Comparing Perioperative Outcomes and 1-Year Follow up for Primary Paraesophageal Hernia Repair Surgery between Mesh & Non-Mesh Group

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Background

Recurrent hiatus hernia is the proverbial Achilles heel of antireflux surgery (ARS). Use of mesh for hiatus reinforcement has been debated. Aim of this study is to report peri-operative outcomes, GERD-HRQL score and recurrence rate at 1 year after surgery in patients with and without use of Bio-A® mesh for hiatus reinforcement.

Methods

After IRB approval a prospectively maintained esophageal surgery database was retrospectively reviewed to identify patients who underwent primary surgery for paraesophageal hiatal hernia from September 2016 to July 2020. Patients were divided in 2 groups, mesh and non-mesh. Mesh was placed on the hiatus based on intraoperative assessment (Extension of hiatus size). We retrieved perioperative outcomes (operative time, length of hospital stay, intraoperative and postoperative complications) along with barium swallow/ endoscopy findings and GERD-HRQL scores at annual follow-up.

Results

A total of 124 patients (44 mesh and 80 non-mesh) underwent primary surgery during the study period. The operative time was significantly higher in mesh group. There was no difference in intraoperative complication however in postoperative complication (Calvien-Dindo≥ II) difference was significant between groups. There was 3 recurrence hiatal hernia > 1 cm noted at 1 year follow up. No reoperation was reported. No mesh related complications were reported. There was significant and similar improvement of GERD-HRQL scores in both groups at 1 year after surgery.



TABLE 1. Demographic data	Mesh	Non-mesh	P value
N (female %)	44 (80%)	80 (81%)	0.818
Age Mean ± SD year	69 ± 10	68 ± 10	0.441
BMI Mean ± SD kg/m^2	30 ± 5	28 ± 4	0.030
GERD-HRQL baseline (N) Mean ± SD	N: 12 30 ± 19.5	N: 34 24 ± 17	0.332

TABLE 2. Intraoperative data	Mesh	Non-mesh	P value
Type of fundoplication	-Toupet (n: 37) -Angle of His accentuation (n: 4) -Dor (n: 3)	-Toupet (n: 68) -Angle of His accentuation (n: 7) -Dor (n: 5)	-
Conversion rate	0	1 (1.25%)	0.456
Operative time Mean ± SD	103 ± 25	86.3 ± 20	<0.001
Intraoperative complication N (%)	N: 3 (6.8%) -Perforation (n: 2) -Bleeding (n: 1)	N: 2 (2.5%) -Bleeding (n: 1) -Vagus nerve injury (n: 1)	0.242

TABLE 3. Post-Operative data	Mesh	Non-mesh	P value
LOS Median (range) day	1 (1 – 15)	1 (1 – 8)	0.060
ICU stay Median (range) day	0 (0 – 15)	0 (0 – 1)	0.167
Postoperative complication N (%) Clavien-Dindo Classification ≥ II	N: 4 (9%) Group II: 2 Group III b: 2	N: 1 (1.25%) Group II: 1	0.034
Endoscopic EGJ dilation N (%)	4 (9%)	17 (21.25%)	0.084
Endoscopic Pyloric dilation N (%)	5 (11.36%)	13 (16.25%)	0.460
Recurrence hernia > 1 cm (%)	2 of 11 (18.18%)	1 of 27 (3.7%)	0.133
GERD-HRQL 1 year follow up (N) Mean ± SD	N: 10 2 ± 4.2	N: 17 5.6 ± 9	0.232

Conclusion

Operative time was significantly higher in mesh group. There is excellent improvement in GERD-HRQL scores with and without mesh use. Prospective long-term study recommended for assessment of Bio-A mesh on recurrence rate.

References:

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