Wide-tunnel endoscopic submucosal dissection with clip-and-line traction for large circumferential esophageal neoplasm

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...
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.

The authors

Xuelian Li1*, Zhongshang Sun1†, Liansong Ye2, Zhiying Gao1, Qilong Wang3, Feng Pan1
1 Department of Gastroenterology, The Affiliated Huaian No. 1 People’s Hospital, Nanjing Medical University, Huaian, China
2 Department of Gastroenterology, West China Hospital, Sichuan University, Chengdu, China
3 The Comprehensive Cancer Centre, Department of Central Laboratory, The Affiliated Huaian No. 1 People’s Hospital, Nanjing Medical University, Huaian, China

Corresponding author

Feng Pan, MD
Department of Gastroenterology, The Affiliated Huaian No. 1 People’s Hospital, Nanjing Medical University, 1 W HuangHe Road, Huaian 223300, Jiangsu, People’s Republic of China
fengliupan@126.com

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

* Co-first authors