 8 weeks. Early (hemorrhages) or late severe complications (anal incontinence, anal stenosis) are always possible.

Less invasive techniques such as rubber band ligation (RBL), sclerotherapy and infrared coagulation have been developed in recent decades. Quicker patient recovery are offered, but an increased recurrence is reported. Some minimally invasive techniques based on the hyperflow of hemorrhoidal arteries like transanal hemorrhoidal dearterialization (THD), doppler-guided hemorrhoidal artery ligation (DGHAL) or its endovascular version, have showed some promising results.

Laser used for haemorrhoido-plasty (LHP) was first used by Karahaliloglu in 2007. A systematic review, already in 2020, mentioned that resolution of grade II and III hemorrhoids symptoms ranged between 70% and 100% after LHP. It showed lower postoperative pain, and the most commonly reported postoperative complication was bleeding (range 0–64%). In that ime suregons used different wavelengths of lasers, and due to the novelty of technology, the proficiency of surgeons in the use of lasers varies, which can greatly affect postoperative complications.

As an emerging non-excisional treatment, a systematic review and meta-analysis in 2023 by Wee IJY, et al. has shown that LHP has favorable short-term clinical outcomes in treating grade II/III hemorrhoids compared to traditional surgery, reducing pain and allowing for earlier recovery of activities. Suprisingly, LHP has been reported lower postoperative pain than RBL, and recurrence rate was reported to range between 0 and 11.3% after LHP. Early complication, such as the probability of bleeding after LHP was significantly lower than in RBL, as well as delay bleeding, when the banded tissue sloughs off, was higher than after LHP group.

Lie and colleagues in a systematic meta analysis in 2024 again showed that LHP is shorter procedure, which offers shorter hospital stay. Patients has lower postoperative risk of urinary retention and anal stenosis. The most importanat patient related outcome is lower VAS 24-h post-operative and shorter recovery time. LHP and MM did not differ in terms of recurrence rate ($p = 0.70$). LHP was superior to MM procedure in terms of post-operative complications.

In the end of 2024 the Recommondations for Laser Haemorrhoidoplasty were publishead, where the most accurate dilemmas of LHP are discussed. It is believed that In the future, LHP will be better and more widely used by surgeons, and its therapeutic effects will continue to improve.

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