Comparing Outcomes for Primary Antireflux Surgery between Patients With Paraesophageal Hernia vs. Sliding Hernia

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Background

Laparoscopic anti-reflux surgery is the gold standard for symptomatic hiatus hernia. Aim of this study is to report peri-operative and one year GERD-HRQL and recurrence rate at 1 year after primary PEH and SH repair.

Methods

After IRB approval a prospectively maintained esophageal surgery database was retrospectively reviewed to identify patients who underwent primary surgery for GERD between September 2016 to July 2020. Patients were divided in 2 groups: paraesophageal (PEH) and Sliding hiatus (SH) hernia. PEH patients was selected based on surgeon's report. Patients who underwent surgery without GERD symptoms pre-operatively excluded. We retrieved perioperative outcomes (operative time, length of hospital stay, ICU stay. intraoperative and postoperative complications) along with barium swallow/ endoscopy findings and GERD-HRQL scores at annual follow-up.

Results

A total of 190 patients (104 PEH and 86 SH) underwent primary surgery during the study period. Most common procedure performed was Toupet fundoplication in both groups. There was significantly longer operative time in PEH group. There was no difference in intra-operative and postoperative (Clavien-Dindo≥ II) complications between groups. No patients have required re-operative intervention in either group. Hiatus hernia recurrence (size> 1 cm) was higher in PEH group but difference was not significant. Mean intraoperative esophageal length in recurrent group was 2.13 ± 0.53 and in non-recurrent group was 2.18 ± 0.63 (p = 0.784). There was significant improvement of GERD-HRQL scores in both groups at 1 and 2 years after surgery.



TABLE 1. Demographic data	PEH	SH	P value
N (female %)	104 (80.7%)	86 (65%)	0.015
Age Mean ± SD year	64.4 ± 10	57.8 ± 11	<0.001
BMI Mean ± SD kg/m²	29 ± 4.3	28 ± 4.6	0.308
GERD-HRQL baseline (N) Mean ± SD	N: 38 26.4 ± 17.5	N: 28 32 ± 19.6	0.210

TABLE 2. Intraoperative data	PEH	SH	P value
Type of fundoplication	-Toupet (n:92) -Angle of His accentuation (n: 6) -Dor (n: 6)	-Toupet (n:85) -Angle of His accentuation (n: 1)	-
Conversion rate	1 (0.96%)	0	0.362
Operative time Mean ± SD	91 ± 23	75 ± 27	<0.001
Intraoperative complication N (%)	N: 4 (3.84%) -Perforation (n: 1) - Bleeding (n: 2) -Vagus nerve injury (n: 1)	N: 1 (1.16%) -Bleeding (n: 1)	0.250

TABLE 3. Post-Operative intervention	PEH	SH	P value
Endoscopic EGJ dilation N (%)	16 (15.4%)	9 (10.45%)	0.318
Endoscopic pyloric dilation N (%)	15 (14.5%)	6 (7%)	0.103

TABLE 4. Post-Operative data	PEH	SH	P value
LOS Median (range) day	1 (1 – 15)	1 (0 – 6)	0.117
ICU stay Median (range) day	0 (0 – 15)	0 (0 – 2)	0.384
Postoperative complication N (%) Clavien-Dindo Classification ≥ II	N: 3 (2.88%) Grade II: 2 Grade III b: 1	N: 2 (2.3%) Grade II: 2	0.811
Recurrence hernia> 1cm N (%)	2 of 31 (6.45%)	0 of 27 (0%)	0.179
GERD-HRQL 1 year follow up (N) Mean ± SD	N: 22 5.2 ± 8	N: 26 7.3 ± 14.6	0.540
GERD-HRQL 2 years follow up (N) Mean ± SD	N: 13 10.2 ± 13	N: 26 4.2 ± 8	0.076

Conclusion

Operative time was significantly higher in PEH group. In both groups GERD-HRQL score improved at 1 and 2 years after surgery. There was no significant difference for intraoperative esophageal length between recurrent and non-recurrent group.

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