



Peroral endoscopic myectomy: a novel thought to reduce recurrence after previous failed myotomy

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A 45-year-old man presented with a history of dysphagia and regurgitation for 8 years. He was diagnosed with type II achalasia cardia and underwent Heller's myotomy without fundoplication 4 years earlier. The results of the present evaluation, including symptom analysis, EGD, timed barium esophagogram, and esoph-

ageal manometry, suggested a relapse. Treatment options were discussed, and peroral endoscopic myotomy (POEM) was performed. The posterior route (5 o'clock) was chosen for POEM to avoid possible submucosal fibrosis along the anterior route. The steps of POEM included mucosal incision, submucosal tunneling, myotomy, and

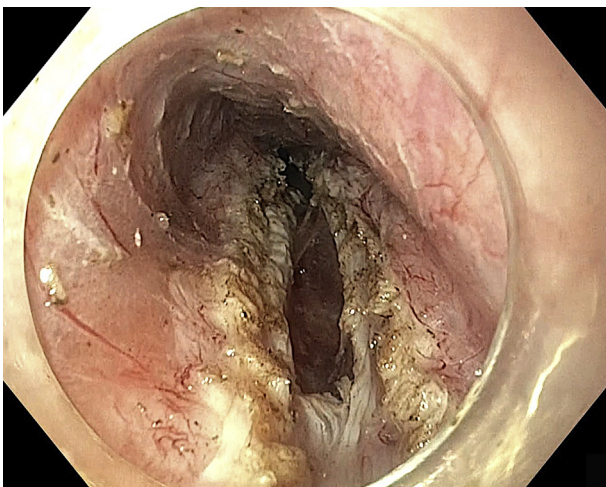


Figure 1. Myotomy in the upper part of the tunnel; note the closely approximated edges of muscle after myotomy.



Figure 3. Removal of the muscle strip at the distal end of the myotomy by use of a polypectomy snare.



Figure 2. Double myotomy toward the right and left of the tunnel.

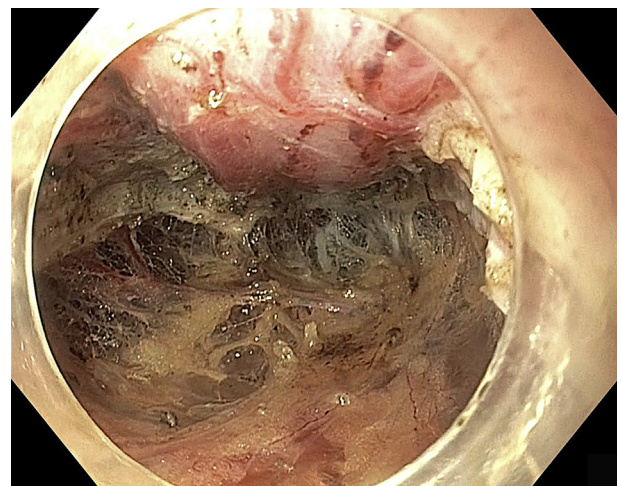


Figure 4. Wide muscular defect extending from gastroesophageal junction to the lower end of the tunnel.

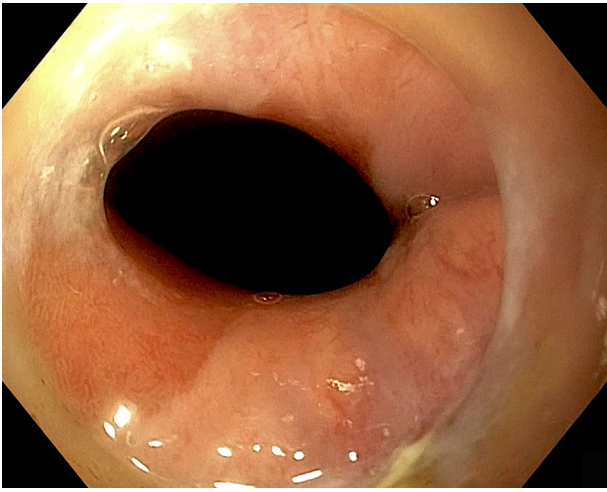


Figure 5. Lax gastroesophageal junction evident after myotomy in conjunction with myectomy.

and closure of the incision. In this case, we performed excision of the muscle tissue extending from the gastroesophageal junction (GEJ) to the lower end of the tunnel. The steps of myectomy were as follows: identification of the GEJ on fluoroscopy, extension of myotomy in 2 directions (right and left) starting from just above the GEJ (Figs. 1 and 2), cutting of the distalmost attachment of the muscle, dissection of the muscle from underlying attachments, and removal of the muscle strip by use of a polypectomy snare (Fig. 3). Care was taken to avoid damage to the underlying vessels by using a hooking technique during myectomy. After completion of the procedure, a wide muscular defect could be appreciated (Fig. 4). The GEJ appeared wide open after the myomectomy (Fig. 5). There were no

major adverse events, and a post-POEM timed barium esophagogram showed significant improvement with regard to esophageal emptying (Fig. 6). The entire procedure was completed in 44 minutes. The myectomy added an additional 11 minutes to the POEM.

