Intraoperative EndoFLIP® Directed Treatment: *Use In Paraesophageal Hernias*

J. Heard MD, C. DuPree DO, M. Ibrahim BS, J. Karumuri BS, H. Osman MD, D. R. Jeyarajah MD

Methodist RICHARDSON MEDICAL CENTER

INTRODUCTION

Fundoplication is performed with hiatal hernia repair to decrease the risk of recurrence and postoperative reflux. Some studies report the rate of short-term dysphagia to be 13-41% with long-term rates up to 22%. Additionally, an estimated 20% of patients develop GERD postoperatively.[1-3] Traditionally, the tightness of the repair has been a compilation of preoperative manometry results and a subjective interpretation of intraoperative findings.

AIM

- Describe the use of EndoFLIP® in fundoplication selection among hiatal hernia patients

METHODS

- Retrospective chart review of 63 patients at a single institution from July 2020 to June 2022.
- Patients without fundoplication or those with planimetry performed under conditions other than 13 mmHg of intraperitoneal pressure and 30-mL balloon fill were excluded (Figure 1).
- EndoFLIP analysis was performed post-cruroplasty and post-fundoplication, although documentation was not always available.

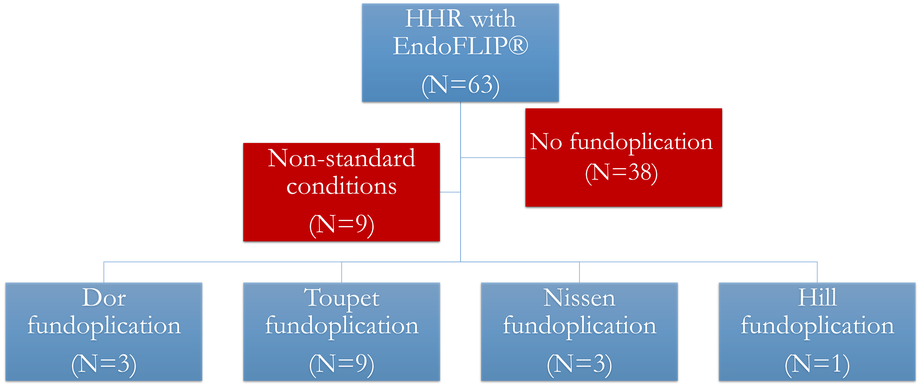


Fig 1. Inclusion schema and fundoplication distribution. Red boxes indicate exclusion.

RESULTS

- The median DI post-cruroplasty progressively increased when organized by future fundoplication type (Hill >Toupet >Nissen) (Table 1).
- After fundoplication, the DI ranged 1.0-3.2 mm^2/mmHg.
- There were no differences in post-fundoplication DI values based on the type of fundoplication performed (p=0.904).

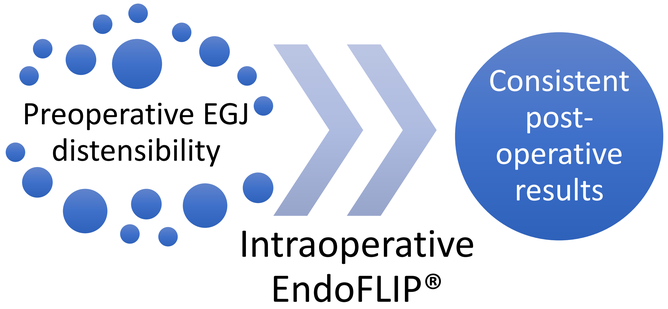
Table 1. EndoFLIP distensibility index (DI) by fundoplication type

Distensibility Measurements		Hill	Dor	Toupet	Nissen
Post-cruroplasty	No.	1	0	7	2
	Median DI (mm^2/mmHg)	1.09		2.40[a]	3.15
	IQR			1.80	
Post-fundoplication	No.	0	3	9	3
	Median DI (mm^2/mmHg)		1.20	1.90[a]	2.00
	IQR			0.67	

- The median follow-up was 110 (IQR 184) days.
- 4 (2 Nissen, 2 Toupet) patients developed non-limiting dysphagia, 2 (1 Nissen, 1 Toupet) reported mild reflux.
- There were no differences in the distribution of dysphagia or GERD based on fundoplication type (lowest p=0.236; Nissen, dysphagia).

CONCLUSIONS

Despite differences in post-cruroplasty fundoplication distensibilities, EndoFLIP® may provide a guide to fundoplication selection in order to generate consistent post-fundoplication EGJ distensibilities and patient outcomes.



References

1. Müller-Stich BP, Achtstätter V, Diener MK, et al. (2015) Repair of Paraesophageal Hiatal Hernias–Is a Fundoplication Needed? A Randomized Controlled Pilot Trial. Journal of the American College of Surgeons 221:602–610.
2. Li Z, Ji F, Han X, et al. (2019) Role of fundoplication in treatment of patients with symptoms of hiatal hernia. Sci Rep 9:12544.
3. Garg SK, Gurusamy KS (2015) Laparoscopic fundoplication surgery versus medical management for gastro-oesophageal reflux disease (GORD) in adults. Cochrane Database of Systematic Reviews.