

AB008. Results of thoracoabdominal Ivor Lewis esophagectomy

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Abstract: Since its first description in 1946, the thoracoabdominal Ivor Lewis esophagectomy based on a median laparotomy associated with a right transthoracic en bloc resection remains the cornerstone of surgical management for a majority of esophageal carcinomas. As an example, near 78% of all esophagectomies performed in France are based on this technique. Open transthoracic Ivor Lewis esophagectomy is considered as the surgical reference for the treatment subcarinal esophageal cancer. The main indications are tumor of lower third of esophagus and tumor of the gastro-esophageal junction (GEJ). Ivor Lewis esophagectomy consists in an en bloc esophagectomy achieving complete R0 resection, extended two-field lymphadenectomy, circumferential and longitudinal negative margin and reestablishment of the digestive continuity using gastric interposition. Ivor Lewis esophagectomy can be proposed as a first-line treatment when surgery alone is indicated for early stages cancer. It can be part of a multimodal strategy when surgery follows a neoadjuvant treatment. Oncological results are well documented and comparison with transhiatal esophagectomy indicates that Ivor Lewis esophagectomy resulted in better long-term outcome. The short-term and long-term outcomes of Ivor Lewis have been clearly improved this last decade by refinement of surgical techniques and by the increase of neoadjuvant treatment. The classic open approach procedure is still associated with high rate of respiratory complications especially pneumonia, ARDS or pleural effusion. Results of Ivor-Lewis procedure have been clearly improved by the introduction of laparoscopy with a direct effect on respiratory morbidity and potentially mortality by reducing postoperative trauma. The French MIRO trial was

designed to hypothesize that the laparoscopy in esophageal cancer surgery would decrease the major postoperative complication rate due to the reduced surgical trauma. This multicenter and randomized study compared two groups of patients: (I) experimental arm where patients received a hybrid minimally invasive esophagectomy (HMIE) including transthoracic esophagectomy with two-field lymphadenectomy and laparoscopic gastric mobilization; (II) control arm where patients received the conventional open abdominal approach (OE). The primary end-point of the study was to evaluate the major postoperative 30-day morbidity. The secondary end-points were to assess the overall 30-day morbidity, 30-day mortality, 30-day pulmonary morbidity, disease-free survival and overall survival. Over a 3-year period [2009–2012], the study was conducted over 13 French institutions including 207 patients: 104 patients to the OE group and 103 to the HMIE group. The main result of the study indicates that HMIE is an oncological effective procedure. Major postoperative morbidity were significantly fewer in the HMIE group compared to the OE group (35.9% *vs.* 64.4%, OR: 0.31, 95% CI: 0.18–0.55; $P < 0.001$). Overall survival and disease-free survival were improved in the HMIE group at 3 years compared to OE (67.0% *vs.* 55%, $P = 0.05$ and 57% *vs.* 48%, $P = 0.15$). These results suggest that HMIE should be seen as the standard of care among surgical techniques for patients with subcarinal esophageal cancer without negative impacts of survival or recurrence. One of the main drawbacks of the technique remains the long-term functional outcome. If the quality of life is preserved, many patients suffer from reflux, gastric emptying, dumping syndrome or dysphagia due to anastomotic stenosis. Gastric interposition seems to be not an ideal substitute. Because of the reflux, esophageal remnant can be the site of mucosal damage resulting in esophagitis even development of new Barrett's esophagus. Proton pump inhibitor medication is sometimes required for a long-time.

Keywords: Robotic; esophagectomy; esophageal cancer; laparoscopy

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