Flexible traction method for endoscopic resection by using an endoscopic hand suturing technique

In endoscopic resection, for example endoscopic submucosal dissection (ESD), optimal traction of the target lesion facilitates the subsequent procedure [1]. We devised a new traction method by using an endoscopic hand suturing (EHS) technique [2], in which a lesion is suspended by attaching it to the contralateral side using a barbed suture, and maintaining the traction force by inflating the tract or by pulling the needle side of the suture thread.

First, we demonstrated that this traction method was feasible in an ex vivo ESD case. After creating a submucosal fluid cushion and connecting the proximal mucosa of the lesion to the contralateral side of the wall with a barbed suture by EHS, a circumferential mucosal incision was performed. Subsequently, submucosal dissection was started by lifting up the lesion with insufflation (▶Fig. 1a, ▶Video 1). When the suture loosened as the submucosal dissection proceeded, the needle side of the suture thread was pulled using the flexible needle holder in order to maintain optimal traction (▶Fig. 1b, c). Finally, the lesion was easily and quickly resected, and was removed by cutting the lesion side of the suture thread. The needle and suture thread were retrieved by grasping the thread close to the needle tail with the needle holder.

Next, we applied this technique clinically to nonexposed endoscopic wall inversion surgery (a nonexposure technique of laparoscopic and endoscopic cooperative surgery) [3]. A 2 cm submucosal tumor located on the posterior wall was successfully suspended by connecting the mucosal part of the lesion to the anterior wall using a barbed suture (▶Fig. 2a). Although the traction force decreased as the resection proceeded, the lesion was tightly held in suspension by pulling...
the needle side of the suture thread (▶Fig. 2b), which resulted in a successful resection (▶Fig. 2c). This traction method may be useful for various endoluminal surgeries.

Endoscopy_UCTN_Code_TTT_1AO_2AD

Competing interests

None

The authors

Osamu Goto1,2, Motoki Sasaki2, Teppei Akimoto3,4, Mitsuru Kaise1, Katsuhiko Iwakiri1, Naohisa Yahagi2
1 Department of Gastroenterology, Nippon Medical School, Tokyo, Japan
2 Division of Research and Development for Minimally Invasive Treatment, Cancer Center, Keio University School of Medicine, Tokyo, Japan

Corresponding author

Osamu Goto, MD, PhD
Department of Gastroenterology, Nippon Medical School, 1-1-5, Sendagi, Bunkyo-ku, Tokyo 113-8603, Japan
Fax: +81-3-58146289
o-goto@nms.ac.jp

References


Bibliography

DOI https://doi.org/10.1055/a-0747-5408
Published online: 2018
Endoscopy
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

ENDOSCOPY E-VIDEOS
https://eref.thieme.de/e-videos

Endoscopy E-Videos is a free 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.

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

Goto Osamu et al. Flexible traction in resection using hand sutting technique... Endoscopy