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 /C1489 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 /C1489 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.

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.

At 11 months, she presented with hematemesis and hypotension. Endoscopy identified massive bleeding at the proximal stent margin, and computed tomography revealed signs suggestive of esophageal perforation (Fig. 3). The patient died after an emergency thoracotomy, which had revealed erosion of the stent through the esophageal wall into the posterior surface of the aortic arch, with surrounding inflammation and adhesions.
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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