Novel use of a self-expanding metal stent for an esophageal stricture after radiofrequency ablation treatment of Barrett's esophagus

Radiofrequency ablation (RFA) is effective and safe in the treatment of Barrett's esophagus [1]. The incidence of esophageal stricture after RFA treatment is reported to be up to 8% [2]. Stricture rates may be increased with RFA of long-segment Barrett's esophagus. Strictures are treated endoscopically with balloons or Savary dilators; however, there is a risk of perforation with these treatments. We report on the successful treatment of a patient with a stricture following RFA using a self-expanding metal stent (SEMS).

A 71-year old man with long-segment Barrett's esophagus (C7M7) and low-grade dysplasia underwent circumferential RFA. A month later he reported dysphagia and odynophagia, and endoscopy revealed a tight stricture with circumferential ulceration at the proximal end of the RFA-treated area of Barrett's epithelium (Fig. 1a).

A gastroscope with a 5.9-mm diameter was advanced to the proximal end of the stricture; however, the distal end of the stricture could not be traversed. A gastroscope with an 8.8-mm diameter was therefore inserted and a 9–12-mm extraction balloon (Extractor Pro RX; Boston Scientific, Natick, Massachusetts, USA) was introduced. Injection of contrast revealed a 4–5 cm long stricture in the mid-esophagus. A stent introducer was passed over a 450-cm, 0.035-inch guidewire (Dreamwire; Boston Scientific), which had been passed through the stricture under fluoroscopic guidance. A fully covered metal esophageal stent (23 × 105 mm, 88 mm, 150 cm, 0.035-inch, 9 fr) was passed over the guidewire, and the stent introducer was removed. The stent was deployed with the stent introducer (Fig. 2). No stent expansion was observed; however, free flow of contrast into the stomach was noted (Fig. 2).

A radiographic image following injection of contrast showing a waist in the mid-portion of the stent, with free flow of contrast into the stomach, is shown in Fig. 2. The fully covered, 23 × 105-mm, esophageal self-expanding metal stent (SEMS) is shown in Fig. 4.

Fig. 4 The fully covered, 23 × 105-mm, esophageal self-expanding metal stent (SEMS).
WallFlex; Boston Scientific) was deployed (Fig. 1b). A further attempt to pass the 5.9 mm gastroscope through the stricture was unsuccessful. The extraction balloon was reintroduced and injection of contrast showed a waist in the mid-portion of the stent, but with free flow of contrast into the stomach (Fig. 2). The stent was removed 2 months later (Fig. 3 and Fig. 4) and after 6 months, the patient had no symptoms of dysphagia and was found to have a well-healed fibrotic stricture on endoscopy (Fig. 5).

To our knowledge, this is the first case of an esophageal stricture occurring after RFA that was successfully treated by placement of a fully covered removable metal stent. Use of a self-expandable metal stent has also been reported for a stricture occurring after photodynamic therapy for Barrett’s esophagus [3]. Treatment of tight strictures with metal stents may be a cost-effective treatment as it avoids the need for repeated dilations and the possible subsequent complications [4].

**Competing interests:** None

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