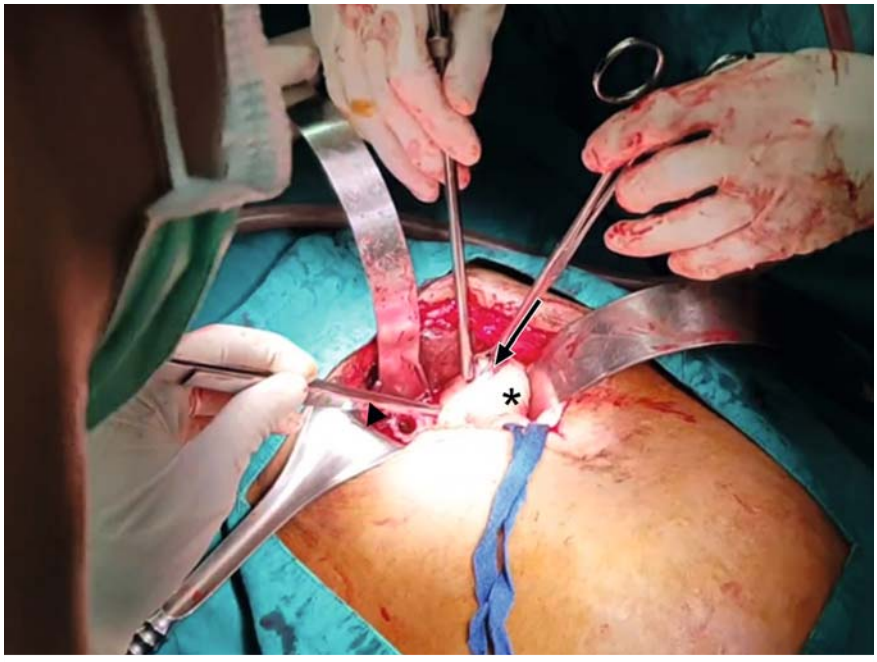
Surgical hepaticogastrostomy as a method for resolving stent migration in endoscopic ultrasound-guided hepaticogastrostomy

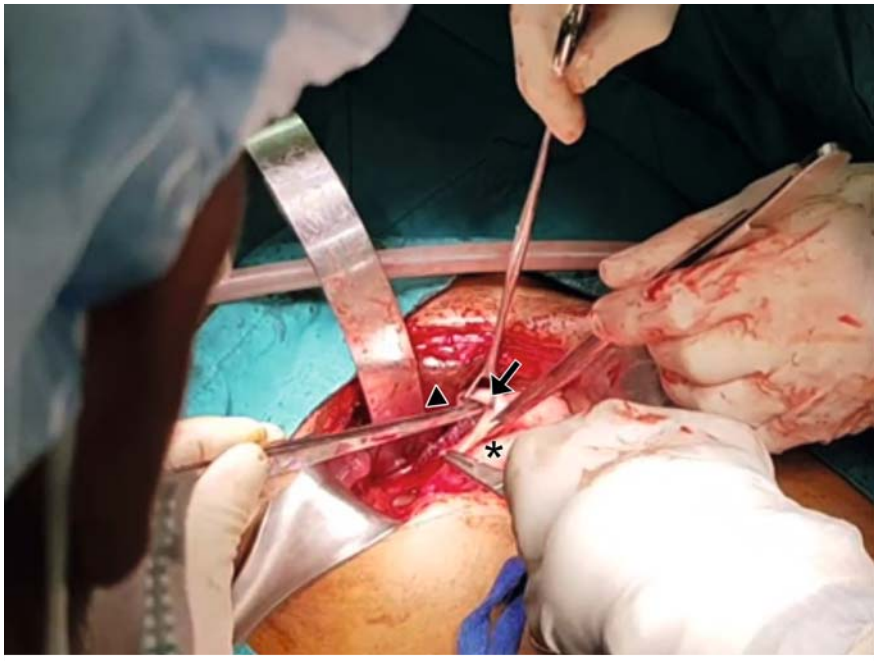
A 54-year-old woman presented with a 1-month history of jaundice. Abdominal CT showed a perihilar hypodense mass measuring 21×16 mm in diameter with dilated bilateral intrahepatic bile duct (IHD). Hilar cholangiocarcinoma was diagnosed and palliative biliary drainage was scheduled. Endoscopic ultrasound (EUS)-guided hepaticogastrostomy (EUS-HGS) was performed with the patient under general anesthesia. A linear echoendoscope along with a 19-gauge EUS-FNA needle, a 0.025-inch guidewire, a 6-French cystotome, and serial bougie dilators up to 8.5 French were used. A 120-mm partially covered stent with distal flared end (Giobore biliary stent; Taewoong Medical Co., Ilsan, Korea) was used to bridge the left IHD and stomach using the extra-scope channel deployment technique. The proximal end was successfully placed into the left IHD, but the distal end unfortunately displaced into the peritoneal cavity. We immediately converted EUS-HGS to exploratory laparotomy (▶ **Video 1**). The displaced distal end of the HGS stent and a hole on the serosal side of the stomach were identified (▶ **Fig. 1**). The distal end of the HGS stent was placed back into the stomach (▶ **Fig. 2**) and sutured to the stomach wall. Surgical hepaticogastrostomy was then successfully performed with the HGS stent. No postoperative adverse events occurred. The patient resumed a regular diet on day 4 and was discharged on day 7. She has been well without a need for biliary reintervention during 15 months of follow-up.

Stent migration, either as an early event during stent deployment [1] or as late migration due to stent shortening, occurs in about 2% to 3% of cases [2]. Migration can be a fatal complication of EUS-HGS.

Video 1 Exploratory laparotomy with surgical resolution of migrated stent during endoscopic ultrasound-guided hepatogastrostomy.



▶ **Fig. 1** During exploratory laparotomy following early stent migration during endoscopic ultrasound-guided hepatogastrostomy, the hepatogastrostomy stent (arrowhead) and the hole (arrow) in the stomach (star) were identified.



▶ **Fig. 2** During exploratory laparotomy, the hepatogastrostomy stent (arrowhead) was placed back into the hole (arrow) in the stomach (star).

Immediate stent migration can be treated with various techniques such as tandem stent placement [3], surgical removal [4], or endoscopic retrieval [5]. With the present case, we report surgical hepaticogastrostomy as another technique to resolve early HGS stent migration.

Endoscopy_UCTN_Code_CPL_1AL_2AD

Acknowledgements

Funding information: Pancreas Research Unit, Faculty of Medicine, Chulalongkorn University, Health Systems Research Institute (HSRI), grant number HSRI 62-050.

Competing interests

The authors declare that they have no conflict of interest.

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Endoscopy 2021; 53: E350–E351
DOI 10.1055/a-1290-7221
ISSN 0013-726X
published online 19.11.2020

Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany