Re-intervention with endoscopic ultrasound-guided hepaticogastrostomy for unresectable hilar biliary drainage using a multipath occlusion balloon

Endoscopic ultrasound (EUS)-guided hepaticogastrostomy (EUS-HGS) and antegrade stenting (EUS-AS) have been developed as alternative biliary drainage methods; however, treating unresectable malignant hilar biliary strictures remains challenging [1–3]. We successfully performed re-intervention for malignant hilar biliary drainage after EUS-HGS using a multipath occlusion balloon.

A 46-year-old woman who was on medication for a postoperative recurrence of gastric cancer presented with jaundice. She had previously undergone double-balloon enteroscope (DBE)-assisted biliary drainage with a self-expandable metal stent (SEMS) for malignant biliary stricture of the lower bile duct. Contrast-enhanced computed tomography (CT) showed strictures of the hilar bile duct and duodenum (▶Fig.1) associated with dissemination of the gastric cancer. EUS-HGS was performed (▶Fig.2), and a 7-Fr plastic stent (TYPE-IT; Gadelius Medical, Tokyo, Japan) was placed into the B3 bile duct [4]. However, the patient’s jaundice was not improved, and re-intervention was required. A 0.025-inch guidewire was placed into the duodenum beyond the papilla, and the plastic stent was removed. A second 0.025-inch guidewire was placed into the B5 bile duct using a multipath occlusion balloon (Bouncer; Cook Medical, Tokyo, Japan) (▶Fig.3). This balloon has a multilumen located at either end of the balloon, which enables guidewires to be passed easily into crooked bile ducts (▶Fig.3 and ▶Fig.4a; Video1). A Zilver 635 biliary SEMS (Cook Medical, Tokyo, Japan) was introduced over the first guidewire and placed into the B5 bile duct, bridging the right and left hepatic ducts (▶Fig.4b). Finally, a modified Niti-S GILOBR biliary stent (Century Medical, Tokyo, Japan) was placed into the B3 bile duct (▶Fig.4c). The jaundice subsequently improved, and no adverse events occurred.

Competing interests

None
Re-intervention with endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS). Drainage of the right hepatic duct was challenging, but we achieved technical success using a multipath occlusion balloon.

**Fig. 4** Radiographic images showing: a a guidewire placed into the B5 bile duct using a multipath occlusion balloon (red arrow); b a self-expandable metal stent (SEMS) introduced over the first guidewire and placed into the B5 bile duct, bridging the right and left hepatic ducts; c a second SEMS placed into the B3 bile duct bridging the hepatogastric stoma.

**Video 2** Re-intervention with endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS). Drainage of the right hepatic duct was challenging, but we achieved technical success using a multipath occlusion balloon.

---

**The authors**

Daisuke Uchida, Hironari Kato, Hiroyuki Okada
Department of Gastroenterology, Okayama University Hospital, Okayama, Japan

**Corresponding author**

Daisuke Uchida, MD, PhD
Department of Gastroenterology, Okayama University Hospital, 2-5-1 Shikata-cho, Okayama 700-8558, Japan
Fax: +81-86-2255991
d.uchida0309@gmail.com
References


Bibliography
DOI https://doi.org/10.1055/s-0044-100719
Published online: 2.2.2018
Endoscopy 2018; 50: 450–452
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X