

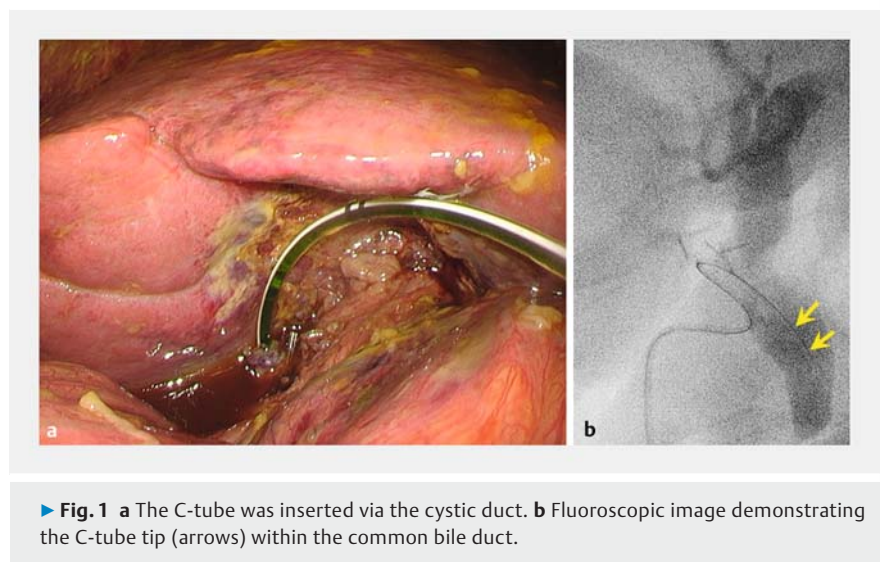
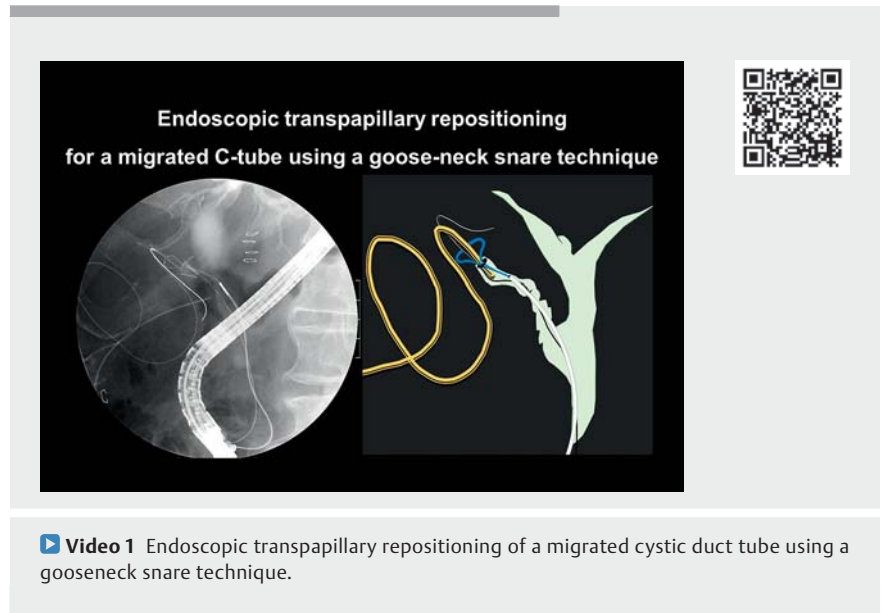
Endoscopic transpapillary repositioning of a migrated cystic duct tube using a gooseneck snare technique

OPEN
ACCESS

A cystic duct tube (C-tube) may be inserted via the cystic duct into the common bile duct (CBD) during cholecystectomy for postoperative percutaneous biliary drainage [1–5]. Postoperative C-tube migration has been reported in 6.6% cases [2]. Herein, we describe successful endoscopic repositioning of a migrated C-tube (► **Video 1**).

A 71-year-old man with acute cholecystitis underwent emergency cholecystectomy at our institution. Intraoperative cholangiography showed dilatation of the CBD proximal to the duodenal papilla, indicating biliary obstruction. Therefore, a 6-Fr C-tube was then inserted into the CBD and fixed to the cystic duct using an elastic thread (► **Fig. 1**). On postoperative day 4, fluoroscopy demonstrated migration of the C-tube toward the extra-biliary tract resulting in leakage of contrast medium into the abdominal cavity (► **Fig. 2**). Although percutaneous repositioning of the C-tube failed, contrast was observed within the cystic duct and CBD indicating that the C-tube tip was retained within the cystic duct. We therefore attempted endoscopic transpapillary repositioning of the C-tube.

