

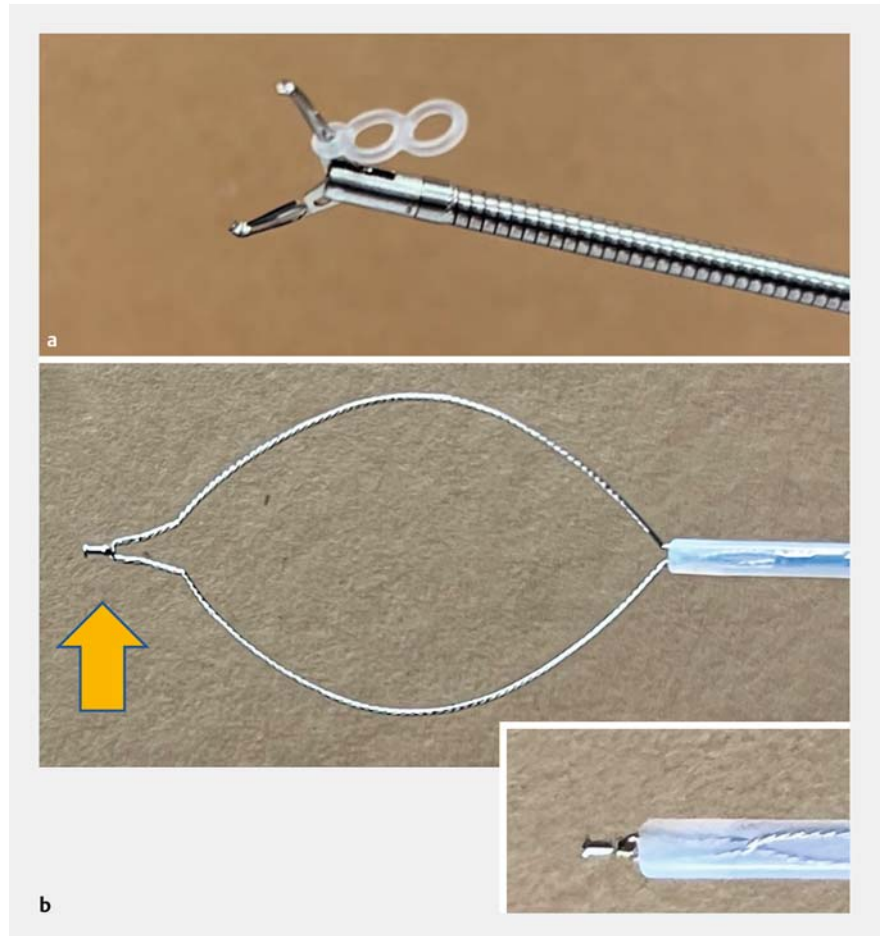
Innovative endoscopic submucosal dissection for early gastric neoplasm using intralesional traction and snaring techniques



Various assistive techniques have emerged to improve the treatment outcomes of endoscopic submucosal dissection (ESD) for gastric neoplasms [1–5]. We report a novel use of assistive intralesional traction, combined with snaring, for gastric ESD (► Fig. 1 a).

ESD was used to resect a 10-mm gastric neoplasm located at the antrum (► Video 1). We used a multi-functional snare, a 20-mm snare with a distal tip (► Fig. 1 b) capable of facilitating all ESD procedures including marking dot placement, mucosal incision, submucosal dissection, and snaring. After the circumferential mucosal incision, we placed the first clip, with a silicone band at the base, at the proximal margin of the lesion (► Fig. 2 a); we subsequently placed the second clip at the distal margin of the lesion while hooking the silicone band (► Fig. 2 b). The lesion was elevated by the intralesional traction force, enabling us to safely dissect the submucosa with ease under a favorable view of the submucosal layer (► Fig. 2 c). As the submucosal dissection progressed, the lesion gradually recurved, but the intralesional traction force also decreased gradually. The decreased force indicated the need to switch from traction-assisted dissection to the efficient snaring technique (► Fig. 2 d). Our traction-snare technique yielded a complication-free en-bloc resection.

Intralesional traction force proved effective for submucosal dissection in the early phase of the procedure. Once the lesion was recurved, with only a small area attached to the submucosa, snaring became an effective option for resection. The combination of these two techniques streamlined both phases of the submucosal dissection. Furthermore, the two clips used to apply intralesional traction did not interfere with the subsequent snaring procedure. Our novel application of intralesional traction and snaring techniques present a possible means of significantly



► Fig. 1 Endoscopic devices used in the assistive intralesional traction and snaring. **a** Clip with a silicone band at the base for intralesional traction. **b** A multi-functional snare for placing marking dots, the mucosal incision, submucosal dissection, and snaring.

reducing the difficulty and risk involved in the ESD procedure.

