

Successful blunt recanalization of an obliterated long esophageal stricture by endoscopic rendezvous

A 57-year-old man with a history of squamous cell carcinoma of the tongue treated with chemoradiation therapy presented to our group for management of a proximal esophageal stricture. Despite serial endoscopic dilations with submucosal steroid at outside facilities, the stricture progressed, ultimately obliterating luminal patency. Consequently, caloric intake was maintained through a percutaneous gastrostomy tube; however, the patient's intolerance of secretions led to frequent aspiration (● Fig. 1).

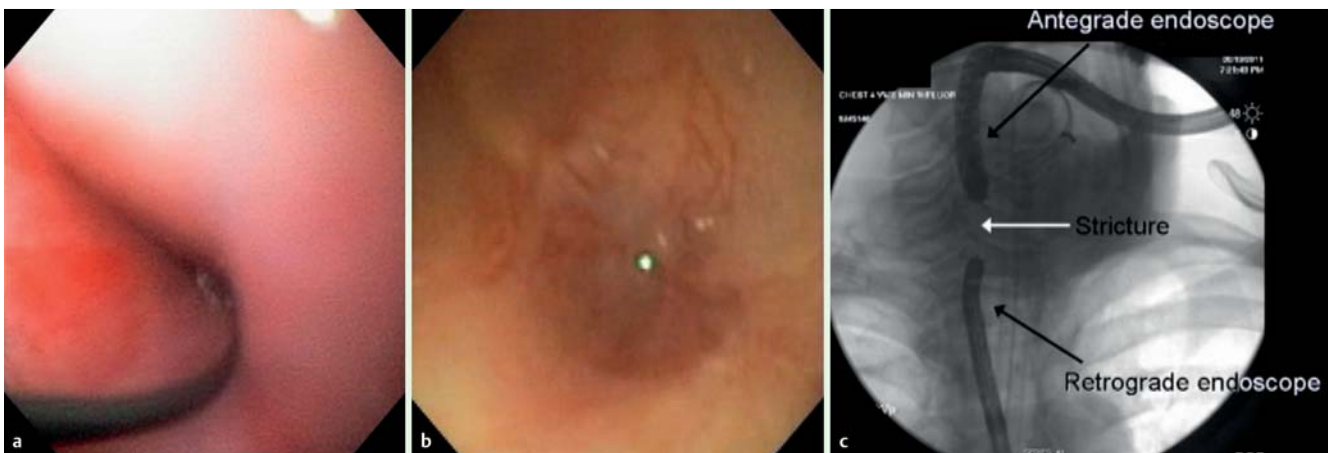
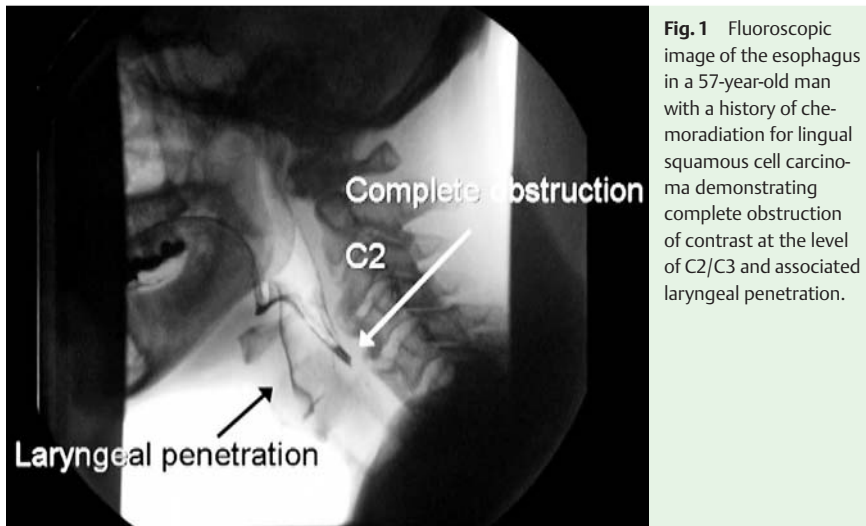
An antegrade-retrograde rendezvous technique of endoscopic therapy, first described by Van Twisk, was used to address the complex esophageal stricture [1]. A

standard 9.8-mm gastroscope was passed per os in the antegrade position. A second endoscopist approached the esophageal stricture in a retrograde fashion with a slim 5.9-mm gastroscope through a well-healed 20-F gastrostomy site. Transillumination and fluoroscopy were employed to assist with dissection trajectory and *en face* positioning of the antegrade and retrograde endoscopes prior to and throughout stricture manipulation (● Fig. 2). A straight endoscopic retrograde cholangiopancreatography (ERCP) cannula was then positioned through the antegrade endoscope and blunt dissection of the stricture carried out while the retrograde endoscope visualized the resultant

tissue convexity and guided appropriate trajectory (● Fig. 3a and ● Video 1). With the needle sheathed, a 19-gauge endoscopic ultrasound (EUS) needle was then used to complete the blunt dissection (● Fig. 3b). Only after visualizing the needle sheath from a retrograde perspective was the needle passed to stabilize the antegrade position (● Fig. 3c). Through this needle a long 0.035-inch hydrophilic guide wire was passed into the distal esophagus and stomach to allow for subsequent 8-mm controlled radial expansion balloon dilation and deployment of a nasogastric tube for maintenance of patency during subsequent serial endoscopies (● Fig. 4). The patient was prophylactically admitted for overnight observation and discharged the next day without complication. Serial over-the-guide wire dilations to 15 mm were carried out without issue. During each procedure contrast was infused to demonstrate patency without extravasation. With the assistance of speech/language physicians the patient now tolerates oral nutrition.

