Single institution 90-day surgical outcomes after esophagectomy for end-stage achalasia

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INTRODUCTION

The surgical outcomes after esophagectomy for patients with end-stage achalasia by minimally invasive surgical (MIS) approaches are limited. The purpose of this study was to present short-term surgical outcomes of end-stage achalasia patients at a high-volume esophagectomy institution.

MATERIAL & METHODS

We conducted a retrospective review of a single academic institution from 2010-2019. Patients with end-stage achalasia who underwent an open or MIS esophagectomy were included. Demographics as well as 90-day surgical outcomes (readmission, reoperation, overall complications, LOS, and mortality) were included. Surgical complications were classified based on the Clavien-Dindo classification (I–IV).

RESULTS

A total of 17 patients met inclusion criteria, with a mean age of 54(±11.9) years. Of these 10(58.8%) were women. An MIS approach was performed in 94.1% of the cases: including 14(82.4%) 3-field, 2(11.8%) trans-hiatal esophagectomies, and 1(5.8%) open Ivor-Lewis esophagectomy. Mean operative time was 452.6(± 82.9) minutes. Within 90-days, 2(12.5%) patients were readmitted, 3(17.7%) patients required reoperation, 8(47.1%) patients had at least 1 complication, and no mortality was reported. Of patients with a reported complication, 4(23.6%) had minor complications (I-II) and 4(23.6%) had complications that required either further intervention or reoperation (IIIa-b). The reasons for reoperation included: 1 esophageal leak, 1 chyle leak, and 1 incarcerated hiatal hernia. Mean ICU and hospital LOS was 3.1(± 4.2) and 11.2 (± 5.2) days, respectively.

TABLE 1

Table 1. 90-day Surgical Outcomes

Complication	Number (%) Total N= 17	Clavien-Dindo classification
Pneumonia ⁺	1 (5.9%)	Grade II
Anastomotic leak ϒ	1 (5.9%)	Grade IIIb
Chyle leak Φ	1 (5.9%)	Grade IIIb
SSSI ϒ	3 (17.7%)	Grade II
DSOI ϒ	1 (5.9%)	Grade IIIb
Pulmonary embolism ⁺	1 (5.9%)	Grade IIIa
RLN injury Φ	1 (5.9%)	Grade IIIa
Acute kidney injury	1 (5.9%)	Grade I
Urinary tract infection	3 (17.7%)	Grade II
Strictures	0 (0%)	-
Mortality	0 (0%)	-
Other *	0 (0%)	-

Superficial Surgical Site Infection (SSSI); Deep Surgical Organ Infection (DSOI); Recurrent Laryngeal Nerve (RLN)
*Post-operative rapid ventricular response, pleural effusion, stroke, myocardial infarction, reintubation, and conduit necrosis
Symbols represent individual patients who experienced more than one complication: ⁺, Φ, ϒ

CONCLUSIONS

Minimally invasive esophagectomy for end-stage achalasia can be safely performed with low mortality. Even at high-volume institutions, overall complication rates are high; however, minor complications (I-II) account for half of the total complications.