An ampullary tumor was observed on endoscopy (► **Fig. 3**). After deep cannulation, a 0.025-inch guidewire was advanced into the cystic duct and placed parallel to the migrated C-tube (► **Fig. 4**). A 15-mm snare (SnareMaster, Olympus Medical Systems, Tokyo, Japan) with the base bent over into a gooseneck configuration was then passed over the guidewire (► **Fig. 5a**). The snare was used to grasp and pull the C-tube down toward the CBD allowing successful repositioning (► **Fig. 5b–e**). Finally, a plastic stent was placed in the CBD. Following further examination, the patient was subsequently diagnosed with ampullary adenocarcinoma and underwent pancreaticoduodenectomy. No adverse events, including bile leakage, were observed.

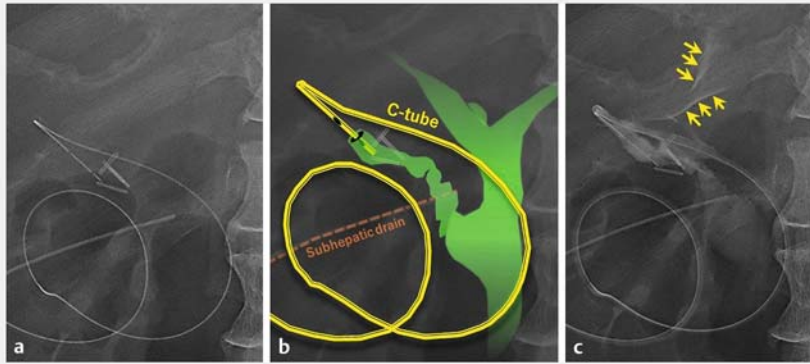


To our knowledge, this is the first report of successful endoscopic repositioning of a migrated C-tube. Endoscopic transpapillary repositioning using a gooseneck snare may represent an option for salvage therapy when percutaneous repositioning of a migrated biliary drainage tube is unsuccessful.

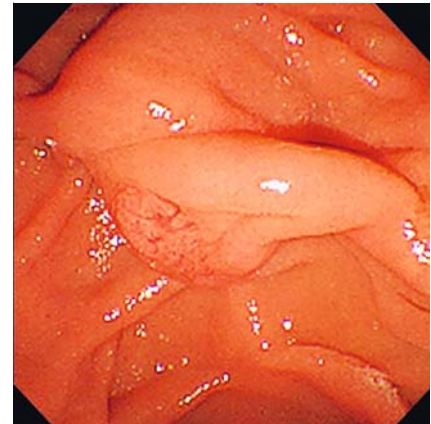
Endoscopy_UCTN_Code_TTT_1AR_2AG

Acknowledgments

We are deeply grateful to Ryuta Midorikawa, Kiyomi Kawaguchi, Hiroko Kinoue, Sho Setojima, and Yasuhiro Unokuchi for their assistance during the procedure and perioperative treatment of the patient.



► **Fig. 2** Imaging on postoperative day 4 demonstrating the C-tube tip was retained within the cystic duct. **a** Fluoroscopic image. **b** Schema of the fluoroscopic image. **c** C-tube cholangiography demonstrating leakage of contrast medium into the abdominal cavity (arrows). Contrast was observed within the cystic duct and common bile duct indicating the C-tube tip was retained within the cystic duct.



► **Fig. 3** Endoscopic image of the previously unseen ampullary tumor.



► **Fig. 4** ERCP imaging. **a** Cannulation of the cystic duct. **b** Placement of the guidewire parallel to the C-tube.

Competing interests

The authors declare that they have no conflict of interest.

The authors

Takehiko Koga¹, Yusuke Ishida¹, Hiroto Ishikawa², Yukiya Kishimoto², Satoki Kojima², Masayuki Okabe², Fumihito Hirai¹

- 1 Department of Gastroenterology and Medicine, Faculty of Medicine, Fukuoka University, Fukuoka, Japan
- 2 Department of Surgery, Munakata Suikokai General Hospital, Fukuoka, Japan

