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KARL STORZ: EAES AWARD SESSION

O001—COLORECTAL—Malignant

RANDOMISED CLINICAL TRIAL OF SELECTIVE DECONTAMINATION OF THE DIGESTIVE TRACT IN ELECTIVE COLORECTAL CANCER SURGERY (THE SELECT TRIAL)

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Aims: Infectious complications and anastomotic leakage affect approximately 30% of patients after colorectal cancer surgery. The aim of this multicenter randomized trial was to investigate whether selective decontamination of the digestive tract (SDD) reduces these complications of elective colorectal cancer surgery.
Methods: The effectiveness of SDD was evaluated in a multicenter, open-label, randomised clinical trial in 6 centres in The Netherlands. Patients with colorectal cancer scheduled for elective curative surgery with a primary anastomosis were eligible.
Oral colistin, tobramycin, and amphotericin B were administered to the SDD group to decontaminate the digestive tract. Both groups received intravenous cefazoline and metronidazole for peri-operative prophylaxis. Mechanical bowel preparation was given for left sided colectomies, sigmoid and anterior resections. Anastomotic leakage was the primary outcome while infectious complications and mortality were secondary outcomes. This trial was registered with ClinicalTrials.gov number NCT01740947.
Results: In total, 228 patients were randomized to the SDD group and 227 to the control group until the trial was stopped after interim-analysis demonstrated that superiority was no longer attainable. Effective SDD was confirmed by interspace DNA profiling analysis of rectal swabs. Anastomotic leakage was observed in 14 patients (6.1%) in the SDD group and in 22 patients (9.6%) in the control group (odds ratio) [OR 0.61 (0.30–1.22)]. In the SDD group, fewer patients had one or more infectious complications than in the control group (14.9% (n = 34) versus 26.9% (n = 61), [OR 0.48 (0.30–0.76)]. On multivariable analysis, SDD reduced infectious complications OR 0.472 (0.294–0.755).
Conclusion: SDD reduces infectious complications after colorectal cancer resection but did not significantly reduce anastomotic leakage in this trial.

O002—COLORECTAL—Malignant

INTRACORPOREAL VERSUS EXTRACORPOREAL ANASTOMOSIS DURING LAPAROSCOPIC RIGHT HEMICOLECTOMY. Results FROM RANDOMIZED CONTROLLED TRIAL

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Aims: There are several studies that demonstrate the superiority of the intracorporeal (IA) vs extracorporeal (EA) anastomosis. But most reports are non-randomized, retrospective, and carried out in heterogeneous groups of patients, which might induce patient selection bias.
Methods: We present the first randomized controlled trial, designed to evaluate the two interventions with thorough measurements of the postoperative variables and complications to improve the evaluation of the surgical technique. The primary endpoint is to compare the length of hospital stay. The secondary endpoints were the comparison of intraoperative technical and postoperative clinical events. We included patients aged = 18 years old referred only for right colon cancer and requiring an elective laparoscopic right hemicolectomy.
Results: 140 patients were randomized. The characteristics of the patients were equivalent between groups. Surgical time was longer in IA vs EA (149 ± 27 vs 123 ± 36 min). The length of resected colon was longer in IA vs EA (25.2 ± 5.7 vs 22.6 ± 7.8 cm) with similar number of lymph nodes (19.6 ± 6 vs 19.1 ± 7).The length of wound was shorter in IA (6.7 ± 1.2 vs 8.7 ± 1.4 cm). The postoperative analgesia was lower in IA (39 ± 24.3 vs. 53 vs. 26), and the pain score was lower according to the EVA scale in group IA (1.8 ± 1.8 vs 2.9 ± 2.2). The recovery of digestive functionality was earlier in IA (2.3 vs 3.3 days) with lower incidence of paralytic ileus (13% vs 30%). Postoperative complications according to Clavien Dindo classification were lower in IA: grade I (10% vs 27%); grade II (18% vs 35%); grade III (1.4% vs. 7.2%).
Incidence of anastomotic leak was lower in IA (4.3% vs. 7.14%) with similar wound infection rates (4.3% vs. 4.2%). Hospital stay was similar (5.65 ± 3.7 vs 6.58 ± 4.6 days).
Conclusions: IA in the laparoscopic right hemicolectomy is a surgical option that require a longer surgical time, but which provides a surgical specimen comparable to the extracorporeal anastomosis. IA is associated with lower perception of pain and analgesic requirements. IA is superior in terms of the earliest digestive functional recovery, with a lower morbidity. All these clinical advantages would lead to an earlier recovery.

