Type IV Paraesophageal Hernias Are Associated with Higher Reoperation Rates Compared to Type II and III

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Introduction

- Paraesophageal hernias (PEH) have a wide range of presentations and categorizations, differences in hiatal anatomy, and variances in operative approaches
- The most utilized classification scheme categorizes PEHs by what anatomic structure(s) have herniated through the diaphragmatic hiatus
- This study was designed to evaluate the patient factors, presentations, operative strategies, and various outcomes of types II-IV PEH repairs

Study Design and Methods

- This was a retrospective cohort study of all patients who underwent a paraesophageal hernia repair at a single institution over a 10 year period (2010-2020)
- Patients were divided into 2 cohorts, those with types II and III PEHs and those with type IV PEH
- Patient characteristics, presentations, operative approaches and rates of postoperative GERD, postoperative dysphagia, PEH recurrence, and reoperation for a recurrent PEH were then compared between the two cohorts

	Type II/III	IV	p-value
Mean Age	67.2	68.2	0.66
Mean BMI	31.1	29.5	0.22
Cardiovascular Disease	96 (76%)	49 (86%)	0.12
Active Smoking	11 (9%)	5 (9%)	1
Diabetes	14 (11%)	10 (17%)	0.25
Urgent Repair	13 (10%)	14 (24%)	0.04
Mesh Use	14 (11%)	14 (24%)	0.02
Fundoplication Use	74 (58%)	28 (49)%	0.2

Figure 1. Patient and operative characteristics

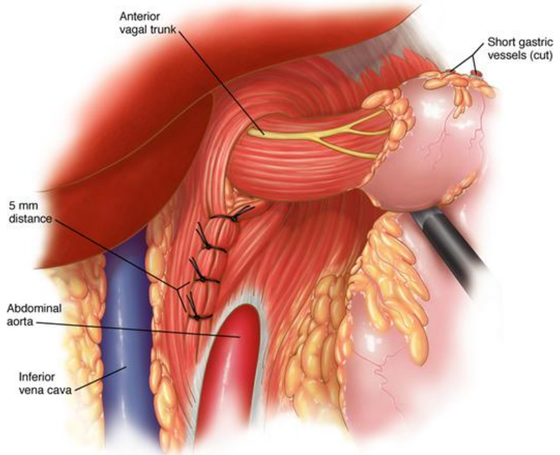


Figure 3. Cruroplasty of a PEH repair

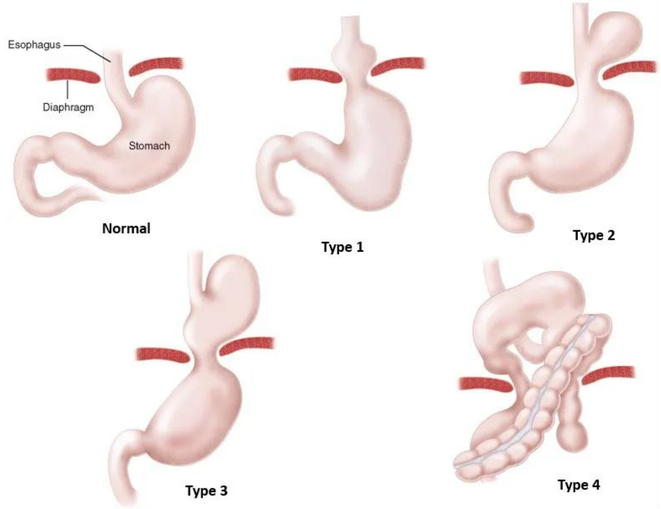


Figure 2. Types of hiatal hernias

	Type II/III	Type IV	p-value
	n=127	n=58	
Post-Operative GERD	9 (7%)	6 (10%)	0.6
Post-Operative Dysphagia	11 (9%)	6 (10%)	0.8
PEH Recurrence	20 (16%)	12 (21%)	0.4
Reoperation for PEH	6 (5%)	9 (16%)	0.01

Figure 4. Post-operative outcomes between types II/III PEH and type IV PEH

Results

- 185 patients were included in the study
- Average follow up was 1.8 years
- 127 (69%) were type II and III PEHs, 58 (31%) were type IV PEHs
- More type IV PEHs were repaired in the urgent/emergent setting
- Operative techniques were similar other than more mesh was used with type IV PEHs
- More type IV PEHs required a reoperation for hernia recurrence
  - 16% vs 4.7% (p=0.02)
- All other post-operative outcomes were similar between groups

Conclusions

- In this present study, type IV PEHs can be effectively repaired, but were associated with higher rates of reoperation despite having higher utilization of hiatal mesh
- This should help surgeons more definitively discuss the risks and benefits of type IV PEHs with this complex patient population.

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