ORIGINAL ARTICLE

Natural orifice transluminal endoscopic surgery to the rescue: retrieval of an extraluminally migrated lumen-apposing metal stent

Victor Alvarado-Fernandez, MD,[1] Jorge Vargas-Madrigal, MD[1,2]

BACKGROUND

Since the first transgastric natural orifice transluminal endoscopic surgery (NOTES) was described, various applications and modified procedures have been investigated, including peritoneoscopy.[1-3] The submucosal tunneling method enhances the safety of peritoneal access and gastric closure.[4]

AIM

The aim of this video is to demonstrate the use of transgastric NOTES as a rescue measure to retrieve an extraluminally migrated lumen-apposing metal stent (LAMS).

CASE

A 52-year-old male patient was admitted because of a liver abscess secondary to a complicated diverticulitis (Fig. 1). He was referred for EUS-guided drainage. A lumen-apposing Hot AXIOS metal stent (Boston Scientific Corporation, Natick, Mass, USA), 8 mm × 8 mm in size, was used. There was a misplacement of the LAMS, with the proximal phalange migrating into the peritoneum as a result of the miscalculation of the length of the stent and the distance between the abscess and the lumen wall (Fig. 2). The patient was admitted and started on antibiotics (cefotaxime and metronidazole). The case was discussed in a multidisciplinary session, and it was decided that as the result of the severe abdominal and perihepatic inflammatory process, the transgastric approach via NOTES was the most suitable procedure for the patient. The abscess was then successfully drained by the placement of a longer LAMS with a bigger diameter transduodenally (HANAROSTENT HOT Plumber 16 × 30 mm; M.I. Technology, Seoul, Korea).

PROCEDURE

After extensive analysis of the CT images and with fluoroscopic guidance, an incision was made in the gastric antrum and a submucosal tunnel was created. An intentional gastric wall perforation was created inside the tunnel to access the peritoneal cavity (Fig. 3). To reduce the risk of tense capnoperitoneum, underwater dissection using 0.9% saline solution was carefully undertaken. The migrated stent was reached with fluoroscopic guidance. It was successfully retrieved using a gastric hook, through the tunnel, without any adverse events. The mucosal incision was sealed using an over-the-scope clip (Ovesco Endoscopy, Tübingen, Germany).

OUTCOME

The patient's evolution was satisfactory; he was discharged 2 days after the procedure. A CT scan performed 6 weeks later showed resolution of the liver abscess, so the LAMS was removed uneventfully.

CONCLUSIONS

This video demonstrates the feasibility of transgastric NOTES for the retrieval of extraluminally migrated stents.

DISCLOSURES

All authors disclosed no financial relationships.

Abbreviations: LAMS, lumen-apposing metal stent; NOTES, natural orifice transluminal endoscopic surgery.

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Department of Gastroenterology, Hospital San Juan de Dios, San José, Costa Rica (1), Clínica Equilibrium, San José, Costa Rica (2).

Figure 1. A, Hepatic abscess. CT images in the axial plane show an abscess in the right hepatic lobe. **B,** CT images in the coronal plane show a hepatic abscess.

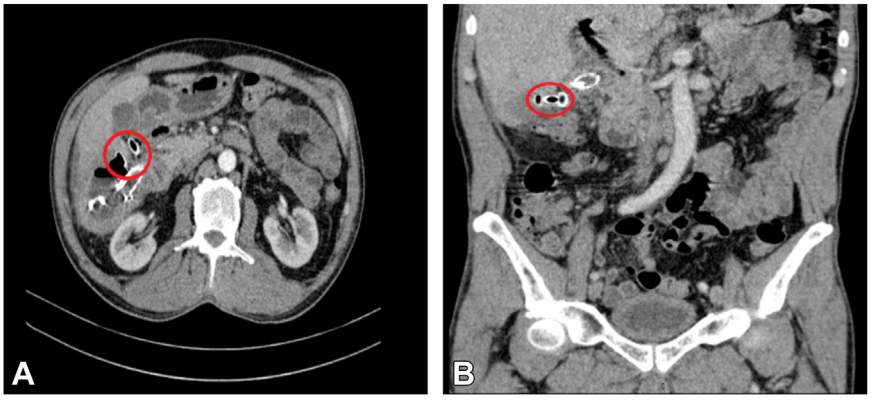

Figure 2. Migrated lumen-apposing metal stent (LAMS). CT images show the migrated LAMS (*red circles*) in the axial (**A**) and coronal (**B**) planes.

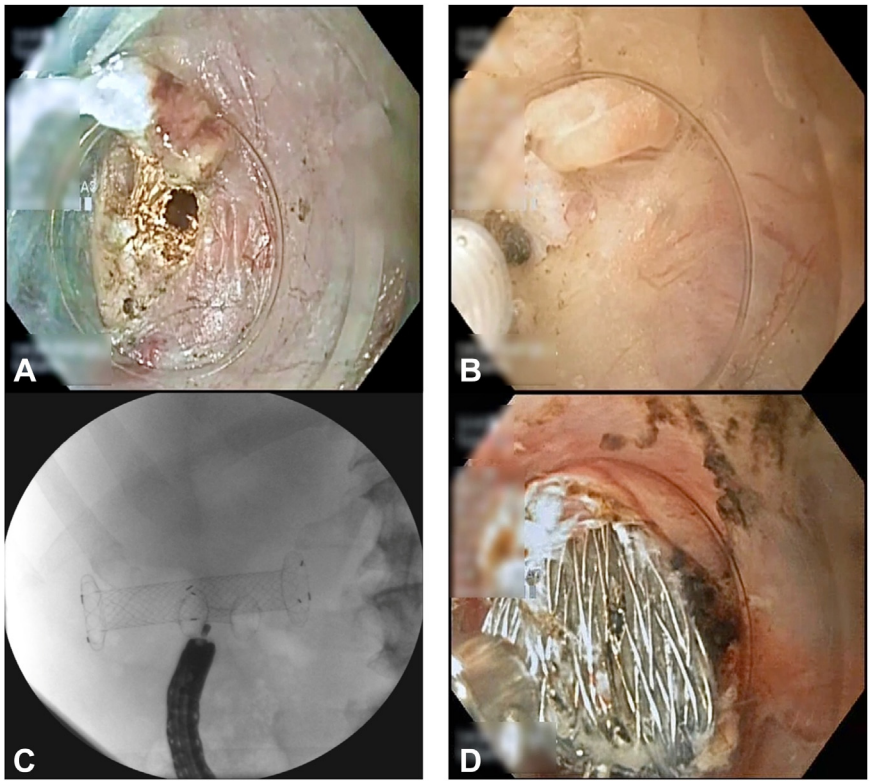

Figure 3. A, Stent retrieval. Intentional perforation of the gastric wall inside the submucosal tunnel. **B and C,** Underwater dissection, assisted with fluoroscopy. **D,** Retrieval of stent.

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