Endoscopic Snapshot

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Peroral Endoscopic Myotomy for Achalasia Combined with Submucosal Marsupialization of an Epiphrenic Diverticulum

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Keywords
Achalasia · Advanced endoscopy · Esophageal diverticulum · Peroral endoscopic myotomy

Miotomia endoscópica peroral para tratamento de acalásia em combinação com marsupialização submucosa de divertículo epifrénico

Palavras Chave
Acalásia · Divertículo esofágico · Endoscopia avançada · Miotomia endoscópica peroral

Although developed as a technique for the treatment of achalasia, peroral endoscopic myotomy (POEM) has recently emerged as a therapeutic tool for other diseases such as diffuse spasm, nutcracker esophagus, and gastroparesis (G-POEM), and there is increasing evidence on its safety and efficacy. The potential applications of endoscopic tunneling and cutting seem to have no limits.

A 59-year-old woman with a 10-year history of dysphagia and a transhiatal resection surgery on an epiphrenic diverticulum 5 years previously was referred to our center due to progressive worsening of the dysphagia following surgery. Recurrence of the epiphrenic diverticulum was documented and type 3 achalasia was diagnosed, with an Eckardt score of 8 [1]. POEM, eventually combined with submucosal marsupialization of the epiphrenic diverticulum, was then proposed.

With the patient under general anesthesia, an upper endoscopy was performed (Fig. 1a). A mucosal incision was made 27 cm from the incisors, and anterograde submucosal tunneling was conducted laterally to the diverticulum pouch. The submucosal tunnel allowed reaching the lateral segment of the proximal end of the septum, where the submucosal space is divided by the septal muscle fibers (Fig. 1b). The submucosal tunnel was extended downstream up to 2 cm below the cardia, and the circular layer of the muscular wall was sectioned up to 3 cm above the gastroesophageal junction. Next, an anterograde septotomy was performed, creating a submucosal marsupialization of the diverticulum (Fig. 1b, c). The inner circular muscle layer was sectioned over an additional 3 cm over the septum (Fig. 1e), and the tunnel entry was closed with 5 clips. There were no adverse events. An immediate improvement in symptoms was noticed, and the patient remained asymptomatic (with an Eckardt score of 0) 12 months after the procedure. Follow-up esophagography illustrated marsupialization of the

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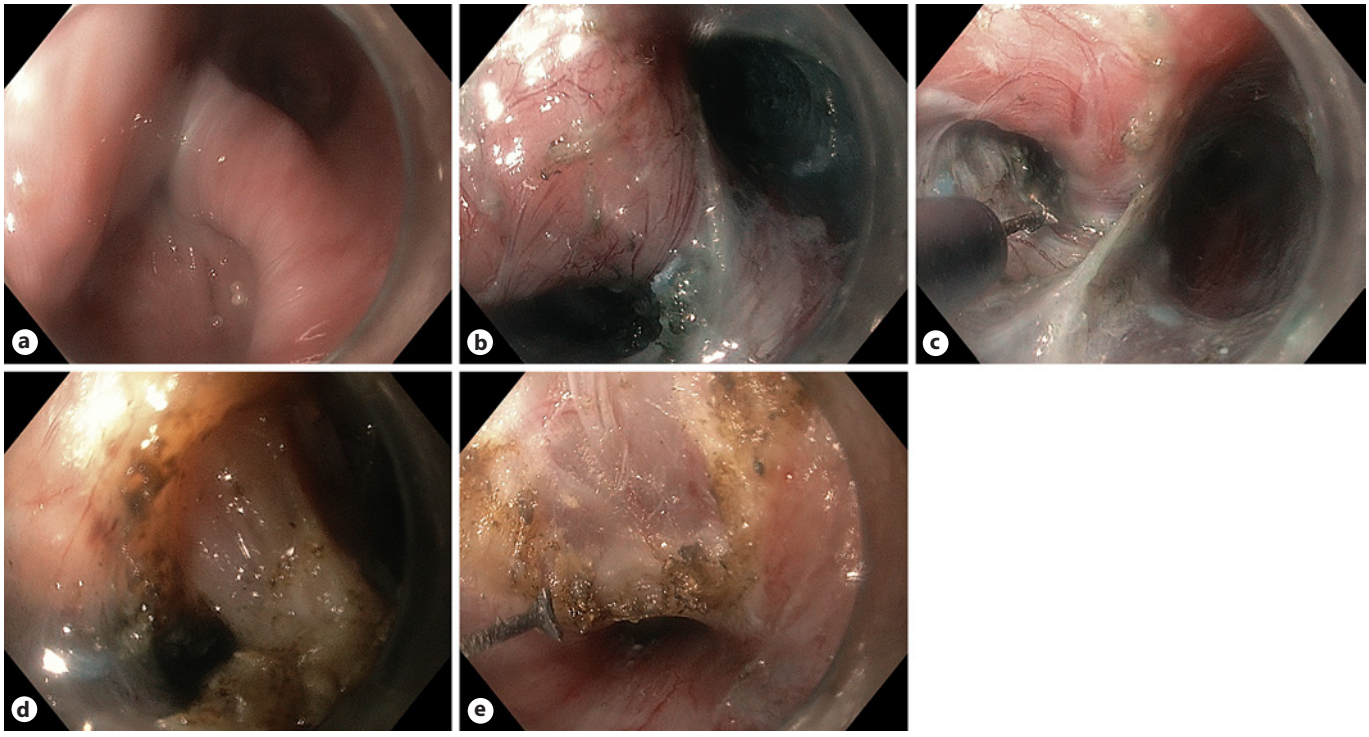

