Large Paraesophageal Hernia Repair Durability is Improved with Biosynthetic Mesh in Mid-Term Follow-up

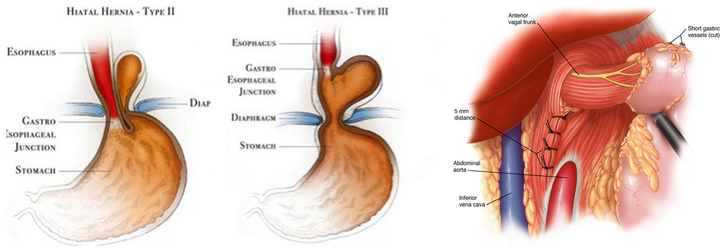
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Background

- Large paraesophageal hernias are frequently symptomatic
  - Due to laxity of phrenoesophageal ligament and thinning of crural diaphragm
  - Hernia is the primary driver of symptoms
  - No medical alternative for treatment
- Laparoscopic antireflux surgery is the gold standard for para-esophageal hernia (PEH) repair
  - Reduction of hernia sac and contents
  - Crural repair to restore anatomy of esophageal hiatus



- Recurrence rates following primary cruroplasty are high (60%)
- Permanent mesh has lower recurrence but mesh-related complications (erosion) prohibit use
- Biologic mesh is rapidly absorbed with poor long term durability
- Absorbable synthetic mesh has better tissue incorporation with delayed resorption and avoids mesh-related complications
  - Gore-BioA ™ (rapid resorption, 6 months)
  - Phasix ™ (delayed resorption, 18 months)

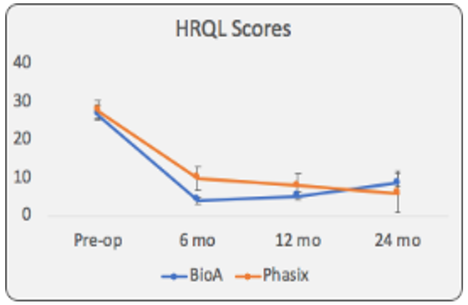
Methods

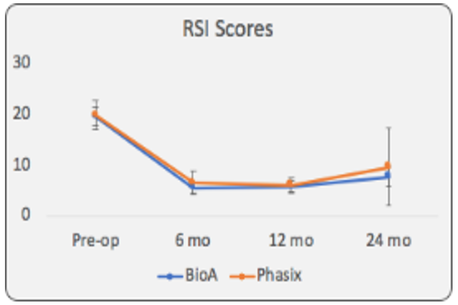
- Retrospective review of prospectively maintained database
  - 2018- 2021
  - Large PEH = >5cm in length, >30% intrathoracic stomach
  - 30 month median follow-up
- Postoperative evaluation pursued only for subjective symptoms
  - Endoscopy, Esophagram
- Outcomes of interest
  - Recurrent hiatal hernia
  - Recurrent reflux
  - Dysphagia requiring endoscopic dilation

Table 1. Demographics and outcomes

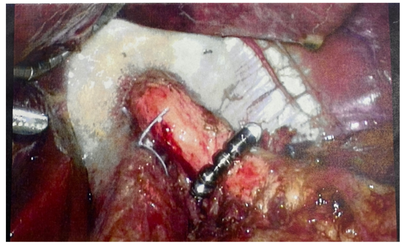
Parameter	Value
N	160
Age	64
BMI	28.3%
Female	58%
Esophageal Dysmotility	17.5%
Average Pre-op	
GERD-HRQL Score	41.5
RSI Score	26
Postoperative Outcomes	
Average OR time (min)	129
Average length of stay (days)	0.5
Recurrent hernia rate	11.3%
Recurrent reflux rate	6.9%
Severe dysphagia rate	4.4%

Results





- Symptom scores improved significantly and remained stable
- No difference in improvement between the two groups



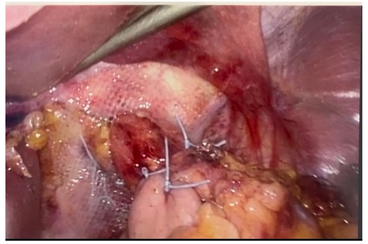


Table 2. Outcomes by mesh

BioA *n=99*		Phasix *n=61*
131	Average OR time (min)	126
1.1	Average LOS (days)	0.9
13.1%	Recurrent hernia rate	8.2%
8.1%	Recurrent reflux rate	4.9%
4.0%	Severe dysphagia rate	4.9%

Continuous variables reported as mean ± standard deviation.

- Comparison of the two groups revealed no significant differences
- No mesh related complications in either group

Conclusion

- Absorbable synthetic mesh provides improved midterm PEHR durability compared to historic rates of primary cruroplasty alone, especially in large paraesophageal hernias
- Absorption profile does not significantly affect the rates of subjective recurrence or endoscopic dilation for dysphagia at 2.5 year follow-up
- Further longitudinal study is needed to investigate the long-term repair durability, but short and midterm outcomes support the routine use of mesh-reinforcement in large PEHR