

Duodenal metal stent deployment using a novel, cholangioscope-guided, guidewire insertion technique

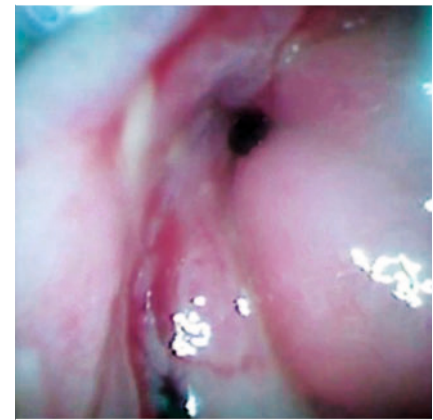
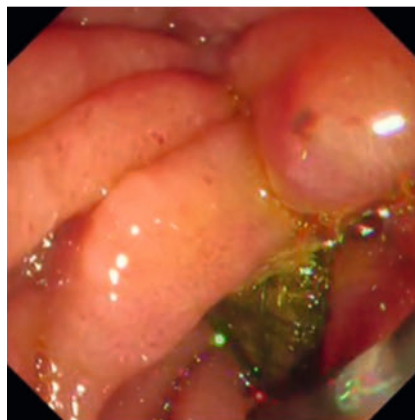


Malignant gastric outlet obstruction (GOO) occurs with advanced or metastatic malignancies located in the duodenum and is present in up to 19% of patients with unresectable malignant tumors [1]. Duodenal obstruction can be traditionally treated by gastrojejunostomy, but endoscopic duodenal stenting has been suggested as a less invasive treatment [2]. More recently, endoscopic ultrasound-guided gastroenterostomy using lumen-apposing metal stents has been reported [3,4]. However, as this technique may need to be performed by experts or in high-volume centers, endoscopic duodenal stenting is still an important procedure. During duodenal stenting, guidewire passage through the stricture to the anal side is needed, but this technique is sometimes challenging. Recently, a novel cholangioscope (eyeMAX; Micro-Tech Co., Ltd., Nanjing, China), which offers improved visibility, has become available. This report describes guidewire deployment

using this novel cholangioscope for guidance in duodenal stent deployment in a case of duodenal obstruction.

A 58-year-old man was admitted to our hospital with GOO caused by cancer of the head of the pancreas. This patient had previously undergone biliary drainage using a covered self-expandable metal stent (SEMS). Duodenal stenting was attempted. First, the duodenoscope was advanced into the ampulla of Vater. However, because of the SEMS, the duodenal obstruction site could not be observed endoscopically. Therefore, an en-

doscopic retrograde cholangiopancreatography catheter was inserted (► Fig. 1), and guidewire insertion through the obstruction site was attempted; however, guidewire insertion failed (► Fig. 2). A novel cholangioscope was then inserted, and the obstruction site could be observed clearly (► Fig. 3). Guidewire insertion was performed successfully under direct visualization (► Fig. 4). After duodenography, duodenal metal stent deployment was performed successfully without any adverse events (► Fig. 5, ► Video 1).



► **Fig. 1** An endoscopic retrograde cholangiopancreatography catheter was inserted because the duodenal obstruction site could not be seen owing to the presence of the biliary stent.

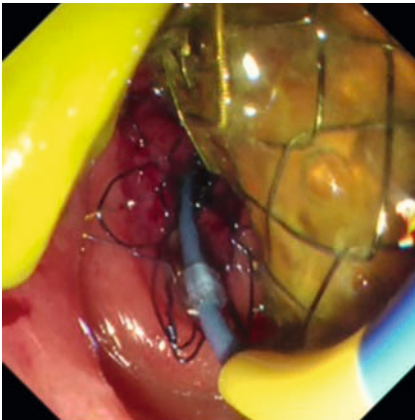
► **Fig. 3** The duodenal obstruction site could be seen clearly with the novel cholangioscope.



► **Fig. 2** Guidewire insertion failed under fluoroscopic guidance.

► **Fig. 4** Guidewire insertion was performed successfully.

► **Video 1** Guidewire insertion through the duodenal obstruction site was attempted but failed. A novel cholangioscope was inserted, and the obstruction site was observed. Guidewire insertion and duodenal stenting were performed successfully.



► **Fig. 5** Duodenal stenting was performed successfully.

In conclusion, a novel cholangioscope may be useful not only for biliary disease, but also for guidewire insertion under direct visualization, thanks to improved visibility.

Endoscopy_UCTN_Code_CCL_1AB_2AZ_3AB

Conflict of Interest

The authors declare that they have no conflict of interest.

The authors

Takeshi Ogura^{1,2}, Junichi Nakamura², Jun Sakamoto², Yuki Uba², Hiroki Nishikawa²

- 1 Endoscopy Center, Osaka Medical and Pharmaceutical University, Takatsuki, Japan
- 2 2nd Department of Internal Medicine, Osaka Medical and Pharmaceutical University, Takatsuki, Japan

Corresponding author

Takeshi Ogura

Osaka Medical and Pharmaceutical University, Endoscopy Center, 2-7 Daigakumachi, 569-8686 Takatsuki, Japan
oguratakeshi0411@yahoo.co.jp

References

- [1] Lillemoe KD, Cameron JL, Hardacre JM et al. Is prophylactic gastrojejunostomy indicated for unresectable periampullary cancer? A prospective randomized trial. *Ann Surg* 1999; 230: 322–328 discussion 328–330
- [2] Jeurnink SM, Steyerberg EW, van Hooft JE et al. Surgical gastrojejunostomy or endoscopic stent placement for the palliation of malignant gastric outlet obstruction (SUS-TENT study): a multicenter randomized trial. *Gastrointest Endosc* 2010; 71: 490–499. doi:10.1016/j.gie.2009.09.04220003966
- [3] Itoi T, Ishii K, Ikeuchi N et al. Prospective evaluation of endoscopic ultrasonography-guided double-balloon-occluded gastrojejunostomy bypass (EPASS) for malignant gastric outlet obstruction. *Gut* 2016; 65: 193–195. doi:10.1136/gutjnl-2015-31034826282674
- [4] Chan SM, Dhir V, Chan YYY et al. Endoscopic ultrasound-guided balloon-occluded gastrojejunostomy bypass, duodenal stent or laparoscopic gastrojejunostomy for unresectable malignant gastric outlet obstruction. *Dig Endosc* 2023; 35: 512–519. doi:10.1111/den.1447236374127

Bibliography

Endoscopy 2023; 55: E1154–E1155

DOI 10.1055/a-2183-6315

ISSN 0013-726X

© 2023. The Author(s).

This is an open access article published by Thieme under the terms of the Creative Commons Attribution License, permitting unrestricted use, distribution, and reproduction so long as the original work is properly cited.

(<https://creativecommons.org/licenses/by/4.0/>)

Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany



ENDOSCOPY E-VIDEOS

<https://eref.thieme.de/e-videos>



E-Videos is an open access online section of the journal *Endoscopy*, reporting on interesting cases and new techniques in gastroenterological endoscopy. All papers include a high-quality video and are published with a Creative Commons CC-BY license. *Endoscopy E-Videos* qualify for HINARI discounts and waivers and eligibility is automatically checked during the submission process. We grant 100% waivers to articles whose corresponding authors are based in Group A countries and 50% waivers to those who are based in Group B countries as classified by Research4Life (see: <https://www.research4life.org/access/eligibility/>).

This section has its own submission website at

<https://mc.manuscriptcentral.com/e-videos>