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P585—UPPER GI—Gastroduodenal diseases

EFFECTIVENESS OF LOCAL INJECTION OF PLATELET-RICH PLASMA FOR TREATMENT OF PEPTIC ULCER BLEEDING WITH HEMORRHAGIC SHOCK (EXPERIMENTAL STUDY)

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The aim: Of our study was to evaluate of effectiveness of local injection of platelet-rich plasma for treatment of peptic ulcer bleeding with hemorrhagic shock in experiment.
Methods: The study was performed on 60 Wistar rats according to local and international rules for working with experimental animals. The average weight of animals was 183 ± 16 grams. In all animals our modification of type 2 acetic acid ulcer (Susumu Okabe, 2005) was modeled. We randomly divide all animals in 3 groups. 20 rats with only modeled ulcer were included in group 1. 20 rats with modeled ulcer and hemorrhagic shock after 3-3.5 ml blood sampling were included in group 2. In group 3 we included 20 rats with modeled ulcer and hemorrhagic shock and performed local injection of platelet-rich plasma (local periulcelar injection of 0.1 ml of autologous platelet-rich plasma). On 1st, 7th and 14th day measurement of the ulcers square and morphological study were performed.
Results: The data we have received demonstrate a tendency of decrease of ulcers' square in all groups with time flow. We also compared sizes of ulcerative defects in all groups at every point of the study. On the 1st day of investigation there were no differences ($p > 0.05$) between ulcers' square in all groups. On the 7th day we found out more rapid decrease of size in group 3 ($p > 0.05$). However, this tendency had no statistical significance. On the 14th day difference was larger and it was statistically significant this time ($p < 0.01$).
Also the better ability to stimulate the activity of fibroblasts and revascularization in the young connective tissue with improving oxygenation in the ulcers and enhancing of cell proliferation, differentiation and accelerating of maturation of connective tissue and healing of ulcers was demonstrated in group 3.
Conclusion: Platelet rich plasma reduces inflammatory response and stimulates proliferation of gastric epithelial cells on 7th day with the restoration of secretory activity and epithelialization of ulcers in 71.4% of experimental animals on 14th day, the activation of the fibroblastic reaction during the all experiment and decreasing of ulcers' square.

P586—UPPER GI—Gastroduodenal diseases

REDUCED PORT LAPAROSCOPY AND ENDOSCOPY COOPERATIVE SURGERY (RP-LECS) FOR GASTRIC GIST AIDED BY FREE JAW CLIP AND FREE LOOP PLUS

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Introduction: In conjunction with Charmant, a local eyeglass frame manufacturer, we developed novel devices called the FJ (Free Jaw) Clip to grasp organs in the abdominal cavity and the F (Free) Loop Plus to pull thread extracorporeally from within the abdominal cavity.
Product Summary: The FJ Clip is used to grasp organs in the abdominal cavity, a stainless steel, removable forceps for use in laparoscopic surgery. It provides a strong grip but rarely crushes organ tissue. The clip comes in two sizes, one for use in a 5-mm port and the other for use in a 12-mm port, and in two lengths, 29.4 mm and 35.6 mm, respectively. To pull out thread tied to the FJ Clip, we developed the F Loop Plus, which is a 21G by 90-mm-long special stainless needle with f0.1-mm NiTi alloy thread which is used pull suture threads from inside the abdominal cavity to outside the body. **Case:** We performed 9 cases of reduced port laparoscopic and endoscopic cooperative surgery (LECS). We performed reduced port surgery (RPS) by making a 1.5-cm incision at the umbilicus, inserting 2 trocars (12 mm and 5 mm), and inserting another trocar (5 mm) at the left side of the abdomen. We expanded the left hepatic lobe with a 12-mm FJ Clip for Penrose drain placement, grasped the front wall of the gastric body with a 12-mm FJ Clip, applying traction toward the legs to pull up the tissues around the tumor, and resected all layers of the tumor via oral endoscopic submucosal dissection technique. The resected area was closed with a suturing device or interrupted sutures in the abdominal cavity.
Results: The average operation time was 221 min and postoperative hospital stay was 10.4 days. There were no complications after surgery, all patients have been satisfied for their cosmetics.
Conclusion: We believe the FJ Clip and F Loop Plus are effective for use in LECS and RPS.

