Endoscopic management of metal stent migration after walled-off necrosis drainage for 3 months (with video)

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PATIENT AND METHODS

A 34-year-old male patient was admitted with walled-off necrosis (WON) caused by acute pancreatitis. EUS showed that a well-defined cystic lesion measuring 11.3 cm × 13.5 cm was located in the body of the pancreas, which contained liquid and solid components, and the cyst was closely attached to the posterior wall of the stomach [Figure 1a]. The patient was referred for endoscopic transmural drainage, and a double-flanged covered metal stent (40 mm × 14 mm) was deployed across the posterior wall of the stomach under EUS and fluoroscopy guidance [Figure 1b]. The patient was in good condition after the procedure. However, 3 months later, a repeat abdominal computed tomography (CT) scan showed incomplete intracystic migration of the stent [Figure 1c]; therefore, we decided to retrieve the migrated stent.

ENDOSCOPIC PROCEDURE

During endoscopy, a fistula covered by a mass of granulation tissue was found on the posterior wall of

the stomach and no stent was observed [Figure 2a]. The fistula was narrow and the endoscope could not be advanced. During fluoroscopy, we observed a double-flanged metal stent in the cyst cavity [Figure 2b].

A guidewire (Jagwire™ 0.035 in × 450 cm, Boston Scientific Corporation, MA, USA) was inserted into the cyst cavity through the fistula. A contrast catheter (Tandem™ XL, Boston Scientific Corporation, IN, USA) was introduced through the guidewire, and the cyst cavity was visualized after injection of 10 ml iodixanol [Figure 2c]. Then, the fistula tract was dilated to 12 mm with columnar balloon dilators (ECL, Cook Ireland Ltd, Limerick, Ireland) [Figure 2d]. Under endoscopy and fluoroscopy, the stent was slowly removed successfully by biopsy forceps (JHK-EE, JIUHONG Corporation, Changzhou, China) [Figure 2e]. Finally, we deployed a double-pigtail plastic stent (ZSO 7 Fr × 7 cm, Cook Ireland Ltd, Limerick, Ireland) across the fistula tract [Figure 2f and h], and a nasal cyst drainage tube (ENBD-7-NAG-C, Cook Ireland Ltd., Limerick, Ireland) was placed in the

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Figure 1. (a) EUS showing a well-defined cystic lesion in the body of the pancreas, which contained liquid and solid components. (b) Fluoroscopy showing a transgastric double-flanged covered metal stent. (c) A repeat abdominal computed tomography scan showing that the metal stent had incompletely migrated into the pseudocyst

pseudocyst [Figure 2g and h]. Effective drainage of the pseudocyst was observed. The procedure was carried out under fluoroscopy [Video 1].

DISCUSSION

According to the revised Atlanta classification of acute pancreatitis, encapsulated necrotic tissues were defined as WON.^[1] About 20%–40% of acute pancreatitis cases progress to WON.^[2] EUS-guided drainage has been widely used in WON due to its less invasiveness and effectiveness. Many studies have revealed that lumen-apposing metal stents (LAMSs) have become the standard of care for creation of an endoscopic cystenterostomy in patients with pancreatic WON.^[3,4]

Endoscopic transmural drainage using a LAMS in this patient with acute pancreatitis achieved technical success, and the symptoms were relieved to some extent. However, there is no consensus on when the stents should be removed. In another study, all stents were removed if CT or EUS 4–8 weeks after initial transmural drainage indicated that complete resolution was achieved. The 4A consensus in China recommended that the mean ($\pm$ standard deviation) time to remove the LAMS was 4.59 ± 1.919 weeks (range, 3–12 weeks). Therefore, we had planned to retrieve the stent 3 months after the initial drainage.

Unfortunately, a repeat CT scan showed incomplete intracystic migration of the stent.

Stent migration is a common complication, and the occurrence rate is about 4.0%–6.5%.^[5,6] According to previous case reports, almost all cases of stent migration were managed successfully through endoscopy.^[7–9] Here, we report a case in which stent migration at 3 months after drainage was resolved by an endoscopic technique without laparotomy. Due to closure of the fistula, it was more difficult to retrieve the stent under endoscopy.

Figure 2. (a) Endoscopic view showing a nearly closed fistula on the posterior wall of the stomach. (b) Fluoroscopy showing a double-flanged metal stent in the cyst cavity. (c) Fluoroscopy showing the cyst cavity. (d) The fistula tract was dilated to 12 mm with columnar balloon dilators under fluoroscopy. (e) The retrieved metal stent. (f) Endoscopic view showing the gastric end of the double-pigtail plastic stent deployed across the fistula tract. (g) Endoscopic view showing the gastric part of the nasal cyst drainage tube placed in the cyst. (h) The plastic stent and the nasal cyst drainage tube were placed in the cyst under fluoroscopy

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initial will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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