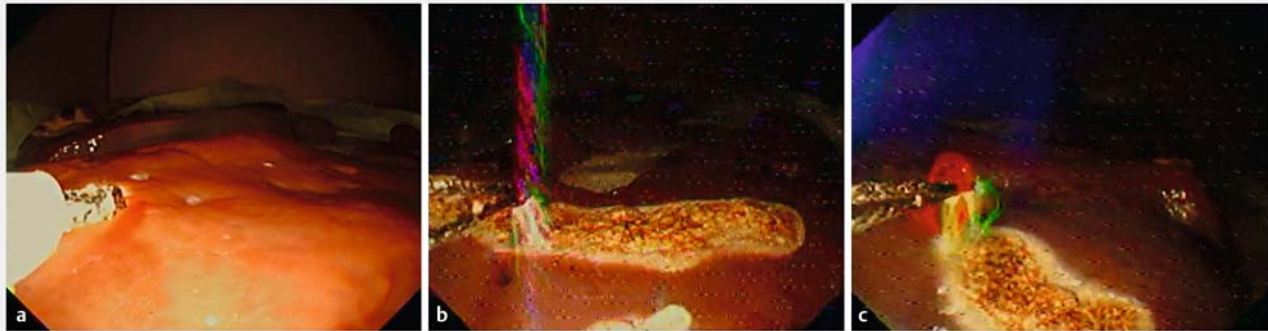


Snare-tip spray spark coagulation technique for bleeding secondary to gastric antral vascular ectasia



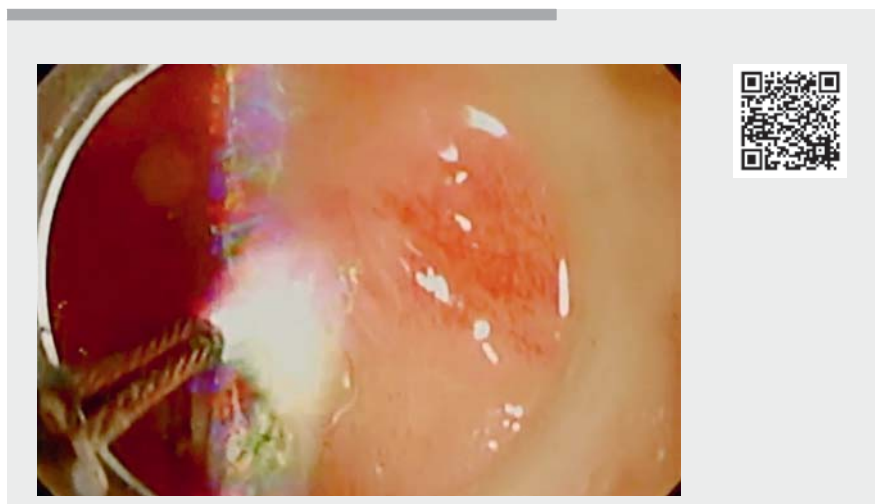
► **Fig. 1** Animal model using the snare-tip spray spark coagulation technique. **a** The snare-tip is slightly out of the sheath, with no contact with the porcine liver surface. **b** Long spark coagulation Endo Spray mode using maXium (Endo Spray 45 W). **c** Long spark coagulation Spray Coag mode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

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 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

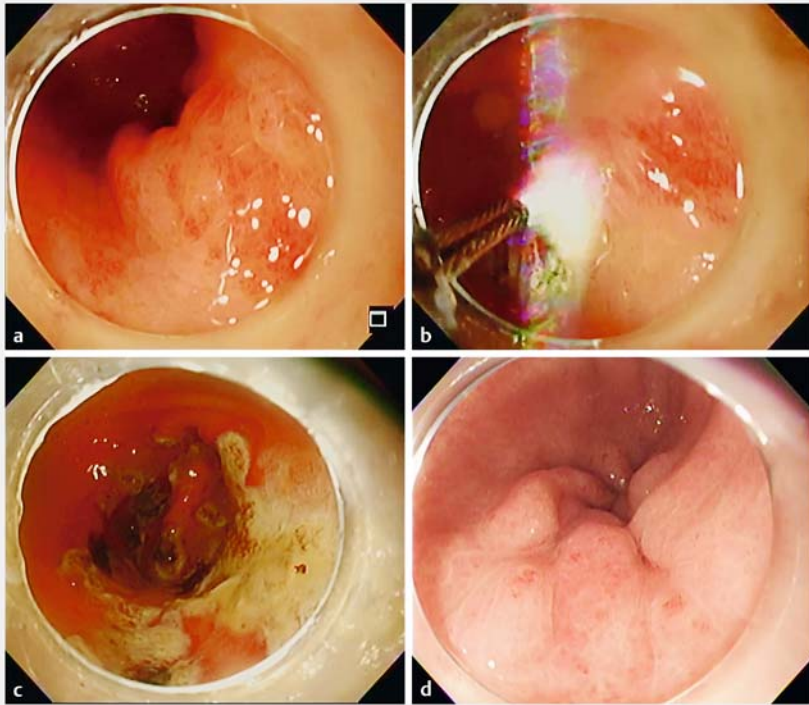


► **Video 1** How to perform the snare-tip spray spark coagulation technique in an animal model, followed by its use for hemostasis of an actual bleed secondary to gastric antral vascular ectasia.

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 sponta-

neous 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. 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.

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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