Surg Endosc (2015) 29:S1–S74
DOI 10.1007/s00464-015-4135-8

14th World Congress of Endoscopic Surgery and 22nd International Congress of the European Association for Endoscopic Surgery (EAES) Paris, France, 25–28 June 2014

Oral Presentations

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KARL STORZ—EAES AWARD SESSION

O001 - Intestinal, Colorectal and Anal Disorders

Variation in Outcome and Cost After Partial Colectomy for Diverticulitis in the United States

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Background: Outcomes after surgery for diverticulitis across the United States are of continued interest to improve quality of care. Determining the variations in mortality, length of stay, and patient charges between the states are the aim of this study.
Methods: A retrospective analysis of the Nationwide Inpatient Sample (NIS) database was performed. Patients with diverticulitis who underwent laparoscopic or open partial colectomy were identified by ICD-9 diagnosis codes and then subdivided by state. Patients younger than age of 18 years were excluded. Multivariate analyses examined mortality, length of stay (LOS), and total charges. Results were adjusted for age, race, gender, Charlson comorbidity index, and insurance status.
Results: From 1998–2010, 148,348 patients had partial colon resection for diverticulitis. 90048 procedures were performed in hospitals with less than 5 % laparoscopic operations for diverticulitis. Using California as the comparison state, and after adjusting for other covariates, in-hospital mortality was significantly higher in the State of New York (adjusted OR 1.28; 1.10–1.51 95 % CI; $P < 0.05$) and Mississippi (adjusted OR 2.75; 1.21–6.23 95 % CI, $P < 0.015$). While California had a comparatively low mortality, Wisconsin even had a significant lower mortality rate (adjusted OR 0.72; 0.57–0.91 95 % CI, $P < 0.004$). LOS was 1.2 days longer in New York and 0.54 days shorter in Wisconsin than in California ($P < 0.001$). Patients with age > 40 years and patients without private insurance had higher in-hospital mortality and longer length of stay. Average hospital charges differed dramatically between the different States in the observation period. Highest charging states were California, Nebraska, and Nevada while lowest charging states were Maryland and Utah.
Conclusions: Patients who undergo surgical treatment for diverticulitis have high variation in mortality, LOS, and hospital charges when controlled for demographic and socioeconomic factors. Further analysis should be performed to identify the causes of outlier states in each category, with the goal of improving and standardizing best practices for all states.

O002 - Intestinal, Colorectal and Anal Disorders

Sexual Dysfunction and Incontinence After Rectal Cancer Surgery. A Comparison of Results: After Laparoscopic and Open Technique in Color II

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Aims: Health related quality of life (HRQL), as reported by patients, has become increasingly important when comparing surgical techniques. Earlier studies have suggested worse decreased sexual function in men after laparoscopic rectal resection compared to open surgery. This analysis compared sexual function and micturition symptoms 24 months after laparoscopic versus open surgery in a subset of a randomized trial.
Method: COLOR II (COLorectal cancer Laparoscopic or Open Resection), a non-inferiority, open-label, randomized trial, was undertaken in 30 centres and hospitals in eight countries. In the context of this multi-centre randomized trial comparing laparoscopic and open surgery for rectal cancer we analysed patient-reported HRQL regarding sexual function and micturition symptoms. Participation in the HRQL study of COLOR II was optional for the participating hospitals. Patients completed the European Organization for Research and Treatment of Cancer (EORTC) QLQCR38 questionnaire before surgery and 4 weeks, 6, 12 and 24 months after surgery. Differences over time and between the two techniques were calculated.
Results: Between 2004 and 2010 1103 patients were included in The COLOR II trial. In total, 617 patients were eligible for the HRQL study. Thirty-three patients were excluded from the COLOR II trial postrandomization, as inclusion criteria had been violated, and another 199 were primarily eligible but were not included due to logistic difficulties in retrieving preoperative HRQL data, cognitive disabilities, language difficulties or lack of consent. Thus, 385 patients were included in this study and 260 were operated by laparoscopic surgery and 125 by open surgery. There were no significant differences between laparoscopic and open rectal cancer surgery at any of the time points. We found that sexual function was more impaired than urinary function.
Conclusion: We suggest that it is the surgical procedure itself and not the surgical-technique, in terms of laparoscopic or open surgery, that affects the sexual function. It confirms that the urinary function is less affected than sexual function after rectal cancer surgery.

O188 - Pancreas

Fast Track Protocol for Totally Laparoscopic Pancreaticoduodenectomy

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Aims: The aim of this study is evaluation of the implementation of fast track protocol for totally laparoscopic pancreaticoduodenectomy.
Methods: Beetween March 2013 and December 2013, 15 patients (10 male, 5 female; mean age 59.9 ± 13.4 years) were treated by fast track protocol that included earlier postoperative feeding, mobilization and removing of nasogastric tubes, abdominal drains and catheters. These patients were compared with 52 patients (18 male, 34 female; mean age 59.4 ± 9.6) who received a traditional programme from 2007 to 2013. Primary outcome was the length of stay in hospital after operation. Postoperative morbidity and mortality were secondary outcomes.
Results: The median length of stay in hospital after operation significantly decreased after implementation of fast track protocol (22.15 ± 10.6 days versus 10.4 ± 6.3, p? = ?0.001). There was no significant difference in two groups in postoperative morbidity (46.1 % versus 40 %, p = 0,67) and mortality (5,8 % versus 6,7 %, p = 0.89).
Conclusions: A first expirence of implementation of fast track protocol for totally laparoscopic pancreaticoduodenectomy significantly reduces length of hospital stay after operation without increasing of postoperative morbidity and mortality. But enhancement of outcome may be due to the learning curve of totally laparoscopic pancreaticoduodenectomy. Further applying of fast track protocols is needed to evaluate outcomes of enhanced recovery programmes after pancreatic surgery.

O189 - Pancreas

Transumbilical Laparoscopic Surgery for Pancreas and Spleen Through Zigzag Skin Incision of Umbilicus

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Introduction: It is possible to acquire 6 to 7 cm width hole through zigzag skin incision at umbilicus with obscure scar. Gelport (Applied Medical, Orange County, CA) was introduced as an effective access port which made reduction of technical difficulties in laparoscopic surgery by keeping large-bore and performing hand assisted laparoscopic surgery (HALS) simultaneously. We introduced the combination of umbilical zigzag skin incision technique and Gelport as an effective procedure which reconciled reduction of technical difficulties and cosmetics for reduced port surgery in laparoscopic distal pancreatectomy (DP) or splenectomy.
Methods: The brief procedure was described below; after marking a zigzag skin incision in the umbilical region, the skin was incised along this line. Then, a Gelport was equipped through the incision, which enlarged the diameter of the fascial opening to 7 cm. We added another two or three trocars of 5 mm in diameter according to the difficulty of manipulation. We evaluated the number of port, surgical incision status, perioperative status and complication.
Results: Consecutive ten patients who all suffered from low malignant or benign disease were performed laparoscopic standard DP (n = 8) or splenectomy alone (n = 2) using this technique. The diameter of umbilical incision hole was 6.6 cm. The mean length of umbilical closed incision was 5.1 cm. The number of added trocar incision was 2.7 on the average. HALS was performed in part to 8 patients for palpation of tumor or holding operative field of view. We converted to open surgery for two patients due to severe adhesion around pancreas and huge size of splenic tumor. Other eight patients were taken all resected samples out through umbilical port without damaging tissue. Although one patient had Grade B (ISGPF) of pancreatic fistula in DP, there was no severe postoperative complication. The average of postoperative hospitalization was 12 days in DP and 7.3 days in splenectomy.
Conclusion: We suggest that the trans-umbilical approach using Gelport through zigzag skin incision technique allows for an easy and safe reduced port surgery in laparoscopic DP or splenectomy without spoiling cosmetic effect.

