Clinical Characteristics Associated with Reoperation Following Recurrence After Paraesophageal Hernia Repair

University Hospitals

Erik L Risa, Christina S Boutros, DO, Emily Simon, MD, Jamie Benson, MD,
Patrick Weiland, MD, Saher Khan, MD, Joshua Lyons, MD, Jeffrey Marks, MD
University Hospitals Cleveland Medical Center and Case Western Reserve University

UH RISES
Research in Surgical Outcomes and Effectiveness

Background

Recurrence after paraesophageal hernia repair (PEHR) remains a significant clinical challenge, often resulting in symptom recurrence and the need for additional intervention. Studies suggest that recurrence rates vary based on follow-up duration, surgical technique, and patient-specific factors, with younger age, operative approach, and the presence of Barrett's esophagus being implicated in contributing to recurrence risk.

Purpose

This study aims to explore the clinical characteristics of patients with paraesophageal hernia recurrence and identify factors associated with reoperation.

Methods

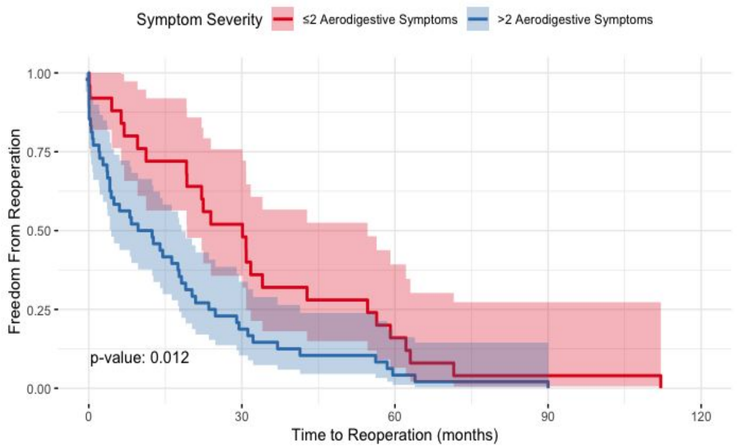
We conducted a retrospective cohort study of patients who experienced recurrence after PEHR, performed by surgeons at a single institution between February 2010 and February 2020. The study population included patients who had previously undergone PEHR and either showed evidence of recurrence or required reoperation.

Results

Table 1: Post Operative Symptoms Between Paraesophageal Hernia Recurrence and Reoperation

	PEH Recurrence (N=133)	PEH Recurrence + Reoperation (N=75)	P Value
Gastroesophageal Reflux	58 (44%)	41 (55%)	0.2
Dysphagia	35 (26%)	27 (36%)	0.2
Emesis	21 (16%)	21 (28%)	0.054
Nausea	19 (14%)	18 (24%)	0.12
Chest Pain	6 (4.5%)	15 (20%)	<0.001
Regurgitation	6 (4.5%)	6 (8.0%)	0.5
Weight loss	6 (4.5%)	3 (4.0%)	>0.9
Early satiety	5 (3.8%)	2 (2.7%)	>0.9
Hematemesis /	5 (3.8%)	0 (0%)	0.2
Recurrent Aspiration	2 (1.5%)	5 (6.7%)	0.11
Odynophagia	0 (0%)	1 (1.3%)	0.8
Asymptomatic	5 (3.8%)	0 (0%)	0.2

Figure 1: Risk of Reoperation Following Paraesophageal Hernia Repair Stratified by Symptom Severity



Key Findings

- Demographics: Patients requiring reoperation were younger (58 ± 18 years) vs. (63 ± 15 years), though not statistically significant (p = 0.060).
- Time to Reoperation: Median time was 17.5 months (IQR 27.0).
- Role of Mesh: Mesh placement was rare (10% of cases) and did not significantly impact recurrence (p > 0.9), but Surgisis mesh was more associated with recurrence (p = 0.044).
- Technical Factors: Posterior suture placement was less frequent in patients requiring reoperation (p = 0.047).
- Symptoms Driving Reoperation:
- Patients with ≥2 aerodigestive symptoms were significantly more likely to need reoperation (33% vs. 16%, p = 0.006).
- Chest pain (20% vs. 4.5%, p < 0.001) and emesis (28% vs. 16%, p = 0.054) were the most predictive symptoms.

Conclusions

Reoperation following PEH recurrence is more likely in patients with multiple post operative aerodigestive symptoms.

Chest pain and emesis were the most significant symptoms associated with the need for reoperation.

Younger patients trended toward a higher likelihood of reoperation, but this was not statistically significant.

Most recurrences (79%) were minimally symptomatic (≤2 symptoms) and did not require surgery.

Case Western Reserve University EST. 1826