382 INTRATHORACIC VERSUS CERVICAL ANASTOMOSIS AFTER MINIMALLY INVASIVE ESOPHAGECTOMY FOR OESOPHAGEAL CANCER: A RANDOMIZED CONTROLLED TRIAL (ICAN TRIAL)

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Robust evidence is lacking whether Ivor Lewis minimally invasive esophagectomy (MIE) or McKeown MIE should be preferred for patients with mid to distal esophageal or gastro-esophageal junction Siewert I-II (GEJ) cancer.

Methods: In this multicenter randomized controlled trial, patients with esophageal (below the level of the carina) or GEJ cancer planned for curative resection were recruited. Eligible patients were randomly assigned (1:1) to either Ivor Lewis MIE or McKeown MIE. The primary endpoint was anastomotic leakage (AL) requiring endoscopic, radiologic or surgical intervention. Secondary outcome parameters were overall AL rate, postoperative complications, length of stay and mortality.

Results: A total of 262 patients were randomly assigned to Ivor Lewis MIE (n = 130) or McKeown MIE (n = 132). Seventeen patients were excluded due to not meeting inclusion criteria (n = 2), physical unfitness for surgery (n = 3), patients' choice (n = 3), interval metastases (n = 5) or peroperative metastases (n = 4). AL necessitating reintervention occurred in 15 (12.3%) of 122 patients after Ivor Lewis MIE and in 39 (31.7%) of 123 patients after McKeown MIE (RR 0.39, 95%CI 0.22–0.65). Severe complications (Clavien-Dindo ≥3b) were observed in 10.7% after Ivor Lewis MIE and in 22.0% after McKeown MIE (RR 0.49, 95%CI 0.25–0.88).

Conclusion: This study provides evidence for a lower rate of AL requiring reintervention after Ivor Lewis MIE compared to McKeown MIE for patients with mid to distal esophageal or GEJ cancer.

383 LAPAROSCOPIC CREATION OF RETROSTERNAL ROUTE FOR GASTRIC CONDUIT RECONSTRUCTION; SAFE AND FEASIBLE PROCEDURE

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Reconstruction routes after esophagectomy include posterior mediastinal, retrosternal, and subcutaneous route. We have performed posterior mediastinal reconstruction, but this route has higher risks of gastro-tracheal fistula and hiatal hernia. To avoid these complications, now we take the retrosternal route as our first choice by creating the route laparoscopically before pulling-up gastric conduit. We report the successful and safe procedure.

Methods: We performed laparoscopic creation of retrosternal route in 13 thoracoscopic/robot-assisted minimally invasive esophagectomies since August 2019. In practice, a peritoneal incision at the dorsal side of the xiphoid process is started. Then, via 12 mm port on the surgeon's right hand inserted slightly to the right and cranial side of the umbilical camera port, we dissect loose connective tissues from the caudal side to the cranial side behind the sternum and inside the internal thoracic vessels as landmarks. The time required to create the route and pleural injury rate during the procedure was examined.

Results: Thirteen cases were divided into two groups as early period group (seven cases) and later period group (six cases) respectively. The time required for route creation was 31.3 minutes(average) in the early period group, and 16.7 minutes in the later period group. There is tendency towards faster in later period group than in earlier one. The overall pleural injury rate was 15% (2 of 13 cases). Although it was difficult to determine the amount of bleeding, it was visually observed that the bleeding during the route creation was lower in the later period group than in the early period group.

Conclusion: The entire laparoscopic procedure to create retrosternal route makes it easier to observe and preserve the pleura and internal thoracic vessels compared to blind blunt dissection. As a conclusion, laparoscopic creation of retrosternal route for gastric conduit reconstruction is safe and feasible with good learning curve.

Video: https://www.dropbox.com/sh/p0wc3x46n33jp23/AADwiWHYIEUNUX6qZsERVIOga?dl=0.

384 SHORT-TERM OUTCOMES OF INTRA-THORACIC ESOPHAGO-GASTRIC ANASTOMOSES UNDER MINIMALLY INVASIVE ESOPHAGECTOMY VIA A PRONE POSITION

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Although minimally invasive esophagectomy (MIE) has been performed for esophageal cancer worldwide, intra-thoracic anastomosis under prone positions is still challenging. In this retrospective study, we reviewed our short-term results of this anastomotic technique in our institution.

Methods: From November 2016 to December 2019, we performed 319 esophagectomies. Of these patients, 28 patients (9%) underwent intra-thoracic esophago-gastric anastomosis under MIE.

Procedures: The left side of an esophageal stump which had been closed using a linear stapler was opened for anastomosis. Then, the anterior wall of a gastric conduit, around 5 cm below the tip, was opened for anastomosis. Linear staplers were inserted in both esophageal stump and gastric conduit and side-to-side anastomosis was performed. The opening for insertion was closed using a hand-sewn anastomosis in 2 layers.

Results: Five patients (18%) suffered anastomotic leakage with Clavien-Dindo 2 and 3a, and all of them recovered by conservative treatments. Two patients (2/19, 11%) showed anastomotic stricture which improved by several endoscopic dilatations. Six patients (6/19, 32%) showed the reflux esophagitis of Grade C.

Conclusion: Although we have not experienced severe or critical post-operative complications, the short-term results of intra-thoracic anastomosis under MIE were not sufficient. Additional progresses in techniques are required.

385 MIR-24-3P REGULATES CDX2 DURING THE PROCESS OF INTESTINALIZATION OF THE CARDIAC-TYPE EPITHELIUM IN A HUMAN MODEL OF BARRETT'S ESOPHAGUS

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Cardiac-type epithelium has been proposed as an intermediate stage between normal squamous epithelium and intestinal metaplasia in the development of Barrett's esophagus. Deregulation of certain miRNAs and their effects on CDX2 expression might contribute to the intestinalization process of cardiac-type epithelium. The aim of this study was to identify miRNAs differentially expressed between CDX2 positive and negative glands of Barrett's esophagus and to examine the function of specific miRNAs on the regulation of CDX2.