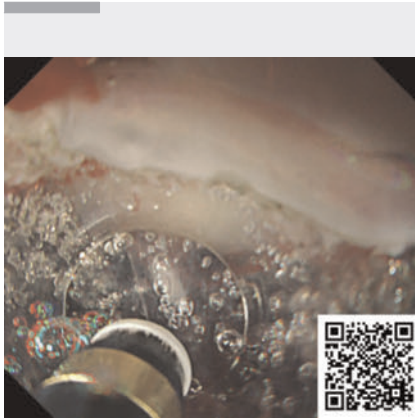
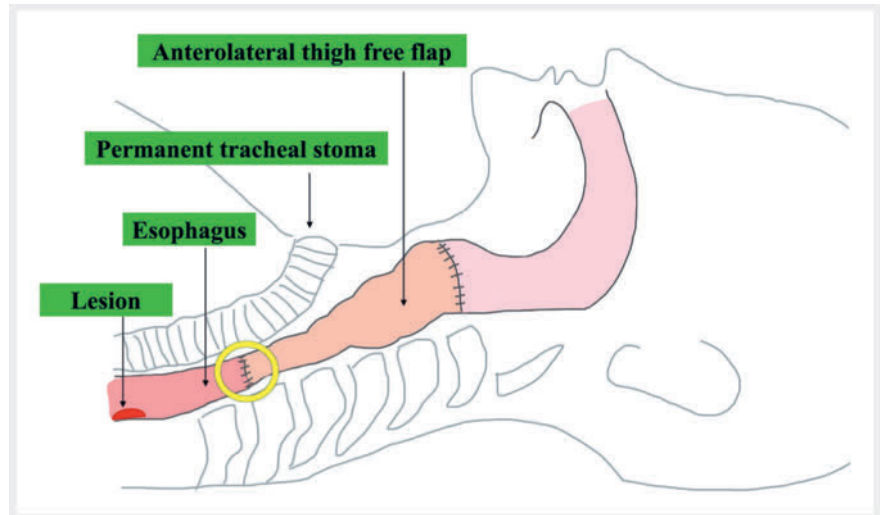


## Underwater endoscopic submucosal dissection using conical hood and gel immersion for esophageal squamous cell carcinoma with anastomotic stricture after total pharyngolaryngectomy



**▶ Video 1** Underwater endoscopic submucosal dissection using conical hood and gel immersion for esophageal squamous cell carcinoma with anastomotic stricture after total pharyngolaryngectomy.



**▶ Fig. 1** Schema of reconstruction using an anterolateral thigh flap for pharyngoesophageal defect after total pharyngolaryngectomy. Our patient had previously undergone this reconstruction procedure. A stricture can be observed at the distal end of the anastomosis (yellow circle), and beyond it the location of the superficial esophageal squamous cell carcinoma.

Pharyngoesophageal defects after total pharyngolaryngectomy (TPL) are commonly reconstructed with free jejunum or anterolateral thigh flap (ALT), often resulting in anastomotic stricture [1]. Endoscopic treatment of superficial esophageal squamous cell carcinoma (ESCC) in the presence of such an anastomotic stricture is challenging and requires ingenuity of devices and scopes [2]. Endoscopic submucosal dissection (ESD) with water or gel immersion helps in difficult-to-treat situations [3,4], and the utility of a small-caliber tapered conical hood during ESD is established [5]. Herein, we describe underwater ESD with a conical hood and gel immersion, which was performed successfully for superficial ESCC with post-TPL anastomotic stricture (**▶ Video 1**).

A 59-year-old woman with a history of TPL and ALT reconstruction for hypopharyngeal cancer presented with ESCC (20 mm, type 0-IIc) distal to the anastomotic stricture (**▶ Fig. 1**). The scope maneuverability was poor due to limited mouth opening, and the anastomotic stricture resulted in resistance to scope passage. ESD was attempted using a super-soft hood (Space Adjuster; TOP Corporation, Tokyo, Japan). However, the stricture could not be passed. Therefore, we used a small-caliber tapered conical hood (CAST hood; TOP Corporation, Tokyo, Japan) to enable passage of the stricture (**▶ Fig. 2 a–c**). Underwater ESD was performed because of the poor scope maneuverability. As the visual field became obscured by hemorrhage and mucus during mucosal incision, gel (Viscoclear; Otsuka Pharmaceutical Factory, Tokushima, Japan) was added, and thus

