

Endoscopic treatment of intramural fistula and mucosal tear after peroral endoscopic myotomy

Peroral endoscopic myotomy (POEM) is a safe procedure, with few reported adverse events [1–3]. The integrity of the mucosal flap at the end of the procedure is crucial to prevent leakages and infections. We report on a rare complication after POEM.

A 72-year-old woman with type III achalasia and very severe dysphagia underwent POEM. The perioperative course was uneventful, but 2 weeks later, she presented with chest pain and dysphagia for solids.

An esophagogastroduodenoscopy showed complete dehiscence of the mucosotomy (▶ **Fig. 1**). Multiple openings on the mucosal flap were present, placing the real esophageal lumen in communication with a large “false lumen” of the submucosal tunnel created during POEM (▶ **Fig. 2**). The esophageal wall, where the myotomy had been performed, was fibrotic but intact. Computed tomography (CT) did not reveal any leakage or periesophageal collection (▶ **Fig. 3**).

In order to avoid food becoming lodged within the false lumen, the mucosal flap along the tunnel was cut, leaving the fibrotic esophageal wall behind the mucosa completely exposed. A triangle-tip knife with Endocut mode was used for the mucosal incision, starting from 25 cm to 37 cm from the incisors (▶ **Fig. 4**). The procedure was relatively easy, quick, and uncomplicated (▶ **Video 1**). After the procedure, the patient experienced mild, self-limiting fever. CT scan and Gastrografin swallow showed no leakages or complications, and the patient immediately restarted oral feeding. At 1-year follow-up, the patient was in good condition, without dysphagia.

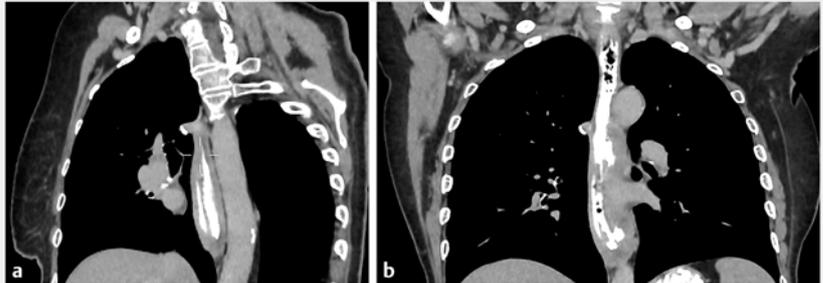
In this case, it is unknown when the dehiscence of the mucosotomy occurred, but a strong and secure fibrotic reaction prevented any leakage. Food entrapment within the false lumen and dysphagia were the main symptoms. Incision of the mucosal flap along the false esophageal



▶ **Fig. 1** Esophagogastroduodenoscopy showed dehiscence of the mucosal incision, which had been clipped at the end of the peroral endoscopic myotomy procedure.



▶ **Fig. 2** Multiple tears along the mucosal flap placed the esophageal lumen in communication with the submucosal tunnel.



▶ **Fig. 3** Computed tomography images, showing an esophageal false lumen, filled with hydro-soluble contrast.

lumen, a kind of fistulotomy, guaranteed a quick solution to an unusual clinical problem [4].

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Competing interests

Dr. G. Costamagna is a member of the advisory board of Cook Medical, Olympus Co. and Johnson & Johnson. He received a Research Grant from Boston Scientific Inc. and Apollo Endosurgery Inc.

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▶ **Fig. 4** Cutting of the mucosal flap using a triangle-tip knife.



Video 1 Esophagogastroduodenoscopy revealed multiple tears of the mucosal flap, and a large communication between the esophagus and the submucosal tunnel. The mucosal flap was cut, to avoid food entrapment within the false lumen.

Bibliography

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The authors

Pietro Familiari^{1,2}, **Rosario Landi**¹, **Francesca Mangiola**¹, **Camilla Vita**¹, **Ivo Boskoski**^{1,2,3}, **Andrea Tringali**^{1,2,3}, **Guido Costamagna**^{1,2,3}

- 1 Fondazione Policlinico Universitario A. Gemelli IRCCS, Digestive Endoscopy Unit, Rome, Italy
- 2 Università Cattolica del Sacro Cuore, CERTT, Centre for Endoscopic Research, Therapeutics and Training, Rome, Italy
- 3 IHU-Strasbourg, Institute of Image-Guided Surgery, Strasbourg Cedex, France

Corresponding author

Pietro Familiari, MD, PhD

Digestive Endoscopy Unit, Fondazione Policlinico Universitario A. Gemelli IRCCS, Università Cattolica del Sacro Cuore, Largo Gemelli 8, 00168 Rome, Italy
 Fax: +39-06-30156581
pietro.familiari@policlinicogemelli.it

References

- [1] Zhang XC, Li QL, Xu MD et al. Major perioperative adverse events of peroral endoscopic myotomy: a systematic 5-year analysis. *Endoscopy* 2016; 48: 967–978
- [2] Haito-Chavez Y, Inoue H, Beard KW et al. Comprehensive analysis of adverse events associated with per oral endoscopic myotomy in 1826 patients: an international multicenter study. *Am J Gastroenterol* 2017; 112: 1267–1276
- [3] Nabi Z, Reddy DN, Ramchandani M. Adverse events during and after per-oral endoscopic myotomy: prevention, diagnosis, and management. *Gastrointest Endosc* 2018; 87: 4–17
- [4] Al Taii H, Confer B, Gabbard S et al. Endoscopic management of an intramural sinus leak after per-oral endoscopic myotomy. *ACG Case Rep J* 2016; 3: e158