Laparoscopic paraesophageal hernia repair outcomes from >1000 patients: an 11 year experience from a single institute

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Introduction

Prior to laparoscopy, paraesophageal hernia repair (PEHR) was associated with significant morbidity largely due to the transdiaphragmatic approach.

Laparoscopy has improved the feasibility; however the procedure remains complex and associated with significant morbidity[1, 2].

Surgical techniques has evolved from an open, transthoracic; to a laparoscopic approach with the addition of a fundoplication and on a case by case basis, esophageal lengthening procedures and mesh reinforcement[3].

However, and despite the use of reinforcement material, recurrences continue to be problematic with reported rates up to 54%[4].

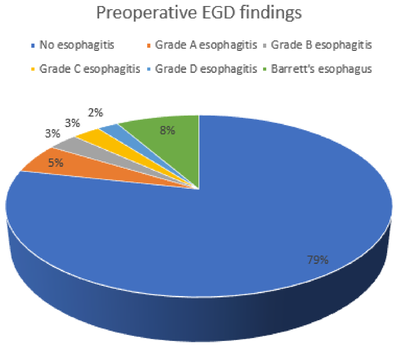
Morbidity and mortality can be reduced when PEHR are performed in large volume centers[1].

The purpose of this study is to assess the short- and long-term outcomes after laparoscopic PEH repair (LPEHR) in a large cohort of patients.

Methods

All primary LPEHR performed in a single tertiary center from January 2009 to December 2019 were retrospectively reviewed.

We evaluated short term (30 days postoperative) outcomes including length of stay (LOS), perioperative morbidity and mortality. Long term outcomes (>1 year follow up) included clinical, radiologic and endoscopic recurrence rate, reflux symptom index (RSI) and gastroesophageal reflux disease (GERD) health related quality of life (HRQL) score.



Results

LPEHR were performed in 1015 patients with 14 converted to open procedures. Median age was 69 years, (interquartile range - IQR 60-76). Most patients (86.9%) presented with a type 3 PEH. Acute PEH occurred in 9.5% requiring urgent repair during the index admission.

LPEHR included fundoplication (79.4%), Collis gastroplasty (15.6%) and biologic mesh reinforcement (74.1%). Median length of stay was 2 days (IQR 1-3). Mortality was 0.5% (n=5) for elective repair and 6% (n=6) for emergent repair.

Oral intolerance and dysphagia were the most common causes of readmission requiring an endoscopic dilation in 4.2% (42/1015) of patients within 30 days of surgery.

Table 1. Summary of operative data

	Total (N=1015)
Approach, n (%)	
Laparoscopic	1000 (98.5%)
Laparoscopic converted to open	14 (1.4%)
Open	1 (0.1%)
Collis gastroplasty, n (%)	
Collis not done	857 (84.4%)
Collis done	158 (15.6%)
Fundoplication, n (%)	
None	196 (19.3%)
Nissen	342 (33.7%)
Dor	445 (43.8%)
Toupet	19 (1.9%)
RYGB	11 (1.1%)
Partial gastrectomy	2 (0.2%)
Mesh, n (%)	
None	259 (25.5%)
Biologic	752 (74.1%)
Synthetic	4 (0.4%)

Median follow up was 23 months (IQR 15-33). One year follow up was available for 539 patients. Of those, 486 patients (90.2%) had an upper gastrointestinal study (UGI) at a median of 12.8 months after surgery and 269 (50%) had an esophagogastroduodenoscopy (EGD) at a median of 19 months after surgery.

Table 2. GERD-HRQL and RSI scores

	Preop Median (IQR)	Postop Median (IQR)
GERD-HRQL	15 (5 - 26)	3 (0 - 8)
RSI	9 (5 - 21)	2 (0 - 7)

The overall recurrence rate was 14.8% (80/539 patients). Recurrences were asymptomatic in 27.5% (22/80) and symptomatic in 72.5% (58/80) of cases. Thirty-five of these patients (43.8%) required reoperation. One year after surgery, 60.5% of patients were not taking anti-acids. GERD-HRQL and RSI decreased by a median of 12 and 7 points, respectively after surgery.

Conclusion

Laparoscopic approaches are the gold standard in the treatment of PEH. Best outcomes with the lowest complication rates are attained when these surgeries are performed in high volume centers. Emergent repairs are associated with increased mortality. Radiologic or endoscopic recurrences are not always associated with symptoms and need for reoperation.

References

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