

EUS-Guided jejunojejunostomy using a novel dilator for malignant afferent loop obstruction (with video)

Takeshi Ogura*, Kimi Bessho, Yuki Uba, Mitsuki Tomita, Hiroki Nishikawa

Malignant afferent loop obstruction (MALO) can cause cholangitis or pancreatitis due to blind loop dilatation.^[1–3] Malignant afferent loop obstruction is traditionally treated by surgery, percutaneous drainage, or self-expandable metal stent (SEMS) deployment under enteroscopic guidance. EUS-guided drainage has recently been attempted for MALO using a lumen-apposing metal stent (LAMS).^[4] Although a LAMS has clinical impact, the diameter of the target lesion must be large enough to enable deployment of the distal flange of the LAMS. In contrast, conventional SEMS is easily deployed but requires intestinal wall dilatation before insertion of the stent delivery system. If force is used while attempting EUS-guided drainage for MALO, the afferent loop can be pushed away from the echoendoscope, after which it may be difficult to insert the device. A novel drill dilator has recently become available in Japan (Tornus ES; Asahi Intecc, Aichi, Japan) [Figure 1A].^[4,5] Using this device, the tract is dilated using a clockwise rotation without needing

to apply force. We herein describe EUS-guided jejunojejunostomy for MALO using this novel dilation device [Video 1].

An 81-year-old man had undergone total gastrectomy with Roux-en-Y anastomosis 20 years ago for gastric cancer. He was admitted with cholangitis because of MALO caused by pancreatic head cancer [Figure 1B]. First, an enteroscopic approach was performed, but this procedure failed [Figure 1C]. Therefore, EUS-jejunojejunostomy was attempted. First, the dilated afferent loop was identified, and this site was punctured using a 19-gauge needle. Contrast medium was then injected [Figure 2A]. A 0.025-inch guidewire was carefully inserted within the afferent loop to prevent it from moving away from the echoendoscope. After attaching the Tornus to the proximal intestine, clockwise rotation was attempted without pushing force. The tract dilation was successful, without the afferent loop moving away from the echoendoscope [Figure 2B]. Finally, a stent delivery system was

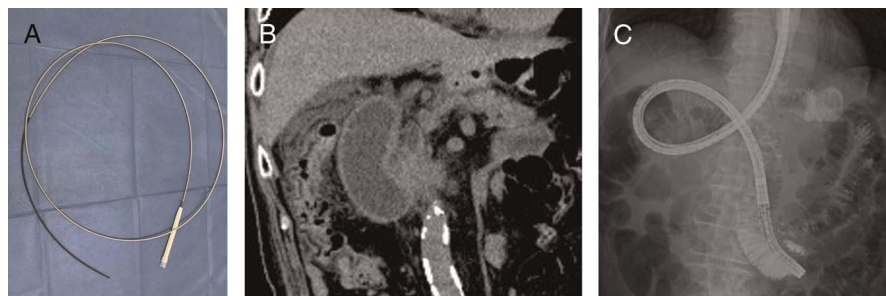


Figure 1. A, The novel drill dilator (Tornus; Asahi Intecc). The 7F-diameter sheath is consisted of coiling. The device is advanced by clockwise rotation and withdrawn by counterclockwise rotation. Pushing force is not necessary for insertion. B, The dilated afferent loop is observed on computed tomography imaging. C, The enteroscopic approach failed.

2nd Department of Internal Medicine, Osaka Medical College, Osaka, Japan.

* **Address for correspondence:** 2nd Department of Internal Medicine, Osaka Medical College, 2-7 Daigakuchou, Takatsukishi, Osaka 569-8686, Japan. E-mail: oguratakeshi0411@yahoo.co.jp (T. Ogura).

Copyright © 2023 The Author(s). Published by Wolters Kluwer Health, Inc on behalf of Scholar Media Publishing. This is an open access article distributed under the Creative Commons Attribution-NonCommercial-ShareAlike License 4.0 (CC BY-NC-SA) which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

Endoscopic Ultrasound (2023) 12:4

Received: 5 May 2023; **Accepted:** 12 April 2023

Published online: 18 September 2023

<http://dx.doi.org/10.1097/eus.000000000000012>

successfully inserted, and SEMS (HILZO Fully Covered; BCM Co, Gyeonggi, South Korea) was deployed. To prevent stent migration, we inserted a plastic stent [Figure 2C]. After 7 days, we removed this stent, and duodenoscope could be advanced across this fistula. We performed fully covered metal stent deployment for malignant biliary obstruction, and double pig plastic stent deployment was also performed at the fistula [Figure 2D].

