

Endoscopic incision method for treatment of refractory esophageal stricture



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A 34-year-old woman was referred to our endoscopy center for recurrent esophageal strictures resulting from scar formation after endoscopic submucosal dissection of a fibroma. Over the previous 1.5 years, she had undergone 3 balloon dilations and 1 esophageal stent placement at outside hospitals; however, her strictures would recur about 2 weeks to 2 months after each procedure.

Esophagography showed a stricture at the midesophagus (Figs. 1 and 2). The stricture was 4 mm long; shorter than 1 cm. An EGD was performed and showed a

circumferential esophageal stricture with a 2-mm opening (Fig. 3); there were no coexistent lesions such as ulcer, fistula, or diverticulum.

Considering the prior failed treatments and features of the stricture, we adopted the radical incision and cutting technique instead of intralesional steroid injection, combined with dilation and stent placement (Video 1, available online at www.VideoGIE.org). During the procedure, a transparent distal attachment plastic cap was used to allow optimal visualization and ensure the safety margin. The endoscope with the distal cap



Figure 1. Esophagographic coronal view showing a stricture at the level of T6.

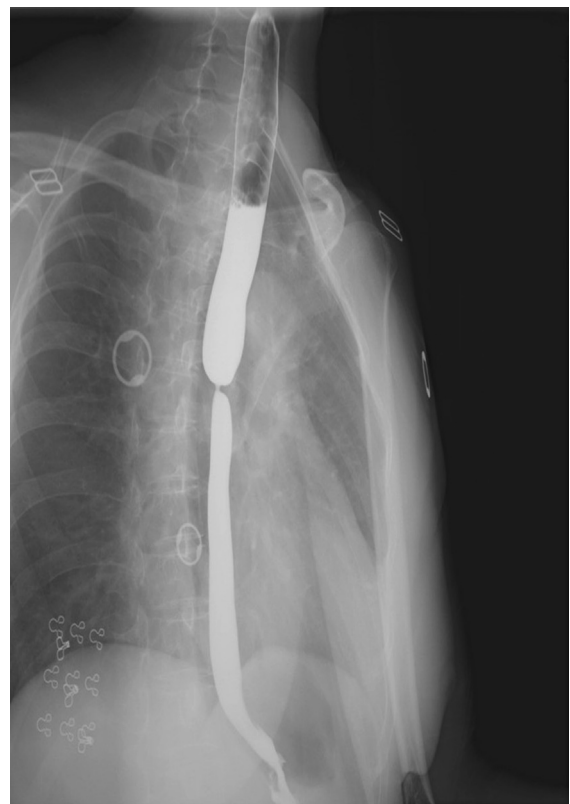


Figure 2. Esophagographic sagittal view demonstrating a short circumferential stricture, 4-mm long, at the level of T6.

Written transcript of the video audio is available online at www.VideoGIE.org.

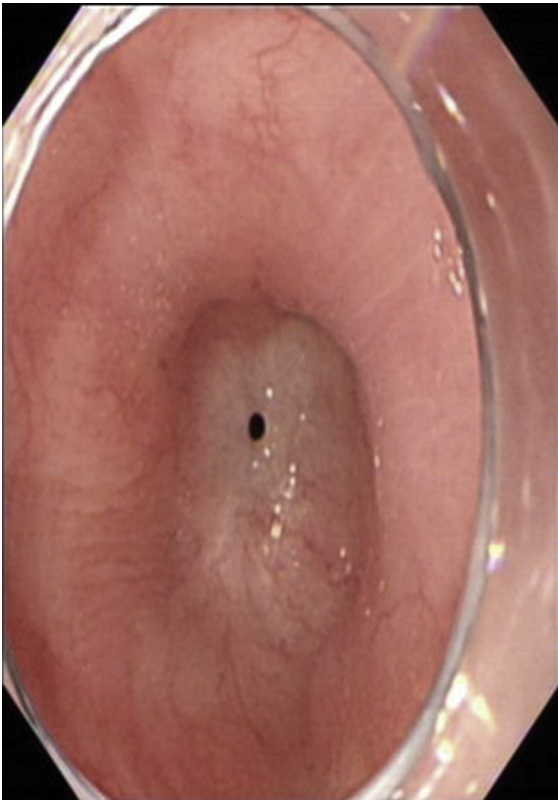


Figure 3. Esophageal stricture with a 2-mm opening before endoscopic incision.

