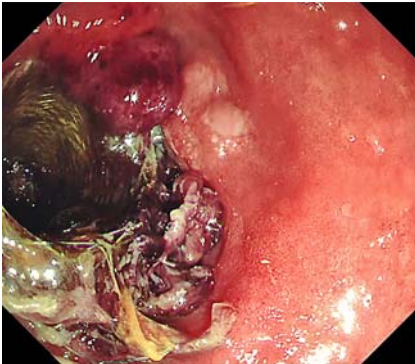
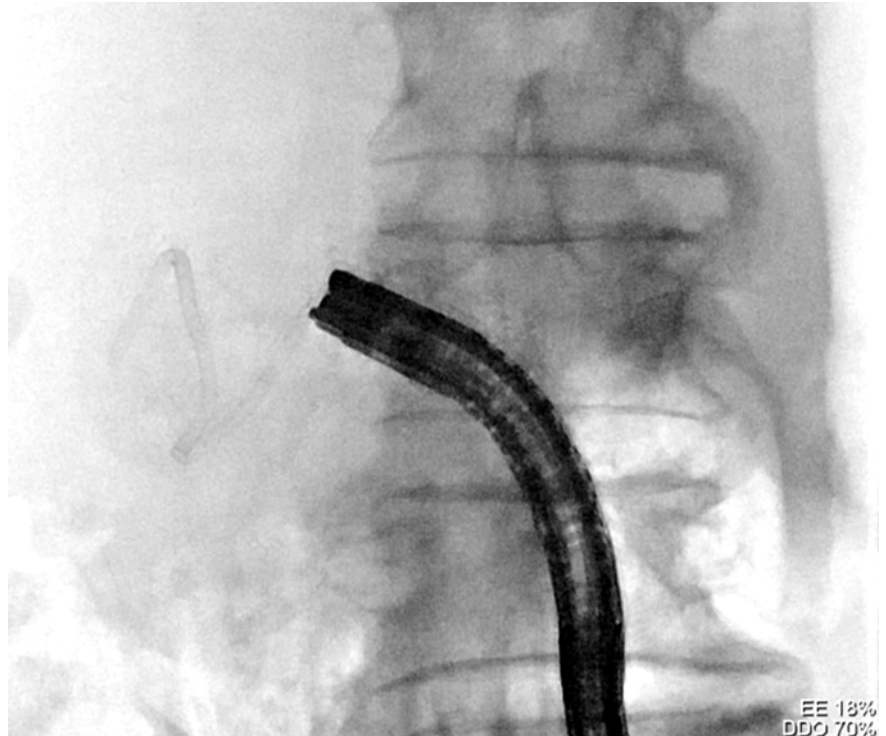


Gastrointestinal bleeding after endoscopic ultrasound-guided gallbladder drainage



► **Fig. 1** Endoscopic image showing the lumen-apposing metal stent remaining in situ in the duodenum but having caused erosion with ulceration and bleeding.



► **Fig. 2** Fluoroscopic image showing the lumen-apposing metal stent exchanged with a double-pigtail plastic stent.

Endoscopic ultrasound (EUS)-guided gallbladder drainage (EGBD) is gaining popularity as an option for the treatment of acute cholecystitis in patients who would be considered high risk for cholecystectomy [1]. EGBD has been shown to be associated with comparable technical and clinical success rates to percutaneous cholecystostomy, whilst carrying a 4.8%–22% risk of adverse events, including pneumoperitoneum, bile leak, and stent migration [2–5]. Stent-induced bleeding after EGBD is however uncommon.

A 95-year-old man on dabigatran with multiple comorbidities suffered from acute cholecystitis. As he was high risk for cholecystectomy, EGBD was performed. A lumen-apposing metal stent (LAMS; Spaxus, Taewoong Medical Corporation, South Korea) and a 3-cm double-pigtail stent were inserted for gallbladder drainage. He was scheduled for cholecystoscopy and stone removal 1 month later. On cholecystoscopy, a 2-cm gallstone was noted at Hartmann's pouch but could not be removed, so the LAMS was left in situ as a long-term stent. After 4 months, he was admitted with hematemesis and tarry stools; his hemoglobin had dropped to 5.9 g/dL. An urgent endoscopy was performed and it

was found that his stomach was filled with blood clots (► **Video 1**). The LAMS

remained in situ at the inferoposterior wall of the first part of the duodenum,



► **Video 1** Endoscopy performed in a patient with gastrointestinal bleeding after endoscopic ultrasound-guided gallbladder drainage.

but it had caused erosion with ulceration and bleeding (► **Fig. 1**). The stent was removed and exchanged for a double-pig-tail stent to maintain drainage of the gallbladder (► **Fig. 2**). Hemostatic treatment was not required. The patient's dabigatran was stopped and was not restarted. His condition stabilized and he was discharged 6 days later.

Stent-induced gastrointestinal bleeding has to be considered in post-EGBD patients with anemia or signs of gastrointestinal bleeding. Further studies on the safety of anticoagulant use in patients planned for long-term stenting are required.

Endoscopy_UCTN_Code_TTT_1AS_2AG

Competing interests

Prof. Anthony Y. B. Teoh is a consultant for Boston Scientific, Cook, Taewoong, and Microtech Medical Corporations.

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DOI <https://doi.org/10.1055/a-1089-7479>

Published online: 29.1.2020

Endoscopy 2020; 52: E249–E250

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Stuttgart · New York

ISSN 0013-726X

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