



Usefulness of a thin-endoscope endoscopic submucosal dissection using the traction device for early gastric cancer in a patient with esophageal stricture

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Use of endoscopic submucosal dissection (ESD) for early gastric cancer has become widespread. However, the conventional endoscope sometimes cannot be used for reasons such as the presence of a stricture. Previously, endoscopic resection could be performed only after dilatation (eg, balloon) to treat the stricture, but this has the risk of adverse events (eg, perforation and bleeding).¹ We report successful ESD for early gastric cancer using a thin endoscope.

A 72-year-old man was referred to our hospital for treatment of early gastric cancer. The lesion was 25 mm in diameter and was located in the lesser curvature of the middle gastric body (Fig. 1A). However, a

conventional endoscope could not approach because of the esophageal stricture caused by displacement of the vertebral body (Fig. 1B). Dilatation, which harbors inherent risks, was considered unnecessary for the esophageal stricture because the patient was asymptomatic with good nutritional status. A thin-endoscope ESD was scheduled.

The entire procedure is shown in Video 1 (available online at www.VideoGIE.org). We used EG-L580NW7 (Fuji-film, Tokyo, Japan) as a thin endoscope with a relatively small endoscope diameter of 5.8 mm and a working channel diameter of 2.4 mm. Nonetheless, SOUTEN and RAI-CHO (Kaneka Medics, Tokyo, Japan) were still usable as

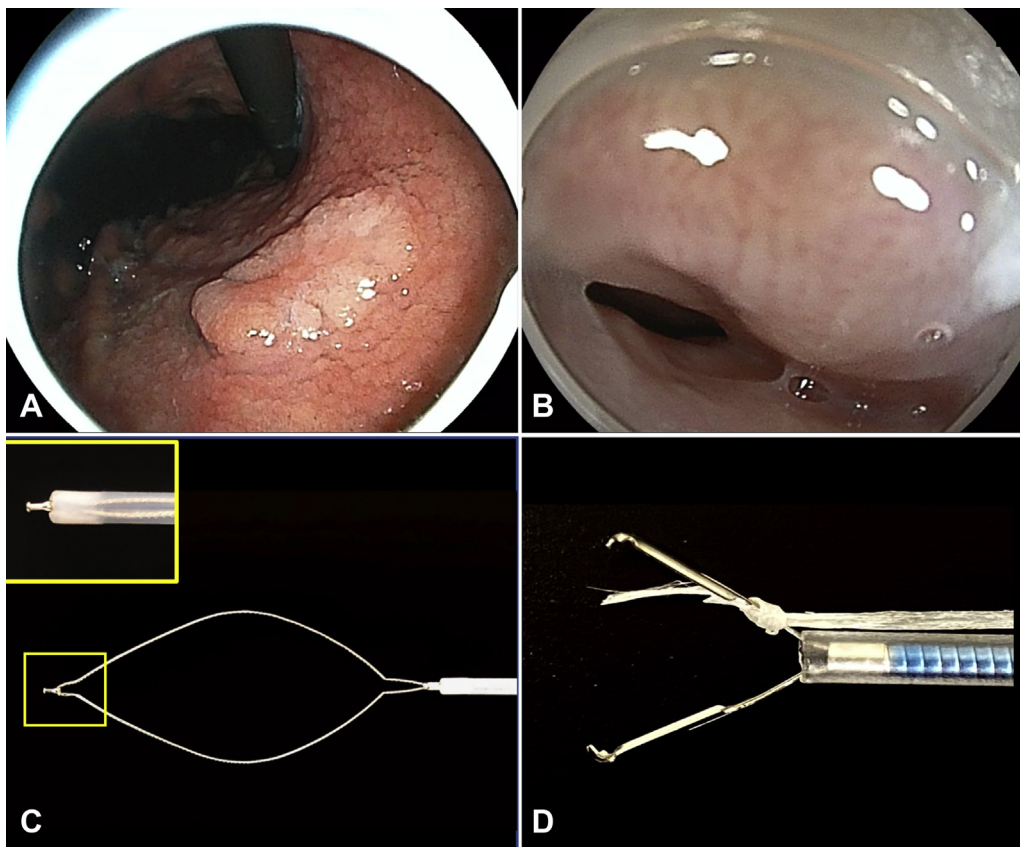


Figure 1. A, Early gastric cancer, measuring 25 mm in diameter, in the lesser curvature of the middle gastric body. B, Esophageal stricture caused by displacement of a vertebral body. C, The diameter of the insertion sheath of SOUTEN, a cutting device, is 2.35 mm. A 1.5-mm needle-knife with a knob-shaped tip is attached to the top of the snare. D, The diameter of the insertion sheath of SAIKEI, a rotatable-type endoclip, is 2.3 mm.

