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

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 80W 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 stent was removed completely using an inversion technique by rotating and withdrawing the endoscope.

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.

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.

Competing interests: None

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