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Poster Presentations

P001 - Abdominal Cavity and Abdominal Wall

Laparoscopic Decompression in Patients with Celiac Artery Compression Syndrome

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Celiac artery compression syndrome (Dunbar syndrome) is a rare disorder characterized by chronic, recurrent abdominal pain related to compression of the celiac artery by the median arcuate ligament. It usually presents with symptoms of abdominal pain, weight loss, and an abdominal bruit. Diagnosis is usually confirmed with imaging such as CT angiography, MRI, ultrasound, and arteriography. Surgery is currently the only treatment option and involves releasing the ligament.

Methods: We present three cases of Dunbar syndrome treated by laparoscopic decompression. There were 2 males and 1 female at the age of 39, 44 and 47 years respectively. The disease has manifested with postprandial epigastric pain, weight loss and abdominal bruit, nausea, diarrhea, vomiting, and delayed gastric emptying. For surgery we used 4 troacars: two 10 mm in the umbilicus and in the left mesogastrium, two 5 mm in the epigastrium and in the right mesogastrium. After the ports placement and the examination of the abdominal cavity, the gastrohepatic ligament has been transsected to facilitate the identification of the right crus of the diaphragm. The oesophagus was dissected cranially to the oesophageal hiatus. The stomach was retracted laterally and caudally, exposing the anterior surface of the aorta. The left gastric artery was then identified. Following the superior aspect of the left gastric artery, the coeliac trunk was located. The median arcuate ligament, was divided, along with the surrounding neural coeliac plexus, until the coeliac trunk was completely exposed from the aorta to its primary branches.

Results: There were no intra- and postoperative complications. The blood loss was minimal. The period of hospital stay was 4 days in all 3 cases.

Conclusion: Laparoscopic decompression is an effective treatment for Dunbar syndrome and can provide immediate symptomatic relief. It requires good manual laparoscopic surgical skills.

P002 - Abdominal Cavity and Abdominal Wall

Strangulated Hernia is One Risk Factor of Seroma

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Aim: Seroma is one postoperative complication which can occur following laparoscopic transabodominal preperitoneal repair (TAPP) for inguinal herniorrhaphy. The local inflammation of the inguinal area resulting from the dissection of the preperitoneal layer and the use of prosthetic materials have been reported as an etiology of seroma formation, but the precise etiology is yet to be clarified. Seroma in most cases resolve naturally, but it can lead to increased visitation in the outpatient clinic, and result in patient anxiety. Strangulated hernia is a common disease which is often seen in the surgery and emergency rooms involving severe inguinal pain, which can lead to severe inflammation and subsequent seroma.This aim of our study was to retrospectively evaluate the risk of seroma after TAPP, and especially to identify the links between strangulated hernias and Seroma.

Methods: This is retrospective single-center study. We treated 300 inguinal/femoral hernias by TAPP between 2013 and 2016 at Kurashiki Central Hospital. We excluded the data in the absence of hernia size and combined surgeries. We defined the seroma based on evaluation by ultrasound or computed tomography on post-operative day 7, and also defined strangulated hernia in which we performed the operation 48 h from the time of diagnosis. We used the Student's t-test to evaluate the risk of seroma.

Results: Following exclusion, 226 hernias were eligible for analysis. The incidence of seroma was 11% (n=26). There were 9 cases of strangulated hernias and 3 cases (33%) resulted in seroma ($p<0.03$). Multiple subsequent logistic regression showed no independent risk factors for seroma formation.

Conclusion: To our knowledge, this is the first report which demonstrates that strangulated hernia is one risk factor for seroma following TAPP. The risk of seroma must be considered when performing TAPP for strangulated hernia.

