Commentary: Severe anastomotic leaks after esophagectomy need early operative intervention

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Central Message

Severe anastomotic leaks after esophagectomy are expensive. Early diagnosis and definitive operative intervention are the most effective way to decrease operative morbidity, mortality, and costs.

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Cancers of the esophagus and esophagogastric junction are among the most rapidly growing causes of cancer mortality worldwide.¹ Survival is improving largely as a result of earlier detection at a curative stage, more effective neoadjuvant treatment options, and safer surgical care.² Esophagectomy is a major component of the treatment of localized esophageal cancer but is associated with a considerable risk of serious complications.^{3,4}

Agzarian and colleagues⁵ analyzed the treatment expenditures of 24 patients of 399 patients with severe grade III to IV anastomotic leaks after neoadjuvant chemoradiotherapy and esophagectomy for esophageal cancer at the Mayo Clinic between September 1, 2008, and December 31, 2014. Using standardized costs from the Mayo clinic's data warehouse, the expenditures were examined from the time of leak detection to resumption of oral diet. The study was limited to severe grade III leak (systemic sepsis or significant anastomotic disruption requiring surgical revision) and grade IV leak (unsalvageable conduit for which surgical diversion was necessary).³

The 24 patients with leaks underwent esophagectomies using transhiatal (n = 5), Ivor Lewis (n = 9), or McKeown (n = 10) techniques. The leaks were identified and treated in the immediate postesophagectomy hospitalization in 19 of 24 patients, whereas 5 patients were readmitted for treatment. Most patients (21/24) required surgical intervention for management of their leak. This included revision of the anastomosis, repair of fistulous tracts, and drainage of neck infections. Only 3 patients were treated with stents, and all required further surgical therapy to control their leak. Two mortalities were identified (8.3% mortality rate), both with an associated tracheoesophageal fistula.

Matched analysis was used to compare median expenditures in patients with versus those without an anastomotic leak. The median time required to treat an anastomotic

leak was 73 days (range 14-701). The additional median standardized cost per leak was \$68,296 (range \$12,663-\$554,600), which was 1.9 times greater than for patients without an anastomotic leak of \$39,769. The median length of hospital stay after leak detection was 18.5 (range 7-73) days. The largest contributors to cost for all patients were intensive care stay (30%), hospital room (17%), pharmacy (16%), and surgical intervention (13%).

Despite the inherent limitations of the study identified by the authors, the paper highlights several important messages for the surgeon carrying out esophagectomies for esophageal cancer.

1. Anastomotic leaks are expensive both in terms of cost and use of hospital resources but also to the patient and their families in indirect costs, patient satisfaction, and decreased quality of life and survival.^{6,7}
2. Surgical intervention accounted for only 13% of the cost for management of these leaks. If the patient has uncontrolled sepsis and evidence of a leak, then early return to the operating room for definitive management is indicated.
3. The use of stents for class III/IV leaks or leaking anastomosis in the neck was not effective.
4. Early detection and treatment of tracheoesophageal fistulas after esophagectomy may decrease operative mortality.

5. Standardized costs in data warehouses can be used to analyze professional, facility, and outpatient costs of surgical procedures.

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