

Transoral incisionless fundoplication for Jehovah's Witnesses: A case report discussing safety and durability

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Abstract

Jehovah's Witness patients pose a unique surgical challenge due to their refusal of transfusion of whole blood or major blood products. One of the surgical strategies is to offer the least invasive approach with the least likelihood of losing blood. In the context of surgical treatment of gastroesophageal reflux disease, endoluminal approaches such as transoral incisionless fundoplication represent an appropriate approach for Jehovah's Witness patients. This patient is a devout Jehovah's Witness who was troubled with gastroesophageal reflux disease for many years which was refractory to proton pump inhibitor therapy. Her standard preoperative workup showed that she was a candidate for transoral incisionless fundoplication. Surgery was performed by a transoral incisionless fundoplication certified surgeon and this patient was his second case. Patient had no immediate or long-term complications. She was successfully weaned off proton pump inhibitors. Transoral incisionless fundoplication is an appropriate option for Jehovah's Witness patients with refractory gastroesophageal reflux disease. This case report shows that the procedure is safe and durable, even in the early stage of the physician's learning curve.

Keywords

Transoral incisionless fundoplication, Jehovah's Witness, minimal invasive surgery, gastroesophageal reflux disease

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Introduction

The surgical management of Jehovah's Witnesses (JW) can pose significant challenges. The main challenge stems from the refusal to receive blood and blood products for religious reasons regardless of medical consequences.¹ This refusal consequently impacts emergent or elective decision making in concern to medical interventions. In elective surgery, there is time for planning, risk stratification, and implementing appropriate perioperative strategies.^{2,3} With these considerations, minimally invasive procedures, which have been shown to be safe and effective, should be preferred over traditional surgical procedures.

In this publication, we will discuss a JW patient with refractory gastroesophageal reflux disease (GERD), who had exhausted possible medical intervention consisting of medical therapy and lifestyle modifications.

Case description

The patient is a 69-year-old female with the past medical history of hypertension, hyperlipidemia, hypothyroidism, and with interstitial cystitis. A written informed consent for publication of this case has been obtained.

She reported GERD symptoms for the past 16 years. Her GERD symptoms included heartburn, oral acid taste, regurgitation and epigastric discomfort. Medical treatment using proton pump inhibitors (PPI) only provided partial relief of these symptoms. The patient became PPI dependent and was unwilling to stop PPI even for a wireless pH study. She also had undergone four esophagogastroduodenoscopies (EGDs) for diagnostic purposes only and was not offered any intervention apart from recommending a different PPI. She increased frequency of PPI use to twice daily.

The patient was referred for evaluation for transoral incisionless fundoplication (TIF). Her examination was remarkable for the scars from her previous surgeries (laparoscopic cholecystectomy and hysterectomy). Her body mass index was 33.9. She completed the GERD-related quality of life

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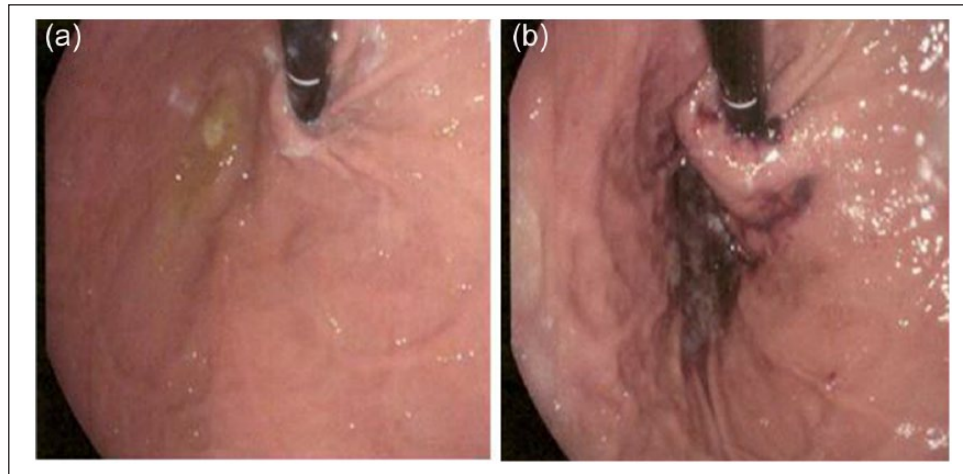


