

Title	Stent placement using dual-channel endoscope for biloma after EUS-guided hepaticogastrostomy
Author(s) Alternative	Nakamura, K; Kishikawa, H; Ojira, K; Katayama, T; Arahata, K; Takarabe, S; Nishida, J
Journal	Journal of hepato-biliary-pancreatic sciences, 28(10): e45-e46
URL	<a href="http://hdl.handle.net/10130/6007">http://hdl.handle.net/10130/6007</a>
Right	<p>This is the peer reviewed version of the following article: J Hepatobiliary Pancreat Sci. 2021 Oct;28(10):e45-e46, which has been published in final form at <a href="https://doi.org/10.1002/jhbp.880">https://doi.org/10.1002/jhbp.880</a>.</p> <p>This article may be used for non-commercial purposes in accordance with Wiley Terms and Conditions for Use of Self-Archived Versions. This article may not be enhanced, enriched or otherwise transformed into a derivative work, without express permission from Wiley or by statutory rights under applicable legislation. Copyright notices must not be removed, obscured or modified. The article must be linked to Wiley's version of record on Wiley Online Library and any embedding, framing or otherwise making available the article or pages thereof by third parties from platforms, services and websites other than Wiley Online Library must be prohibited.</p>
Description	

**Stent placement using dual-channel endoscope for biloma after EUS-guided  
hepaticogastrostomy**

Authors: Kenji Nakamura<sup>1)</sup>, Hiroshi Kishikawa<sup>1)</sup>, Keisuke Ojira<sup>1)</sup>, Tadashi Katayama<sup>1)</sup>,  
Kyoko Arahata<sup>1)</sup>, Sakiko Takarabe<sup>1)</sup>, Jiro Nishida<sup>1)</sup>

1) Department of Gastroenterology, Tokyo Dental College, Ichikawa General Hospital,  
Chiba, Japan

**Corresponding author:**

Kenji Nakamura, MD., PhD.

Department of Gastroenterology, Tokyo Dental College, Ichikawa General Hospital

5-11-13, Sugano, Ichikawa, 272-8513, Chiba, Japan

Tel: +81-47-322-0151

Fax: +81-47-325-4456

E-mail: kenakamura@tdc.ac.jp

## **Main text**

Endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) is used for malignant biliary obstruction (MBO) when endoscopic retrograde cholangioscopy is technically challenging. Clinical practical guideline recommends self-expandable metallic stents (SEMS) of >10 cm to prevent stent migration; however, additional endoscopic reintervention occasionally becomes difficult because of the length [1-4]. Here, we present a case of biloma caused by stent migration after EUS-HGS, and plastic stent placement was successfully performed using a dual-channel endoscope. A 57-year-old man with unresectable pancreatic cancer underwent transpapillary biliary metallic stent (BMS) placement for MBO. Then, EUS-HGS was performed using an end-bare-type fully covered SEMS (Niti-S, 8 mm × 10 cm; Taewoong Medical, Seoul, Korea) for stent obstruction with duodenal invasion due to tumor. However, he developed a high fever 10 days after EUS-HGS. Contrast-enhanced computed tomography indicated biloma formation caused by stent migrated in the liver parenchyma (Fig. 1). We could not remove the EUS-HGS stent, therefore drainage from the stomach through the stent using a dual-channel endoscope (GIF-2TQ260M; Olympus, Tokyo, Japan) was performed. The edge of the stent was fixed by a snare from one channel, and a catheter with a hairpin-curved guidewire was inserted through the fixed stent from the other

channel (Fig. 2a) [5]. The guidewire was easily passed through the stent, and a 7-Fr plastic stent was successfully placed into the biloma (Fig. 2b-d). The biloma resolved immediately, after which the ultrathin endoscope could pass through the duodenal stenosis, and transpapillary BMS placement for MBO was performed.

This method using a dual-channel endoscope and hairpin-curved guidewire technique is straightforward and was useful in patients with post-EUS-HGS biloma, which is a rare but fatal complication of EUS-HGS without any established reintervention.

