Spontaneous tearing of a duodenal metallic stent: a rare adverse event

Fig. 1 Computed tomography shows a torn duodenal metallic stent, placed in a 67-year-old man to manage duodenal bulb stenosis resulting from previous malignant peritonitis.

Fig. 2 Fluoroscopic imaging also shows the torn duodenal metallic stent.

Fig. 3 The torn duodenal metallic stent on an endoscopic image.

Fig. 4 The duodenal metallic stent is trimmed.

Fig. 5 The duodenal metallic stent is successfully removed.

Fig. 6 A duodenal fully covered metallic stent is placed.

Video 1
The endoscope is advanced into the stomach, and the uncovered duodenal stent is seen to be torn. The duodenal stent is trimmed. Then, the stent is grasped and successfully removed.

Duodenal metallic stent placement is one of the options for the palliative treatment of malignant duodenal obstruction [1]. However, this palliative procedure is associated with several adverse events; stent migration, bleeding, and perforation have been reported [2–5]. If the site of obstruction is in the duodenal bulb, the duodenal

stent should be placed from the stomach to the duodenum across the pylorus. At this site, stent injury may be caused by pyloric spasm. Herein, we describe a rare adverse event – duodenal metallic stent tearing due to pyloric spasm – and our successful re-intervention.

A 67-year-old man was admitted to our hospital because of nausea and vomiting. He had undergone chemotherapy for bladder cancer. In addition, an uncovered duodenal metallic stent (Niti-S, 22 mm × 12 cm; TaeWoong Medical, Seoul, Korea) had been placed from the stomach to the second part of the duodenum because of duodenal bulb stenosis resulting from malignant peritonitis 2 months earlier. Computed tomographic and fluoroscopic imaging showed tearing of the duodenal stent (Figs. 1, 2). Therefore, we tried to re-intervene.

A gastroduodenoscope was inserted into the stomach, and tearing of the duodenal metallic stent was again seen (Fig. 3). First, we trimmed the metallic stent with a diathermic dilator (Fig. 4) and removed it (Fig. 5, Video 1). Then, we placed a fully covered duodenal metallic

stent (ComVi, 20 mm × 10 cm; TaeWoong Medical) (● Fig. 6). After this procedure, during the 2 months until the patient's death, the vomiting caused by both tumor growth and stent tearing did not recur. Stent tearing due to pyloric spasm is a rare adverse event. To prevent it, when a duodenal stent is placed from the stomach to the duodenum, it may be preferable to use a fully covered duodenal metallic stent.

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