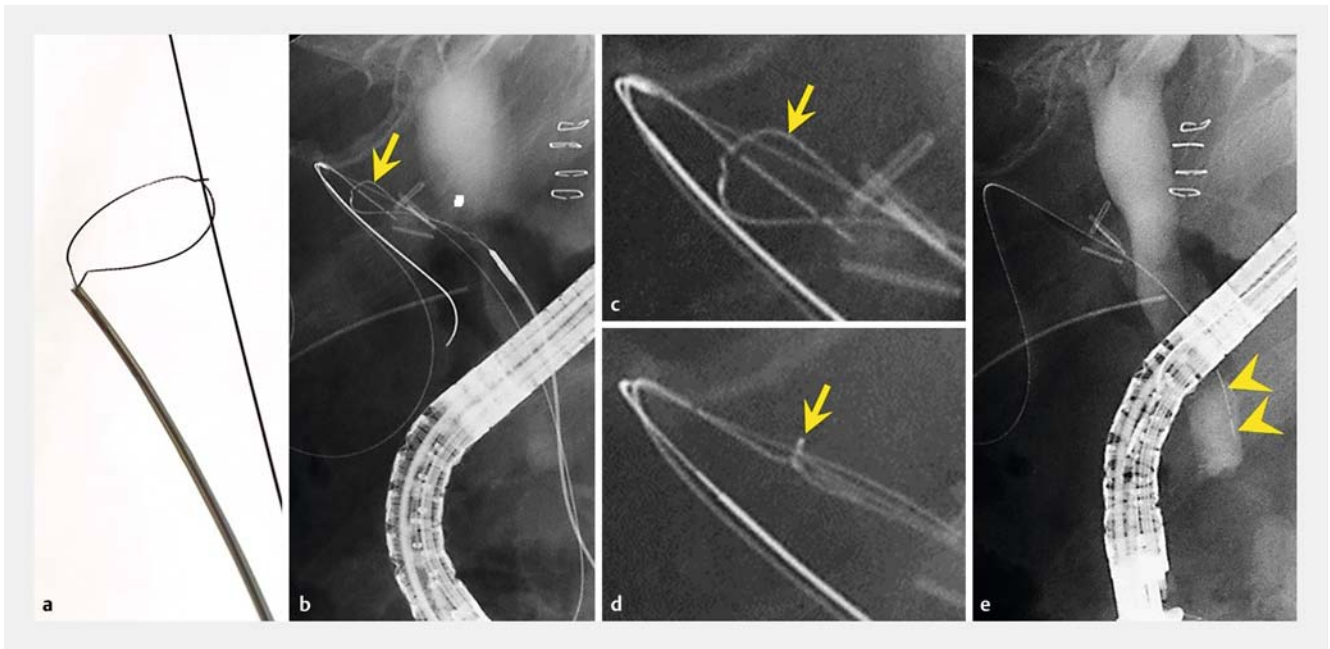
Corresponding author

Takehiko Koga, MD

Department of Gastroenterology and Medicine, Fukuoka University, 7-45-1 Nanakuma, Jonan-ku, Fukuoka 814-0180, Japan

Fax: +81-92-8639759

takehikoga@gmail.com



► **Fig. 5** Endoscopic transpapillary repositioning of the migrated C-tube using a gooseneck snare. **a** The base of the snare was bent vertically into a gooseneck configuration and passed over the guidewire. **b, c** Snare opening (arrow) adjacent to the C-tube. **d** Snare closure (arrow) to grasp the C-tube. **e** The snare was withdrawn through the common bile duct along with the C-tube resulting in successful repositioning (arrowheads).

References

- [1] Kitano S, Bandoh T, Yoshida T et al. Laparoscopic C-tube drainage via cystic duct following common bile duct exploration. *J Hepatobiliary Pancreat Surg* 1995; 2: 146–149
- [2] Fujimura M, Hirano M, Sato I et al. The C tube in biliary surgery—its development and clinical application (in Japanese with English abstract). *Nihon Geka Hokan* 2000; 68: 85–122
- [3] Panaro F, Glaise A, Miggino M et al. Rubber transcystic drainage reduces the post-removal biliary complications in liver transplantation: a matched case-control study. *Langenbecks Arch Surg* 2013; 398: 169–176
- [4] Nanashima A, Abo T, Shibuya A et al. Does the placement of a cystic duct tube after a hepatic resection help reduce the incidence of post-operative bile leak? *HPB (Oxford)* 2013; 15: 517–522
- [5] Maulat C, Regimbeau JM, Buc E et al. Prevention of biliary fistula after partial hepatectomy by transcystic biliary drainage: randomized clinical trial. *Br J Surg* 2020; 107: 824–831

Bibliography

Endoscopy 2023; 55: E397–E399

DOI 10.1055/a-2008-0087

ISSN 0013-726X

© 2023. 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



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 waivers acc. to HINARI are available.

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