Endoscopic papillectomy using the underwater technique [1] for ampullary tumors allows for involutions of the mucosal folds and permits resection without capturing the muscularis propria and without the need for submucosal fluid injection [2, 3]. However, there are some disadvantages to underwater endoscopic papillectomy. For example, it can be difficult to maintain a sufficient amount of water, there is a risk of flushing away the resected specimens, and mixing of any blood with the water can cause loss of visibility. To overcome these disadvantages, we successfully applied the gel immersion technique, a novel method for securing the endoscopic visual field using gel with an appropriate viscosity (Viscoclear; Otsuka Pharmaceutical Factory, Inc., Tokushima, Japan) during gastrointestinal tract bleeding [4, 5].

A 67-year-old man presented with an ampullary tumor (▶ Fig. 1) and endoscopic ultrasonography (EUS) was performed. Gel immersion EUS (GI-EUS) provided better acoustic coupling without flattening of the tumor, for a longer time than with water filling, and revealed an ampullary tumor without invasion of the duodenal muscularis propria or intraductal involvement (▶ Fig. 2; ▶ Video 1). GI-EUS also showed the involutions of the mucosal folds while the muscle layer remained circular, as with the underwater technique [1].

Gel immersion endoscopic papillectomy (GI-EP) was chosen as the treatment with the patient’s agreement and sufficient informed consent. An auxiliary injection cap (BioShield irrigator; US Endoscopy, Ohio, USA) was used to allow the operative channel to remain free, and Viscoclear was injected before and during GI-EP. En bloc papillectomy was performed with a standard snare using a high frequency blended electric cutting current (▶ Fig. 3 a, b). After the resection, the specimen remained within the gel, the mild bleeding did not spread, and the visual field remained secure. A pancreatic stent was inserted, and the mucosal defect was closed using endo-
clips (▶ Fig. 3c; ▶ Video 1). No adverse events occurred and histopathological findings revealed a tubular adenoma with negative margins. GI-EUS and GI-EP may be useful for the examination and treatment of ampullary tumors.

Endoscopy_UCTN_Code_TTT_1AS_2AD

Competing interests

Dr. Katanuma has received speaker’s fees from Olympus Co., Tokyo, Japan. The remaining authors declare that they have no conflict of interest.

The authors

Haruka Toyonaga, Kuniyuki Takahashi, Toshifumi Kin, Tsuyoshi Hayashi, Akio Katanuma
Center for Gastroenterology, Teine-keijinkai Hospital, Hokkaido, Japan

Corresponding author

Haruka Toyonaga, MD
Center for Gastroenterology, Teine-keijinkai Hospital, 1-40-1-12 Maeda, Teine-ku, Sapporo 006-8555, Japan
toyonaga.pc@gmail.com

References

[4] 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: 808–811

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