Successful reintervention using dual-channel endoscope for perforation by partially migrated stent after endoscopic ultrasound-guided hepaticogastrostomy



Endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) is the standard endoscopic procedure for biliary obstructions [1–2]. Although various complications such as migration, perforation, and abdominal peritonitis have been reported after EUS-HGS [3–5], the reintervention method for them has not been established. Herein, we present a case of successful reintervention for a migrated stent after EUS-HGS using a dual-channel endoscope and grasping forceps.

An 88-year-old man with pancreatic cancer underwent EUS-HGS for malignant biliary obstruction, and a partially covered self-expandable metallic stent (SEMS) was placed on the B3 branch. The patient had a high fever 2 days after EUS-HGS. Computed tomography (CT) revealed free air in the abdominal cavity (**Fig. 1**), which was caused by the shifting of the uncovered part of the SEMS to the gastric side by respiratory fluctuation. A reintervention for additional stent placement was urgently performed. A dual-channel endoscope (GIF-2TQ260M; Olympus, Tokyo, Japan) was inserted into the EUS-HGS site. A guidewire was then advanced through the EUS-HGS stent into the right hepatic duct (> Video 1). However, the catheter could not advance through the B3 branch due to its strong bend. The EUS-HGS stent was too long, poorly anchored, and was difficult to align with the axis; therefore, it could not transmit force in the direction of the catheter (> Fig. 2). Grasping forceps inserted from the other channel grasped and pulled the stent (> Fig. 3), after which the catheter and stent delivery system advanced through the bend of the B3 branch by counter-traction (**Fig. 4**). The fully covered SEMS (Boston Scientific, Marlborough, Massachusetts, USA) was then deployed through the stent to the proximal B3 branch (> Fig. 5). After 1 week, CT showed the disappearance of free air and the biliary metallic stent in



Fig. 1 Computed tomography images. **a** No free air in the abdominal cavity immediately after endoscopic ultrasound-guided hepaticojejunostomy (EUS-HGS). **b** The presence of free air 2 days after EUS-HGS.



Video 1 As a reintervention for additional stent placement, a dual-channel endoscope and grasping forceps were used. Pulling the endoscopic ultrasound-guided hepaticogastrostomy stent by grasping the forceps, catheter, and stent delivery system enabled passage through the bend of the B3 branch by counter-traction.

the appropriate position. Stent placement using a dual-channel endoscope and grasping forceps may be considered a useful treatment for stent complications after EUS-HGS.

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Competing interests

The authors declare that they have no conflict of interest.



Fig.2 Catheter could not advance through the strong bend of the B3 branch. **a** Fluoroscopic view. **b** Schema.



► Fig. 3 Endoscopic view showing the stent grasped using grasping forceps inserted from the other forceps channel of the dual-channel endoscope.



► Fig. 4 Fluoroscopic view showing the passage of the catheter by counter-traction through the strong bend of the B3 branch by pulling the grasped stent.

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References

- Wang K, Zhu J, Xing L et al. Assessment of efficacy and safety of EUS-guided biliary drainage: a systematic review. Gastrointest Endosc 2016; 83: 1218–1227
- [2] 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
- [3] Nakamura K, Kisikawa H, Katayama T et al. Stent placement using dual-channel endoscope for biloma after EUS-guided hepaticogastrostomy. J Hepatobiliary Pancreat Sci 2021; 28: e45–e46
- [4] Okamoto A, Minaga K, Takenaka M et al. A novel technique for stent dysfunction after endoscopic ultrasound-guided hepaticogastrostomy with antegrade stenting. Endoscopy 2019; 51: E255–E256
- [5] Yane K, Katanuma A, Maguchi H et al. Successful re-intervention with metal stent trimming using argon plasma coagulation after endoscopic ultrasound-guided hepaticogastrostomy. Endoscopy 2014; 46: E391–E392



Fig. 5 a Fluoroscopic view showing the deployment of the additional biliary metallic stent beyond the bend of the B3 branch to the proximal site in a stent-in-stent manner. **b** Endoscopic view showing the additional biliary metallic stent.

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Bibliography

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