EUS-guided gallbladder drainage and hepaticogastrostomy for acute cholecystitis and obstructive jaundice (with video)

Fig. 1 Endoscopic ultrasound-guided hepaticogastrostomy using a fully covered metallic stent in a 71-year-old man with obstructive jaundice and acute cholecystitis.

Fig. 2 The guidewire was inserted and the fistula dilated using a balloon catheter.

Fig. 3 A fully covered metallic stent was inserted.

Recently, endoscopic ultrasound (EUS)-guided gallbladder drainage has been reported in patients who are unsuitable candidates for cholecystectomy [1,2]. However, this procedure can also lead to several complications, including stent migration. Novel methods or new devices are required to prevent these complications.

We report here the successful treatment of a patient with acute cholecystitis and obstructive jaundice complicated by advanced bile duct cancer, using EUS-guided hepaticogastrostomy and a novel technique of EUS-guided gallbladder drainage. A 71-year-old man was admitted to our hospital with obstructive jaundice and acute cholecystitis. Based on further evaluations, he was diagnosed histologically with unresectable bile duct cancer. Following failed endoscopic retrograde cholangiography, we performed EUS-guided hepaticogastrostomy (► Fig. 1). The acute cholecystitis was treated by initial percutaneous gallbladder drainage (PTGBD), following which we successfully treated the condition. However, the acute cholecystitis recurred after removal of the PTGBD tube. Hence, we decided to perform EUS-guided gallbladder drainage. The gallbladder was punctured using a 19-G needle (SonoTip Pro Control 19G; Medi-Globe GmbH, Rosenheim, Germany) inserted via the duodenal bulb. Bile juice was aspirated and a small amount of contrast medium was injected. Next, a 0.025-inch guidewire (VisiGlide; Olympus Medical Systems, Tokyo, Japan) was inserted into the gallbladder. The gallbladder and duodenal wall were dilated using a 4mm balloon catheter (Hurricane; Boston Scientific Japan, Tokyo, Japan) (► Fig. 2). With a self-expandable metal stent (SEMS) inserted into the gallbladder (10×60mm Wallstent; Boston Scientific Japan), the endoscope was carefully advanced and was released after passing the duodenal wall (► Fig. 3). Finally, to

Video 1

Endoscopic ultrasound-guided hepaticogastrostomy using a fully covered metallic stent in a 71-year-old man with obstructive jaundice and acute cholecystitis. The gallbladder was punctured and contrast medium injected. Next, the guidewire was inserted and the fistula dilated using a balloon catheter. A fully covered metallic stent was placed and, finally, a pigtail plastic stent was placed into the metallic stent.

Fig. 4 A pigtail plastic stent was placed inside the metallic stent.

avoid stent migration, we inserted a double pigtail plastic stent (7Fr, 10cm; Cook Medical, Bloomington, Indiana, USA) into the metallic stent (● **Fig. 4**). Acute cholecystitis was not observed during 6 months after this procedure.

A novel metallic stent with flanges to prevent stent migration is now available for EUS-guided gallbladder drainage [3,4], and this stent might be much better at preventing stent migration. However, if this flanged metallic stent is not used, we believe that a pigtail plastic stent should be added into the straight metallic stent, as in the present case, to avoid stent migration.

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Bibliography

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