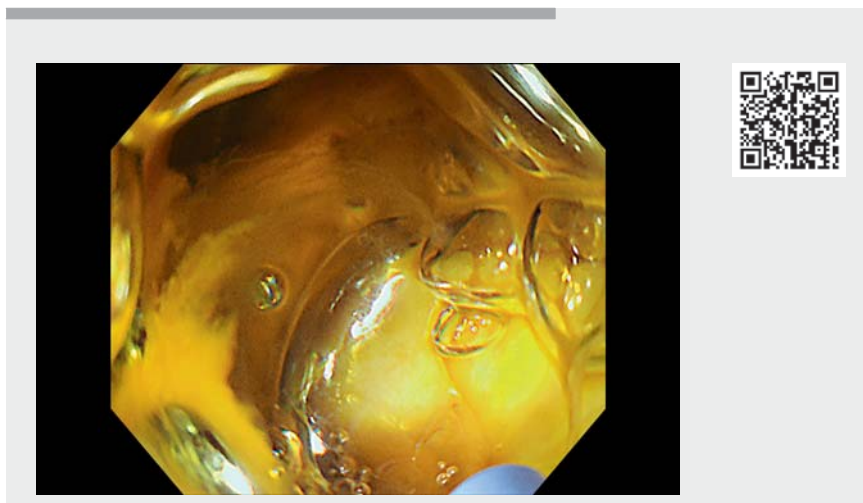


Endoscopic hemostasis of spurting colonic diverticular bleeding using the combination of self-assembling peptide solution and endoscopic band ligation



Self-assembling peptides (PuraStat; 3-D Matrix, Tokyo, Japan) are novel synthetic self-assembling peptides that are licensed for use as a hemostat [1]. The matrix forms an extracellular scaffold that is activated by the change in pH on contact with blood and generates a stable mechanical barrier over the bleeding site, thereby facilitating intrinsic *in vivo* hemostasis [2]. Self-assembling peptides are mainly used to induce hemostasis of oozing bleeding in endoscopic procedures [3]; their usefulness in colorectal diverticular bleeding has yet to be investigated. In this study, we report a case in which the combination of self-assembling peptide solution and endoscopic band ligation (EBL) were effective for endoscopic hemostasis of spurting bleeding from a colonic diverticulum (► **Video 1**).

The patient was a 66-year-old woman who had hypertension and a history of diverticular bleeding 20 years previously. She presented to our emergency room with massive bloody stools, a hemoglobin of 104 g/L, progressive anemia, and pallor, and underwent emergency colonoscopy. During this examination, we observed spurting bleeding from a diverticulum at the hepatic flexure (► **Fig. 1 a**). We identified the diverticulum as the source of the bleeding in the red dichromatic imaging (RDI) mode and marked its vicinity with a clip. Next, 3 mL of the self-assembling peptide solution was injected into the diverticulum using a dispersal tube (► **Fig. 1 b**). After the injection, the spurting bleeding gradually subsided and hemostasis was temporarily achieved (► **Fig. 1 c**). We removed the scope, placed a band onto it, and reinserted it, with the diverticulum confirmed as the source of bleeding by locating the



► **Video 1** Endoscopic hemostasis of spurting bleeding from a colonic diverticulum is achieved using the combination of self-assembling peptide solution and endoscopic band ligation.

clip. Complete hemostasis was achieved via EBL (► **Fig. 1 d**). The patient resumed eating the day after hemostasis had been achieved and was discharged 5 days later without any evidence of further bleeding or progression of anemia.

In this case, the self-assembling peptide solution temporarily stopped the spurting bleeding, making it easier to identify the bleeding point. Furthermore, the temporary hemostasis ensured a stable visual field, thereby permitting safe EBL to be performed.

Endoscopy_UCTN_Code_TTT_1AQ_2AZ

Acknowledgments

We thank Joe Barber, Jr., PhD, from Edanz (<https://jp.edanz.com/ac>) for editing a draft of this manuscript.

Competing interests

The authors declare that they have no conflict of interest.

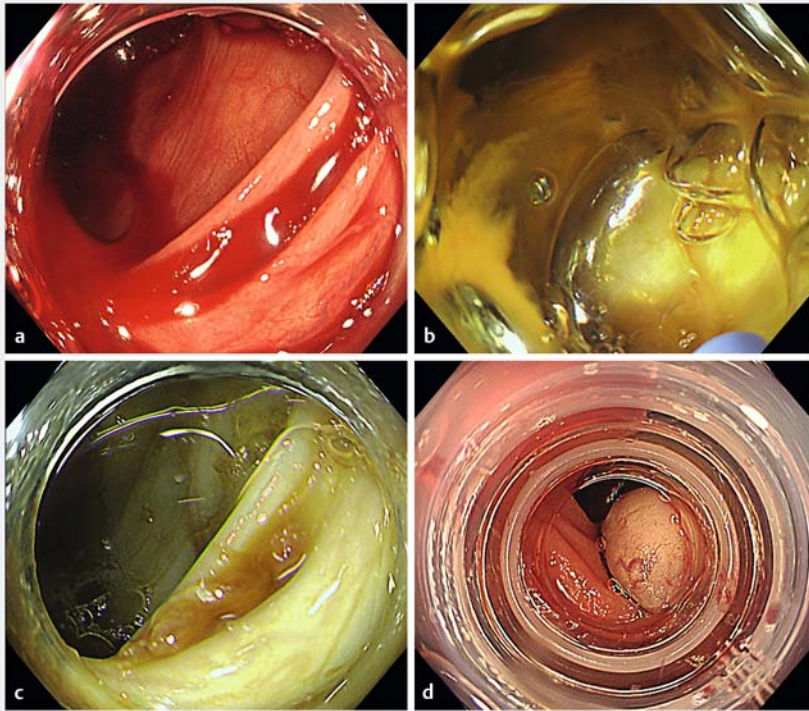
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► **Fig. 1** Endoscopic images showing: **a** spurting bleeding from a diverticulum at the hepatic flexure; **b** self-assembling peptide solution being injected into the diverticulum using a dispersal tube under red dichromatic imaging (RDI) mode observation; **c** hemostasis temporarily achieved after the injection, as shown in the RDI mode; **d** the appearance following endoscopic band ligation, which successfully achieved complete hemostasis.

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Endoscopy 2023; 55: E418–E419

DOI 10.1055/a-2008-0599

ISSN 0013-726X

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Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

