

Submucosal tunneling and septum myotomy as an endoscopic treatment for symptomatic epiphrenic diverticulum

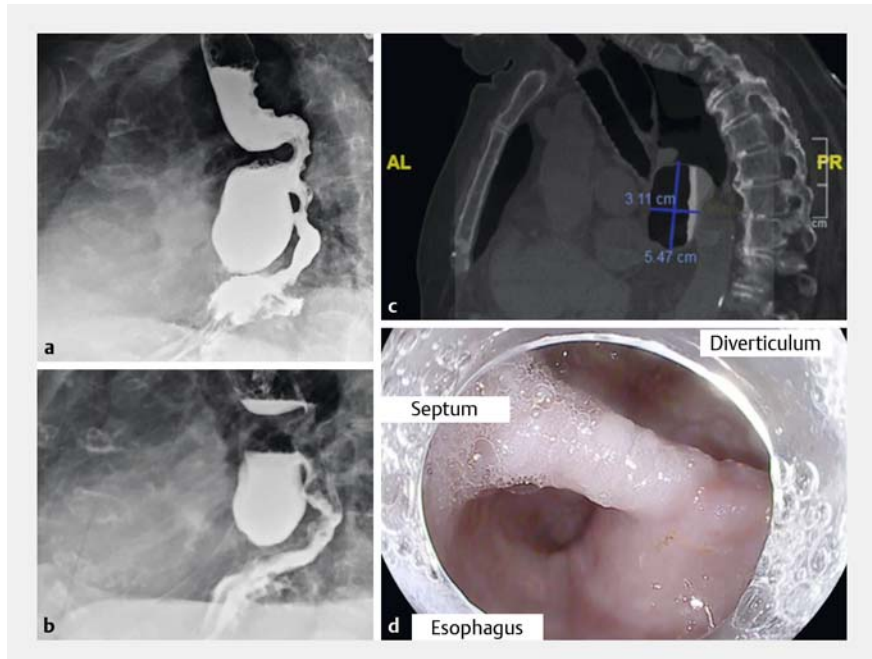
Epiphrenic diverticulum is a rare disorder, with an incidence of 1/500 000, and is more usually related to esophageal motility disorders including achalasia [1].

A 76-year-old woman was referred to our service for dysphagia, blockages, and retrosternal pain. She experienced several episodes of aspiration pneumonia. The esophagogram showed a large diverticulum, 10 cm above the diaphragm, with an important contrast reflux. A manometry was performed and showed no aperistalsis but the esophagogastric junction could not be passed. We performed a computed tomography (CT) scan with oral contrast, which showed a 3.5×5.7 cm epiphrenic diverticulum (► Fig. 1).

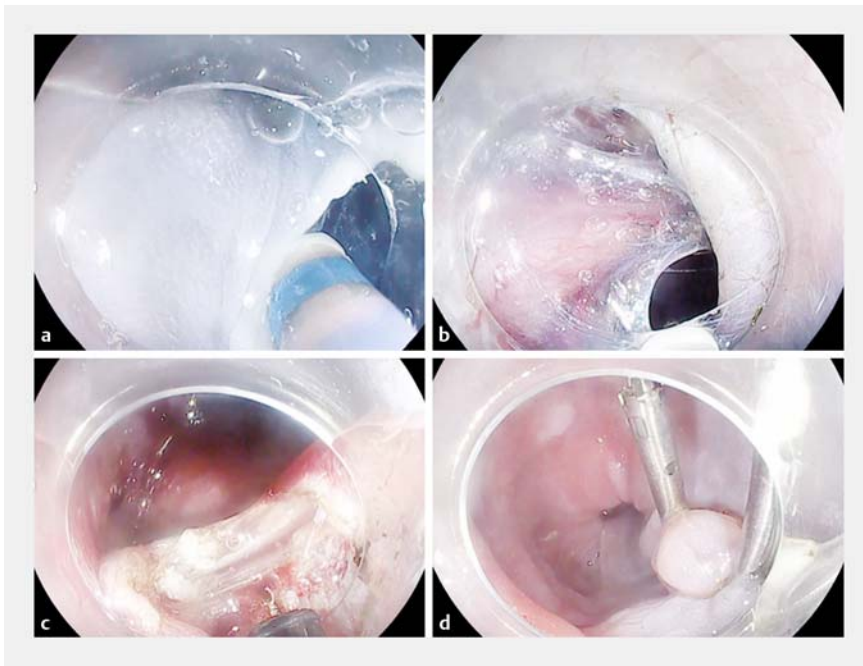
Thoracic surgery was contraindicated for this elderly woman and peroral endoscopic myotomy (POEM) [2–4] was proposed to cut the septum. We performed a submucosal tunneling dissection 7 cm above the diverticulum using a 1.5 mm Dual Knife (Olympus, Tokyo, Japan). Once we reached the septum, we dissected the submucosa until we reached the periesophageal space in the mediastinum. Then, the tunnel was continued 5 cm under the diverticulum in the esophageal axis to expose the septum. Myotomy was performed selectively on the circular fibers (► Fig. 2, ► Video 1). The tunnel entrance was then closed using five hemostatic clips (Boston Scientific, Marlborough, Massachusetts, USA). The procedure was performed without any complications with the patient under general anesthesia. Postoperative contrast swallow showed no difference from the preoperative test (► Fig. 1 b). The patient resumed feeding at postoperative Day 1 and was discharged at Day 3. At follow-up 2 months later, she was asymptomatic without any aspiration or dysphagia.



► Video 1 Procedure of peroral endoscopic myotomy to cut the diverticulum septum.



► Fig. 1 The epiphrenic diverticulum. **a** Contrast swallow showed a large epiphrenic diverticulum in the lower esophagus with no clear stenosis. **b** Contrast swallow after peroral endoscopic myotomy (POEM). **c** Computed tomography scan before POEM (AL, anterior left; PR, posterior right). **d** Endoscopic aspect of the septum before POEM.



► **Fig. 2** Peroral endoscopic myotomy of the septum using submucosal tunneling. **a** Incision of the mucosa. **b** Dissection of the submucosa in the septum, with the mediastinum visible. **c** Myotomy of the septum. **d** Closure.

POEM of the septum is a feasible procedure for esophageal epiphrenic diverticulum and is also effective when the diverticulum is not due to achalasia. Nevertheless, barium swallow radiography does not seem to correlate with symptoms.

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Competing interests

None

The authors

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