



## Case report

# Spontaneous migration of a dedicated plastic stent after endoscopic ultrasound-guided hepaticogastrostomy in a patient with surgically altered anatomy: a case report

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### Abstract

**Objective:** We report a case of spontaneous migration of a dedicated plastic stent after endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) in a patient with surgically altered anatomy.

**Patient:** The patient was a male in his 70s. He underwent EUS-HGS with the successful insertion of a dedicated plastic stent and had no obvious postprocedural complications. However, nine days after the procedure, the patient visited our hospital because of abdominal pain, fever, and stent excretion. We performed EUS-HGS with antegrade stenting, after which the patient had no further complications.

**Conclusion:** Stent migration is considered a complication requiring caution when performing EUS-HGS in patients with surgically altered anatomy.

**Key words:** endoscopic ultrasound-guided hepaticogastrostomy, dedicated plastic stent, surgically altered anatomy, stent migration

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## Introduction

Endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) is an alternative biliary drainage method<sup>1)</sup> commonly performed using metal stents. Although stent migration is not common, it can have fatal consequences<sup>2)</sup>.

The usefulness of a dedicated plastic stent for EUS-HGS has been reported<sup>3–5)</sup>. The advantage of this type of stent is its specific shape, designed to ease insertion and prevent stent migration. To our knowledge, reports of early migration of dedicated plastic stents are nonexistent. Herein, we report a rare case of early migration of a dedicated plastic stent following EUS-HGS.

## Case Report

The patient was a male in his 70s. He had a history of distal gastrectomy with Billroth II reconstruction owing to trauma. The patient was referred to our hospital for investigation of a pancreatic head tumor. Computed tomography (CT) showed tumor-induced distal bile duct stenosis. Endoscopic retrograde cholangiopancreatography (ERCP) using double-balloon enteroscopy was initially attempted for biliary drainage. However, this procedure was unsuccessful owing to duodenal stenosis. Therefore, EUS-HGS was performed. The target bile duct (B3) was visualized using an oblique-viewing linear echoendoscope (EG-740UT, Fujifilm Corp., Tokyo, Japan). The distance from the gastric wall to the target B3 bile duct was 20 mm. The B3 bile duct was punctured with a 22-gauge FNA needle (EXPECT Slimline; Boston Scientific, Natick, MA, USA). Following cholangiography, a 0.018-inch guidewire (Fielder 18; Olympus Medical Systems, Tokyo, Japan) was inserted into the bile duct. After the guidewire was placed, tract dilation was performed using a drill dilator (Tornus ES; Olympus Medical Systems, Tokyo, Japan). An ERCP catheter was then inserted into the bile duct. Bile was aspirated to decompress the bile duct, and cholangiography was performed to con-

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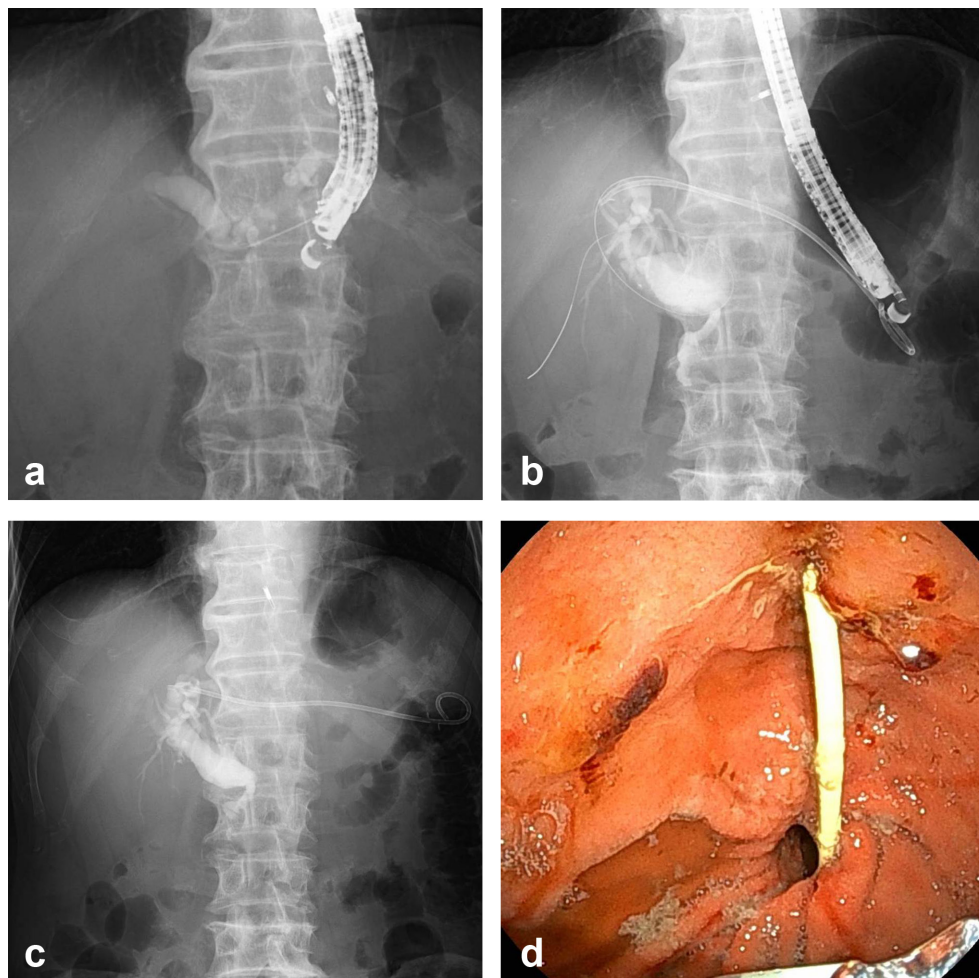
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**Figure 1** Endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS) using a dedicated plastic stent. a: Puncturing the bile duct with a fine-needle aspiration needle. b: Successful placement of a dedicated plastic stent. c: Radiographic image after EUS-HGS showing the distal end of the stent located in the left hepatic duct. d: Endoscopic image after stent placement showing the proximal end of the stent located in the jejunum.

firm the stenosis. Finally, an EUS-HGS-dedicated plastic stent (Through and Pass, TYPE-IT, Gadelius Medical Co. Ltd., Tokyo, Japan) was placed (Fig. 1). There were no obvious postprocedural complications and the patient was discharged.

Nine days after the intervention, the patient visited our hospital because of abdominal pain, fever, and an evident stent excretion (Fig. 2). CT showed intrahepatic bile duct dilation with no evident bile leakage. EUS-HGS with antegrade stenting was performed. After the procedure, the patient had no adverse events.

## Discussion

The stent migration in this patient was due to its inadequate insertion depth and the jejunal location of its proximal

end. In our case, retrospective observation showed a slight displacement of the stent on the radiographic image the following day (Fig. 2). The stent migration was most likely caused by peristalsis, which gradually pulled the pigtail-shaped portion of the proximal end of the dedicated stent into the deep jejunum. This adverse event could have been prevented by placing the stent's proximal end in the residual stomach or performing a detailed follow-up imaging. In case of further stent displacement, an endoscopic reintervention attempt from alongside the HGS stent could have prevented complete dislodgement. Stent migration is an adverse event requiring caution when performing EUS-HGS in patients with surgically altered anatomy.

**Conflicts of interest:** The authors declare no conflicts of interest.



**Figure 2** a: Image of the excreted stent showing the absence of stent failure. b: Retrospective observation showing a slight displacement of the stent on the radiographic image performed the day after the intervention.

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**Consent for publication:** Patient's consent was obtained for the publication of this report, including the images.

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