P587—UPPER GI—Gastroduodenal diseases

FISH BONE PENETRATION THROUGH STOMACH INTO SUPERIOR MESENTERIC VEIN CAUSING SMV THROMBOSIS FORMATION: CASE REPORT

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A 75 year-old female was admitted to the emergency department with complaints of abdominal cramping pain, back pain and diarrhea for one day. She also had fever, ever up to 39°. In these two weeks, she felt occasionally epigastric pain. Her past medical history included hypertension. On physical examination, she was conscious and alert. Abdominal examination revealed diffuse tenderness and knocking pain over right flank. Laboratory tests indicated an degraded white cell count of 2890/cumm with 22% band forms, C-reactive protein of 25 mg/dL and abdominal liver function tests (Alanine Aminotransferase: 149 U/L, alkaline phosphatase: 249 U/L, gamma-glutamyl transferase: 175 U/L) without hyperbilirubinemia. Abdominal X-ray showed paralytic ileus. Our presumptive diagnosis was acute peritonitis, based on the patient's symptoms. Empirical antibiotics were administered immediately, and a computed tomography (CT) imaging study was performed. The CT scan showed a stick like foreign body noted between ventral side of pylorus and SMV lumen, about 1.5 cm in length and associated with perifocal infiltration and segmental SMV thrombus formation.(Fig. 1) However, there is no obvious pneumoperitoneum and no evident ascites is associated. An emergency exploratory laparotomy was performed, revealing stomach perforation at posterior wall with a 3 cm fish bone thourgh pancreas into SMV. Localized inflammation and fibrosis were identified without obvious fluid accumulation(Fig. 2-4). Removal of fish bone and simple closure of stomach perforation were performed. Blood cultures revealed Bacteroides thetaiotaomicron. Three weeks later, she received a follow-up CT scan which showed SMV obliteration with chronic pylephlebitis.

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ENDOSCOPIC APPROACH FOR IATROGENIC GASTRIC PERFORATION SECONDARY TO CHEST DRAIN INSERTION

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Aim: Here we present a case report about the endoscopic treatment for iatrogenic gastric perforation secondary to a chest tube insertion.
Methods: A case report of a 24-year-old male with history of a road traffic accident. Described injuries were severe brain injury with GCS < 8 at pre-hospital care arrival, thoracic injury with several rib fractures on the left hemithorax and hypoventilation on the left side. Prior to hospital transfer a chest drain was inserted on the left side, and the patient was intubated.
Results: At hospital admission, the patient was hemodynamically stable and connected to a mechanical ventilator. Thoracic exam showed persistent hypoventilation on the left chest. No other abdominal or pelvic injuries were found in the physical exam. A frontal chest x-ray revealed pneumothorax and the chest tube was not viewable. A further CT scan showed the chest drain placed in the abdominal cavity, into the stomach, besides a subdural hematoma, comminuted pelvic fracture of the pubic rami and a left sacroiliac fracture.
During the first 24 h in the ICU, neurological worsening was observed, and a new cranial CT revealed enlargement of the subdural hematoma, for what the patient underwent decompressive craniectomy, with improvement thereafter. Following a five-day period of stabilization after surgery, the patient was evolving satisfactorily, and the removal of the intragastric chest drain was considered. Endoscopy was performed to confirm the placement of the drain, and it was removed under direct vision. Approximately twenty five centimeters of the catheter were visualized in the gastric lumen, and then successfully removed. The patient recovered well and was discharged from ICU to medical hospital ward after fourteen days, and a week later he was discharged home.
Conclusion: Endoscopic management for gastric perforation after a chest drain insertion may result effective and can prevent open surgery morbidity.