

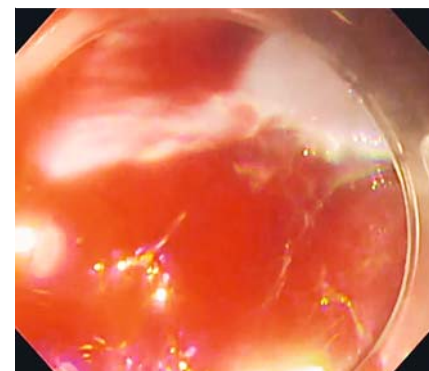
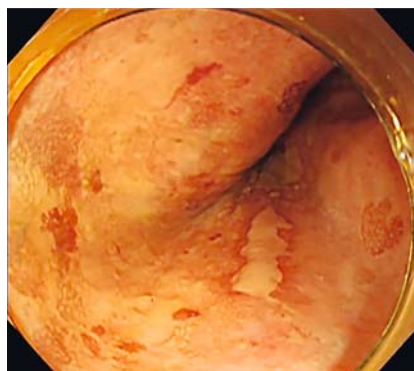
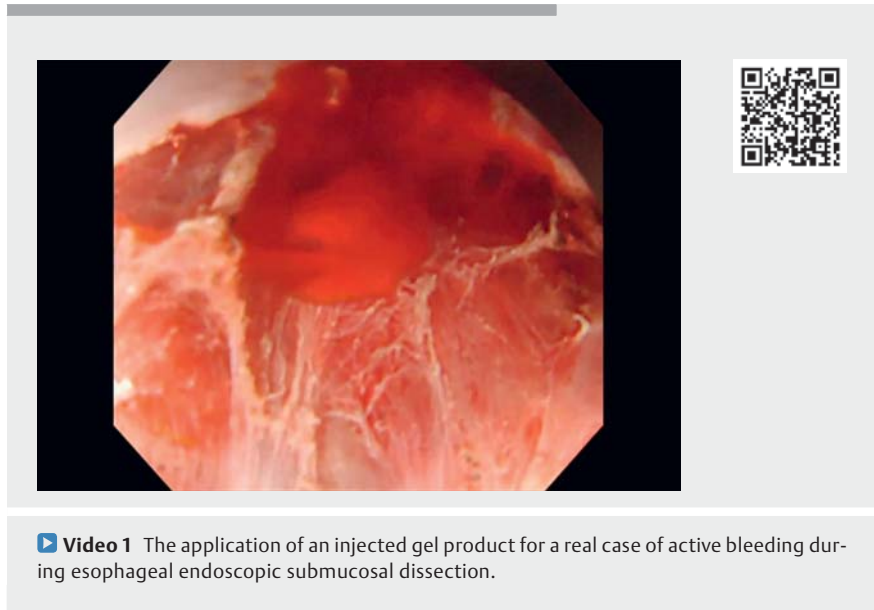
Efficacy of a gel injected using an endoscopic water jet for visualization bleeding during esophageal endoscopic submucosal dissection

OPEN
ACCESS

Active bleeding often occurs during esophageal endoscopic submucosal dissection (ESD), making it difficult to identify the bleeding point. During esophageal ESD, bleeding on the left wall of the esophagus is often difficult to visualize because of the difficulty of the patient's changing position. We report a new method using a gel product to secure the visual field of esophageal ESD when hemostasis is difficult.

We show the application of this method in a real case of active bleeding during ESD (▶ **Video 1**). The present case was an 80-year-old man who underwent ESD for early esophageal cancer. The 15-mm flat lesion was located on the left wall of the lower esophagus (▶ **Fig. 1**). Active hemorrhage occurred during dissection on the left wall side of the lesion (▶ **Fig. 2**). First we injected distilled water using an endoscopic water jet (GIF-H290T; Olympus Medical Systems, Co., Tokyo, Japan) to secure the field of view, but the blood spread quickly and we could not secure an adequate field of view. Subsequently, 200 ml of a 25% aluminum chloride gel (Visco Clear; Otsuka Pharmaceutical Factory, Inc., Tokushima, Japan) was injected using an endoscopic water jet [1–3]. The gel remained in the esophagus long enough to allow easy visualization and pinpoint hemostasis despite the active bleeding (▶ **Fig. 3**). After pinpoint hemostasis was achieved, ESD was completed without complications (▶ **Fig. 4**). The gel product was transparent and had sufficient viscosity, and suppressed the diffusion and flow of blood. In addition, the gel product was less viscous than lubricating jellies and could be easily injected into the esophagus using the endoscopic water jet. This method of injecting gel using an endoscope with a water-jet function can easily identify the active bleeding point during esophageal ESD, minimizing the risk of complications [4].

