Modified peroral pyloromyotomy and placement of a covered stent for refractory gastric outlet obstruction following ingestion of sulfuric acid

A 15-year-old boy accidentally ingested a mouthful of sulfuric acid (160 g/L). He presented 20 days later with complaints of postprandial epigastric distress, repeated nonbilious vomiting, and marked weight loss (about 15 kg). Barium swallow and endoscopy revealed antropyloric narrowing (Fig. 1, Fig. 2). Endoscopic balloon dilation was performed, and the symptoms were relieved. However, 2 months later the symptoms recurred, and barium swallow again showed pyloric narrowing (Fig. 3).

Following approval by the Ethics Committee of Provincial Hospital Affiliated to Shandong University and in accordance with the Declaration of Helsinki for Medical Research involving Human Subjects, modified peroral pyloromyotomy and placement of a covered stent were performed with the patient under general anesthesia. Radial incisions were made from the antrum to the duodenal bulb, and the pyloromyotomy was performed using a HookKnife (KD-620LR, Olympus, Tokyo, Japan). An endoscopic transpyloric covered stent was then placed (20 × 100 mm; Micro-Tech [Nanjing] Co., Ltd., Nanjing, China) (Video 1).

Two weeks after the operation, stent migration was noted. The stent was retrieved and the patient was healthy with no problems after feeding. However, 3 months after the operation, he returned to the clinic with recurrent vomiting. The
procedures described above were repeated. The stent remained in place for 3 weeks and was then removed. After another 3 months, the patient remained asymptomatic and was thriving (Fig. 4).

Endoscopic pyloromyotomy has been used to improve gastric emptying in selected patients with diabetic-associated refractory gastroparesis [1, 2] or with gastric outlet obstruction following esophagectomy [3]. In the current case, chronic scarring from the sulfuric acid made submucosal tunneling difficult and therefore direct pyloromyotomy was performed. The placement and maintenance of a covered stent in the correct position should be used for support during healing.

Fig. 4  Barium swallow at follow-up 3 months after repeat modified peroral pyloromyotomy and stent placement showed significant improvement in the passage of contrast.

References
1  Khashab MA, Stein E, Clarke JO et al. Gastric peroral endoscopic myotomy for refractory gastroparesis: first human endoscopic pyloromyotomy (with video). Gastrointest Endosc 2013; 78: 764–768

Bibliography
DOI http://dx.doi.org/10.1055/s-0042-104279
Endoscopy 2016; 48: E119–E120
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

Corresponding author
Yongjun Shi, MD
Department of Digestive Internal Medicine
Shandong Provincial Hospital Affiliated to Shandong University
9677 Jing 10 Road
Jinan 250000
Shandong Province
China
Fax: +86-531-87902348
30188604@qq.com

Mingyan Zhang1, Dongxin Hu2, Chunqing Zhang1, Yongjun Shi1
1 Department of Digestive Internal Medicine, Shandong Provincial Hospital Affiliated to Shandong University, Jinan, Shandong, China
2 Department of Thoracic Surgery, Shandong Provincial Hospital Affiliated to Shandong University, Jinan, Shandong, China