P328 - Liver and Biliary Tract Surgery

Modern Approaches to Hepatic Hemangioma Treatment

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Among benign hepatic tumors hemangiomas are the most common, representing 2,2–3% of benign hepatic new growths. Research objective is to determine the efficiency of argon - plasma coagulation (next – APC) method for the treatment of hemangiomas by studying the nature and severity of post-surgery complications.
Materials and Methods: The paper involved 21 patients with conventional surgical treatment of hepatic hemangiomas and 25 patients who underwent APC.
Results: Indications for surgery were the development of complications as well as rapid increase in the hemangioma size with the formation of increasing symptoms of pain and abnormalities in laboratory findings of hepatic functional state.
The main intervention in case of hemangioma was hepatic resection: anatomical or peritumoral. At the same time the surgery of choice in the study group was laparoscopic enucleation or wedge hepatic resection with APC. In both cases there was drainage of the residual cavity. For large cavities in the study group we performed "open" surgery of cavity tamponing that remains after APC, using a large fragment of greater omentum.
In the nearest post-surgery period the most frequent complication in the subgroup of patients with resection were bleedings −3 patients, and 2 patients had bleeding in the retroperitoneal space and hemobilia. In case of APC treatment bleeding was observed in two patients, besides we registered an abscess formation in one patient.
In the late period we examined 17 patients who underwent APC intervention and 21 patients who were rendered conventional surgical assistance.
Among the complications of remote post-surgery period we should admit the following in patients who underwent surgeries on hepatic hemangioma: formation of biliary cirrhosis, external biliary fistula, obstructive jaundice, infrarenal abscesses, anemia, which were less in the subgroup of APC treatment by 1,6−2,5 times.
Conclusions: Surgical treatment with laparoscopic APC provides effective removal of hepatic hemangiomas. In this case, we observed in patients fewer complications in the post-surgery period and improved performance during post-surgery rehabilitation.

P329 - Liver and Biliary Tract Surgery

Needlescopic Surgery, (CL1P), Excellent Option for Laparoscopic Cholecystectomy.

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Introduction and Objectives: In this modern era of minimally invasive surgery, cosmesis and early recovery are strongly emphasized. To reduce abdominal trauma and improve cosmesis, surgeons have adopted several surgical techniques. The aim of this study is to describe our experience with CL1P Needlescopic cholecystectomy performed in 300 patients, in a 4 year follow up.
Methods: This study is original, prospective and descriptive. We included 300 patients, 173 males and 127 females, average age of 33, all with the diagnose of cholecystitis of any etiology, diagnosed with Ultrasound. We measured surgical time, inpatient time, postoperative visual analogue scale pain measure (VAS), use of extra painkillers, return to work, complications, conversion to traditional laparoscopic surgery, and finally costs.
Results: The average surgical time was 27.1 min (max 115 min and min 17 min). The average VAS at 4 h postop was 4.1, and at 8 h 3.5. 97% of the patients stayed in the hospital less than 24 h. 3% stayed 32 h. 1 patients had an small bowel perforation at the time of closure, 1 patient had a complete section of the right hepatic accessory duct. 3 convertions to 1 extra laparoscopy port, and 2 convertion to open surgery. 99% of the patients return to work at day 4. The average cost was $1666 USD.
Conclusions: It can be concluded that Needlescopic Cholecystectomy is a safe, less invasive, painless, therefore, less painkillers and a quick return to work, being this last, an excellent marker for general patient health. Needlescopic Cholecystectomy is a very good option.
Discussion: As any surgical technique, the surgeon needs to have the appropriate training, and appropriate equipment.

P330 - Liver and Biliary Tract Surgery

Iatrogenic Injury of Aberrant Bile Duct for Segment Six During Laparoscopic Cholecystectomy and Treatment

