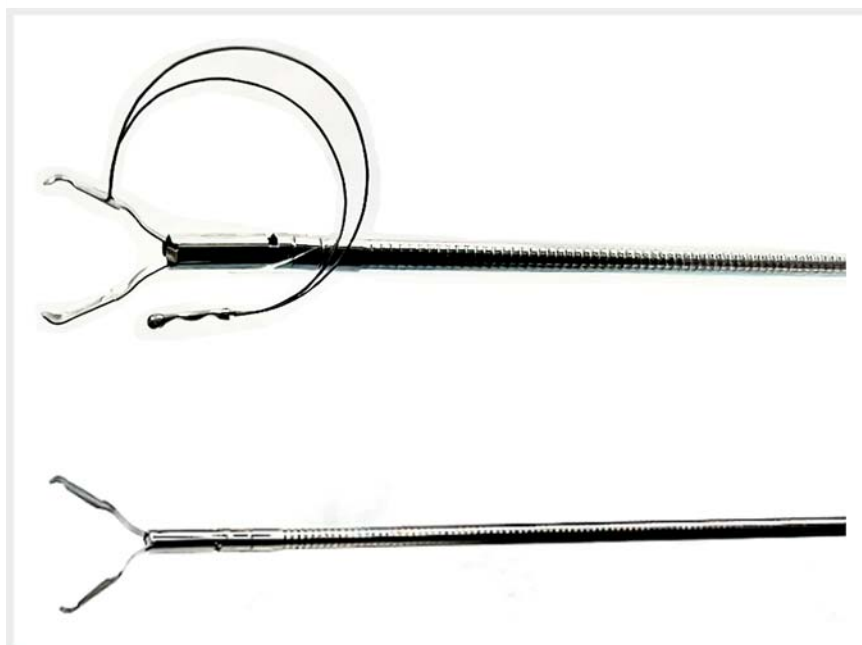


Application of intralesional traction assistance with traction wire to endoscopic submucosal dissection for colorectal neoplasms

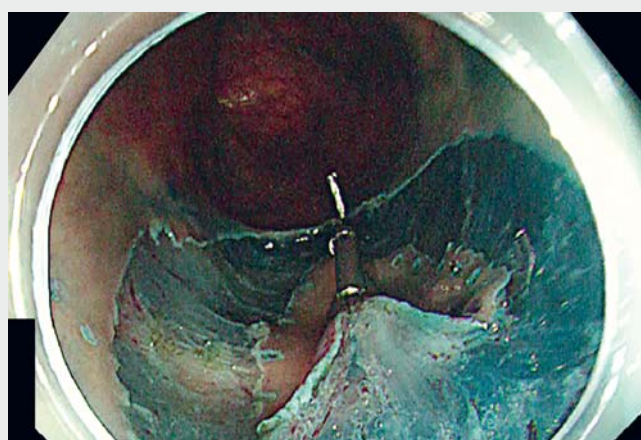
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Endoscopic submucosal dissection (ESD) is commonly performed for large colorectal neoplasms as a local treatment [1]. Several assistive traction methods have been developed to overcome the technical difficulties of ESD [2–5]. We present a case of colorectal neoplasm that was successfully treated with intralesional traction-assisted ESD using a novel traction device (► **Fig. 1**). This device, which consists of two clips equipped with a half-moon-shaped memory traction wire, allows a clear view of the submucosal layer by elevating the lesion with the shape memory force of the wire.

A 60-year-old woman with ulcerative colitis in remission had a sporadic lateral spreading tumor measuring 35 mm in the transverse colon. Intralesional traction-assisted ESD was performed on the lesion (► **Video 1**). Marking dots were created around the lesion. Submucosal injection and mucosal incision were performed outside the marking dots (► **Fig. 2a**). After completing the circumferential mucosal incision, the first clip with a half-moon-shaped memory wire was placed at the anal margin of the lesion (► **Fig. 2b**). The second clip that hooked and stretched the wire was then placed at the oral margin of the lesion (► **Fig. 2c, d**). Sufficient intralesional traction was achieved by lifting the anal mucosal flap with the force generated by the shape memory effects of the wire (► **Fig. 2e**). A clear view of the submucosal layer was achieved for dissection, without any complications until en bloc resection was completed (► **Fig. 2f**). The resected specimen was retrieved by grasping the wire using forceps.



► **Fig. 1** Traction wire.



► **Video 1** Application of intralesional traction assistance with traction wire to endoscopic submucosal dissection for colorectal neoplasms.

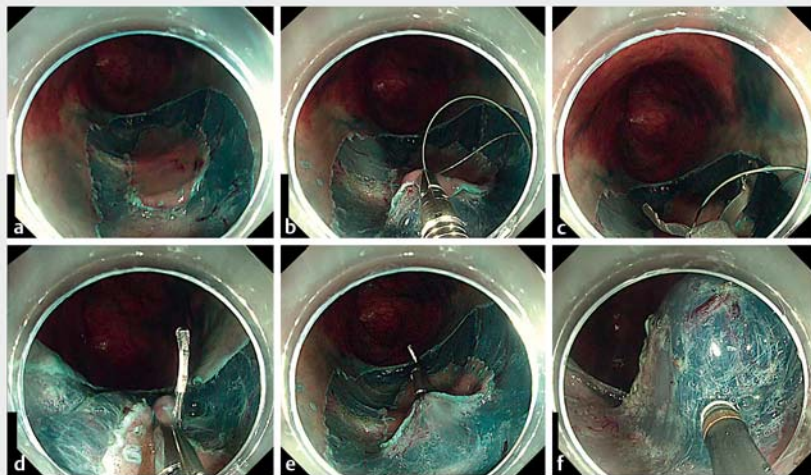


Fig. 2 Schemata showing each step of the intralesional traction technique using traction wire in colorectal endoscopic submucosal dissection. **a** Circumferential mucosal incision around the lesion. **b** First clip with traction wire placed at the anal margin of the lesion. **c** The wire hooked by the second clip. **d** The second clip placed at the oral margin of the lesion. **e** Adequate intralesional traction. **f** A clear view of submucosal layer for submucosal dissection.

One advantage of intralesional traction-assisted ESD is that it can be applied to lesions in any colonic location because sufficient traction can be created within the target lesion. Secondly, this traction device does not interfere with endoscope manipulation. Intralesional traction-assisted ESD could be a promising option for the treatment of colorectal neoplasms.

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Competing interests

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