

Endoscopic submucosal dissection assisted by novel “clip fishing method” (with video)

Endoscopic submucosal dissection (ESD) requires substantial skill because of the poor visibility in the cutting area. Recently, traction systems for ESD have been reported [1–4], but these complex methods have not been widely employed. We therefore designed the “clip fishing method”, consisting of a threaded sheath clip. The cost is lower than that of “magnetic-anchor-guided” ESD [4].

In this porcine model study we used a two-channel endoscope or a single-channel endoscope with attached working channel. The clip fishing method was tested for use in ESD of 3-cm lesions in six predetermined gastric areas in three porcine stomachs, which were resected with or without use of the clip fishing method. First, long threads were tied to conventional clips (▶ **Fig. 1 a**). After circumferential incision of the mucosa, the threaded clips were attached to the edge of the exfoliated mucosa and the proximal ends of the lines were tied to the tip of the guide wire in the sheath, e.g., in an endoscopic sphincterotomy knife. The guide wire was then pulled out of the sheath (▶ **Fig. 1 c**). The proximal threads then selectively pulled the partly mucosal flap lesion. In all three resected porcine stomachs, en bloc resections were successfully completed in a short time. The clip fishing method required 11 minutes 20 seconds \pm 2 minutes 2 seconds to dissect the submucosa, while the conventional method required 16 minutes 9 seconds \pm 1 minute 50 seconds ($P < 0.05$). Even one clip was sufficient to lift the mucosal flap in ESD, particularly for tangent line lesions, as deep insertion of the threaded sheath clip was easily able to lift the mucosal flap. ▶ **Video 1** shows the “clip fishing method” in use in the in vivo study in an anesthetized pig.

Video 1

The “clip-fishing method” in use in vivo in an anesthetized pig.

Competing interests: None

Endoscopy_UCTN_Code_TTT_1AO_2AG

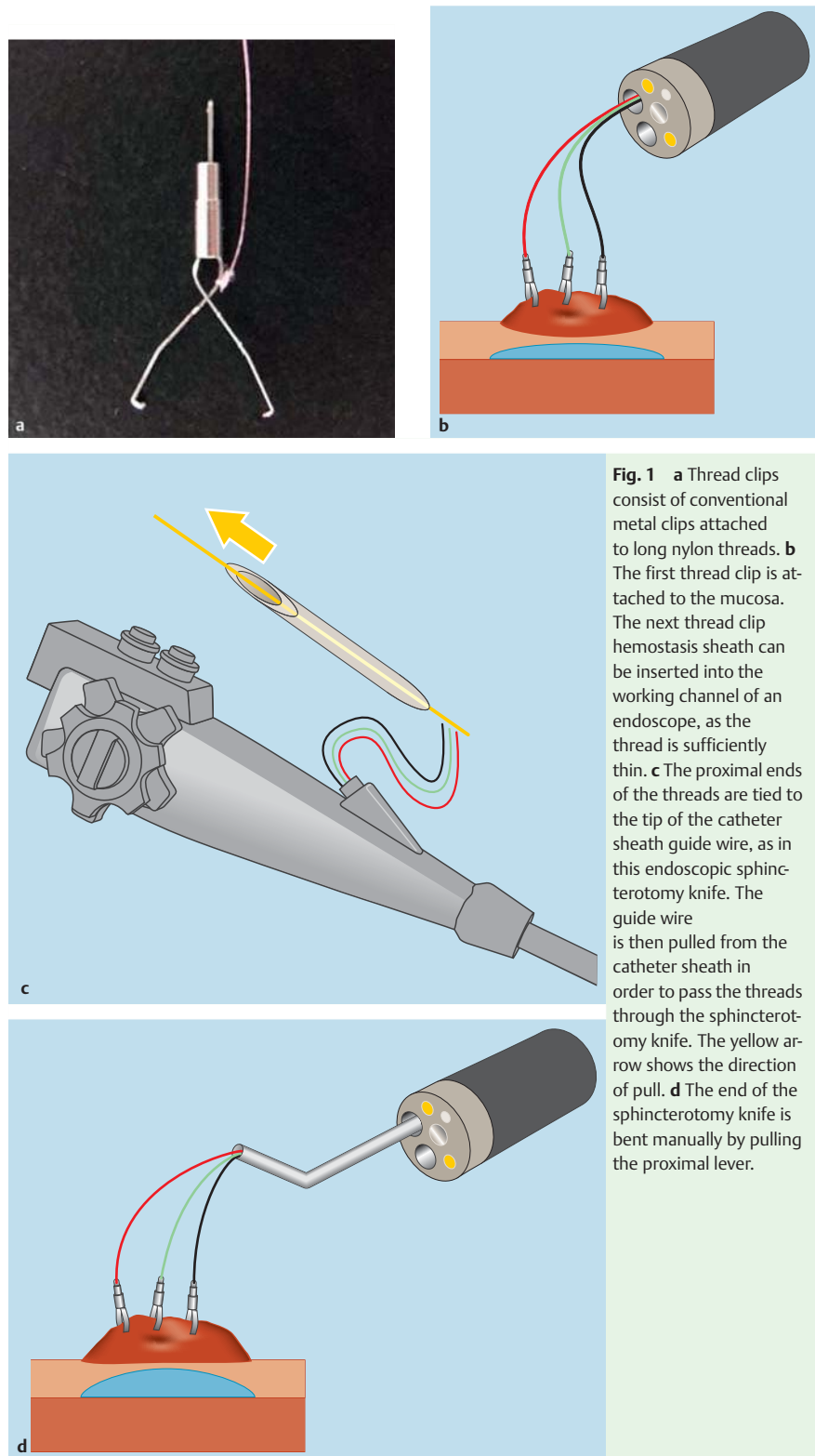
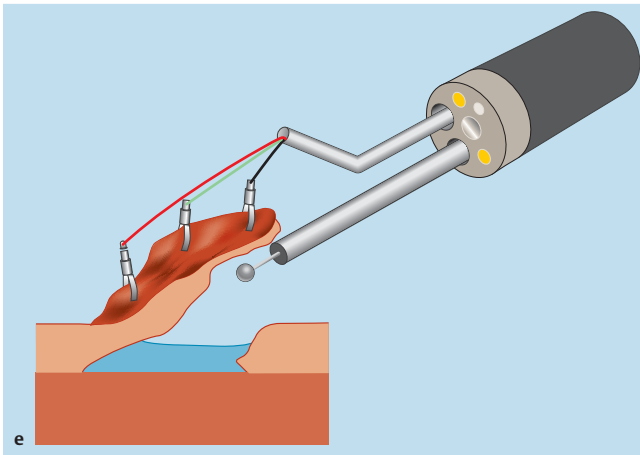
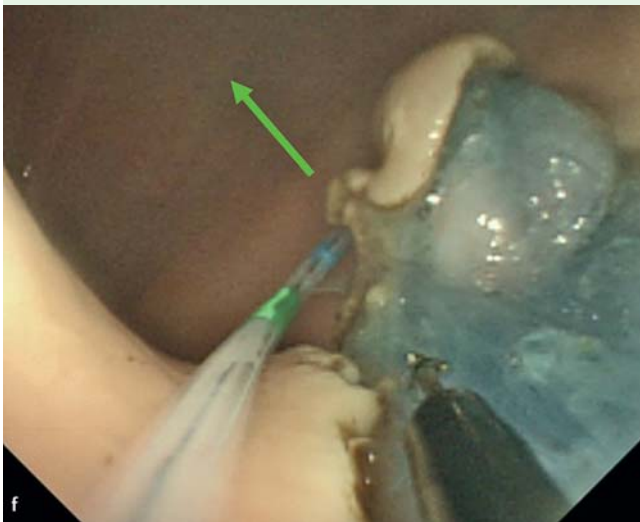