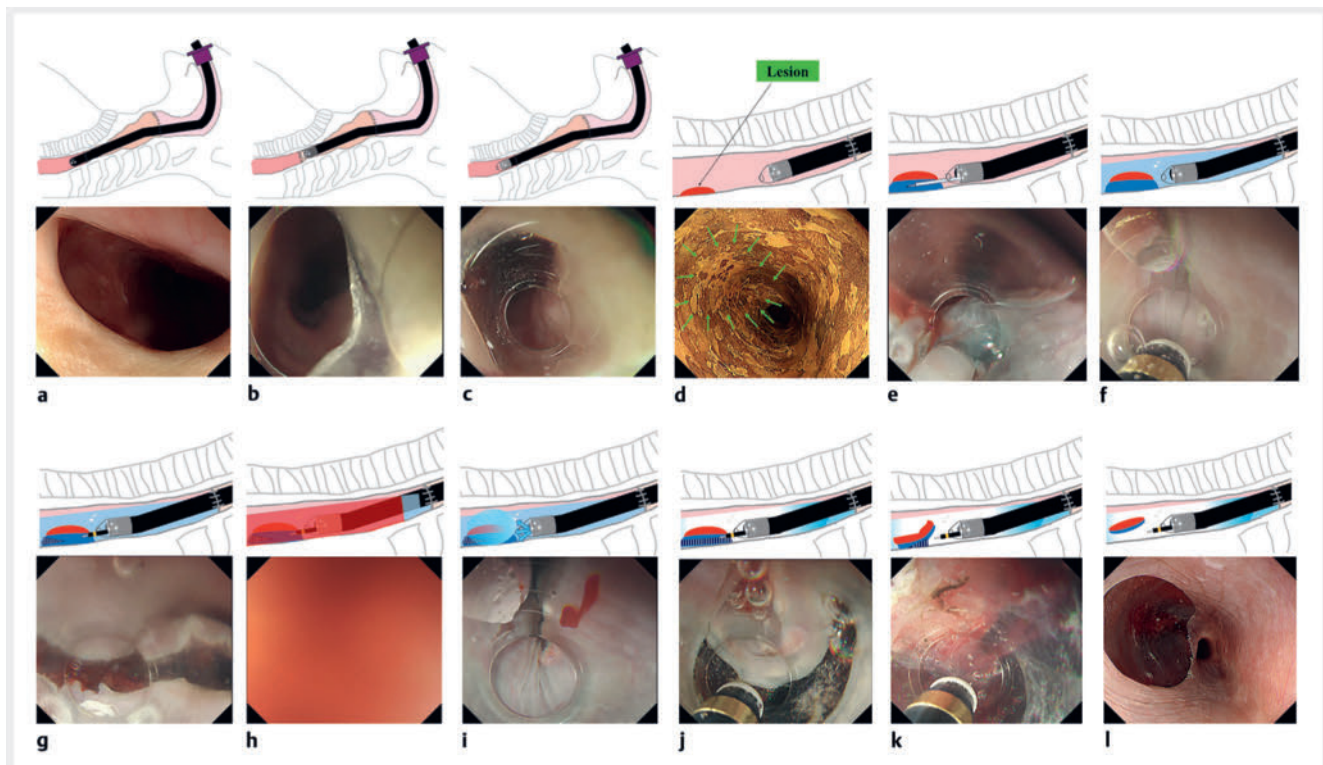
a clear view was obtained (**▶ Fig. 2 d–j**). The underwater condition and the conical hood allowed an easy approach to the submucosal layer, resulting in successful en bloc resection (**▶ Fig. 2 k, l**). Histopathological analysis revealed curative resection (**▶ Fig. 3**).

In conclusion, when ESD is performed for ESCC in the presence of an anastomotic stenosis after TPL, underwater ESD technique using a conical hood and gel immersion can enable passage through the stricture and improve scope operability and the visual field, enabling safe resection under low pressure.

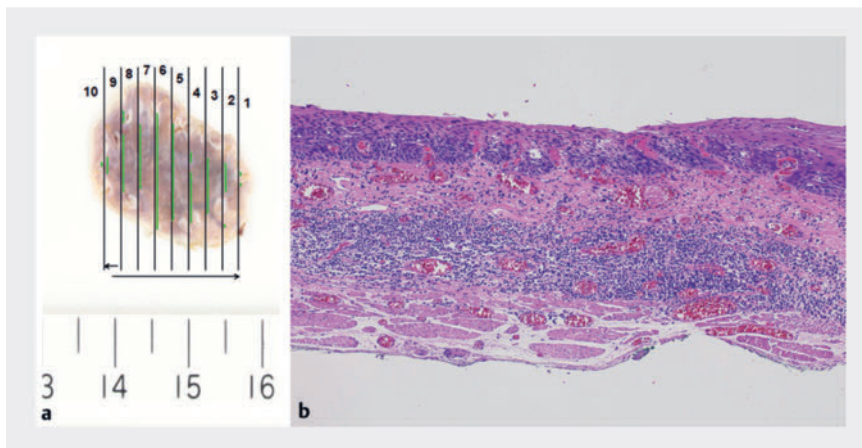
Endoscopy\_UCTN\_Code\_TTT\_1AO\_2AG\_3AD

### Acknowledgement

We would like to thank Editage for English language editing.



► **Fig. 2** Schemas and endoscopic images of underwater endoscopic submucosal dissection using a conical hood and gel immersion. **a** Anastomotic stricture. **b** With the super-soft hood attached, the endoscope cannot pass through the stricture. **c** With the small-caliber tapered hood attached, the endoscope passes through the stricture. **d** The lesion is on the esophagus distal to the anastomotic stricture; after iodine staining it remains unstained (green arrows). **e** Local injection. **f** Underwater view. **g** A mucosal incision is made on the distal edge of the lesion for the endpoint. **h** The endoscopic view is poor due to bleeding and mucus. **i** Gel immersion provides a clear view. **j** A mucosal incision is made on the proximal side with water and gel immersion. **k** Submucosal dissection is performed. **l** Complete en bloc resection is achieved.



► **Fig. 3** Macroscopic and histopathological images of the resected specimen. **a** Macroscopic image of the specimen. **b** Histopathological image of the specimen. The pathological diagnosis was esophageal squamous cell carcinoma in the lamina propria mucosae with no lymphovascular invasion and negative margins.

### Conflict of Interest

The authors declare that they have no conflict of interest.

### The authors

Takahiro Muramatsu<sup>1</sup>, Masakatsu Fukuzawa<sup>1</sup>, Midori Mizumachi<sup>1</sup>, Satoshi Shimai<sup>1</sup>, Miki Wada<sup>1</sup>, Manami Kajiwara<sup>2</sup>, Takao Itoi<sup>1</sup>

- 1 Department of Gastroenterology and Hepatology, Tokyo Medical University Hospital, Tokyo, Japan
- 2 Department of Diagnostic Pathology, Tokyo Medical University Hospital, Tokyo, Japan

## Corresponding author

### Takahiro Muramatsu, MD, PhD

Department of Gastroenterology and Hepatology, Tokyo Medical University Hospital, 6-7-1 Nishishinjuku, Shinjuku-ku, Tokyo 160-0023, Japan  
takahiro.m811@gmail.com

## References

- [1] Ishida K, Hirayama H, Kishi K et al. Long-term surgical and functional outcomes after anterolateral thigh flap and free jejunal transfer reconstruction of circumferential pharyngoesophageal defects. *Head Neck* 2023; 45: 2996–3005. doi:10.1002/hed.27526
- [2] Kitagawa Y, Suzuki T, Nakamura K et al. Endoscopic submucosal dissection by transnasal endoscope for esophageal cancer with pharyngoesophageal anastomotic stricture after total pharyngo-laryngo-esophagectomy. *Endoscopy* 2020; 52: E445–E447
- [3] Takahashi Y, Shibagaki K, Kotani S et al. Underwater endoscopic submucosal dissection performed under general anesthesia for the safe resection of superficial esophageal squamous cell carcinoma with ductal involvement. *Endoscopy* 2024; 56: E271–E273

- [4] Ishikawa T, Tashima T, Muramatsu T et al. Endoscopic submucosal dissection for superficial esophageal cancer with ulcer scarring using a combination of pocket creation, gel immersion, and red dichromatic imaging. *Endoscopy* 2024; 56: E87–E88
- [5] Nomura T, Sugimoto S, Ito K. Colorectal endoscopic submucosal dissection with a calibrated, small-caliber tip, transparent hood for tumors in the appendiceal orifice. *Digestive Endoscopy* 2023; 35: e123–124. doi:10.1111/den.14638

## Bibliography

*Endoscopy* 2024; 56: E1117–E1119

DOI 10.1055/a-2493-8400

ISSN 0013-726X

© 2024. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution License, permitting unrestricted use, distribution, and reproduction so long as the original work is properly cited.

(<https://creativecommons.org/licenses/by/4.0/>)

Georg Thieme Verlag KG, Oswald-Hesse-Str. 50, 70469 Stuttgart, Germany



## ENDOSCOPY E-VIDEOS

<https://eref.thieme.de/e-videos>



*E-Videos* is an open access online section of the journal *Endoscopy*, reporting on interesting cases and new techniques in gastroenterological endoscopy. All papers include a high-quality video and are published with a Creative Commons CC-BY license. *Endoscopy E-Videos* qualify for HINARI discounts and waivers and eligibility is automatically checked during the submission process. We grant 100% waivers to articles whose corresponding authors are based in Group A countries and 50% waivers to those who are based in Group B countries as classified by Research4Life (see: <https://www.research4life.org/access/eligibility/>).

This section has its own submission website at <https://mc.manuscriptcentral.com/e-videos>