Snare-tip spray spark coagulation technique for bleeding secondary to gastric antral vascular ectasia

Gastric antral vascular ectasia is a condition characterized by dilatation of blood vessels in the gastric mucosa. Argon plasma coagulation (APC) was reportedly effective in treating the condition with progressive anemia [1–5]. However, APC requires special equipment and probe preparation. We developed a new method called the "snare-tip spray spark coagulation technique" to treat bleeding secondary to gastric antral vascular ectasia without using APC.

Spray coagulation and Endo Spray coagulation utilize a high output voltage with an interrupted waveform using VIO 300 D (ERBE Elektromedizin, Tuebingen, Germany) and maXium (Gebrüder Martin GmbH & Co. KG, Tuttlingen, Germany). When a high output voltage is applied to the tip of a snare, coagulation is achieved by a spark along an electric arc (▶Fig. 1).

▶Video 1 shows how to perform this technique in an animal model, followed by its use for hemostasis of an actual bleed secondary to gastric antral vascular ectasia.

A woman in her 80s with a history of myocardial infarction, on aspirin, visited our institution for a routine checkup. Hematology revealed anemia, with the patient having a hemoglobin level of 7.0 g/dL. Upper gastrointestinal endoscopy was performed to localize bleeding sources (▶Fig. 2). Telangiectasia, consistent with gastric antral vascular ectasia, was detected. The telangiectasia was observed to be oozing blood, and hemostasis was achieved using the snare-tip spray spark coagulation technique. Blood transfusion and iron administration were initiated, and a repeat upper gastrointestinal endoscopy was performed the following day to confirm hemostasis. No spontaneous bleeding was observed. The patient started eating 3 days later and was discharged 8 days later without progression of anemia. At 1 month, follow-up endoscopy showed an ulcerated scar where gastric antral vascular ectasia was previously observed. The patient was noted to have no further progression of anemia. The snare-tip spray spark coagulation technique successfully achieved hemo-

▶Fig. 1 Animal model using the snare-tip spray spark coagulation technique. a The snare-tip is slightly out of the sheath, with no contact with the porcine liver surface. b Long spark coagulation Endo Spray mode using maXium (Endo Spray 45 W). c Long spark coagulation Spray Coag mode using VIO 300D (Spray Coag 60–90 W, Effect 2).

▶Video 1 How to perform the snare-tip spray spark coagulation technique in an animal model, followed by its use for hemostasis of an actual bleed secondary to gastric antral vascular ectasia.
stasis for bleeding secondary to gastric antral vascular ectasia without the use of APC.

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Competing interests

The authors declare that they have no conflict of interest.

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▶ Fig. 2 Actual hemostasis in the gastric antral vascular ectasia using snare-tip spray spark coagulation. a The gastric antral vascular ectasia in the gastric antrum. b Hemostasis with the snare-tip spark was performed using snare-tip spray spark coagulation. c Gastric mucosa after snare-tip spray spark coagulation. d Ulcer scars 1 month after hemostasis using snare-tip spray spark coagulation.