Initial trimming followed by complete removal of an esophageal self-expandable metal stent for stent-related symptoms

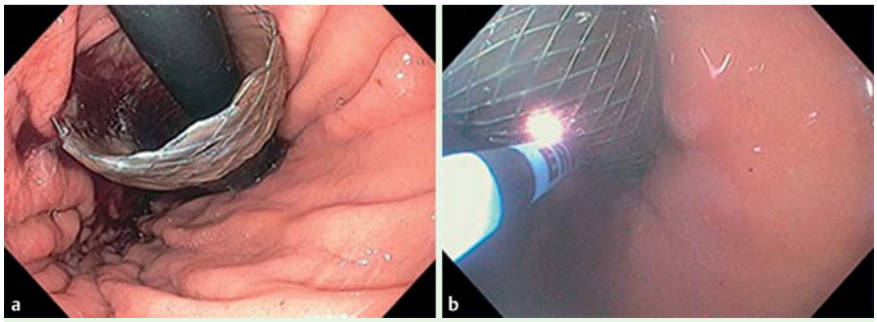

Fig. 1 Endoscopic images showing: **a** the esophageal covered metal stent with its distal edge protruding into the stomach wall (retrograde view); **b** the esophageal covered metal stent being trimmed using argon plasma coagulation in retroflexed view.

Fig. 2 The transected portion of the covered metal stent.

Fig. 3 The remainder of the covered metal stent following its complete removal 3 months later.

Video 1

Endoscopic trimming of the esophageal covered metal stent using argon plasma coagulation: the esophageal covered metal stent is seen protruding into the stomach wall; the distal part of the stent is trimmed using argon plasma coagulation in retroflexed view; the transected stent is removed using a snare.

Video 2

Endoscopic removal of the esophageal covered metal stent: the distal part of the stent is grabbed with a rat-toothed forceps, and the stent is removed completely using an inversion technique by rotating and withdrawing the endoscope.

Placement of long, protruding self-expandable metal stents (SEMSs) into the gastrointestinal lumen may cause related symptoms. A few reports have described the usefulness of argon plasma coagulation (APC) for trimming or fenestrating a SEMS [1–4]. We report a trimming technique for a covered SEMS in the esophagus using APC in a retrograde fashion, followed by its complete removal.

A 67-year-old woman presented with dysphagia. Esophagogastroduodenoscopy (EGD) showed a large ulcerated tumor in the esophagus with tumor excavation. A 12-cm partially covered SEMS was placed across the tumor. Subsequently the patient was able to resume eating solid food and underwent chemotherapy. However, 1 month after stent placement, she developed epigastric pain and dysphagia from impaction of the stent into the proximal stomach (▶ **Fig. 1a**). The distal portion of the stent was trimmed with APC using a generator at a setting of 80 W and a flow rate of 2 L/min (▶ **Fig. 1b**; ▶ **Video 1**). The procedure was performed with the scope in a retroflexed position to prevent esophageal mucosal injury. A length of the stent (approximately 4 cm) was completely severed in a circumferential manner and was successfully removed from the stomach (▶ **Fig. 2**). After the procedure, the patient's pain and dysphagia improved.

After 3 months, however, she developed severe acid reflux and we decided to remove the remainder of the stent. Hyperplastic tissue at the uncovered proximal part of the stent was leveled using a stiff snare and APC to free up some of the mesh from the mucosa. The distal part of the stent was then grabbed with a rat-toothed forceps, and the endoscope was withdrawn in a steady rotational fashion, such that the mesh eventually inverted, was dislodged, and then was successfully removed en bloc (▶ **Fig. 3**; ▶ **Video 2**). A subsequent esophagogram demonstrated

Fig. 4 Esophagogram showing a patent esophagus with no extravasation of contrast.

improvement of the stricture without evidence of contrast extravasation (**Fig. 4**). All of the patient's stent-related symptoms resolved after these interventions.

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Competing interests: None

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