Esophageal strictures are one of the most common causes of mechanical dysphagia. Complete esophageal obstruction can occur in the setting of both benign and malignant pathology, including therapeutic radiation. Treatment is predicated on addressing the suspected pathology and performing esophageal dilation. The 3 most common types of dilators are (1) mechanical dilators, such as mercury- or tungsten-filled bougies (Maloney, Hurst), (2) wire-guided polyvinyl dilators (Savary-Gilliard, American), and (3) through-the-scope (TTS) balloon dilators. Various endoscopic and surgical approaches, such as peroral endoscopic tunneling for restoration of the esophagus (POETRE), exist as therapy for complete esophageal obstruction. We describe an alternative approach for esophageal recanalization: peroral guidewire endoscopic recanalization of the esophagus.

A 78-year-old man was referred to our tertiary care center for management of a radiation-induced esophageal obstruction. The patient’s medical history was significant for squamous cell carcinoma of the right true vocal cord diagnosed 6 months prior. His malignancy was treated with chemotherapy and radiation. Two months after treatment, the patient endorsed progressive dysphagia, initially to solids, warranting percutaneous endoscopic gastrostomy tube placement for nutrition and hydration. One month after percutaneous endoscopic gastrostomy tube placement, the patient endorsed worsening dysphagia to both solids and liquids, including an inability to swallow saliva. An attempted esophagram was unsuccessful because of aspiration upon attempt. Subsequent EGD revealed a large area of extrinsic compression in the upper third of the esophagus, a few centimeters below the upper esophageal sphincter, leading to complete obstruction of the lumen. The patient was transferred to our tertiary care center for further work-up and evaluation.

Repeat esophagram was limited because of aspiration; however, contrast was able to reach the C5 to C6 level (Fig. 1). When an XP gastroscope (EVIS EXERA III; GIF-XP190N; Olympus, Tokyo, Japan) with fluoroscopic guidance was used, upper endoscopy revealed a benign-appearing intrinsic esophageal stenosis with complete obstruction located 16 to 18 cm from the patient’s incisors. Careful examination revealed closure of the native esophageal lumen with a thin membrane of connective tissue and mucosa fused together (Fig. 2). When the flexible tip of a 2-mm Savary wire guide was used (Savary-Gilliard Wire Guide; Cook Medical, Bloomington, Ind, USA), the thin webs of tissue were bluntly dissected, allowing direct recanalization of the esophagus.

Figure 1. Lateral (A) and anterior (B) fluoroscopy contrast at the level C5 to C6 supportive of esophageal stenosis (yellow arrow).
visualization of the distal esophagus without use of fluoroscopy. The stricture measured approximately 3 cm in length.

Using an 8-9-10 mm Savary dilator, we found that the stricture was dilated to 10 mm. After Savary dilation, using a 10- to 12-mm TTS balloon dilator (CRE Balloon Dilatation Catheters; Boston Scientific, Marlborough, Mass, USA) we found that the esophageal stenosis was further dilated under direct vision to a maximum diameter of 12 mm (Fig. 3). The stricture site showed moderate improvement in luminal narrowing without evidence of perforation.

The patient was discharged in stable condition and was able to swallow saliva and a full liquid diet. When a 6-mm XP gastroscope was used, repeat endoscopy 2 weeks later showed the previously known stenosis to be 1 cm in length with an 8-mm inner diameter. In a follow-up endoscopy 5 weeks from index admission, the stricture was dilated to a maximum diameter of 16.5 mm using a 15-16.5-18 mm TTS balloon dilator (CRE Balloon Dilatation Catheters). Although the diameter goal was larger than the recommended “Rule of 3,” based on visual inspection of the esophageal lumen, the lumen appeared wider than 12 mm and thus it was safe to proceed with the larger dilator. The patient was discharged with recommendations to start a mechanically soft diet and tolerate solid meals. In addition, he denied any episodes of aspiration or respiratory distress.

Radiation-induced esophagitis can cause complete obstruction. This may lead to disabling symptoms and the need for invasive interventions such as POETRE to secure enteral nutrition. Peroral Savary guidewire endoscopic recanalization of the esophagus is a less-invasive alternative to POETRE to restore esophageal patency in patients with short-segment obstructions caused by radiation. Peroral Savary guidewire endoscopic recanalization is an inexpensive and safe way to alleviate dysphagia and should be considered in patients with benign, thin strictures causing complete esophageal obstructions.

DISCLOSURE

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Abbreviations: POETRE, peroral endoscopic tunneling for restoration of the esophagus; TTS, through-the-scope.

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