Article published online: 2023-02-09

Novel clip–traction band device-assisted endoscopic submucosal dissection for superficial pharyngeal carcinoma

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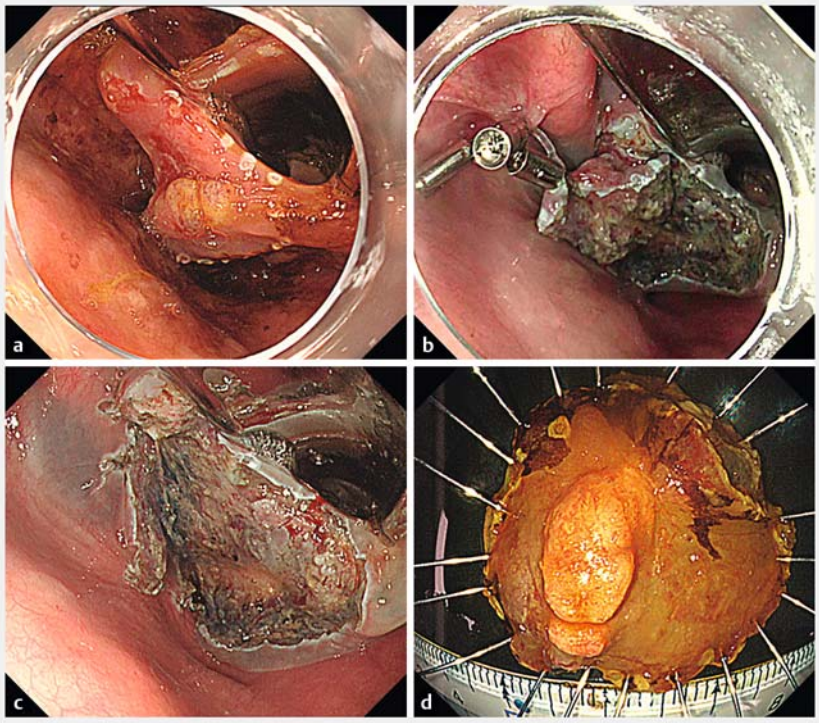
Extracorporeal traction-assisted endoscopic submucosal dissection (ESD) for superficial pharyngeal carcinoma has been useful [1–3]. However, owing to the anatomical features of the larynx and thyroid cartilage, working spaces within the pharynx are narrow. Furthermore, instruments such as intubation tubes, laryngoscopes, grasping forceps [1], and thin endoscopes [2] for traction of the lesion interfere with the endoscope, making endoscopic maneuverability difficult. Methods to overcome such difficulties have been reported in recent years [4, 5].

Although clip-and-thread traction is useful [3], the direction of traction cannot be adjusted. Herein, we report the use of a novel clip–traction band device for intraluminal traction to achieve pharyngeal ESD, overcoming the disadvantages of the conventional traction method [1–3].

A 69-year-old man presented with a flat-elevated lesion extending from the left pyriform sinus to the aryepiglottic fold (▶ **Fig. 1 a**). He had restricted mouth opening due to previous reconstructive surgery and radiation therapy for buccal mucosal carcinoma. The patient underwent ESD under general anesthesia, and laryngeal expansion was performed using a curved laryngoscope to obtain a good view of the entire lesion. After a circumferential incision, a clip–traction band device (Elastic Traction Device; Micro-Tech, Nanjing, China) was deployed. Good traction allowed safe dissection with clear submucosal visualization; however, the traction force gradually decreased as dissection progressed. Therefore, re-traction was attempted using the second ring and en bloc resection was achieved with good traction force maintenance (▶ **Fig. 1 b–d**; ▶ **Video 1**).

The traction band has two silicone rings which enable the redirection of tension or re-tension. The silicone rings are small and have poor extensibility, making this device suitable for use in the narrow working spaces of the pharynx. Moreover, the maneuverability of the endoscope during submucosal dissection was not restricted because no grasping forceps were required (▶ **Fig. 2**). Hence, the clip–traction band device may be a useful tool for pharyngeal ESD.



▶ **Fig. 1** Endoscopic view of clip–traction band device-assisted pharyngeal endoscopic submucosal dissection (ESD). **a** Lesion after marking. Lack of staining with iodine is observed from the left pyriform sinus to the aryepiglottic fold. **b** Re-traction of the lesion using a clip–traction band device. **c** Mucosal defect after ESD. **d** Resected specimen. The tumor (26 × 22 mm) was diagnosed as squamous cell carcinoma in situ with no lymphovascular invasion and negative margins.

Endoscopy_UCTN_Code_TTT_1AO_2AC

Competing interests

The authors declare that they have no conflict of interest.

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Video 1 Successful pharyngeal endoscopic submucosal dissection using a novel clip–traction band device.

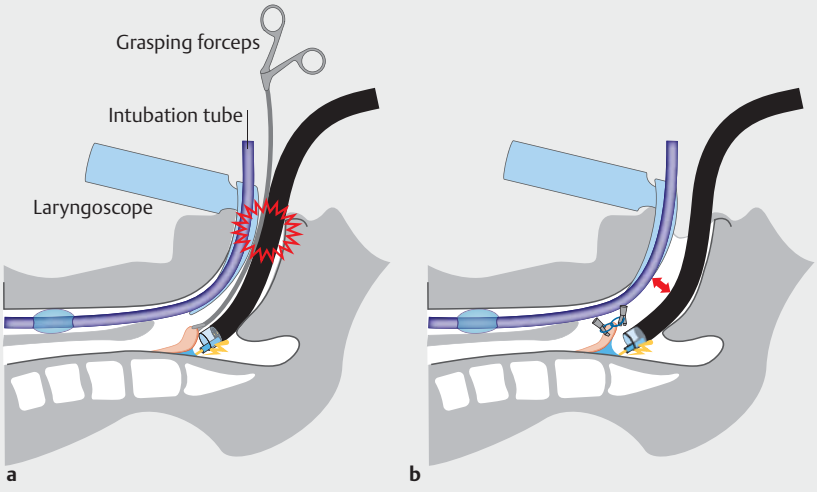

Fig. 2 Scheme of the differences in working space within the pharynx between grasping forceps traction-assisted ESD and clip–traction band-assisted ESD. **a** Grasping forceps traction-assisted ESD. The grasping forceps interfere with the endoscope. **b** Clip–traction band-assisted ESD. Adequate working space for the endoscope is ensured.

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Endoscopy 2023; 55: E424–E425
DOI 10.1055/a-2008-0552
ISSN 0013-726X

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