This method is potentially useful for EUS-HGS stent obstruction with a long metallic stent in the stomach, which is typically difficult to approach.

## REFERENCES

1. Isayama H, Nakai Y, Itoi T et al. Clinical practice guidelines for safe performance of endoscopic ultrasound/ultrasonography-guided biliary drainage: 2018. *J Hepatobiliary Pancreat Sci.* 2019; 26: 249-269.
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: 1125-8.
3. Minaga K, Takenaka M, Miyata T et al. Through-the-mesh technique after endoscopic ultrasonography-guided hepaticogastrostomy: a novel re-intervention method. *Endoscopy* 2016; 48: E369 – E370
4. Kawakami H, Kubota Y, Ban T. Rescue antegrade diathermic dilation of hyperplastic tissue at partially covered metallic stent after EUS-guided hepaticogastrostomy. *Endoscopy* 2017; 49: E285-7.
5. Yamaguchi Y, Morozumi K, Yamato T et al. New guide wire technique for stent placement through an occluded self-expandable metal stent: The hairpin technique. *J Gastroenterol Hepatol.* 2005; 20: 595-8.

### **Figure Legends**

Figure 1. Contrast-enhanced computed tomography showing the edge of stent migrated in the liver parenchyma and the hepatic subcapsular biloma (white arrow).

Figure 2. (a) Endoscopic view using a dual-channel endoscope showing the stent fixed by snare from the right-sided channel and a catheter from the left-sided channel. (b) Fluoroscopy showing the catheter inserted into the stent that was preceded by a hairpin-bend guidewire. (c) Fluoroscopy showing the biloma filled with contrast medium through a catheter. (d) Fluoroscopy showing the plastic stent placed into the biloma through the migrated metallic stent.

### **Video legend**

Stent placement using dual-channel endoscope for biloma after EUS-guided hepaticogastrostomy.

### **Supporting information**

Full version videos are attached (Full videos 1-5).

Figure 1

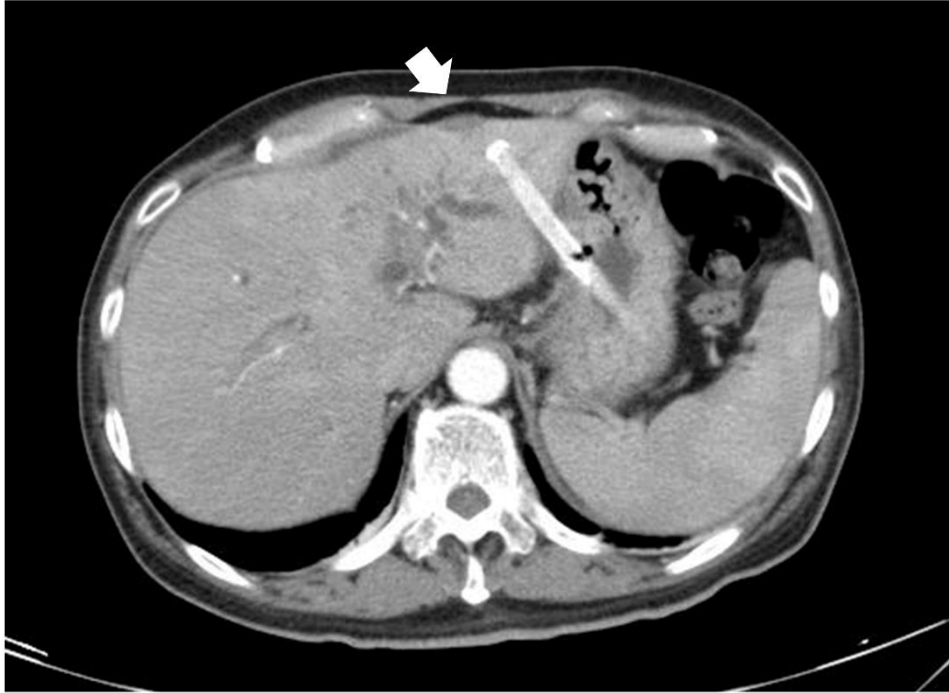


Figure 2

