Endoscopic submucosal dissection (ESD) has become the main method for management of superficial esophageal lesions [1]. However, it remains technically challenging and time-consuming for circumferential lesions [2]. The strategies reported for circumferential diseases have operational complexity [2, 3]. Herein, we present an ESD method involving a single, wide tunnel and clip-and-line traction for resection of a large circumferential esophageal neoplasm.

A 68-year-old man with a large circumferential esophageal lesion was referred to our hospital. Magnifying chromoendoscopy suggested a noninvasive squamous cell carcinoma, and biopsy confirmed a high grade intraepithelial neoplasia. Computed tomography detected no nodal or distal metastases. Under multidisciplinary discussion and the patient’s informed consent, esophageal ESD was chosen (▶Video 1).

The patient underwent general anesthesia. A dual knife was used during the whole procedure. First, after lesion marking, anal and oral circumferential incisions were performed successively (▶Fig. 1 a–c). Second, after submucosal

▶Video 1 Single-tunnel endoscopic submucosal dissection with clip-and-line traction applied to two sites for a large circumferential esophageal neoplasm.

▶Fig. 1 Endoscopic views during the single-tunnel endoscopic submucosal dissection with clip-and-line traction applied to two sites on the oral side of the lesion. a A circumferential esophageal lesion. b Circumferential incision of the anal side of the lesion. c Circumferential incision of the oral side of the lesion. d Creation of a single, wide tunnel. e A single clip-and-line system was applied to two sites on the oral side for traction. f With the undissected mucosa retracted, submucosal dissection was performed with adequate exposure of the remaining submucosal layer. g The artificial ulcer after endoscopic submucosal dissection. h The dissected mucosa.

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injection, a single, wide tunnel was created from the oral side to the anal incision (▶Fig. 1d). The undissected mucosa retracted, reducing the remaining lesion and facilitating the ongoing procedure. Third, a single clip-and-line traction system was applied to two sites on the oral side of the lesion, facilitating the ESD procedure with adequate exposure of the submucosal layer (▶Fig. 1e, f). Finally, the procedure was successfully performed, with en bloc resection and a procedure time of 96 minutes (▶Fig. 1g, h). There were no significant intraoperative adverse events. The specimen showed a squamous cell carcinoma, with invasion of the muscularis mucosa and negative margins. The patient received oral glucocorticoid treatment postoperatively. He developed mild stenosis after 5 weeks, and to date has received three endoscopic dilations up to 13 mm. No recurrence was found at 2 months’ follow-up.

In conclusion, ESD with single, wide tunnel and clip-and-line traction applied to two sites on the oral side of the lesion can facilitate safe and fast resection of large circumferential esophageal neoplasms.

Competing interests

The authors declare that they have no conflict of interest.

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