

Gel immersion cannulation during hemostasis of post-endoscopic sphincterotomy bleeding

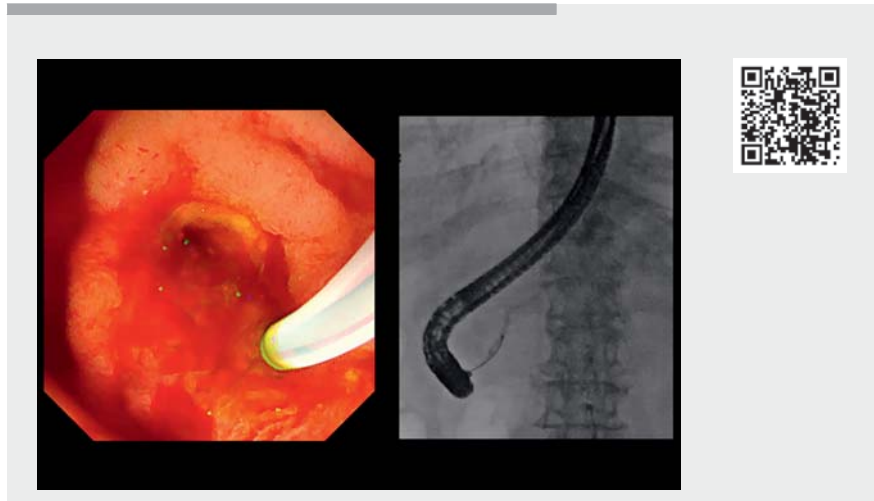


Post-endoscopic sphincterotomy (ES) bleeding is a common complication of biliary sphincterotomy. The rate of post-ES bleeding varies widely and bleeding may present immediately or several days later. Endoscopic hemostasis includes injection, thermal coagulation, and mechanical methods, either alone or in combination. Vascular embolization or surgery is necessary when hemostasis is difficult to achieve [1].

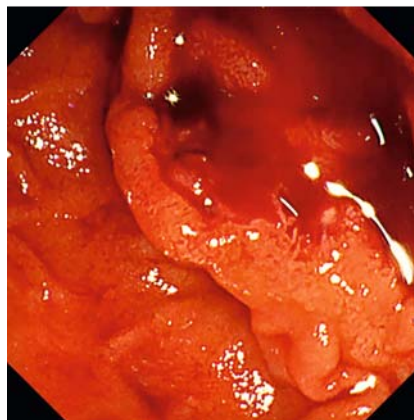
Post-ES bleeding and further endoscopic hemostasis therapy increase the complication rates of pancreatitis and cholangitis [2]. A pancreatic duct stent can be placed to prevent pancreatitis during endoscopic hemostatic treatment. However, cannulation is sometimes challenging because the bleeding may obscure the field of view.

We successfully applied a novel method for securing the endoscopic visual field using a gel immersion technique [3,4] during cannulation, which involves the application of a gel with an appropriate viscosity (Viscogel; Otsuka Pharmaceutical Factory, Inc., Tokushima, Japan) (▶ **Video 1**).

An 84-year-old woman presented with common bile duct stones. ES was performed to remove the stones; however, bleeding occurred 2 days after the procedure, and endoscopic hemostatic treatment was performed (▶ **Fig. 1**). Prior to the thermal method, pancreatic duct stenting was attempted to prevent pancreatitis; however, cannulation was difficult because of the bleeding. An auxiliary injection cap (BioShield irrigator; US Endoscopy, Mentor, Ohio, USA) was used to free the channel, and the gel was injected via the injection cap using a flushing pump (OFP-2; Olympus, Tokyo, Japan) (▶ **Fig. 2**). The pump was set at low pressure to maintain gel viscosity [5] (▶ **Fig. 3**).



▶ **Video 1** Gel immersion cannulation during hemostasis of post-endoscopic sphincterotomy bleeding.



▶ **Fig. 1** Bleeding occurred 2 days after endoscopic sphincterotomy.



▶ **Fig. 2** An auxiliary injection cap (BioShield irrigator; US Endoscopy, Mentor, Ohio, USA) was equipped to free up the channel.

Finally, a pancreatic stent was successfully inserted while the visual field was secured (▶ **Fig. 4**, ▶ **Fig. 5**). The thermal method was used, and hemostasis was successfully achieved.

Gel immersion cannulation may be useful in cases where securing the visual field is difficult.

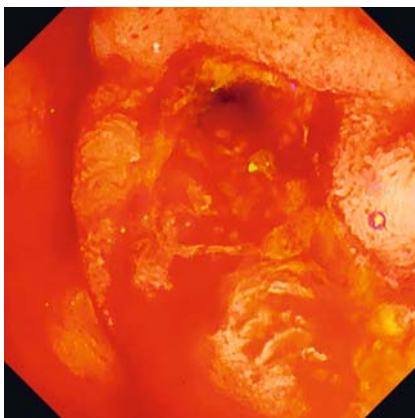
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Competing interests

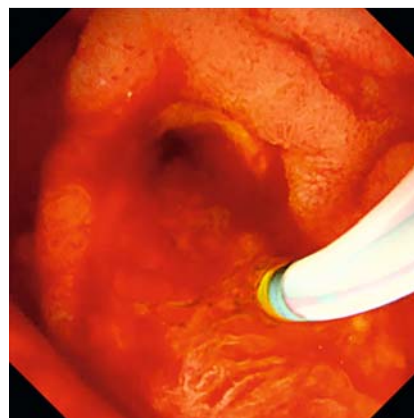
A. Katanuma has received honoraria for lecture fees from Olympus Co., Tokyo, Japan. K. Hama, H. Toyonaga, K. Iwano, T. Ishii, T. Kin, and T. Hayashi declare that they have no conflict of interest.



► **Fig. 3** Viscous gel (Viscoclear; Otsuka Pharmaceutical Factory, Inc., Tokushima, Japan) was injected using a flushing pump (OFP-2, Olympus, Japan). To maintain the viscosity of the gel, the pump was set at a low pressure.



► **Fig. 4** Viscous gel (Viscoclear; Otsuka Pharmaceutical Factory, Inc., Tokushima, Japan) was injected via an auxiliary injection cap (BioShield irrigator; US Endoscopy, Mentor, Ohio, USA), and the visual field was secured.



► **Fig. 5** Successful cannulation into the pancreatic duct.

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Bibliography

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