POEM has emerged as an excellent treatment modality for achalasia. Since its introduction almost a decade ago by Inoue et al, the POEM technique has not undergone any significant modifications.¹ Although POEM is effective in patients with previous treatment failure.² The clinical success appears to be lower in patients in whom previous Heller's myotomy has failed.³ Therefore, novel strategies need to be devised to reduce failure in this subgroup of patients. In this video case report (Video 1, available online at www.VideoGIE.org), we demonstrate a modified POEM technique in a patient with symptom recurrence after Heller's myotomy. Recurrence of symptoms after Heller's myotomy can be attributed to incomplete myotomy, scarring at the distal end of the myotomy, and GERD. Incomplete myotomy usually results in early symptom relapse. Whereas late recurrence of symptoms is due to either progression of the disease or scarring at the myotomy site. In this case, we supplemented myotomy with myectomy at the distal end. Myectomy provided a wider separation between the cut edges of muscle. Wider separation of the muscle edges has been suggested to reduce scarring-related recurrence.⁴ The procedure of myectomy is simple, does not require special accessories, and does not prolong the procedure duration by a great deal. This technique may be especially useful in patients with type I and II achalasia, in whom the main aim is to reduce resistance at the GEJ. However, myectomy may not be an optimal

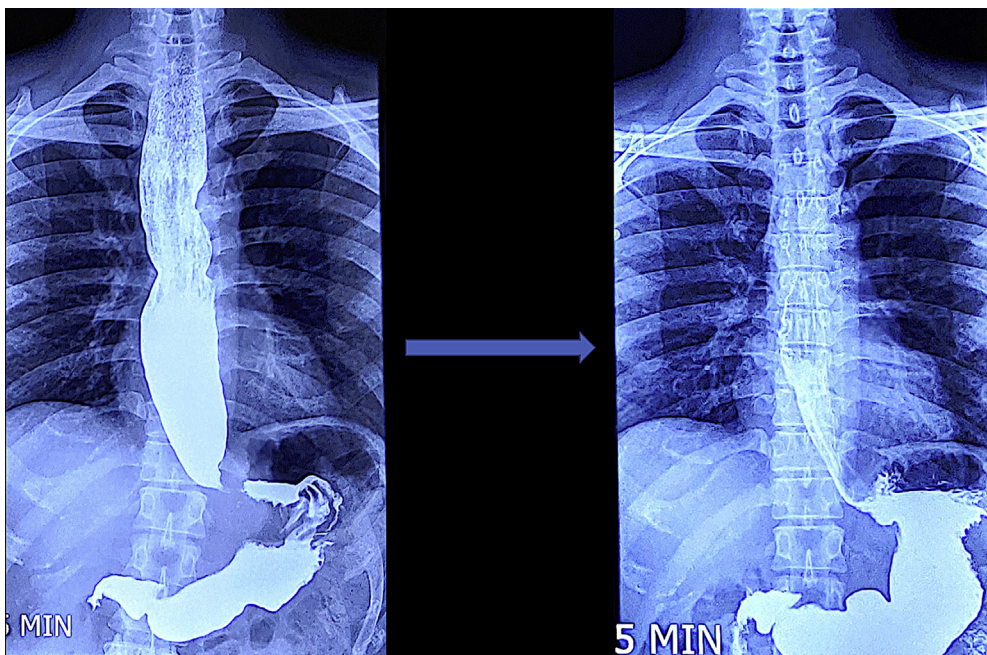


Figure 6. Timed barium esophagogram revealing complete emptying of barium after peroral endoscopic myotomy.

choice in patients with type III achalasia and other nonachalasia spastic esophageal motility disorders, like jackhammer esophagus and distal esophageal spasm. Prospective studies with long-term follow-up are required before this technique can be recommended for routine clinical use. Myectomy may predispose these patients to a higher incidence of GERD because sling fibers are also severed in this technique.⁵ However, the use of this technique may be justified in patients with previous failed myotomy (endoscopic or surgical) because the primary aim remains long-term remission and avoidance of esophagectomy, which carries a high morbidity rate. Alternatively, this technique can also be used during anterior POEM, wherein the risk of damaging the sling fibers would be minimized.

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DISCLOSURE

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Abbreviations: GEJ, gastroesophageal junction; POEM, peroral endoscopic myotomy.

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