



The current approaches for minimally invasive esophagectomy

Esophagectomy remains a very technically challenging operation with a relatively high postoperative complication rate. The operation has been performed with either the open transthoracic approach or the open transhiatal approach. An increase in respiratory complications has been observed in patients undergoing an open thoracotomy in randomized clinical trials. Respiratory complications, such as pneumonia and acute lung injury with pneumonitis can lead to prolonged hospital length of stay and cost. In recent years, minimally invasive approaches utilizing laparoscopy, thoracoscopy, or robotic surgery have become more prevalent. The minimally invasive approaches have demonstrated improved postoperative outcomes in some studies. The utilization of less invasive approaches for esophagectomy have ameliorated the impact of pulmonary complications and resulted in shorter hospital length of stay. This special edition of VATS will focus on the current techniques for performing minimally invasive esophagectomy by some of the experts in minimally invasive esophagectomy. The special edition will focus on the short-term results of minimally invasive esophagectomy as well as the long-term oncologic results.

The operative techniques for performing esophagectomy for esophageal carcinoma have dramatically evolved over the last several years. Traditionally, esophagectomy was performed with open laparotomy and/or thoracotomy. The Ivor Lewis esophagectomy combined laparotomy and right thoracotomy with an intrathoracic esophagogastric anastomosis. The transhiatal esophagectomy combined laparotomy and a blunt trans-mediastinal dissection of the esophagus and a cervical anastomosis. The McKeown or three-field esophagectomy consisted of a right thoracotomy, laparotomy, and a cervical esophagogastric anastomosis. Despite these well-established techniques for performing esophagectomy, the postoperative morbidity for open esophagectomy techniques remained relatively high.

The introduction of minimally invasive esophagectomy techniques offered some potential advantages for patients when compared to the open esophagectomy. When compared to the open approach, the minimally invasive esophagectomy has demonstrated faster recovery times, decreased hospital length of stay, decreased postoperative morbidity, and decreased intraoperative blood loss. In addition, the oncologic outcomes for minimally invasive esophagectomy have been demonstrated to be similar to open esophagectomy. The evolution of minimally invasive esophagectomy began with hybrid procedures and eventually evolved to completely minimally invasive procedures. The modern era of minimally invasive esophagectomy incorporates robotic, thoracoscopic, and laparoscopic approaches. This focused issue of VATS titled “Minimally Invasive Esophagectomy for Esophageal Carcinoma” includes articles which encompass the current minimally invasive techniques for esophagectomy, which include minimally invasive Ivor Lewis esophagectomy, minimally invasive Transhiatal esophagectomy, and robotic assisted esophagectomy. There will also be an article which reviews the current oncologic outcomes for minimally invasive esophagectomy techniques for esophageal cancer. I owe a debt of gratitude to the contributing authors for providing their expertise and extensive experience with minimally invasive esophagectomy. They are all internationally recognized experts in the field of minimally invasive esophagectomy and have moved the needle forward with the improving the outcomes for minimally invasive esophagectomy.

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