In conclusion, the Tornus dilator seems to be useful as a dilation device, particularly in a situation when pushing with force can result in failed drainage.

Video Legend

The dilated afferent loop is punctured using a 19G needle, and contrast medium is injected. A 0.025-inch guidewire is then inserted

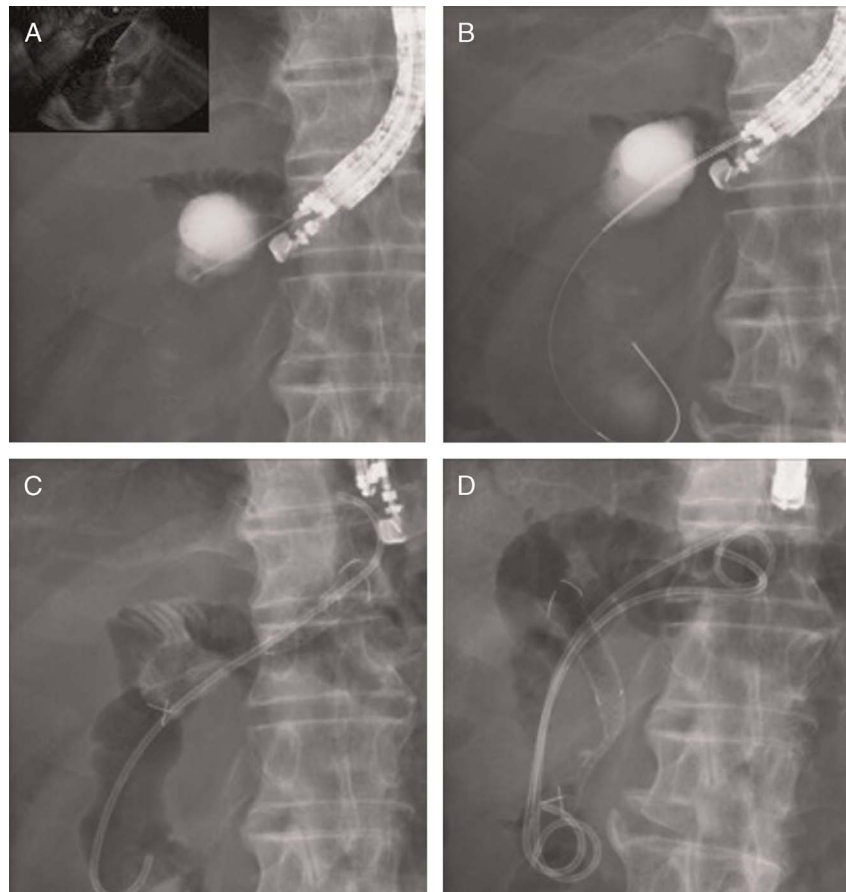


Figure 2. A, The dilated afferent loop is punctured using a 19-gauge needle, and contrast medium is injected. B, Tract dilatation is performed using the novel drill dilator without pushing force. C, EUS-guided jejunostomy is performed. D, Biliary stenting is performed for malignant biliary obstruction through the fistula, and double pig plastic stents are deployed at the fistula.

within the afferent loop, and tract dilation is performed using the drill dilator without pushing force. The stent delivery system is successfully inserted and deployed. Finally, to prevent stent migration, a plastic stent is also deployed within the self-expandable metal stent.

Videos are only available at the official website of the journal (www.eusjournal.com).

Declaration of Patient Consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for her images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

Conflicts of Interest

Takeshi Ogura is an Editorial Board Member of the journal. This work was subjected to the journal's standard procedures, with peer review handled independently of the editor and his research group.

References

1. Kida A, Kido H, Matsuo T, et al. Usefulness of endoscopic metal stent placement for malignant afferent loop obstruction. *Surg Endosc* 2020;34:2103–2112.
2. Pannala R, Brandabur JJ, Gan SI, et al. Afferent limb syndrome and delayed GI problems after pancreaticoduodenectomy for pancreatic cancer: single-center, 14-year experience. *Gastrointest Endosc* 2011;74:295–302.
3. Dawod E, Nieto JM. Endoscopic ultrasound guided gastrojejunostomy. *Transl Gastroenterol Hepatol* 2018;3:93.
4. Yamada M, Hara K, Haba S, et al. Endoscopic ultrasound-guided hepaticogastrostomy using a novel drill dilator. *Endoscopy* 2022;54:E856–E857.
5. Hara K, Okuno N, Haba S, et al. Utility of a novel drill dilator for easier EUS-guided pancreatic duct drainage. *J Hepatobiliary Pancreat Sci* 2022;29:e91–e92.