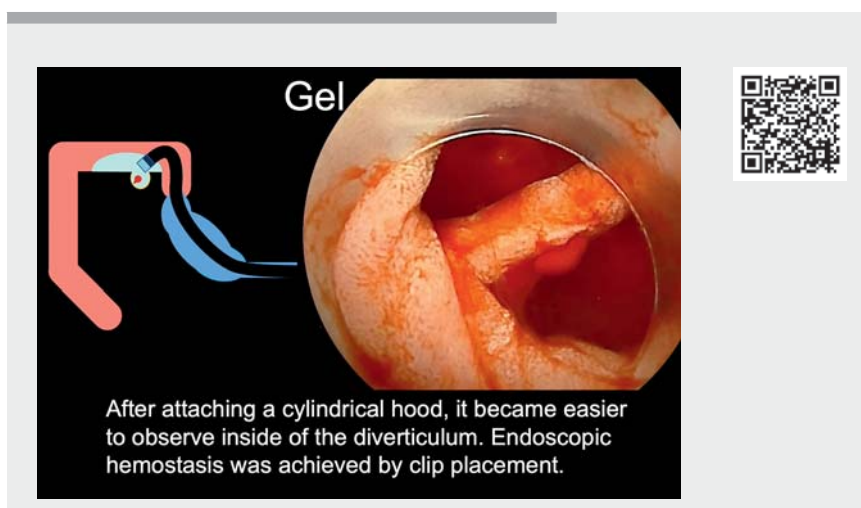


Low-pressure endoscopy using the gel immersion method facilitates endoscopic hemostasis of duodenal diverticular bleeding

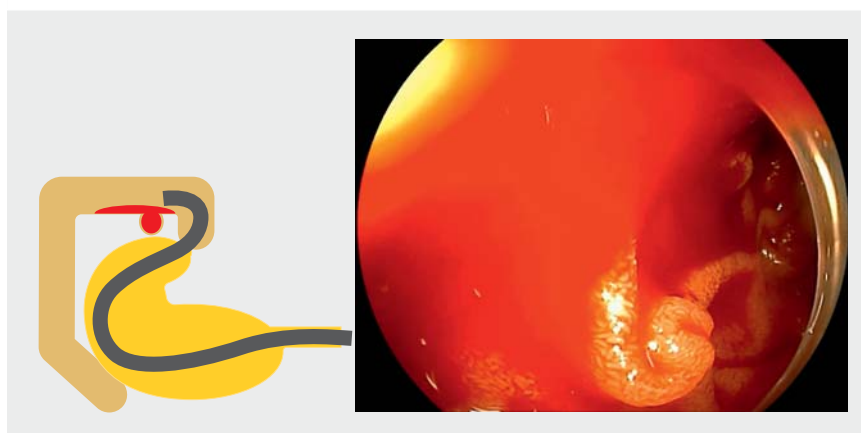
Duodenal diverticular bleeding is an uncommon cause of upper gastrointestinal bleeding, and the optimal treatment remains controversial [1]. Since duodenal diverticula lack a muscle layer, precise endoscopic hemostasis is required to prevent perforation. However, the lumen of the diverticulum easily fills with blood, and the redundant loop in the stomach limits the maneuverability of the endoscope. These factors make precise endoscopic hemostasis difficult.

Gel immersion endoscopy is a new method for securing the visual field using a clear gel. Since the injected viscous gel displaces luminal blood, the bleeding point is easily identified within the gel [2]. In addition, the gel immersion method maintains collapse of the organ with lower intraluminal pressure than with gas insufflation [3], preventing the redundant loop in the stomach.

The patient was a 68-year-old woman with diverticular bleeding in the descending part of the duodenum (► **Video 1**). The bleeding point could not be identified using gas insufflation owing to an inadequate visual field and poor maneuverability (► **Fig. 1**). Although maneuverability improved after aspirating the gas remaining in the stomach and duodenum, it was difficult to secure the visual field by the water immersion method, because the injected water rapidly mixed with blood. After injecting “Viscoclear” gel (Otsuka Pharmaceutical Factory, Tokushima, Japan) [4], the visual field improved (► **Fig. 2**) and the diverticulum with an intraluminal blood clot was identified. Although it was initially difficult to observe the inside of the diverticulum, after attaching a cylindrical hood, it became easier to observe (► **Fig. 3**). The bleeding point at the diverticular septum was identified and endoscopic hemostasis was achieved by clip placement (► **Fig. 4**).



► **Video 1** The bleeding point at the diverticular septum was identified and endoscopic hemostasis was achieved by clip placement using the gel immersion method with a cylindrical hood.



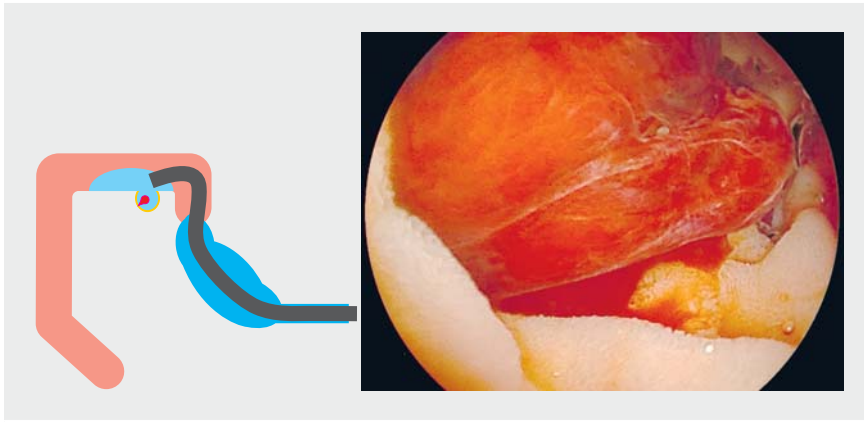
► **Fig. 1** The bleeding point could not be identified using gas insufflation owing to an inadequate visual field and poor maneuverability.

Low-pressure endoscopy using the gel immersion method with a cylindrical hood facilitates hemostasis of duodenal diverticular bleeding.

Endoscopy_UCTN_Code_CCL_1AB_2AZ_3AD

Competing interests

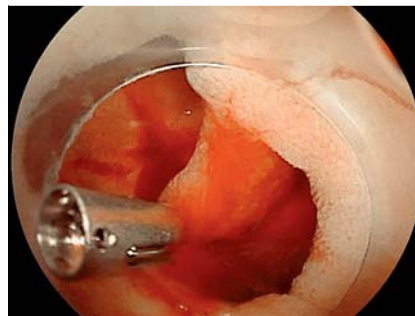
Potential competing interests: Tomonori Yano has patents for the dedicated electrolyte-free gel. No other authors have personal financial relationships with a commercial entity producing healthcare-related products and/or services relevant to this article.



► **Fig. 2** After injecting “Viscoclear” gel, the visual field improved.



► **Fig. 3** Although it was initially difficult to observe the inside of the diverticulum, after attaching a cylindrical hood, it became easier to observe.



► **Fig. 4** The bleeding point at the diverticular septum was identified and endoscopic hemostasis was achieved by clip placement.

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