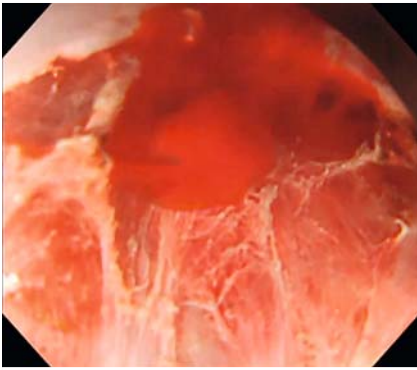
Endoscopy_UCTN_Code_TTT_1AO_2AD



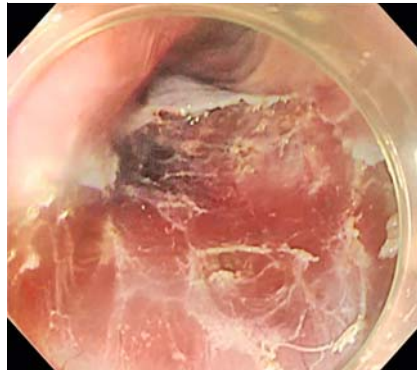
Competing interests

The author, Hidekazu Suzuki, has received service honoraria from AstraZeneca K.K., Astellas, Co., Daiichi-Sankyo Co., Otsuka Pharmaceutical Co. Ltd., Otsuka Pharmaceutical Factory, Inc. and Takeda Pharmaceutical Co. Ltd. and is the recipient of research grants from Daiichi-Sankyo Co., MSD Co., Otsuka

Pharmaceutical Co. Ltd., Takeda Pharm. Co., Tanabe-Mitsubishi Pharm. Co. and Tsumura Co. The author, Masaya Sano, has received service honoraria from Otsuka Pharmaceutical Factory, Inc. and Takeda Pharmaceutical Co. Ltd. The other authors declare that they have no conflict of interest.



► **Fig. 3** The gel product helped to easily identify the active bleeding point.



► **Fig. 4** ESD was completed without complications.

The authors

Takashi Ueda¹, Masaya Sano¹, Hideki Mori², Hidekazu Suzuki¹

- 1 Division of Gastroenterology and Hepatology, Department of Internal Medicine, Tokai University School of Medicine, Isehara, Japan
- 2 Translational Research Center for Gastrointestinal Diseases (TARGID), University of Leuven, Leuven, Belgium

Corresponding author

Hidekazu Suzuki, MD

Department of Gastroenterology, Tokai University School of Medicine, 143 Shimokasuya Isehara, Kanagawa 259-1193, Japan
hsuzuki@tokai.ac.jp

References

- [1] Yano T, Nemoto D, Ono K et al. Gel immersion endoscopy: a novel method to secure the visual field during endoscopy in bleeding patients (with videos). *Gastrointest Endosc* 2016; 83: 809–811. doi:10.1016/j.gie.2015.09.048
- [2] Maruyama T, Murakami T, Akazawa Y et al. A case of improved visibility with gel immersion in the presence of ongoing bleeding during colorectal endoscopic submucosal dissection. *VideoGIE* 2021; 6: 478–480. doi:10.1016/j.vgie.2021.06.009
- [3] Sekiguchi H, Yano T, Tokoro S et al. Low-pressure endoscopy using the gel immersion method facilitates endoscopic variceal ligation of ruptured esophageal varices. *Endoscopy* 2021. doi:10.1055/a-1559-2120
- [4] Khurelbaatar T, Miura Y, Yano T et al. Electrolyte-free gel immersion endoscopic submucosal dissection of gastric lesions. *Endoscopy* 2021. doi:10.1055/a-1559-1863

Bibliography

Endoscopy 2022; 54: E1066–E1067

DOI 10.1055/a-1889-5473

ISSN 0013-726X

published online 25.8.2022

© 2022. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (<https://creativecommons.org/licenses/by-nc-nd/4.0/>)

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



ENDOSCOPY E-VIDEOS

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



Endoscopy E-Videos is an open access online section, reporting on interesting cases

and new techniques in gastroenterological endoscopy. All papers include a high quality video and all contributions are freely accessible online. Processing charges apply (currently EUR 375), discounts and waivers acc. to HINARI are available.

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