O190 - Different Endoscopic Approaches

Percutaneous Transtrocar Endoscopic Necrosectomy And Drainage in Patient With Infected Walled-Off Pancreatic Necrosis: Is It Safe And Compatible?

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Aims: The aim of this study is present our new developed a percutaneous transctrocar endoscopic necrosectomy (PTEN) technique using flexible endoscope based on lumber retroperitoneal approach for treatment of patients with walled-off pancreatic necrosis (WOPN).
Methods: All patient from November 2006 to August 2013 for management of necrotizing pancreatitis were retrospectively analyzed. Ten consecutive patients with infected pancreatic necrosis who have pancreatic and peripancreatic collections containing solid debris underwent percutaneous transtrocar endoscopic necrosectomy and drainage. Under computed tomography guidance, a 15 mm laparoscopic trocar was inserted into the infected cavity, between the lower pole of the spleen and the splenic flexure. A therapeutic double lumen flexible gastroscope, snare, and basket catheter was used to elimination of debris. After final operation, a Jackson-Pratt drain was placed into the distal end of the cavity at the end of the procedure.
Results: A median 2 procedures (ranges 1–4) was necessary to remove all necrotic tissue. Complete resolution was achieved non-operatively in 10 patients. Timing of surgery from the initiation of acute pancreatitis was mean 44 days (range 22–84 days). Length of hospital stay was mean 84 (range 29–135) days. Four patients required ERCP and Wirsungotomy for incomplete pancreatic duct disruption. There was no technique-related mortality.
Conclusions: Drainage, debridement, and necrosectomy of WOPN with PTEN are a safe alternative to other minimally invasive, laparoscopic and open technique. It can be done safely under direct visualization with transtrocar flexible endoscope. Percutaneous endoscopic transtrocar pancreatic necrosectomy should be considered among the first-line therapies of the selected patient with infected pancreatic necrosis.

O191 - Spleen

Technical Refinements of Single-Incision Laparoscopic Splenectomy for Giant Spleen

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Aims: Despite the wide acceptance of single-incision laparoscopic surgery (SILS), SILS splenectomy (SILS-Sp) is regarded as highly challenging. Since our report of the first case of SILS-Sp in Japan, we have performed SILS-Sp for the largest number of cases worldwide, including cases of megaspleen (Surg Endosc 27:895–902, 2013). Herein, we describe the technical refinements of SILS-Sp.
Methods: Our patient group comprised 8 men and 13 women aged 41 ± 19 years (mean ± SD). Indications for SILS-Sp were hematological disorder (n = 10), splenic disease (n = 9), and liver cirrhosis (n = 2). In all cases, access was achieved via a 2.5-cm mini-laparotomy at the umbilicus into which a SILSTM Port was placed. SILS-Sp was carried out with a 5-mm flexible scope, an articulating grasper, and straight instruments. Our SILS-Sp procedure is characterized by the following: a) frequent use of a vessel sealer to prevent bleeding, b) early ligation of the splenic artery to shrink the spleen, c) application of our original 'tug exposure technique,' which provides good exposure of the splenic hilum by retracting (tugging) the spleen with a small cloth tape (Surg Endosc 25:3222–3227, 2011), and d) use of a Penrose drain for safe introduction of a linear stapler into the splenic hilum.
Results: SILS-Sp was successfully completed in 17 (81 %) patients. An additional trocar was required in two patients. Conversion to open surgery was necessary in two patients due to bleeding from the splenic hilum. Operation time (mean ± SD), blood loss, weight of the extracted spleen, and postoperative hospital stay were 217 ± 78 min, 157 ± 319 g, 317 ± 191 g (maximum 960 g), and 6.3 ± 3.9 days, respectively. No intra- or postoperative complication occurred. The postoperative scar was nearly invisible in all patients.
Conclusions: Like conventional multiport laparoscopic splenectomy, SILS-Sp with technical refinements including the tug-exposure technique is safely performed for megaspleen (up to 1,000 g). SILS-Sp can be the procedure of choice in patients who are concerned about postoperative cosmesis.