



A case of early esophageal cancer with pharyngeal stenosis treated by endoscopic submucosal multi-tunnel dissection using an ultra-thin endoscope

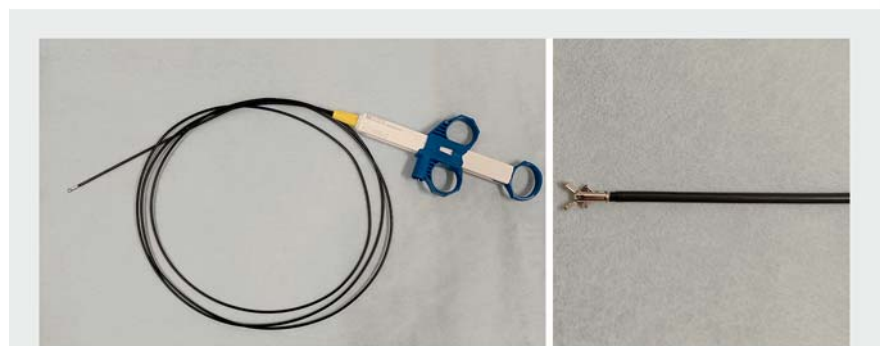
A 70-year-old man presented with early-stage esophageal cancer located in a semicircle in the upper esophagus. The hypopharynx was getting narrower owing to postoperative chemoradiotherapy for past pharyngeal cancer, and it was impossible to pass the pyriform sinus using a conventional scope. Therefore, we performed endoscopic submucosal multi-tunnel dissection, which has been shown to be effective for large esophageal cancers

We used an ultra-thin endoscope (EG-L580NW7; Fujifilm, Tokyo, Japan) that could pass through the stenosis. The diameter of the endoscope was 5.8 mm and that of the working channel diameter 2.4 mm. We further used small-caliber endoscopic submucosal dissection (ESD) devices, the SOUTEN endoknife (Kaneka Medix, Tokyo, Japan) (► **Fig. 1**) and the RAICHO2 hemostatic forceps (Kaneka Medix) (► **Fig. 2**). The distal attachment placed on the ultra-thin endoscope tip was created by hand using transparent tape [1]. A local injection (25 gauge needle, 3 mm; TOP, Tokyo, Japan) was performed using glycerol. The electro-surgical unit (VIO 300 D; ERBE, Tübingen, Germany) was set to Endocut Mode I (effect 3, duration 2, interval 2) for mucosal incision and forced coagulation mode (effect 2, 45W) for submucosal dissection. We created two tunnels and then resected the submucosa between the tunnels (► **Fig. 3**) (► **Video 1**).

The ultra-thin endoscope made it possible to resect the esophageal lesions with pharyngeal stenosis [2]. But its thinness sometimes resulted in unsteady movement. Endoscopic submucosal multi-tunnel dissection allowed the endoscope itself to be fastened by a tunnel, making it possible to stabilize the maneuverability and the operative field even with an ultra-thin endoscope, allowing ESD to be completed (► **Fig. 4**). There is no previous report of endoscopic submucosal multi-



► **Fig. 1** The SOUTEN 1.5-mm needle-knife with a knob-shaped tip attached to the top of the snare loop. The diameter of the outer sheath is 2.35 mm.



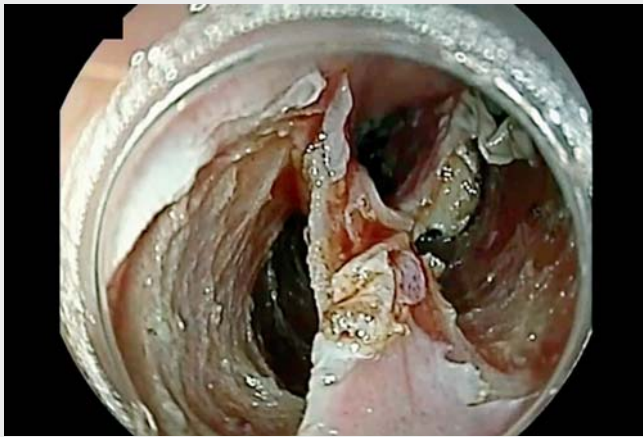
► **Fig. 2** The RAICHO2 rotatable monopolar-type hemostatic device. The diameter of the outer sheath is 2.3 mm.

tunnel dissection using an ultra-thin endoscope. Using this technique, ESD can be performed on large esophageal lesions even in situations where only an ultra-thin endoscope is available.

Endoscopy_UCTN_Code_CCL_1AB_2AC_3AB

Competing interests

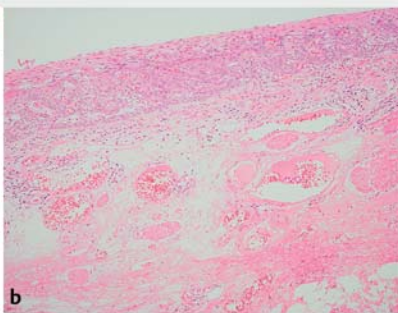
The authors declare that they have no conflict of interest.



▶ **Video 1** A case of early esophageal cancer with pharyngeal stenosis treated by endoscopic submucosal multi-tunnel dissection using an ultra-thin endoscope.



▶ **Fig. 3** Remaining parts between the two tunnels.



▶ **Fig. 4** **a** Resected specimen: en bloc resection was achieved. **b** Pathological examination confirmed the diagnosis of squamous cell carcinoma, 22 × 19 mm, depth LPM, no vascular or lymphovascular invasion.

Bibliography

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