Post-Operative Symptoms and Quality of Life after Laparoscopic Paraesophageal Hernia Repair

Rocio Carrera Ceron MD, Brant K. Oelschlager MD, Colette S. Inaba, Laurel Tangalakis MD, Andrew S. Wright MD

Center for Videoendoscopic Surgery, Department of Surgery, University of Washington

Background

Paraesophageal hernia repair (PEHR) can be challenging and has known high radiologic recurrence rate of up to 50% (1,2). Despite this high recurrence rate, the need for re-operation appears to be much less common and is around 5% in several large case series (3,4) .

The impact of radiologic recurrence on patient quality of life (QOL) and symptoms post-PEHR remains unclear.

Purpose

To evaluate the impact of radiologic recurrence in QOL and post-operative symptoms in patients who underwent first-time laparoscopic PEHR.

Our secondary aim was to evaluate short-term results of primary repair vs. mesh repair in the same group of patients also based on QOL and post-operative symptoms.

Methods

- We identified all patients who underwent first-time laparoscopic PEHR between October 2015 and October 2019 at our institution who had a minimum postoperative follow-up of 6 months.
- Mesh was used selectively and at surgeon's discretion in larger or technically challenging hernias.
- Radiologic recurrence was defined as the presence of ≥2cm intrathoracic stomach on postoperative upper gastrointestinal (UGI) series. UGI studies were obtained as part of our routine 6-month postoperative follow-up.
- A standardized symptom questionnaire was administered using a scaled 0 to 10 score for severity, and 0 to 4 for frequency for postoperative symptoms.

Results

95 patients underwent PEHR during our period of study, including 65 (68%) in the primary repair (PR) group and 30 (32%) in the mesh-repair (MR) group. There were no differences in baseline characteristics (age, sex, BMI). Median follow-up was 226 days (7.5 months).

We obtained a postoperative upper gastrointestinal (UGI) study in 94% of the patients. There were no demographic differences between patients with and without recurrence. Every symptom except chest pain was significantly more severe in those with recurrent hernias. On the other hand, heartburn, regurgitation, and dysphagia were significantly more frequent in the recurrence group while there was no difference in frequency for the rest of the gastrointestinal symptoms evaluated (**Table 1**).

Symptom	No recurrence (n=70)	Recurrence (n=25)	p value
SEVERITY*			
Heartburn	1.1 ± 2.2	2.5 ± 2.9	***0.01***
Regurgitation	0.8 ± 1.9	2.3 ± 2.6	***0.003***
Dysphagia	1.0 ± 2.1	2.3 ± 2.9	***0.01***
Chest pain	0.9 ± 2.0	1.8 ± 2.9	0.08
Bloating	1.3 ± 2.2	2.6 ± 3.2	***0.03***
Abdominal pain	1.0 ± 1.9	2.6 ± 3.2	***0.004***
Diarrhea	1.3 ± 2.2	2.5 ± 3.2	***0.03***
FREQUENCY^			
Heartburn	0.7 ± 1.3	1.5 ± 1.6	***0.01***
Regurgitation	0.5 ± 0.9	1.4 ± 1.5	***0.001***
Dysphagia	0.6 ± 1.1	1.3 ± 1.5	***0.01***
Chest pain	0.7 ± 1.3	1.0 ± 1.5	0.34
Bloating	1.0 ± 1.4	1.4 ± 1.6	0.24
Abdominal pain	0.8 ± 1.3	1.3 ± 1.6	0.12
Diarrhea	0.8 ± 1.2	1.1 ± 1.4	0.30
Values are mean ± SD. *Symptom severity scored by scale 0 –10. ^Symptom frequency scored by scale 0-4 (0=Never; 1=Once/month; 2=Once/week; 3= Once/day; 4=Several/day).			

Table 1. Post-operative symptom severity and frequency in PEHR patients based on radiologic recurrence

We also compared post-operative outcomes between patients with primary and mesh repair. Radiologic recurrence was statistically higher in the PR compared with MR (32% vs. 21%, ***p = 0.04***). There were no significant differences in either frequency or severity of symptoms between the PR and MR groups.

Our overall reoperation rate was 3.1% (3 % in the PR vs 3.3% in the MR group, p = 0.2).

Conclusions

- Patients with recurrence had worse post-operative GI symptoms than those without a recurrence but these symptoms rarely caused daily impact and were relatively mild in severity.
- While radiologic recurrence was relatively common in this study, overall patient-reported outcomes were quite good whether or not recurrence was seen on imaging.
- The reduction in recurrence rate with mesh did not impact patient-reported outcomes despite the finding that mesh reduces recurrence rates. There was no evidence that mesh led to any poor post-operative symptomatic outcomes.
- These findings demonstrate that although radiologic recurrence is common following PEH repair, the clinical impact of recurrence is modest, and reoperation is rare.

References

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