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Aims: Iatrogenic injuries of bile ducts during laparoscopic cholecystectomy occur in around 1% of the cases, and they still pose a serious problem. Stewart-Way and Strasberg classifications are widely accepted for estimation of these injuries. Nevertheless, some cases cannot be classified using these methods due to anatomic variations of the bile duct involved. Hereby we present the course of the laparoscopic injury during cholecystectomy in a patient with drainage from segment 6 into the common hepatic duct, subsequent reintervention, diagnostics, and treatment.
Methods: Initial laparoscopic cholecystectomy was performed in General hospital in Čačak, Western Serbia. The laparoscopy appeared uneventful, albeit with slightly prolonged bleeding from the lower part of gallbladder fossa, which was stopped with a diathermic hook. The patient was asymptomatic until the day 8 when she had strong pain in upper abdomen and chest. The reintervention was performed by medial laparotomy on the same day. A volume of approximately 200 mL of bile was detected subhepatically and the open duct was detected in the region below the lower part of gallbladder fossa. Two catheters were placed in both ends of the open bile duct. The larger catheter was placed in the direction of common bile duct, and the narrower in the direction of liver parenchyma at the level of the gallbladder fossa. Intraoperative cholangiography could not be performed due to the lack of device. The abdominal cavity was drained and thereafter the patient was transported to Clinical center of Serbia. Magnetic resonance cholangiopancreatography (MRCP) and cholangiography through both catheters were performed, and they showed the presence of the aberrant bile duct for segment 6 and its injury. It was decided not to perform Roux derivation and to proceed with conservative treatment. Catheter drainage was monitored and the catheters were gradually removed after two months.
Results: MRCP after three and six months showed no signs of segment 6 hypotrophy or significant bile duct dilatation.
Conclusions: Even though complications during laparoscopic cholecystectomy are not frequent, they may occur. Not only should the surgeon be technically meticulous, but must also keep in mind the possibility of an aberrant anatomy.

P331 - Liver and Biliary Tract Surgery

Micro-laparoscopy with Low-Pressure Pneumoperitoneum vs. Standard Laparoscopy for Elective Cholecystectomy in Patients with Sickle Cell Disease

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Aims: Patients with sickle cell disease (SCD) are at risk of pigment gallstones. Cholecystectomy in SCD patients is associated with increased postoperative morbidity. The present study aims to compare the operative and postoperative outcomes of micro-laparoscopy with low-pressure pneumoperitoneum vs. standard laparoscopy in patients with SCD planned to undergo cholecystectomy.
Methods: Thirty-two consecutive SCD patients operated on by micro-laparoscopy (MLap) were compared with an historical cohort of 126 SCD patients operated on by standard laparoscopy (Lap). Cholecystectomy by micro-laparoscopy was performed with 3 trocars of 3 mm, 1 optical trocar of 12 mm, and a pneumoperitoneum of 8 mmHg. Standard laparoscopic cholecystectomy was carried out with 2 trocars of 5 mm, 2 trocars of 12 mm, and a pneumoperitoneum of 12 mmHg. Groups were compared by using chi-squared test, Mann-Whitney U test, and regression analysis.
Results: The MLap group (9 males) had a mean age (SD) of 35.65 (14.58) years whereas the Lap group (62 males) of 34.08 (9.58) years ($p=0.832$). A greater proportion of patients with more than one comorbidity (38.9% vs. 12.5%; $p=0.006$), and classified as ASA III (30.2% vs. 6.3%; $p<0.0001$) were observed in the Lap compared to the MLap group. Regression analyses showed: mean operative time was 53.6 (15) min for MLap and 57.8 (11.3) for Lap ($p=0.142$). Mean blood loss was estimated at 7.2 (12.9) mL for MLap and 21.1 (18) mL for Lap ($p<0.0001$). No procedure required conversion to open, whereas 2 (6.3%) MLap were converted to Lap. Postoperative liver enzymes (AST, ALT) were significantly lower in MLap vs. Lap ($p=0.014$). Postoperative complications occurred in 3.1% of MLap and 7.1% of Lap patients ($p=0.68$); vaso-occlusive crisis occurred in 3.1% of MLap and 11.1% of Lap patients ($p=0.59$). Mortality was nil. Mean hospital stay was 2.8 (1.1) days for MLap and 3.6 (2.2) days for Lap ($p=0.99$). The time to return to normal activity was 5.5 (1.4) days for MLap and 7.1 (1.7) days for Lap ($p=0.032$).
Conclusion: MLap assocaited with low-pneumoperitoneum is safe and feasible in SCD patients and it offers the advantages of reduced blood loss and faster return to normal activity.