Fig. 1 a Thread clips consist of conventional metal clips attached to long nylon threads. b The first thread clip is attached to the mucosa. The next thread clip hemostasis sheath can be inserted into the working channel of an endoscope, as the thread is sufficiently thin. c The proximal ends of the threads are tied to the tip of the catheter sheath guide wire, as in this endoscopic sphincterotomy knife. The guide wire is then pulled from the catheter sheath in order to pass the threads through the sphincterotomy knife. The yellow arrow shows the direction of pull. d The end of the sphincterotomy knife is bent manually by pulling the proximal lever.



e The thread clip then manually lifts the mucosa. **f** The thread clips can move the mucosa manually by pulling at the proximal end of their respective threads. The green arrow shows the green clip being lifted by pulling on the proximal end of the green thread.



M. Ueki, Y. Ikebuchi, H. Matsuoka, H. Otani, A. Yasugi, M. Koda, K. Kawaguchi, K. Harada, K. Yashima, M. Koda, Y. Murawaki

Division of Medicine and Clinical Science, Faculty of Medicine, Tottori University, Yonago, Japan

References

- 1 Yamamoto H, Kawata H, Sunada K *et al*. Successful en-bloc resection of large superficial tumors in the stomach and colon using sodium hyaluronate and small-caliber-tip transparent hood. *Endoscopy* 2003; 35: 690 – 694
- 2 Kobayashi T, Gotohda T, Tamakawa K *et al*. Magnetic anchor for more effective endoscopic mucosal resection. *Jpn J Clin Oncol* 2004; 34: 118 – 123
- 3 Saito Y, Emura F, Matsuda T *et al*. A new sinker-assisted endoscopic submucosal dissection for colorectal cancer. *Gastrointest Endosc* 2005; 62: 297 – 301
- 4 Gotoda T, Oda I, Tamakawa K *et al*. Prospective clinical trial of magnetic-anchor-guided endoscopic submucosal dissection for large early gastric cancer (with videos). *Gastrointest Endosc* 2009; 69: 10 – 15

Bibliography

DOI 10.1055/s-0029-1243986

Endoscopy 2010; 42: E277 – E278

© Georg Thieme Verlag KG Stuttgart · New York · ISSN 0013-726X

Corresponding author

M. Ueki, MD

Division of Medicine and Clinical Science
Department of Multidisciplinary Internal Medicine
Faculty of Medicine
Tottori University
Nishi-machi 36-1
Yonago 683-8504
Japan
Fax: +81-859-386529
masaruueki@gmail.com