Rapid hemostasis using a self-assembling peptide matrix for midprocedural bleeding in endoscopic sphincterotomy

Post-sphincterotomy bleeding during or after endoscopic retrograde cholangiopancreatography (ERCP)-related procedures is often problematic. Although various hemostatic techniques, such as balloon compression, clipping, cautery, and covered metallic stents, are usually carried out, they are time-consuming, costly, risky, and difficult to perform [1]. Recently, the efficacy of a novel self-assembling peptide matrix (PuraStat; 3-D Matrix Europe SAS, France) has been reported for hemostasis in gastrointestinal endoscopic procedures [2–5]. We describe two cases in which PuraStat was effective for rapid hemostasis of post-sphincterotomy bleeding during ERCP (Video 1).

Case 1: A 65-year-old man who had previously had a Billroth II gastrectomy underwent ERCP for acute cholangitis due to a stone in the common bile duct. After successful biliary cannulation, needle-knife sphincterotomy was performed to remove the stone; however, bleeding occurred in the middle of the sphincterotomy, making it difficult to continue the procedure (Fig. 1). PuraStat was easily applied and hemostasis rapidly achieved (Fig. 2). We resumed the sphincterotomy and completed the procedure (Fig. 3).

Case 2: A 48-year-old woman with obstructive jaundice caused by pancreatic head cancer underwent ERCP for biliary decompression. We planned to place drainage stents in the pancreatic duct and gallbladder before deploying covered self-expandable metal stents (CSEMS), in order to prevent cholecystitis and pancreatitis after stent placement. We successfully performed pancreatic duct stenting and endoscopic sphincterotomy, but after the sphincterotomy, bleeding occurred (Fig. 4). Because pulsatile bleeding persisted and there was a risk of losing the visual field before gallbladder stenting and CSEMS placement, to reduce the momentum of the bleeding we applied PuraStat using red dichromatic imaging (Olympus, Japan) (Fig. 5). The bleeding was controlled by the PuraStat, and the procedure was completed with a secure visual field.
Complete hemostasis of the post-sphincterotomy bleeding was seen after CSEMS deployment. Once post-sphincterotomy bleeding occurs, it is difficult to continue the procedure with a clear visual field. PuraStat can provide rapid and easy hemostasis of midprocedural bleeding, allowing the procedure to continue.

**Competing interests**

A. Katanuma has received lecture fees from Olympus Co., Tokyo, Japan. The other authors have no conflicts of interest to declare.

**The authors**

Haruka Toyonaga, MD  
Center for Gastroenterology, Teine-Keijinkai Hospital, 1-40-1-12 Maeda, Teine-ku, Sapporo 006-8555, Japan  
toyonaga.pc@gmail.com

**References**


**Corresponding author**

Haruka Toyonaga, MD  
Center for Gastroenterology, Teine-Keijinkai Hospital, 1-40-1-12 Maeda, Teine-ku, Sapporo 006-8555, Japan  
toyonaga.pc@gmail.com

**Bibliography**

Endoscopy  
DOI 10.1055/a-1960-3198  
ISSN 0013-726X  
published online 2022  
© 2022. The Author(s).  
This is an open access article published by Thieme under the terms of the Creative Commons Attribution-NonDerivative-NonCommercial License, permitting copying and reproduction so long as the original work is given appropriate credit. Contents may not be used for commercial purposes, or adapted, remixed, transformed or built upon. (https://creativecommons.org/licenses/by-nc-nd/4.0/)  
Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

**ENDOSCOPY E-VIDEOS**

https://eref.thieme.de/e-videos

Endoscopy E-Videos is an open access online section, reporting on interesting cases and new techniques in gastroenterological endoscopy. All papers include a high quality video and all contributions are freely accessible online. Processing charges apply (currently EUR 375), discounts and waivers acc. to HINARI are available.

This section has its own submission website at https://mc.manuscriptcentral.com/e-videos