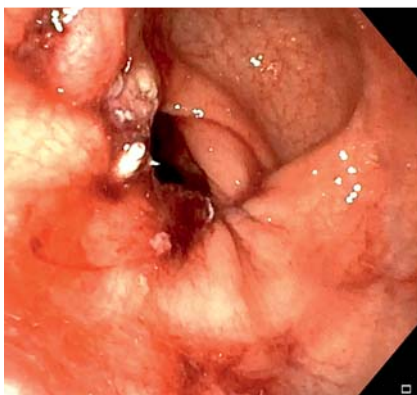


Endoscopic full-thickness resection with reconstruction of the rectal wall

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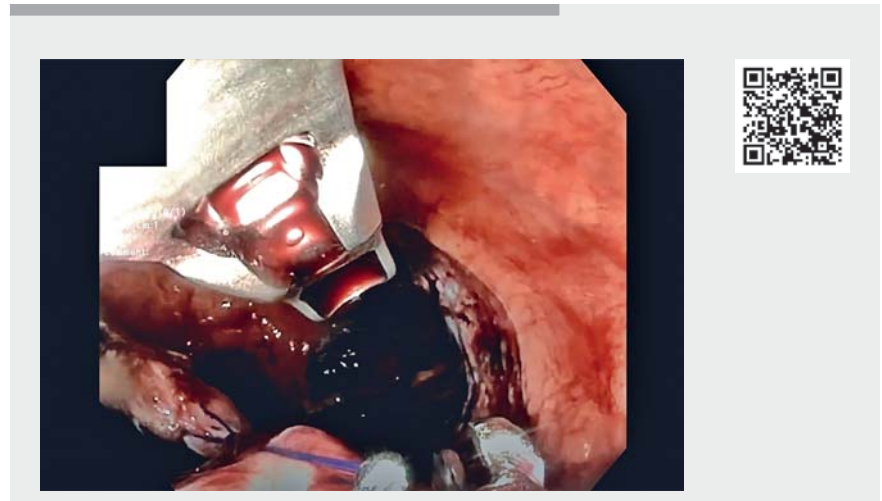
► **Fig. 1** Endoscopic view after full-thickness resection around the lesion.



► **Fig. 2** Complete reconstruction of the rectal wall.

Endoscopic submucosal dissection (ESD) achieves high rates of en bloc resection and R0 resection regardless of lesion size and minimizes the risk of recurrence [1]. The two most common complications after ESD are bleeding and perforation, which can occur immediately or be delayed. Perforation occurs at the rate of 1.9%–4.9%, with delayed perforations seen in 0.4% of cases [2]. Most intraprocedural perforations, however, are small and, if recognized, can be treated endoscopically with clips.

A problem arises with scarred lesions caused by a previous attempt at endo-



► **Video 1** Full-thickness resection of a rectal lesion followed by stepwise reconstruction of the rectal wall using endoscopic suturing.

scopic resection. Endoscopic full-thickness resection (EFTR) offers a minimally invasive technique that encompasses full-thickness resection of the intestinal wall and, by those means, completely resecting the scarred lesion.

EFTR can be performed with electrosurgical knives in a manner similar to ESD for epithelial tumors but targeting deeper wall layers (the muscularis propria and adventitia or serosa) to achieve complete resection [3].

We present a case of full-thickness resection of a rectal lesion with a focus on complete closure of the defect post-resection.

A 65-year-old woman was referred with an incompletely resected rectal lesion. The initial size of the lesion was 35 mm, and prior pathology reported a tubular adenoma with high grade dysplasia. Using an upper endoscope (GIF-HQ190; Olympus, Center Valley, USA), we evaluated the rectal lesion, which measured 50 mm × 45 mm. The lesion was classified as II a/c according to the Paris classification. After placement of a distal cap (Olympus) and marking of the lesion, we

proceeded with the lifting of the lesion using a submucosal lifting agent (Orise; Boston Scientific, Marlborough, Massachusetts, USA). Then, we proceeded with ESD using a DualKnife J (Olympus). During the procedure, the central part of the lesion could not be lifted easily because of the presence of significant scarring from a prior resection attempt. The ProdiGI traction device (Medtronic, USA) aided the partial lift; however, the central part was still adherent to the muscularis propria. We proceeded with full-thickness resection of the muscularis propria around the lesion using a HybridKnife, T-Type (Olympus, USA), paying attention to the fat plane beneath the lesion (► **Fig. 1**). Bleeding vessels were treated adequately using a Coagrasper hemostatic forceps (Olympus). Ultimately the entire polyp was resected en bloc. Then, for the closure of the intestinal defect, an OverStitch device (Apollo Endosurgery, Austin, Texas, USA) was used to suture the defect with a successful reconstruction of the rectal wall, paying attention to the lumen patency and intestinal continuity (► **Fig. 2**, ► **Video 1**).

Endoscopy_UCTN_Code_TTT_1AQ_2AD

Competing interests

Michel Kahaleh, MD, is a consultant for Medtronic, Boston Scientific and Abvie. He has received research grant from Olympus, Pentax, Fuji, Erbe, Apollo, Concordia, Merit and Boston Scientific. Amy Tyberg is a consultant for Boston Scientific and Endogastric Solutions.

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