Percutaneous transgastric endoscopic myotomy for upper esophageal spastic stricture

Various studies have reported the safety and efficacy of peroral endoscopic myotomy (POEM) for the treatment of esophageal motility spastic disorders, including type III esophageal achalasia, jackhammer esophagus, and distal esophageal spasm [1–3]. Moreover, there is increasing evidence that the efficacy of POEM for the treatment of nonachalasia esophageal spastic diseases is comparable to laparoscopic Heller myotomy [4, 5]. However, the application of POEM for the treatment of upper esophageal spasm located close to the esophageal introitus is limited, because the POEM procedure involves mucosal incision and submucosal tunneling usually starting at over 5 cm from the oral side of the spastic segment.

Here, we describe the case of a patient with upper esophageal spastic stricture, which was successfully treated with percutaneous transgastric endoscopic myotomy (PTEM), a new approach enabling submucosal tunneling myotomy from the anal side of the stricture.

A 46-year-old woman presented with a 3-year history of recurrent odynophagia and dysphagia. As a result of the long-term hypoalimentation, the patient was very severely underweight, with a body mass index of 14 kg/m². Barium esophagogram and high resolution manometry showed upper esophageal spastic stricture from the esophageal introitus, which a regular gastroscope could not

traverse. PTEM was then performed for the treatment of this patient (► **Video 1**). A gastroscope was used to access the gastric cavity percutaneously through the abdominal wall. The gastroscope subsequently passed through the cardia into the esophageal lumen to reach the stricture segment (► **Fig. 1 a, b**). After submucosal injection, a mucosal incision was made at 5 cm from the anal side of the stricture segment. A submucosal tunnel was created and progressed over the cricopharyngeal muscle by 0.5 cm (► **Fig. 1 c**). Full-thickness myotomy was performed from 1 cm below the mucosal incision up to the end of the submucosal tunnel (► **Fig. 1 d**). Metallic clips were used to close the mucosal incision site

► **Fig. 1** Endoscopic views. **a** The gastroscope traversing the cardia retrogradely. **b** The anal side of the stricture segment. **c** Submucosal tunneling. **d** Myotomy. **e** Closure of the mucosal incision. **f** Upper esophageal lumen at follow-up.

Video 1 The procedure of percutaneous transgastric endoscopic myotomy.

after careful hemostasis (► **Fig. 1 e**). The patient's symptoms resolved and a normal diet was resumed 2 weeks after PTM.

At follow-up, barium esophagogram showed that the stricture of the upper esophagus was markedly improved, and a regular gastroscope was able to pass through the upper esophageal lumen (► **Fig. 1 f**).

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Competing interests

None

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