Peroral endoscopic myotomy for achalasia after distal gastrectomy

Fig. 1 Endoscopic views from a 72-year-old man with an approximately 30-year history of progressive dysphagia and regurgitation. **a** Dilated esophagus. **b** Billroth I anastomosis. **c** Suture line (yellow dotted line) at the lesser curvature of the remaining portion of the stomach.

Achalasia is a relatively rare esophageal motility disorder with a reported incidence of approximately 1 in 100 000 worldwide [1]. The occurrence of achalasia in patients with a distal gastrectomy is rare. We present a patient with achalasia and a distal gastrectomy who was successfully treated with peroral endoscopic myotomy (POEM).

A 72-year-old man with an approximately 30-year history of progressive dysphagia and regurgitation was referred to our hospital. He had undergone a distal gastrectomy for a gastric ulcer 40 years earlier. Esophagogastroduodenoscopy showed a dilated esophagus, a Billroth I anastomosis, and a suture line along the lesser curvature (● **Fig. 1**). Esophagography showed delayed esophageal emptying and narrowing at the lower esophageal sphincter (LES) (● **Fig. 2**). High resolution manometry demonstrated spastic contraction and impaired LES relaxation (● **Fig. 3**).

We diagnosed nonsigmoid type III achalasia according to the Chicago classification and performed POEM. To avoid the suture line, the myotomy was done at the 5-o'clock position (● **Fig. 4**). Esophagography on postoperative day 1 showed adequate passage of contrast into the remaining portion of the stomach (● **Fig. 5**). The patient's dysphagia and regurgitation had resolved completely at follow-up 8 weeks postoperatively.

Laparoscopic Heller's myotomy is challenging in postoperative patients with achalasia because of their extensive adhesions and altered anatomy [2,3]. On the

Fig. 2 Esophagogram showing a dilated distal esophagus with delayed emptying of the esophageal contents and tapering at the lower esophageal sphincter.

Fig. 3 High resolution manometry showing spastic contraction and impaired lower esophageal sphincter relaxation.

Fig. 4 Peroral endoscopic myotomy. **a** Mucosal incision site at the 5-o'clock position in the mid esophagus. **b** Endoscopic view of the submucosal tunnel. **c** Selective myotomy of circular muscle fibers. **d** After myotomy.

Fig. 5 Esophagogram obtained on post-operative day 1 revealing adequate passage of contrast into the remaining portion of the stomach.

other hand, POEM is a minimally invasive procedure with an approach from the esophageal lumen that is not complicated by the effects of previous surgery [4]. Recently, myotomy has often been performed at an anterior (11- or 2-o'clock) position or a posterior (5-o'clock) position because there is less risk for gastroesophageal reflux [5]. However, the 11- and 2-o'clock positions should be avoided in patients who have severe fibrosis and staples from previous surgery. We successfully treated this patient with a myotomy at the 5-o'clock position. When a patient with achalasia and a distal gastrectomy is treated with POEM, selecting the appropriate myotomy position is of the utmost importance.

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Competing interests: None

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