Commentary: Encouraging reduction in postoperative complications with minimally invasive esophagectomies: Prompting further granular investigation

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In this issue of the Journal, Dyas and colleagues performed a comprehensive comparison of esophagectomy outcomes using the American College of Surgeons National Surgical Quality Improvement Program database between open and minimally invasive approaches of the 3 most common operative techniques: Ivor Lewis, transhiatal, and McKeown. They found that minimally invasive esophagectomies have lower rates of postoperative complications when compared with the open approach for all 3 operative techniques.

Substantial efforts have been made to reduce the significant risk of morbidity and mortality associated with esophageal resection while also improving long-term survival and quality of life through adoption of minimally invasive techniques. Although there are studies showing equivocal postoperative outcomes in the past, more recent literature, including level 1 evidence, has demonstrated more favorable postoperative outcomes for minimally invasive compared with open while maintaining similar oncologic outcomes. However, up to now, all studies have limited comparisons of approaches by comparing minimally invasive esophagectomies with open regardless of operative technique or by comparing the minimally invasive approach with open for one esophagectomy technique only. The current analysis by Dyas and colleagues fills this gap by comparing postoperative outcomes of the 3 most common techniques and evaluating the effect of minimally invasive approaches on each. Their findings demonstrate reduction of postoperative complications associated with the minimally invasive approach for all 3 of the operative techniques, with Ivor Lewis showing the most advantage in risk reduction of postoperative complications when performed minimally invasively, followed by McKeown and then with minimal advantage for transhiatal. Overall, these findings suggest encouraging safety outcomes for the minimally invasive approach with the majority of the data in this study pointing to improvement of outcomes with the reduction of morbidities due to a thoracotomy.

Many studies have compared complication rates among the 3 open esophagectomy techniques with mixed findings. Currently, the surgical literature has not been able to consistently demonstrate a superior complication profile for any of the open techniques. Thus, instead of standardization, the individual and institutional opinion plays a significant part in surgical technique for open surgery. Intriguingly, the current study by Dyas and colleagues shows that the comparative differences in
postoperative complications among the esophagectomy techniques lessens when performed minimally invasively.

This study is one of the most comprehensive evaluations of postoperative outcomes for esophagectomy techniques and approaches. Although it provides promising findings for minimally invasive esophagectomies, there are some critical factors absent due to database limitations that are essential in surgical decision making. This includes patient-specific factors, such as pathology, malignancy location and staging, and preoperative neoadjuvant therapy status; hospital and provider factors, such as setting (community vs academic), volume (high vs low), and specialty training (cardiothoracic vs general); and most important, oncologic outcomes, such as long-term mortality, recurrence rates, and cancer-free survival. Short- and long-term outcomes for esophagectomies for esophageal cancer have significant room for improvement. Advancements in minimally invasive esophagectomies show great promise in achieving the goal of optimizing oncologic outcomes while minimizing morbidity, but a definitive answer likely will be achieved only in prospective randomized studies, which are difficult and expensive to perform.

References