Endoscopic closure of cecal fistula using purse-string suture after plombage with polyglycolic acid sheets and fibrin glue

An 86-year-old man with a postappendectomy abscess and fistula was treated with antibiotics and percutaneous drainage for 5 weeks, but the fistula did not close (▶Fig.1, ▶Fig.2a). We report successful fistula closure using a modified endoscopic closure technique (▶Video 1).

Polyglycolic acid (PGA) sheets (Neoveil; Gunze, Kyoto, Japan) were cut into 5 × 5-mm pieces and delivered into the fistula through the working channel of an endoscope using biopsy forceps. Then, five pieces of PGA sheet were inserted into the fistula, and fibrin glue (Beriplast P Combi-Set; CSL Behring Pharma, Tokyo, Japan) was sprayed via a tube inserted into the fistula. Finally, the endoscope was changed to a two-channel endoscope. A detachable snare (Endoloop; Olympus, Tokyo, Japan) was anchored with clips to the mucosa around the fistula and tightened to prevent the PGA sheet pieces from falling into the cecal lumen. Radiography showed improvement of the abscess cavity at the beginning of oral feeding on postoperative day 5 (▶Fig.2 b).

Closure using over-the-scope clips (Ovesco Endoscopy, Tübingen, Germany) has been a standard treatment option for gastrointestinal (GI) fistulas, but its success rate is not necessarily high [1, 2]. PGA sheets and fibrin glue have been reported as useful for treating GI fistulas [3, 4], but most reports describe successful closure in the upper GI tract; few have reported on lower GI fistulas. It is difficult to keep PGA sheets within lower GI fistulas because of peristalsis and stool. An endo-
scopic purse-string suture with an endo-
loop and clips closes large mucosal de-
fects or perforations [5] but cannot close
fistulas because of the fibrosis surround-
ing the orifice. Our modified technique
combining the above two methods,
which complement each other, resulted
in complete closure of this patient’s re-
fractory lower GI fistula. This technique
is a viable and effective alternative option
for closing a cecal fistula.

Endoscopy_UCTN_Code_TTT_1AQ_2AG

Acknowledgements

We are deeply grateful to Dr. Shuichi Miyamoto
(Karlstad Central Hospital) and Dr. Yoshiko Nak-
ano (Kyoto Medical Center) for giving us insightful
advice. And we would like to thank Editage (www.
editage.com) for English language editing.

Competing interests

The authors declare that they have no con-
flict of interest.

The authors

Fumiaki Kawara, Akihiro Minami, Kazuya
Hara, Kodai Yamanaka, Takanori Matsuura,
Mitsuko Mimura, Chiharu Nishioka
Department of Gastroenterology, Konan
Medical Center, Kobe, Japan

Corresponding author

Fumiaki Kawara, MD, PhD
Department of Gastroenterology, Konan
Medical Center, 1-5-16 Kamokogahara,
Higashinada-ku, Kobe, Hyogo 658-0064,
Japan
pivka_v@yahoo.co.jp

References

and safety of the over-the-scope clip (OTSC)
system in the management of leak and fis-
tula after laparoscopic sleeve gastrectomy: a
systematic review. Obes Surg 2017; 27:
2410–2418
[2] Kobara H, Mori H, Nishiyama N et al. Over-
the-scope clip system: a review of 1517
cases over 9 years. J Gastroenterol Hepatol
2019; 34: 22–30
[3] Takimoto K, Hagiwara A. Filling and shield-
ing for postoperative gastric perforations
of endoscopic submucosal dissection using
polyglycolic acid sheets and fibrin glue.
Endosc Int Open 2016; 4: E661–E664
[4] Nakano Y, Takao T, Morita Y et al. Endo-
scopic plombage with polyglycolic acid
sheets and fibrin glue for gastrointestinal
defect closure of gastric submucosal tumors
with purse-string sutures. Surg Endosc
2014; 28: 1844–1851

Bibliography

Endoscopy 2022; 54: E662–E663
DOI 10.1055/a-1738-9176
ISSN 0013-726X
published online 15.2.2022
© 2022. Thieme. All rights reserved.
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
wavers acc. to HINARI are available.

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