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

Fig. 1 Barium swallow revealed marked delay in passage of contrast through the pylorus.

Fig. 2 Endoscopy showed antropylic narrowing, and the scope could not be passed through the pylorus.

Fig. 3 At 2 months after endoscopic balloon dilation, barium swallow showed recurrent pyloric narrowing.

A 15-year-old boy accidentally ingested a mouthful of sulfuric acid (160g/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 antropylic 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

Video 1

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

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.

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.

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Competing interests: None

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