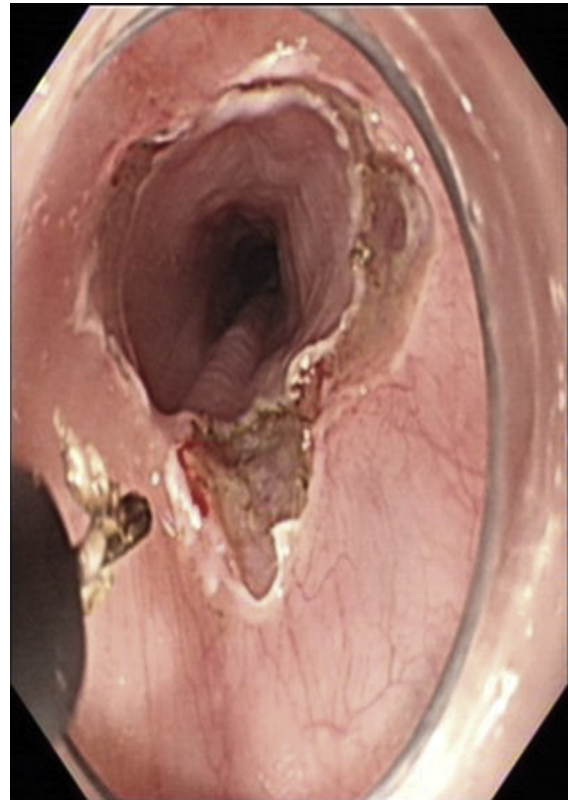


Figure 4. Electrocautery with hook-knife is used to incise the stricture with the radical incision and cutting technique.

attachment was advanced immediately proximal to the stricture. This was followed by introduction of a hook knife (Olympus, Tokyo, Japan) through the working channel (Fig. 4).

An electrosurgical unit (Erbe Vio 200D; Erbe Electromedizin GmbH, Tübingen, Germany) was used, with endocut Q mode (effect 3, cut duration 2, cut interval 4) and forced coagulation mode (effect 2, maximum power 40 W). Four radical longitudinal incisions were made under direct endoscopic visualization by pulling the knife parallel to the esophagus. This technique was repeated until the incision reached the surface of the muscularis propria or the plane constituted by the mucous membrane of the 2 ends of the stricture.

The procedure was successfully completed after total excision of the stenosis and advancement of the standard EGD endoscope into the stomach without resistance (Fig. 5). After the incisions, the operative wound bled mildly. Electrocautery with the hook knife was performed until the bleeding stopped.

After the procedure, the patient had a liquid diet during the first day and solid meals thereafter. She was discharged 1 week later; the EGD revealed a wider lumen without perforation and bleeding (Fig. 6). At a 4-month follow-up

by telephone, she remained well without recurrence of the dysphagia.

The management of esophageal stricture poses a significant clinical challenge. In benign strictures, dilation therapy (eg, balloon dilation) is regarded as first-line therapy because of its simple operation and high success rate (70% to 90%),¹ but this method often requires repeated interventions. Other therapies are intralesional steroid injection combined with dilation and stent placement. However, it is impossible to inject a steroid agent into the stricture site because of the lack of a united standard of injection mode and dose. Meanwhile, stent placement is not adopted because of its potential adverse events such as tissue overgrowth, migration, and pain.

Endoscopic incision was developed to reduce repeated intervention. This technique uses electrocautery combined with the needle-knife technique, or endoscopic scissors with or without dilation.² The success rate is 80.6%,¹ and the rate of recurrence of short esophageal stricture (<1 cm) is 4.8%.³ A randomized controlled study by Hordijk et al¹ showed no difference between this method and Savary dilation; however, in patients for whom multiple reinterventions have failed, endoscopic incision is a safe and effective alternative method.

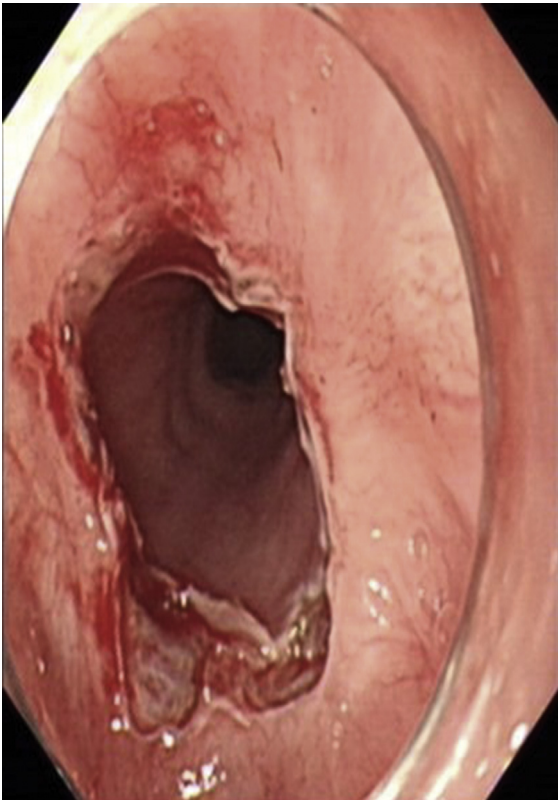


Figure 5. Esophageal stricture after incisional therapy; 4 incisions were made. The rim of the stenosis is almost removed.



Figure 6. Esophageal stricture 1 week after incisional therapy, showing a wider lumen without perforation and bleeding.

DISCLOSURE

All authors disclosed no financial relationships relevant to this publication.

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