A 68-year-old woman with a history of Barrett’s esophagus, spinal kyphosis, and Hodgkin’s lymphoma, who had been treated with mediastinal radiation 25 years before, presented with a radiation-induced, refractory benign esophageal stricture that had shown only a limited response to monthly balloon dilations. Endoscopy identified an esophageal stricture extending from 21 cm to 23 cm. After controlled radial expansion balloon dilation, a 16 mm × 9 cm, removable, self-expanding plastic stent (Polyflex; Boston Scientific, Natick, Massachusetts, USA) was deployed across the stricture. Her dysphagia resolved and the stent was removed 2 months later (Fig. 1).

Two weeks later she presented with symptomatic stricture recurrence (Fig. 2). An 18 mm × 9 cm Polyflex stent was placed, again with resolution of the dysphagia, and endoscopy at 6 months and at 8 months revealed no evidence of tissue hyperplasia at the proximal (c) or distal (d) stent margins.

Aortoesophageal fistula following Polyflex stent placement for refractory benign esophageal stricture

Fig. 1 Polyflex stent placement. After the first stent was removed, endoscopy revealed a patent esophageal lumen and mucosal indentation (a). Six weeks after recurrence of the dysphagia, a second Polyflex stent was placed (b). Endoscopy 6 months and 8 months later revealed no evidence of tissue hyperplasia at the proximal (c) or distal (d) stent margins.

Fig. 2 Barium esophagram after the first Polyflex stent was removed. There is a stricture of the proximal esophagus in close proximity to the aortic arch (arrow) and proximal dilatation of the cervical esophagus. Marked spinal kyphosis is seen in this lateral view.

A noncontrast computed tomographic scan of the chest 51 weeks after Polyflex placement, when the patient presented with massive hematemesis. The stent and a nasogastric tube can be seen, with a thickened esophageal wall and loss of the fat plane between the aorta (A) and the esophagus (E). A small area of mediastinal air (arrow) is seen posterior to the left main-stem bronchus, suggesting esophageal perforation.

Fig. 3 A noncontrast computed tomographic scan of the chest 51 weeks after Polyflex placement, when the patient presented with massive hematemesis. The stent and a nasogastric tube can be seen, with a thickened esophageal wall and loss of the fat plane between the aorta (A) and the esophagus (E). A small area of mediastinal air (arrow) is seen posterior to the left main-stem bronchus, suggesting esophageal perforation.

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Aortoesophageal fistula is a rare, usually fatal, cause of upper gastrointestinal bleeding, and has not previously been reported following placement of self-expanding plastic stents. Our patient had recurrence of a post-radiation refractory benign esophageal stricture after Polyflex stent removal and a program of prolonged placement was then pursued. Factors which might have increased the risk of serious complications in this case include: female gender, prior radiation therapy [1], proximal stricture location [2], kyphosis [3], and intestinal metaplasia [4]. While removable self-expanding plastic stents are a promising tool in the treatment of refractory benign esophageal stricture [5], caution is warranted with prolonged placement. Further data regarding their long-term safety, comparison with other management strategies, and identification of risk factors for serious complications are required.

Competing interests: None

References

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