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Competing interests

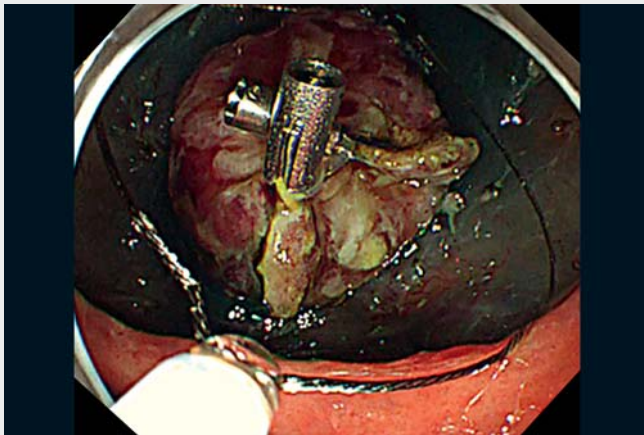
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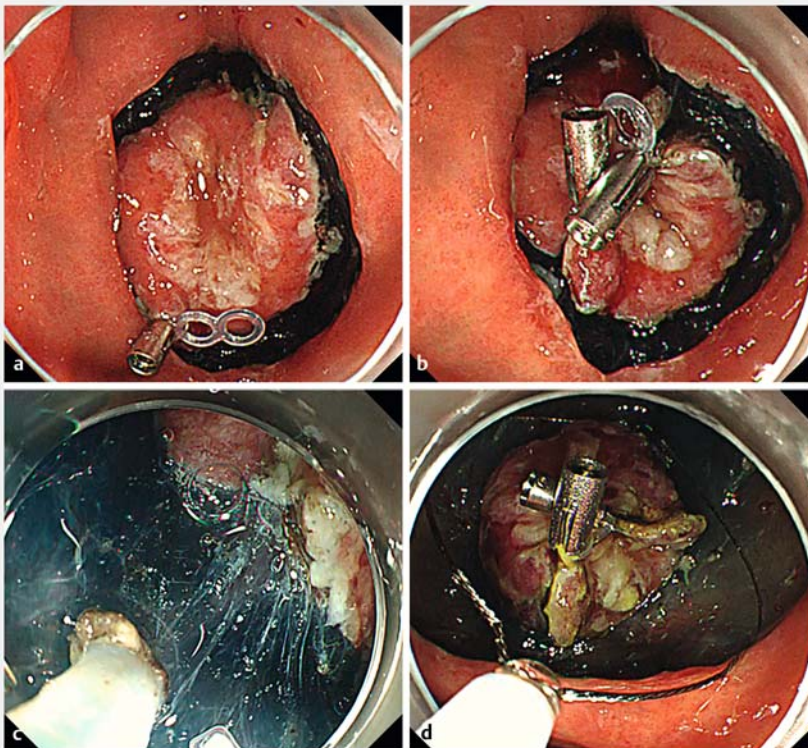
The authors

Yoshihisa Shoguchi¹, Mitsuru Esaki^{1,2}, Yosuke Minoda¹, Xiaopeng Bai¹, Haruei Ogino¹, Eikichi Ihara^{1,3}, Yoshihiro Ogawa¹

1 Department of Medicine and Bioregulatory Science, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Fukuoka, Japan



▶ Video 1 Innovative endoscopic submucosal dissection for early gastric neoplasm using intralesional traction and snaring techniques.



▶ Fig. 2 Schemata showing key steps of the intralesional traction and snaring techniques. **a** The first clip with a silicone band was placed at the proximal margin of the lesion after circumferential mucosal incision. **b** The second clip was placed at the distal margin of the lesion and hooked into the silicone band. **c** The submucosal dissection was performed under a favorable view of the submucosal layer owing to the intralesional traction. **d** The recurved target lesion was snared with the small attachment area of the submucosal layer.

Corresponding author

Mitsuru Esaki, MD

Department of Medicine and Bioregulatory Science, Graduate School of Medical Sciences, Kyushu University, 3-1-1, Maidashi, Higashi-ku, 812-8582, Fukuoka, Japan
 Fax: +81-92-642-5286
 esaki_saiseikai@yahoo.co.jp

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 Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany



2 Division of Gastroenterology and Hepatology, Department of Medicine, Chiyoda-ku, Nihon University School of Medicine, Chiyoda-ku, Tokyo, Japan

3 Department of Gastroenterology and Metabolism, Graduate School of Medical Sciences, Kyushu University, Fukuoka, Fukuoka, Japan