Figure 1. Operative endoscopic views of the gastroesophageal valve: (a) native gastroesophageal valve and (b) reconstructed 3 cm gastroesophageal valve after TIF.

questionnaires. The score of the GERD health-related quality of life (GERD-HRQL)⁴ questionnaire was 20. Reflux symptoms index (RSI) questionnaire score was 11. GERD symptom score (GERSS) questionnaire score was 5.

Her preoperative evaluation consisted of barium esophagram which showed good esophageal motility and a small hiatal hernia. EGD showed 2 cm sliding hiatal hernia with Hill deformity of II. Patient had abnormal gastroesophageal junction with Los Angeles class A esophagitis. Patient declined to stop PPI for esophageal pH testing due to severe GERD symptoms. We performed 48 h wireless pH probe study yielding a DeMeester score of 1.7. Preoperative esophageal manometry showed normal peristalsis and normal lower esophageal sphincter pressure and relaxation.

We discussed the option of laparoscopic Nissen fundoplication; however, the patient was interested only in natural orifice anti-reflux procedures. She was found to be a good candidate for TIF. She was the second patient to undergo this procedure by a TIF certified experienced endoscopic surgeon. Informed consent was obtained after we discussed the nature of the procedure and the surgeon's experience. The patient clearly indicated that she did not want to receive blood or blood products regardless of medical consequences.

She underwent the standardized TIF procedure using EsophyX HD device (EndoGastric Solutions, Redmond, WA, United States). The endoscopic retroflexed views of the native gastroesophageal valve (GEV) and the reconstructed GEV after TIF are illustrated in Figure 1. We performed an approximately 270° fundoplication with a GEV length of 3 cm. Her postoperative course was unremarkable and she was discharged the following day. There were no complications, presentations to the emergency department, or return to the operating room.

The patient was successfully weaned off PPI within 2 weeks following TIF. She completed the same GERD-related

Table 1. GERD questionnaire results.

Questionnaire	Preoperative	5 months after TIF	24 months after TIF
GERD-HRQL	20	0	0
RSI	11	0	0
GERSS	5	0	0

GERD: gastroesophageal reflux disease; GERD-HRQL: GERD health-related quality of life; RSI: reflux symptoms index; GERSS: GERD symptom score.

questionnaires at 5 and 24 months following the TIF. The improvements are illustrated in Table 1.

Discussion

GERD is one of the most common digestive diseases in the world and also in the United States.⁵ For JW patients who experience GERD, their refusal to whole blood and major blood products creates a conflict in the surgical community and results in reluctance to offer anti-reflux procedures. On one hand, the principle of non-maleficence when doing an elective surgery and on the other hand weaning from long-term treatment with PPI which significantly improves quality of life and avoid the significant side effects of PPI.⁶

TIF can fill this gap and offer a safe choice of a minimally invasive natural orifice option for JW patients. It has been shown to be safe with minimal bleeding risk.⁷⁻⁹

Moreover, it is the belief of the author, who has done hundreds of EGDs and currently over 100 TIF procedures, that the TIF procedure does not have a steep learning curve, as it conforms to the essential upper gastrointestinal endoscopic skills and anatomic considerations acquired during endoscopic training. These concepts are reinforced by the training and proctoring provided by EndoGastric Solutions.

This patient was the second patient in what is now a high volume anti-reflux center and she had an excellent outcome with successful discontinuation of PPI as shown in Table 1. She continues to be free of GERD symptoms for now more than 24 months.

Conclusion

TIF as a minimally invasive procedure is safe and effective for patients with GERD who refuse blood and/or blood product transfusions. Its effect is durable, even in the early stage of the physician's learning curve.

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Ethical approval

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Informed consent

Written informed consent was obtained from the patient(s) for their anonymized information to be published in this article.

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