



Gastroesophageal Surgery Case Scenario

A 55-Year-Old Man with Gastroesophageal Reflux Disease (GERD)

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PRESENTATION OF CASE

A 55-year-old nonobese man with longstanding heartburn complained that he was experiencing more frequent breakthrough symptoms than in the past. He was taking esomeprazole 40 mg twice daily but expressed frustration about both the need for and cost of daily medication. He also indicated that he felt fluid in the back of his throat at night and could not enjoy a glass of wine. He was concerned about reports that proton pump inhibitors (PPIs) such as esomeprazole increase his risk of osteoporosis. Because of these complaints, he was re-evaluated to assess both the adequacy of his current therapy and his candidacy for surgery.

An upper endoscopy showed a 2-cm hiatal hernia, an irregular Z-line and no evidence of intestinal metaplasia. Esophageal motility testing showed normal peristalsis and a hypotensive lower esophageal sphincter with a resting pressure of 5 mm Hg. A 24-hour impedance-pH study performed on medication showed an increased frequency of non-acid reflux events with good symptom correlation. Although his physician assured the patient that medication was working, the patient continued to request and ultimately received a surgical referral.

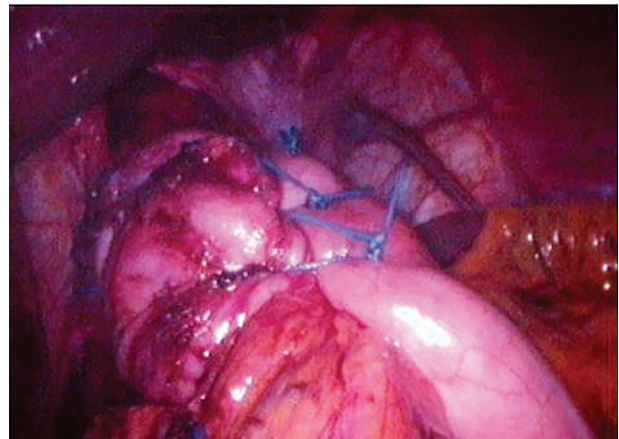


FIGURE 1. 360-degree Nissen fundoplication

At the surgical consultation, the patient was informed of three options:

1. Laparoscopic Nissen fundoplication
2. Laparoscopic partial fundoplication
3. Laparoscopic magnetic sphincter augmentation (LINX® procedure)

The patient chose to proceed with surgery, opting for a laparoscopic Nissen fundoplication (Figure 1). The procedure was uneventful, and six months later, the patient no longer needed esomeprazole and was greatly satisfied with his improved quality of life.



DISCUSSION OF MANAGEMENT

Gastroesophageal reflux disease (GERD) is a common condition that is usually well-controlled by medication. Surgery should be considered when patients have intractable symptoms, do not want to stay on lifelong medication and/or have complications of reflux disease such as persisting esophagitis or stricture. The presence of Barrett's esophagus alone is not an indication for surgery. The patients most likely to benefit from surgery are those who have responded to PPI's at least partially, have a positive 24-hour impedance-pH study and have a BMI < 35. Nearly all primary anti-reflux operations are performed laparoscopically, and multiple studies have shown that the best surgical outcomes are achieved at high-volume centers.

It is reasonable to expect that >80% of patients undergoing anti-reflux surgery will experience complete relief of both heartburn and fluid regurgitation, and that most of these patients will be able to discontinue PPI use. We published our results at Massachusetts General Hospital and confirmed that an overwhelming majority of patients were extremely satisfied with the outcome of their operation¹. Furthermore, the outcomes of primary anti-reflux procedures performed at Mass General were more successful than re-operations on patients whose initial surgery was performed elsewhere. In recent years, we have used partial funduplications (Figure 2) more liberally due to patient concerns about side effects of the Nissen fundoplication. Based on large prospective randomized studies, we believe that partial funduplications are as effective as the traditional Nissen fundoplication for alleviating many of the symptoms caused by gastroesophageal reflux, while at the same time, are associated with less bloating and preserve the patient's ability to vomit when necessary^{2,3}.

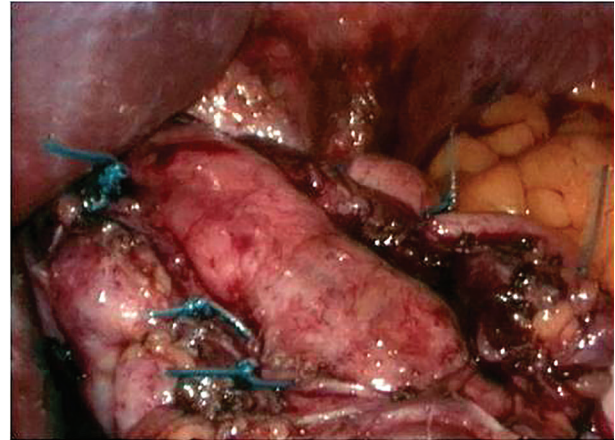


FIGURE 2. Partial or "Toupet" fundoplication

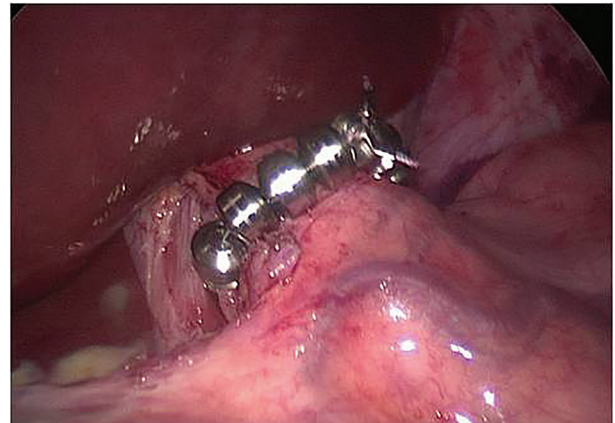


FIGURE 3. Intraoperative photo of the LINX device

Recently, a new device was introduced that is intended to be less invasive and avoid some of the side effects associated with anti-reflux operations. The LINX[®] Reflux Management System device is a circular string of magnetic beads that is placed around the lower esophageal sphincter to augment its competency (Figure 3). The device is engineered such that it takes 27 mm Hg pressure to open the ring and allow food to pass. This is



well below the force generated by an esophageal peristaltic wave and yet slightly higher than the normal resting pressure found in the lower esophageal sphincter. Over a two-year period, we have placed the device in about 20 patients and found that it is as effective as a laparoscopic fundoplication in terms of reflux control. It has a different profile in terms of recovery from surgery. Although patients do not get any of the “windy” symptoms often seen during recovery from fundoplications, they experience more dysphagia in the first several months following implantation. This is temporary but can require endoscopic dilation to accelerate the recovery process. We recently published a trial comparing the LINX procedure with laparoscopic Nissen fundoplication and found both operations to be effective, but with differing recovery profiles⁴.

CONCLUSION

The keys to successful anti-reflux surgery are careful patient selection and establishment preoperatively that pathologic acid reflux exists and correlates with the patient’s symptoms. Tailoring the choice of surgical procedure to each patient’s expectations may lead to excellent outcomes. While conceptually simple, these tenets are fairly nuanced, which explains why the best results are achieved by higher-volume providers.

REFERENCES

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