We have presented an uncomplicated recanalization of an obliterated long esophageal stricture by blunt dissection assisted by endoscopic rendezvous. Sharp dissection was avoided given the increased risk of inadvertent needle passage into the mediastinum with injury to surrounding vital structures. While complex, such a technique represents a reasonably safe therapeutic option with great potential for quality of life improvement.

Esophageal strictures develop in up to 4% of individuals receiving head and neck radiation of at least 4500 cGy and upwards of 20% in those with concomitant use of chemotherapy [2]. While complete obliteration is rare, it is an appreciated entity



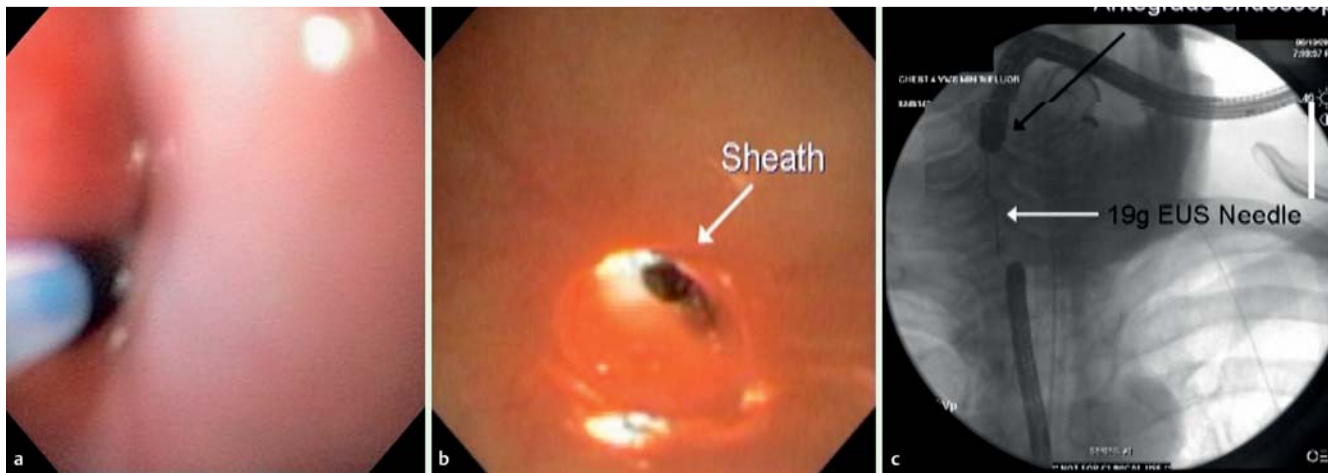


Fig. 3 **a** Blunt dissection of the stricture from the antegrade position utilizing a straight endoscopic retrograde cholangiopancreatography (ERCP) catheter. **b** Penetration of an endoscopic ultrasound (EUS) sheath from the retrograde position. **c** Fluoroscopic demonstration of needle passage from the antegrade to retrograde positions through the long obliterated lumen.

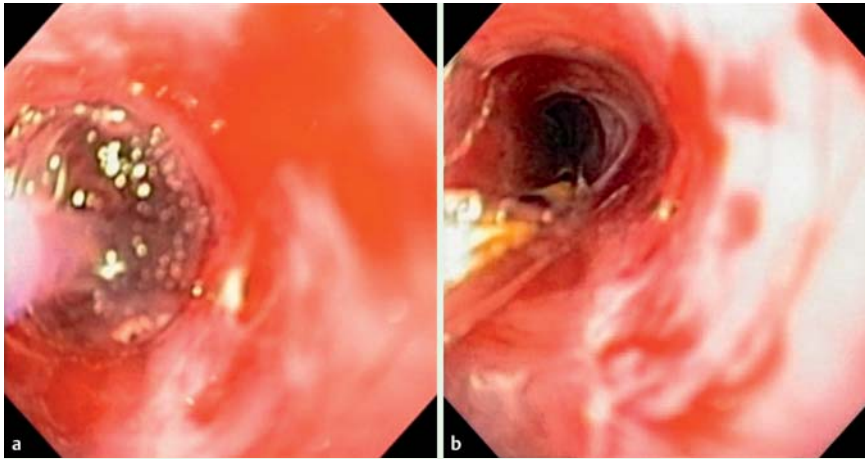


Fig. 4 **a** Through the scope controlled radial expansion balloon dilation of the esophageal stricture to 8 mm. **b** Patent esophageal lumen immediately following initial balloon dilation.

with few traditional therapeutic options. Esophagectomy is complicated as the residual surrounding tissue is not ideal, and as the lumen is not patent, neither wire nor endoscopically guided dilations are possible. Limited literature exists regarding esophageal recanalization, in particular involving blunt dissection of a relatively long stricture such as demonstrated here [3–8]. In general complications appear limited, though subacute to long-term efficacy as measured by an ability to discontinue tube feeds is variable in part due to the lack of standardization.

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Video 1

Presentation of blunt recanalization of obliterated long esophageal stricture with schematic demonstration.

Competing interests: None

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