Comparing Perioperative Outcomes and 1-Year Follow up for Primary and Redo Fundoplication Surgery

Komeil Mirzaei Baboli[1], Deepika Razia[1], Sumeet K. Mittal[1,2]

1. Norton Thoracic Institute, St. Joseph´s Hospital and Medical Center, Phoenix, Arizona, USA
2. Creighton University School of Medicine–Phoenix Regional Campus, Arizona, USA

JOHN AND DORIS NORTON CARDIOTHORACIC AND TRANSPLANTATION INSTITUTE | DIGNITY HEALTH ST. JOSEPH'S HOSPITAL AND MEDICAL CENTER

Background

Laparoscopic anti-reflux surgery is the gold standard for symptomatic hiatal hernia. Aim of this study is to report peri-operative and one year GERD-HRQL for primary and redo fundoplication.

Methods

After IRB approval a prospectively maintained esophageal surgery database was retrospectively reviewed to identify patients who underwent primary and redo fundoplication from September 2016 to July 2020. We retrieved perioperative outcomes (operative time, length of hospital stay, intraoperative and postoperative complications) along with GERD-HRQL scores at annual follow-up.

Results

A total 246 patient (210 primary and 36 redo fundoplication) underwent surgery during the study period. Conversion rate in primary group was 0.47% and 8.3% in redo group (p= 0.001). There was significantly lower operative time, length of hospital stay and ICU stay in primary group. The rate of intraoperative and postoperative complication (Calvien-Dindo≥ II) in primary group was significantly lower than redo group. There was significant and similar improvement of GERD-HRQL scores in both groups at 1 year after surgery.



TABLE 1. Demographic data	Primary fundoplication	Redo fundoplication	P value
N (female %)	210 (74%)	36 (75%)	0.928
Age Mean ± SD year	64 ± 12	58.7 ± 13	0.015
BMI Mean ± SD kg/m²	28.5 ± 4.5	28.4 ± 5.5	0.884
GERD-HRQL baseline (N) Mean ± SD	N: 74 28 ± 18.6	N: 13 26 ± 19.8	0.735
BMI Mean ± SD kg/m²	0	1 (1 – 3)	

TABLE 2. Intraoperative data	Primary fundoplication	Redo fundoplication	P value
Type of fundoplication	-Toupet (n: 189) -Angle of His accentuation (n: 12) -Dor (n: 8) -Nissen (n: 1)	-Take down & Toupet (n: 28) -Take down & Angle of His accentuation (n: 3) -Only Takedown of previous fundoplication (n: 5)	-
Conversion rate	1 (0.47%)	3 (8.3%)	0.001
Open procedure	0	1	0.016
Operative time Mean ± SD minutes	85 ± 26.2	138.6 ± 42.8	<0.001
Intraoperative complication N (%)	N: 4 (1.9%) -Bleeding (n: 2) -Perforation (n: 1) -Vagus nerve injury (n :1)	N: 9 (25%) -Perforations (n: 7) -Bleeding (n: 2)	<0.001

TABLE 3. Post-Operative data	Primary fundoplication	Redo fundoplication	P value
LOS Median (range) day	1 (1 – 15)	2 (0 – 22)	<0.001
Postoperative complication N (%) Clavien-Dindo Classification ≥ II	6 (2.85%) Grade II: 4 Grade III b: 2	4 (11%) Grade II: 2 Grade III b: 2	0.021
GERD-HRQL 1 year follow up (N) Mean ± SD	N: 53 5.6 ± 12	N: 10 9 ± 10	0.382

Conclusion

As we expected peri-operative measures are worse in redo surgery group, however the reoperation is as effective as primary surgery in improvement HRQL score at 1 year after surgery.

References:

1. Tsuboi K, et al. Good training allows excellent results for laparoscopic Nissen fundoplication even early in the surgeon's experience. Surg Endosc. (2010) 24:2723–2729.

2.Singhal S, et al. Primary and Redo Antireflux Surgery: Outcomes and Lessons Learned. J Gastrointest Surg. 2018; 22(2):177-186.

3. Bathla L, et al. Efficacy and Feasibility of Laparoscopic Redo Fundoplication. World J Surg. 2011; 35:2445–2453

Disclosure Statement: No author has any conflicts of interest to disclose related to the content of this abstract.