The small sample size is immediately recognised as a limiting and influencing factor in the results of this study. However, MIOs with SML may provide some, although not comprehensive, benefit in oncological outcomes without adding any further significant morbidity. Larger studies are needed to assess the role SML can play in improving patient outcomes.

594. TOTALLY MINIMALLY INVASIVE 2-STAGE ESOPHAGECTOMY VERSUS HYBRID 2-STAGE ESOPHAGECTOMY. A SINGLE CENTER EXPERIENCE

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Totally minimally invasive 2-stage esophagectomy (TMIE) eliminates the thoracotomy associated with hybrid 2-stage minimally invasive esophagectomy (hybrid-MIE). This has an important role in minimizing post-operative respiratory complications. There is ongoing growing evidence in published literature of improved clinical and oncological outcomes in totally MIE comparing to hybrid MIE, due to enhanced optics and extent of lymphadenectomy as well as to shorter length of hospital stay and surgical trauma associated to thoracotomy.

This is a retrospective analysis of consecutive patients that underwent 2-stage minimally invasive esophagectomy for esophageal and gastro-esophageal junction Siewert type I-II cancers. TMIE combines a laparoscopic and thoracoscopic approach while hybrid-MIE includes laparoscopic open thoracotomy phase. Study included adult patients with no upper age limit (>18 years). All esophagectomies for benign disease, as well as emergency operations were excluded from the study. Primary endpoints were 30- and 90-day mortality rate, anastomotic leak, anastomotic structure, pulmonary complications, and length of hospital stay. Secondary endpoints were overall survival and progression-free survival rates respectively.

During an 8-year-period, 150 patients underwent hybrid-MIE, while 200 underwent TMIE. Operative-time was shorter in the hybrid-MIE group (320 vs 280 min). Anastomotic leak was significantly reduced in the TMIE group comparing to the hybrid-MIE group (2.5% vs 9.5%). Respiratory complications were reduced in the TMIE group (10 vs 25%). Median LOS was similar (7 vs 7.5 days). Median number of resected-lymph nodes was increased in the TMIE group (28 vs 35 lymph nodes). OS survival rate was 60 versus 51 months and PFS was 52 vs 43 months in the TMIE and hybrid-MIE groups respectively.

In general, TMIE was associated with moderate lower morbidity compared to hybrid-MIE, but randomized controlled evidence is lacking. The higher anastomotic leakage rate, higher rate of pulmonary complications and lower lymph node count that was found after hybrid-MIE in comparative analysis, indicate that TMIE can significantly improve clinical outcomes of patients undergoing esophagectomy. The findings of this study should be considered carefully by surgeons when moving from hybrid-MIE to TMIE.

595. LAPAROSCOPIC HELLER’S MYOTOMY WITHOUT FUNDOPLICATION. CURRENT EVIDENCE

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Achalasia is a rare esophageal motility disorder which affects the esophageal smooth muscle layer, causing absent or spastic peristalsis, and absent or paradoxical lower esophageal sphincter (LES) relaxation with an increased LES tone. Laparoscopic Heller’s myotomy is the gold standard surgical therapy of esophageal achalasia. The role of fundoplication to minimize GERD after myotomy is debatable. We studied our experience with Laparoscopic Heller Myotomy Without Fundoplication (LHM) for the treatment of esophageal achalasia. A retrospective analysis of prospectively collected data regarding consecutive patients that underwent LHM without fundoplication for the treatment of esophageal achalasia was conducted. All patients were operated between September 1st 2018 and January 1st 2022. Patients included in this study were adults (>18 years old) without upper age limit. All participants completed a subjective dysphagia score questionnaire, received an Eckardt Score preoperatively, as well as at 6 and 12 months following the myotomy procedure. Patients that were treated with endoscopic dilation POEM or esophagectomy were excluded from the study.

Twenty-five patients underwent LHM myotomy without fundoplication during the study period. Median age was 42 years (Range: 25-90 years). Median operation time was 70 min (Range: 60-80 min). There was no conversion. Median length of stay was 2 days (Range: 1-15 days). There was one (n=1) mucosal perforation, in a 28-year-old male patient due to overeating, 4 days post LHM. He was treated with laparoscopic primary suturing. There was n=1 (4%) pathologic GERD noted post-operatively. The Eckardt score decreased from 6.5 ± 1.7 to 0.9 ± 1.4 at 1 month and to a 0.8 ± 1.1 at 12 months.

Therapy of esophageal achalasia focuses on decreasing the outflow resistance of the GEJ caused by the dysfunctional LES. LHM is considered as the gold-standard therapy for most achalasia patients. LHM is considered safe and effective, while it has been associated with excellent results regarding the relief of dysphagia. There is a reportedly low incidence of new gastroesophageal reflux symptoms. There is no need for fundoplication following LHM since the incidence of GERD is relatively low.

596. MINIMALLY INVASIVE ESOPHAGECTOMY FOR ESOPHAGEAL AND GASTRO-ESOPHAGEAL JUNCTION TUMORS. A SINGLE CENTER EXPERIENCE

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Esophagectomy carries high rates of post-operative morbidity and mortality. Minimally invasive esophagectomy was introduced more than 20 years ago offering all the advantages of minimally invasive surgery and significantly reducing post-operative pulmonary and cardiac complications associated with open esophagectomy. Clinical and oncological outcomes are vastly improved standardizing this approach as inferior in the hand of experts. Herein, we aim to present our results of minimally invasive esophagectomy for esophageal and gastro-esophageal junction cancer.

This is a prospective analysis of consecutive patients that underwent 2-stage minimally invasive esophagectomy for esophageal and gastro-esophageal junction Siewert type I-II cancers. Operations included hybrid 2-stage esophagectomy (laparoscopic/open thoracotomy or open laparotomy/thoracoscopy) and 2-stage totally minimally invasive esophagectomy (laparoscopic/thoracoscopy). Study included adult patients with no upper age limit (>18 years). All esophagectomies for benign disease, as well as emergency operations were excluded from the study. Primary endpoints were 30- and 90-day mortality rate, anastomotic leak, anastomotic structure, pulmonary complications, and length of hospital stay. Secondary endpoints were overall survival and progression-free survival rates respectively.

During an 8-year-period, n=350 consecutive patients underwent 2-stage minimally invasive esophagectomy for cancer. Our team has a cumulative experience of more than 300 open-esophagectomies. Since September 1st, 2013, hybrid 2-stage esophagectomy program was initiated. On September 1st, 2016, the program offered 2-stage totally minimally invasive esophagectomy in all comers. Most patients were males. Anastomotic leak complicated 5.1% of the patients; 10% of the patients presented anastomotic stricture post-operatively while pulmonary and cardiac complications reached up to 25 and 12% respectively. Median LOS was 8 days. Median follow-up was 60 months. OS survival rate was 53 months and PFS was 48 months.

Advances in minimally invasive surgery can benefit all patients with esophageal and gastro-esophageal junction tumors. Hybrid and totally minimally invasive 2-stage esophagectomy are well established approaches, with safe and feasible profile in tertiary cancer centers. They can lead to significantly improved clinical and oncological outcomes comparing to open esophagectomy and its complications burden.