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Entire traction using clip-and-nylon ring to facilitate endoscopic submucosal dissection of a laterally spreading tumor with fibrosis in the rectum

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Dear Editor,

Rectal neoplasm with submucosal fibrosis is an extremely challenging target for endoscopic submucosal dissection (ESD). It is the major causative factor for incomplete resection and adverse events (1,2), which is attributable to the impossible separation of the submucosa from muscularis and hence, inaccurate identification of the dissection line (3,4). A novel entire traction method was applied to deal with this subset of tumors.

Case report

A 78-year-old female with a 2 × 2-cm laterally spreading tumor (LST) in the rectum, 3 cm from the anus (Fig. 1A), was referred for ESD treatment. The patient refused surgery because of the risk related to anus preservation and the potential operative trauma. Accordingly, a submucosal injection was administered under the lesion, and the elevation sign in the middle portion of the lesion was negative (Fig. 1B). After circumferentially incising the mucosa, submucosal adhesion became evident, and the submucosal dissection was extremely difficult (Fig. 1C). Therefore, a remedial entire traction method was applied, wherein a nylon ring was inserted into the rectum and fixed to the mucosal flaps with four clips oriented in different directions. As the nylon ring was tightened, the lesion was completely everted (Fig. 1D). On fully exposing the submucosa, the lesion was efficiently resected, and the resulting wound was perfect (Fig. 1E). After removing the clips from the lesion, the specimen was intact (Fig. 1F).

Discussion

The conventional traction methods only expose the submucosa locally from a single or several points (5,6). Our entire traction method provides omnidirectional tension, facilitating the full exposure of the submucosa. Moreover, the tightness of the nylon ring was adjustable or customizable to avoid excessive muscle-lifting effect that can cause injury or even perforation. Considering that no special equipment was required for this procedure, the entire traction strategy used was simple, efficient, and safe for ESD.

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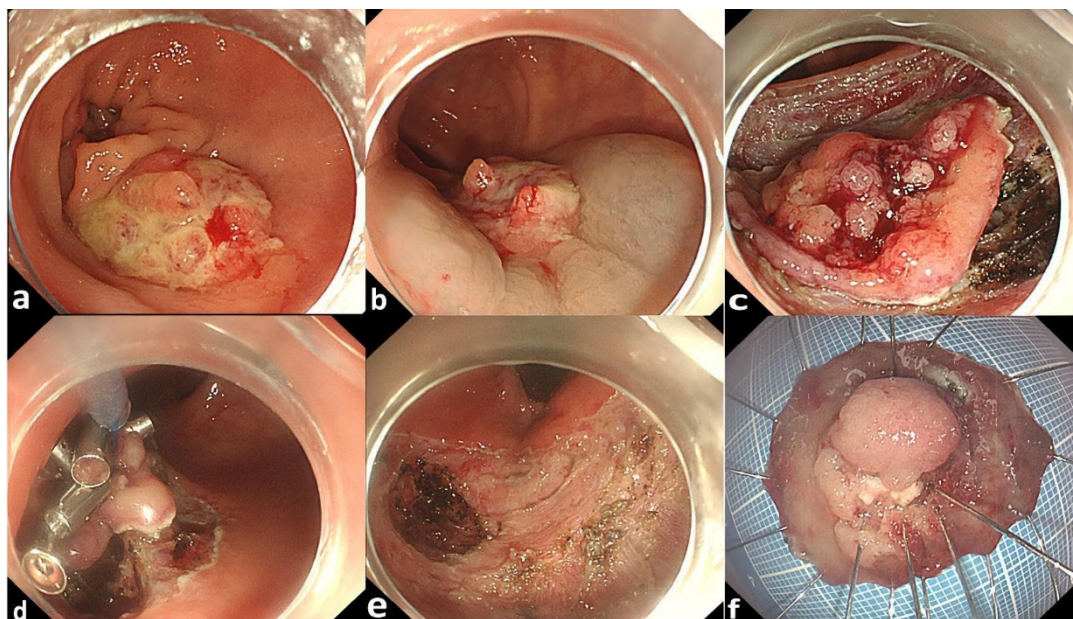


Fig. 1. Endoscopic views of the entire traction-assisted endoscopic submucosal dissection (ESD) using a combination of clips and nylon ring. A. A 2 × 2-cm laterally spreading tumor (LST) in the rectum, 3 cm from the patient's anus. B. The middle portion of the lesion was difficult to uplift via submucosal injection. C. After circumferential incision of the lesion, it was difficult to penetrate the submucosa owing to the evident adhesion of the submucosa. D. When the nylon ring was fixed to the mucosal flap and tightened along, using four clips by gathering them together, the submucosal layer was clearly exposed in virtue of the valvulus mucosal flap. E. The postoperative wound is shown, showing an intact muscularis propria. F. The completely excised specimen.