University Hospitals

Title: An Analysis of the Learning Curve for Peroral Endoscopic Myotomy (POEM)

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Background

- POEM has increased in frequency over the last 2 decades and is seen as an equal alternative to the Heller Myotomy.
- Two general limitations for POEM as a treatment option is the availability of surgical training and the time to proficiency.
- We aim to assess time to proficiency by evaluating the learning curve for a single physician, performing POEM since 2010.
- Improving our understanding of the time to proficiency for this technique should help further facilitate surgical adoption of POEM.

Methods

- Retrospective analysis of 160 patients
- Adults that underwent POEM for diagnosed achalasia from 2010 to 2022.
- Using quartiles, we evaluated surgical outcomes of esophageal leak, persistence of symptoms, and additional treatments.
- Chi-squared test and ANOVA

Figure(s)

	Quartile 1 (N=40)	Quartile 2 (N=40)	Quartile 3 (N=40)	Quartile 4 (N=40)	P-value
Length of Stay (Days)	1.9	1.6	1.6	1.6	0.853
Leak	2 (5%)	0	0	1 (3%)	0.618
Pneumoperitoneum	8 (20%)	10 (25%)	8 (20%)	9 (23%)	0.940
Reflux	7 (18%)	1 (3%)	5 (13%)	6 (15%)	0.140
Dysphagia	4 (10%)	5 (13%)	3 (8%)	3 (8%)	0.933
Readmission	2 (5%)	2 (5%)	7 (18%)	3 (8%)	0.189
Mortality	0	0	0	2 (5%)	0.245

Results

- 160 patients that qualified were split into quartiles of 40.
  - For quartiles 1 through 4, the length of stay in days was 1.9, 1.6, 1.6, and 1.6 respectively (p = 0.85).
  - The leak rates were 5% for quartile 1, 0 for quartiles 2 and 3, and 3% for quartile 4 (p = 0.618).
  - Post-operative reflux rate was 18%, 3%, 13%, and 15% for quartiles 1 through 4 (p = 0.14). Readmission was 5%, 5%, 18%, and 8% (p-value = 0.19).

Conclusions

- The learning curve for POEM was achieved by 40 cases.
- After 40 cases we found no significant difference regarding leak rate, post-operative persistence of symptoms, or readmissions.

References

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