Effective application of self-assembling peptide matrix with the gel immersion technique and red dichromatic imaging for hemostasis of postendoscopic sphincterotomy bleeding

Endoscopic sphincterotomy is an essential procedure during endoscopic retrograde cholangiopancreatography (ERCP) for the diagnosis or treatment of pancreaticobiliary disease; however, postendoscopic sphincterotomy bleeding occasionally occurs and is a potentially life-threatening adverse event [1]. Recently, a novel self-assembling peptide matrix (PuraStat; 3-D Matrix Europe SAS, France), which is approved for hemostasis in gastrointestinal endoscopic procedures, was launched [2]. Because of its characteristics, this product is not effective in achieving hemostasis of pooled blood, as the peptide matrix assembles when the solution comes into contact with body fluids. For effective hemostasis, the peptide matrix gel should be applied as close as possible to the bleeding point of the injured vessel wall. Herein, we report the effective application of PuraStat for hemostasis of postendoscopic sphincterotomy bleeding while securing an endoscopic field of view with the gel immersion technique [3] and red dichromatic imaging (RDI; Olympus, Japan) [4, 5] (Video 1).

An 85-year-old man underwent ERCP for acute cholangitis due to a common bile duct stone. The stone was successfully removed with a balloon extractor following endoscopic sphincterotomy (Fig. 1). After removal of the stone, bleeding occurred at the endoscopic sphincterotomy site (Fig. 2); therefore, we performed hemostasis using the peptide matrix gel. We used the gel immersion technique and RDI to secure the endoscopic field of view and detect the bleeding point (Fig. 3). As the flowing blood does not spread and mix with the gel, we applied the peptide matrix gel and put the endoscope into the gel. RDI was used to provide color contrast between the bleeding point and the pooled peripheral blood. The peptide matrix was applied directly onto the bleeding point using a dedicated catheter (Fig. 4), and complete hemostasis was achieved (Fig. 5). The patient’s clinical course was uneventful after the procedure. Understanding the characteristics of various devices and techniques can lead to an effective and safe procedure.

Competing interests

A. Katanuma has received lecture fees from Olympus Co., Tokyo, Japan, and he is an associate editor of Digestive Endoscopy. T. Hayashi, K. Iwano, T. Kin, R. Nakamura, K. Takahashi, and H. Toyonaga have no conflicts of interest to declare.
References


[3] Yano T, Nemoto D, Ono K et al. Gel immersion endoscopy: a novel method to secure the visual field during endoscopy in bleeding patients (with videos). Gastrointest Endosc 2016; 83: 809–811


Bibliography

Endoscopy
DOI 10.1055/a-1929-9038
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