Functional Outcomes Following Collis Gastroplasty in Nissen vs Partial Fundoplication

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BACKGROUND

Collis gastroplasty remains the most utilized esophageal lengthening procedure during antireflux surgery. There is limited long term follow up data on endoscopic changes and reintervention rates after Collis gastroplasty.

OBJECTIVES

Evaluate the long term functional outcomes following Collis gastroplasty in patients treated at a large volume academic center.

METHODS

Between 2008-2025, 102 patients underwent minimally invasive hiatal hernia repair with Collis gastroplasty via wedge fundectomy technique and Nissen (n=71), partial fundoplication (n=30), or no fundoplication (n=1). Median age was 70 years (IQR: 63–76) with female predominance of 65.7% (N=67).

CONCLUSIONS

- Collis gastroplasty is safe and effective, offering long term symptom control and a low re-intervention rate.
- Patients undergoing partial fundoplications have equivalent outcomes compared to those undergoing Nissen fundoplication.

RISK FACTORS FOR ESOPHAGEAL FORESHORTENING

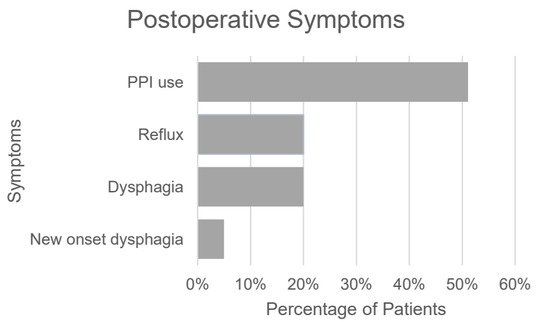
Identified risk factors for esophageal foreshortening:

- Stricture (n=37)
- Barrett's esophagus (n=22)
- Mesenteroaxial volvulus (n=19)
- Fundoplication failure (n=16)

No risk factors other than hiatal hernia were identified in 32 patients.

POSTOPERATIVE SYMPTOMS

FIGURE 1

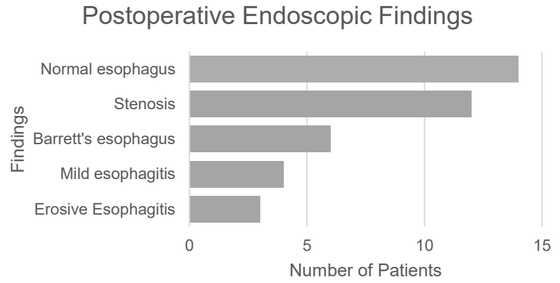


Reported postoperative symptoms at last follow up visit. Median follow-up 27.8 months.

- PPI use was reported in 51% of patients (n=51).
- Postoperative dysphagia and reflux symptoms were reported in 20% of patients (n=20).
- New onset dysphagia (dysphagia not present prior to surgery) was reported in 5% of patients (n=5).

ENDOSCOPY AND INTERVENTIONS

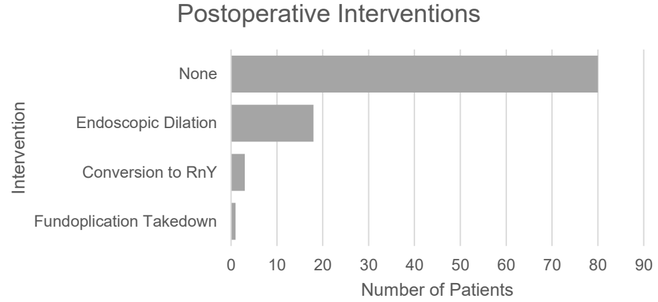
FIGURE 2



35 patients had available endoscopic follow up.

- 14 patients had a normal esophagus.
- Barrett's esophagus was identified in 17% (n=6).
- Severe erosive esophagitis (LA grade C/D) was identified in 7% (n=3).

FIGURE 3

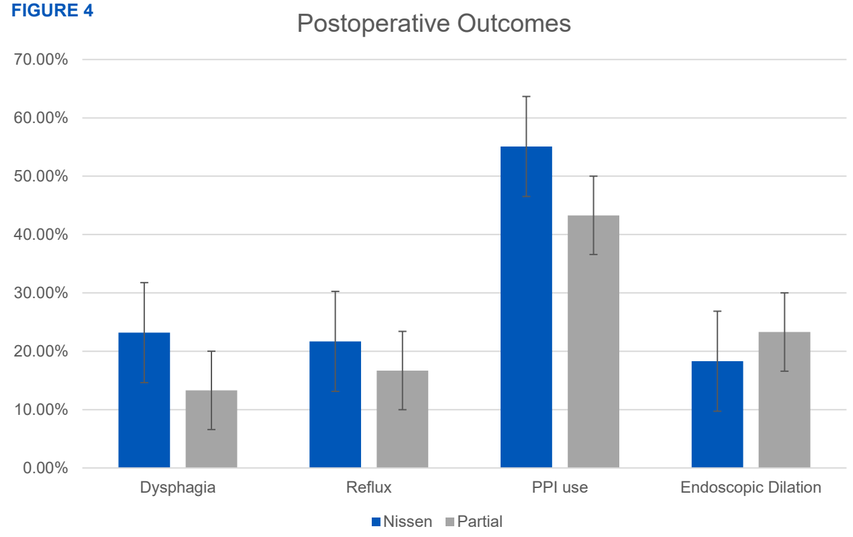


22 patients required postoperative intervention.

- 18 underwent endoscopic dilation.
- 3 underwent conversion to RnY
- 1 underwent fundoplication takedown for persistent dysphagia.

NISSEN VS PARTIAL FUNDOPLICATION

FIGURE 4



- Patients experienced significantly decreased symptoms of dysphagia and reflux in both the Nissen and partial fundoplication groups.
- There were no significant differences in postoperative dysphagia (23.3% vs 13.3%, p=0.41), reflux (21.7% vs 16.7%, p=0.79), PPI use (55.1% vs 43.3%), or endoscopic dilation rate (18.3% vs 23.3%, p=0.59) in the Nissen vs partial fundoplication groups.