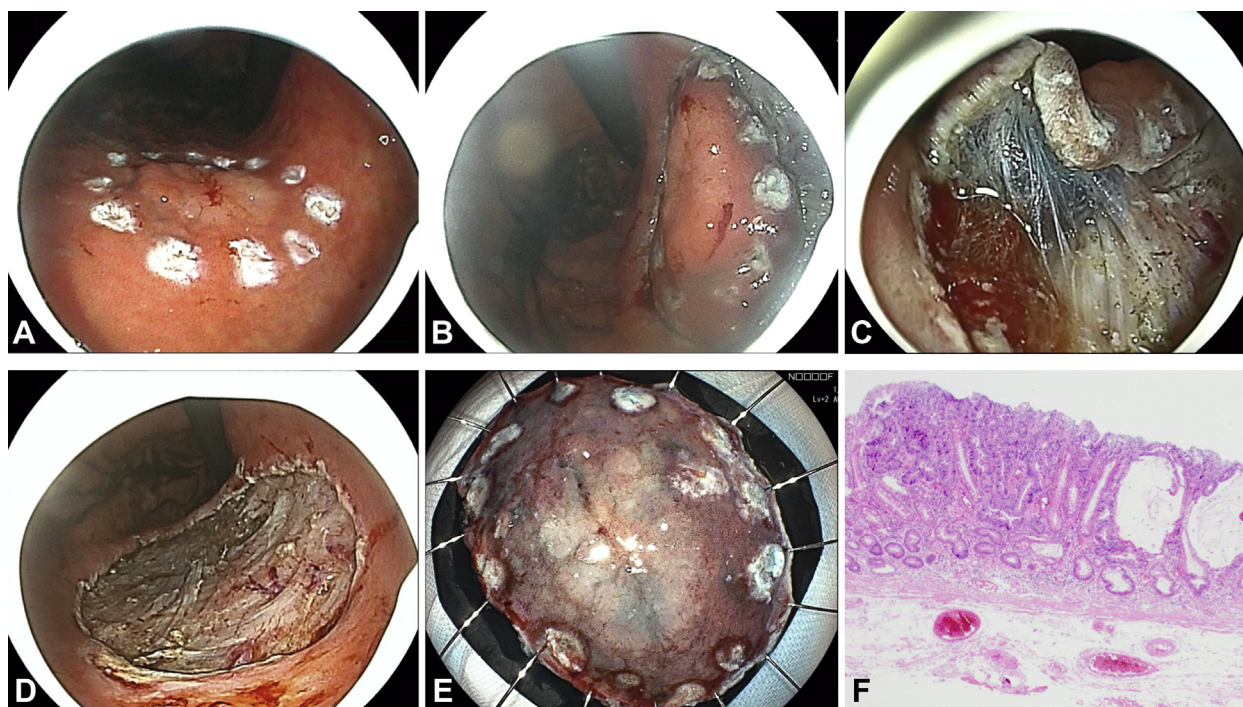


Figure 2. **A**, Marking was performed using the knob-shaped tip of SOUTEN. **B**, The circumferential incision was performed using the knob-shaped tip of SOUTEN. **C**, The visibility of the submucosa was improved by traction using dental floss and SAIKEI, an endoclip. **D**, The ulcer floor after endoscopic submucosal dissection. **E**, Resected specimen; en bloc resection was achieved. **F**, Histologic examination confirmed the diagnosis of a well-differentiated adenocarcinoma, depth T1a, no vascular and lymphovascular invasion, and negative lateral and vertical margins.

cutting and hemostatic devices (Fig. 1C).^{2,3} Distal attachments placed on the thin-endoscope tip were created by hand using transparent tape.

A local injection (sheath diameter: 1.9 mm, needle: 25-gauge, 3 mm; TOP, Tokyo, Japan) was performed using saline solution. The settings of the VIO300D electrical unit (Erbe Elektromedizin, Tübingen, Germany) were EndoCut mode I (effect 3, duration 2, interval 2) for mucosal incision and forced coagulation mode (effect 3, 45W) for dissection and vessel coagulation. Marking, mucosal incision, and submucosal dissection were all performed using a 1.5-mm needle-knife with a knob-shaped tip (SOUTEN) (Fig. 2A and B). Although it was difficult to dissect the submucosa gradually in light of the vertical approach, a good field of view was established for dissection by applying a traction device made of dental floss and an endoclip (Fig. 2C). SAIKEI (Kaneka Medics, Tokyo, Japan) has an insertion sheath diameter of 2.3 mm and was the only endoclip available for a thin endoscope (Fig. 1D).

Finally, the lesion was completely resected en bloc (Fig. 2D and E) in 45 minutes without any adverse events. The lesion was collected with a net (sheath diameter: 1.8 mm; Meditalia, Palermo, Italy). RAICHO was used for both arterial bleeding during dissection and preventive cauterization of the ulcer floor after resection. Histologic examination confirmed the diagnosis of well-differentiated adenocarcinoma; pT1a and curative resection were achieved (Fig. 2F).

We have previously reported on hybrid ESD using a thin endoscope for early gastric cancer in elderly patients.⁴ However, it is difficult to approach tumors, especially those located in the lesser curvature of the middle or upper gastric body, using a thin endoscope; these endoscopes do not have sufficient stiffness compared with conventional endoscopes and cannot be used to hold down a snare. Therefore, in this case, we selected ESD instead of hybrid ESD based on the location and the size of the lesion. In addition, despite the gradual vertical approach during the dissection, the lesion was resected safely and completely using the traction device.^{5,6}

Thin-endoscope ESD has the disadvantage of not allowing the use of a water jet, but it can be performed in the same way as a conventional ESD. We believe that most gastric lesions can be treated by thin endoscope, but it could be challenging in the cardia and fornix where it is difficult to maintain the appropriate endoscopic view.

Thin-endoscope ESD can be a treatment option for early gastric cancer where the conventional endoscope cannot be used, such as in the presence of an esophageal stricture.

DISCLOSURE

All authors disclosed no financial relationships.

Abbreviation: ESD, endoscopic submucosal dissection.

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