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DEN Video Article

Efficiency of a novel gel product for duodenal ulcer bleeding

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BRIEF EXPLANATION

A 55-YEAR-OLD WOMAN with hematemesis was transported to the Hakodate Municipal Hospital. She was receiving chemotherapy for intrahepatic cholangiocarcinoma. The abdominal arterial phase of contrast-enhanced computed tomography showed active bleeding in the duodenal bulb (Fig. 1A). Esophagogastroduodenoscopy (GIF-Q260J; Olympus, Tokyo, Japan) revealed, the duodenal bulb ulcer covered with blood clots and hemorrhage. First, we attempted detecting the bleeding source by washing with water using a water jet instrument (OFP-2; Olympus). However, we could not detect the bleeding source because of water and blood mixing (Fig. 1B and Video S1). Next, we injected VISCOCLEAR, a novel gel product, (Otsuka Pharmaceutical Factory, Tokushima, Japan) via the water jet instrument (Fig. 2A). We could then detect the bleeding source on the duodenal ulcer (Fig. 2B) and then coagulate the bleeding vessel with hemostatic forceps (RAICHO2; Kaneka Medics, Osaka, Japan) in the duodenal lumen filled with VISCOCLEAR (Fig. 2C). We could observe the ulcer in detail by filling the duodenal lumen with the gel after hemostasis (Fig. 2D) and suction smoothly VISCOCLEAR.

The efficiency of the gel immersion method for endoscopic hemostasis was reported.[1–3] Yano *et al.*[2] demonstrated that the gel secured the visual field in vitro model of bleeding by preventing mixing of the gel and blood due to viscosity of the gel. They used a jelly compound (OS-1 Jelly; Otsuka Pharmaceuticals Factory) as an oral rehydration gel solution in these reports. VISCOCLEAR was released for endoscopic procedures and as a uniform gel product compared with OS-1 Jelly. VISCOCLEAR consists of gelling agents, concentrated glycerin and purified water without electrolytes. Therefore, we could use electrocoagulation monopolar device in the duodenal lumen filled with VISCOCLEAR. Duodenal cavity is smaller than the stomach or colon, so we could easily fill the duodenal lumen with the gel. VISCOCLEAR has potential usefulness for duodenal bleeding cases.

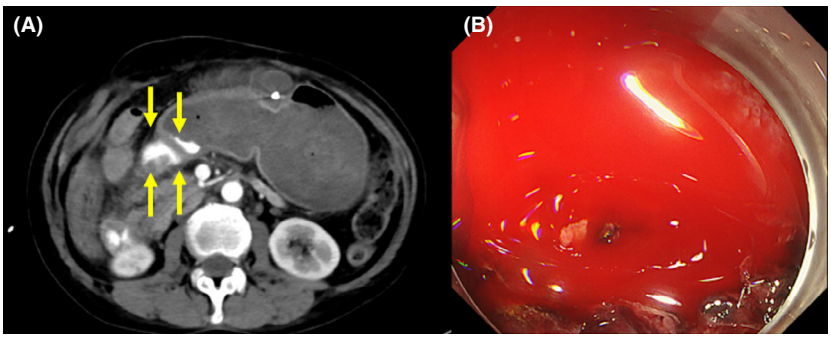

Figure 1 (A) Arterial phase contrast-enhanced computed tomography image showing active bleeding in the duodenal bulb (yellow arrows). (B) The bleeding source was not detected by washing with water, as the water rapidly mixed with blood.

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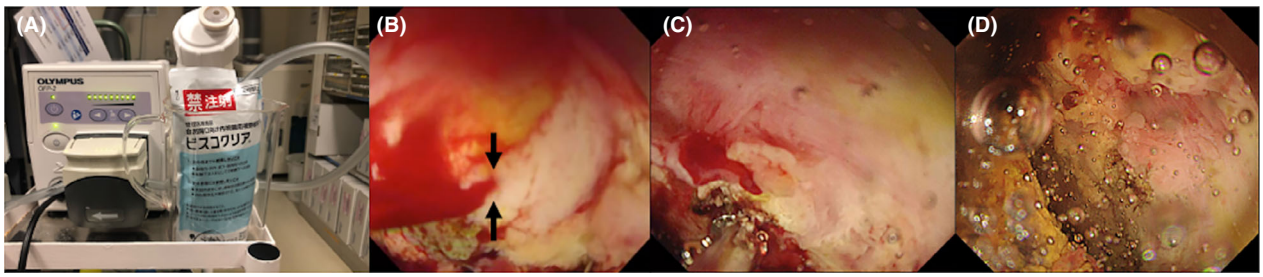

Figure 2 (A) The edge of connection tube of water jet instrument was inserted into the VISCOCLEAR bag. The VISCOCLEAR bag was put in a plastic cup to prevent it from tipping over. (B) The bleeding source was detected by washing the duodenal bulb with VISCOCLEAR (black arrows). (C) The bleeding vessel was coagulated using hemostatic forceps in the gel filling duodenal lumen. (D) Endoscopic image showing the duodenal ulcer after hemostasis with the gel filling the duodenal bulb lumen. VISCOCLEAR provided a clear visual field because of non-mixing with oozing from the blot clot.

The authors declare no conflicts of interest for this article.

Informed consent was obtained from the patient to publish the images.

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SUPPORTING INFORMATION

ADDITIONAL SUPPORTING INFORMATION may be found in the online version of this article at the publisher's web site.

Video S1 Endoscopic hemostasis using a novel gel product for duodenal ulcer bleeding.