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-
stasis for bleeding secondary to gastric antral vascular ectasia without the use of APC.

Endoscopy_UCTN_Code_TTT_1AO_2AD

Competing interests

The authors declare that they have no conflict of interest.

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Endoscopy
DOI 10.1055/a-1694-3317
ISSN 0013-726X
published online 2021 © 2021. Thieme. All rights reserved.
Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

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Fig. 1 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.

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.