

## Transverse stent placement for hilar malignant biliary obstruction through an endoscopic ultrasound-guided hepaticogastrostomy route

A 70-year-old woman who had undergone endoscopic placement of multiple stents for hilar biliary obstruction due to gallbladder cancer was admitted with cholangitis. In her previous hospitalization, endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) had been performed for the bile duct at segment

III (B3) using a partially covered self-expandable metal stent (SEMS; modified Giobor, 10×80 mm; Taewoong Medical Inc., Gimpo, Korea [1]). To manage subsequent episodes of cholangitis, two uncovered SEMSs were placed via the transpapillary route for B7 and B8 in a partial stent-in-stent fashion (► **Fig. 1**). On this

admission, endoscopic drainage was scheduled to manage segmental cholangitis in B8.

In the first session, transpapillary biliary drainage of B8 failed as a cannula could not be passed through the mesh wall of the indwelling SEMS (► **Fig. 2a**). Therefore, we attempted to access B8 through



► **Fig. 1** Radiographic view showing placement of uncovered metal stents in a partial stent-in-stent fashion following endoscopic ultrasound-guided hepaticogastrostomy.



► **Video 1** Placement of a metal stent bridging a hilar malignant biliary stricture through an indwelling hepaticogastrostomy stent.



► **Fig. 2** Placement of a metal stent bridging a hilar malignant biliary stricture through an indwelling hepaticogastrostomy (HGS) stent after an unsuccessful transpapillary re-intervention. **a** During the transpapillary approach to B8, a cannula cannot be passed through the mesh wall of the indwelling SEMS. **b** Balloon dilation of a mesh interstice of the self-expandable metal stent (SEMS) is performed. **c** An uncovered SEMS is placed between B8 and B3 via the EUS-HGS route.

the EUS-HGS stent. Using a side-viewing duodenoscope, we passed a guidewire into the ventral branch of B8 and dilated the mesh of the SEMS using a balloon catheter (► **Fig. 2b**). We then placed a nasobiliary catheter to manage the cholangitis. In the following session, we trimmed the gastric end of the EUS-HGS stent using argon plasma coagulation (ESG-100; Olympus, Tokyo, Japan) to facilitate insertion of the stent [2] and deployed an uncovered SEMS (Niti-S, 10×80 mm; Taewoong Medical Inc.) (► **Fig. 2c**; ► **Video 1**). There were no procedure-related adverse events. Endoscopists occasionally face technical difficulties in managing occlusion of SEMSs placed for hilar biliary obstruction. The transpapillary approach is often used for re-intervention for the right-sided biliary system and, recently, the feasibility of EUS-guided hepaticoduodenostomy has been reported [3, 4]; however, both procedures are technically demanding. Furthermore, EUS-guided access to B8 is often anatomically impossible. Access to the right intrahepatic bile duct via the EUS-HGS route can offer an alternative strategy in this setting [5].

Endoscopy\_UCTN\_Code\_TTT\_1AR\_2AG

### Competing interests

None

### The authors

**Sachiko Kanai<sup>\*</sup>, Tomotaka Saito<sup>\*</sup>, Ryunosuke Hakuta, Yousuke Nakai, Kazuhiko Koike**

Department of Gastroenterology, Graduate School of Medicine, The University of Tokyo, Tokyo, Japan

### Corresponding author

**Yousuke Nakai, MD, PhD**

Department of Gastroenterology, Graduate School of Medicine, The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8655, Japan

Fax: +81-3-38140021

ynakai-tky@umin.ac.jp

### References

- [1] Nakai Y, Isayama H, Yamamoto N et al. Safety and effectiveness of a long, partially covered metal stent for endoscopic ultrasound-guided hepaticogastrostomy in patients with malignant biliary obstruction. *Endoscopy* 2016; 48: 1125–1128
- [2] Hamada T, Nakai Y, Isayama H et al. Trimming a covered metal stent during hepaticogastrostomy by using argon plasma coagulation. *Gastrointest Endosc* 2013; 78: 817
- [3] Ogura T, Sano T, Onda S et al. Endoscopic ultrasound-guided biliary drainage for right hepatic bile duct obstruction: novel technical tips. *Endoscopy* 2015; 47: 72–75

- [4] Park SJ, Choi JH, Park DH et al. Expanding indication: EUS-guided hepaticoduodenostomy for isolated right intrahepatic duct obstruction (with video). *Gastrointest Endosc* 2013; 78: 374–380
- [5] Prachayakul V, Aswakul P. Endoscopic ultrasound-guided biliary drainage: Bilateral systems drainage via left duct approach. *World J Gastroenterol* 2015; 21: 10045–10048

### Bibliography

DOI <https://doi.org/10.1055/a-0889-7329>

Published online: 9.5.2019

Endoscopy 2019; 51: E245–E246

© 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>

\* equal first authors