Successful underwater endoscopic submucosal dissection with gel immersion for early gastric cancer in an upside-down stomach

An upside-down stomach (UDS) is a relatively rare type of esophageal hiatal hernia; almost the entire stomach prolapses into the posterior mediastinum in affected patients [1]. Surgical procedures for gastric cancer arising from a UDS have been reported [2]; however, no reports on endoscopic submucosal dissection (ESD) for early gastric cancer arising in a UDS are available. In patients with a UDS, endoscope maneuverability is poor because their stomachs are inverted. Recently, water or gel immersion has been reported to be useful for improving the field of view and scope maneuverability [3, 4, 5].

Herein, we describe underwater ESD with gel immersion performed successfully for early gastric cancer arising from a UDS (▶ Video 1).

An 85-year-old woman with a UDS (▶ Fig. 1 a, b) presented with early gastric cancer (lesion size 10 mm, type 0-IIc) located on the lesser curvature of the upper body (▶ Fig. 2 a, b). Approaching the lesion was difficult due to the UDS; thus, gas was removed from the lumen and replaced with water and gel (Visco-clear; Otsuka Pharmaceutical, Tokushima, Japan) to establish an underwater condition. The water-gel mixture maintained a lower intraluminal pressure and allowed us to approach the lesion, even from its distal side, under a clearer view (▶ Fig. 3 a–h).

A mucosal incision was made on the distal side to mark the incision limit. This was followed by a proximal mucosal incision and a complete circumferential incision. Finally, submucosal dissection was continued, and a complete en bloc resection was performed (▶ Fig. 3 i–n). Additional gel was injected as needed to obtain a clear view of the submucosal layer. In conclusion, low-pressure endoscopy with water and gel immersion may help endoscopists overcome poor endoscope operability in procedures involving a UDS. This approach may further reduce the patient’s suffering, stabilize their condition, and enable safe resection of UDS lesions.

Funding Information

Japan Society for the Promotion of Science

E-Videos

Muramatsu Takahiro et al. Successful underwater endoscopic... Endoscopy 2024; 56: E258–E259 | © 2024. The Author(s).
The authors declare that they have no conflict of interest.

The authors

Takahiro Muramatsu1, Tomoaki Tashima1, Tsubasa Ishikawa1, Tomonori Kawasaki2, Yumi Mashimo1, Takao Itoi3, Shomei Ryozawa1

1 Gastroenterology, Saitama Medical University International Medical Center, Hidaka, Japan
2 Pathology, Saitama Medical University International Medical Center, Hidaka, Japan
3 Gastroenterology and Hepatology, Tokyo Medical University Hospital, Shinjuku-ku, Japan

Corresponding author

Tomoaki Tashima, MD, PhD
Department of Gastroenterology, Saitama Medical University International Medical Center, 1397-1 Yamane, Hidaka City, Saitama 350-1298, Japan
t.tashima1981@gmail.com

References


Bibliography

Endoscopy 2024; 56: E258–E259
DOI 10.1055/a-2275-0894
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, Rüdigerstraße 14, 70469 Stuttgart, Germany

Fig. 3 Schema of underwater endoscopic submucosal dissection (ESD) with gel immersion in an upside–down stomach (UDS). a View under gas. b Attempts to approach the lesion. c The endoscope is pulled back. d Pushing the endoscope fails to achieve access to the lesion. e Markings around the lesion. f Removal of the gas from the lumen. g Underwater view. h View under combined water and gel (Viscoclear; Otsuka Pharmaceutical, Tokushima, Japan) immersion; the conditions established allow access to the lesion. i Local injection. J Initial mucosal incision is made on the distal edge of the lesion. k The mucosal incision is widened to the right and left. l A whole circumferential incision is made. m Submucosal dissection is performed. n En bloc resection is achieved.