Many reports have described a shielding method involving the use of polyglycolic acid (PGA) sheets and fibrin glue as a means to prevent post-endoscopic submucosal dissection (ESD) complications [1–5]. During this procedure, however, a PGA sheet under little tension easily shrinks when exposed to mucus. Therefore, appropriate PGA sheet delivery is required to keep the sheet dry and maintain its shape.

We demonstrate a simple and novel shielding method with autologous fibrin glue and a PGA sheet (Video 1). We performed gastric ESD for a 20-mm lesion at the lesser curvature of the body. The size of post-ESD ulcer was 40 × 30 mm (Fig. 1). The equipment used consisted of a PGA sheet (NV-M-015G; Gunze, Kyoto, Japan) and a detachable snare (HX-400U-30; Olympus, Tokyo, Japan) (Video 2). First, a PGA sheet was cut to the size of the endoscopic detachable snare (65 × 40 mm) and four points on the PGA sheet were connected to the snare using silk thread (Fig. 2b). The sheet was captured by an endoscopic clip (ROCC-D-26-235-C; Micro-Tech, Nanjing, China) and anchored using clips around the sides of the gastric floor. This method resulted in the ulcer being fully covered by a single PGA sheet (Fig. 3a). The fixed PGA sheet then had autologous fibrinogen and thrombin sprayed onto it simultaneously to bond it. The procedure time was 5 minutes. Follow-up endoscopy the day after the ESD showed full coverage of the ulcer by the PGA sheet (Fig. 3b).

In this method, the detachable snare prevents the sheet from shrinking, even when it comes into contact with mucus. Moreover, this novel shielding method is a more rapid procedure because it allows a large size sheet (65 mm) to be applied in one go. In our study, we found that, using this method, a large PGA sheet can be easily applied to a post-ESD ulcer in a short time.

Video 1 A single polyglycolic acid (PGA) sheet of 65 × 40 mm is easily and quickly applied to a post-endoscopic submucosal dissection ulcer using a detachable snare.

Fig. 1 Endoscopic image showing a 40 × 30-mm post-endoscopic submucosal dissection ulcer on the lesser curvature of the stomach.

Fig. 2 Photographs showing: a the equipment used, which consisted of a polyglycolic acid (PGA) sheet and a detachable snare; b the PGA sheet attached to the snare at four points using silk thread.

Fig. 3 Photographs showing: a the endoscopically applied single PGA sheet of 65 × 40 mm; and b the fixed PGA sheet fully covering the ulcer.
Competing interests

The authors declare that they have no conflict of interest.

The authors

Yoshiaki Kimoto¹, Ken Ohata¹, Eiji Sakai², Akiko Ohno³, Takaumi Ito⁴, Yosuke Tsuji⁵, Hideyuki Chiba⁶

¹ Department of Gastrointestinal Endoscopy, NTT Medical Center Tokyo, Tokyo, Japan
² Department of Gastrointestinal Endoscopy, Yokohama Sakae Kyosai Hospital, Yokohama, Japan
³ Department of Gastroenterology and Hepatology, Kyorin University School of Medicine, Tokyo, Japan
⁴ Department of Gastroenterology, Keiyu Hospital, Tokyo, Japan
⁵ Department of Gastroenterology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan
⁶ Department of Gastroenterology, Omori Red Cross Hospital, Tokyo, Japan

Corresponding author

Ken Ohata, MD, PhD
Department of Gastrointestinal Endoscopy, NTT Medical Center Tokyo, 5-9-22 Higashigotanda Shinagawa-ku, Tokyo 141-8625, Japan
ken.ohata1974@gmail.com

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