

Learning curve and patient outcomes of minimally invasive esophagectomy: One surgeon's 10-year experience



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Introduction

- Minimally invasive esophagectomy (MIE) involves a combination of laparoscopy and thoracoscopy, instead of the traditional open approaches
- This has been shown to improve patient outcomes without impacting oncologic resection success
- Studies have described a learning curve in the more technically challenging procedures, like MIE
- Heterogeneity between participating centers, surgical approaches, and surgeon experience makes it difficult to measure what extent the observed learning curve was attributable to an individual surgeon's learning effect
- Objective:** to examine the learning curve of one surgeon performing minimally invasive esophagectomy (MIE) over a 10-year period, since the beginning of their practice, with a focus on patient outcomes

Methods

- Inclusion criteria:
 - age ≥ 18 years
 - minimally invasive esophagectomy
 - malignancy
 - Dr. Rachit Shah as primary surgeon
 - from 10/2012 to 9/2022
- Exclusion criteria:
 - emergency procedures
 - staged procedures
- Follow-up: 1-year post-OP

Results and Discussion

- 128 patients:**
 - Early MIE (64 patients)
 - Late MIE (64 patients)
- Age:** 64 \pm 9 years
- Race:** White 89%
- Sex:** Male 74%

	Early MIE	Late MIE	p-value
Charlson Comorbidity Index	4	5*	0.046
Prior surgeries (%)	52	70*	0.030
Pre-op albumin levels (g/dL)	3.5	3.9*	0.019
Conversion to open (%)	14.1*	1.6	0.008
Operative time (min)	517*	443	<0.001
Estimated blood loss (mL)	223*	164	0.044
Median hospital LOS (days)	9*	8	0.019
Lymph node yield	17	21*	0.013

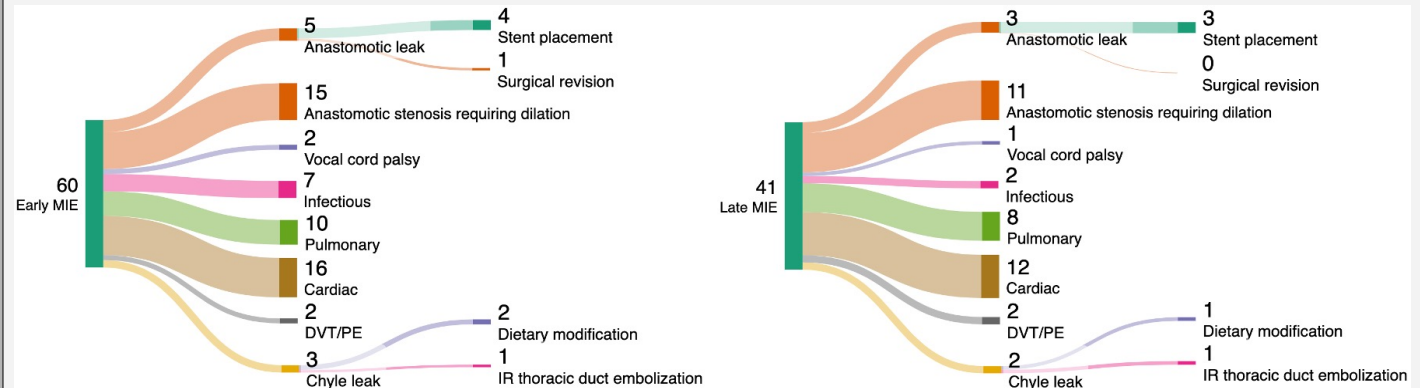


Figure 1: Summary of post-operative complication events

Conclusion

Improving operative measures and patient outcomes despite more complex patient medical and surgical histories is strongly supportive of a learning curve in this technically challenging procedure.

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