Fig. 1. Endoscopic images. **a** Luminal view before submucosal tunneling. **b** Muscular septum of the epiphrenic diverticulum in the submucosal tunnel. **c**, **d** Anterograde septotomy in the submucosal tunnel. **e** Inner-layer myotomy proximal to the diverticulum.

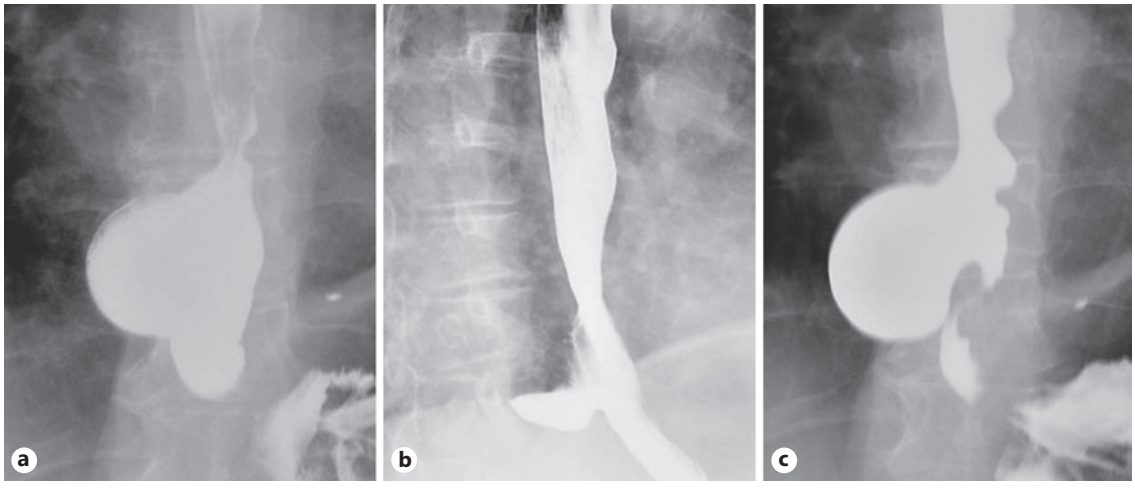

Fig. 2. Barium study showing a large epiphrenic diverticulum. **a**, **b** After treatment. **c** Before treatment.

diverticulum and easy passage of contrast through the cardia (Fig. 2a, b), compared with the evident diverticular septum before the myotomy (Fig. 2c).

POEM is a promising minimally invasive endoscopic procedure for the treatment of achalasia, with favorable long-term outcomes [2, 3]. When achalasia is associated with a large epiphrenic diverticulum, treatment typically involves surgical myomectomy or diverticulectomy, which is associated with high morbidity [4]. However, a purely endoscopic technique, with a two-step approach,

has recently been described: POEM, followed by the creation of a fistula from the esophageal diverticulum to the gastric fundus using a lumen-apposing metallic stent [5]. This case report demonstrates a single-session, modified POEM technique for the management of an epiphrenic diverticulum in the context of achalasia which was clinically effective in the long term.

Disclosure Statement

The authors have no conflicts of interest.

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