Simultaneous Duodenal Metal Stent Placement and EUS-Guided Choledochoduodenostomy for Unresectable Pancreatic Cancer

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Patients with pancreatic cancer frequently suffer from both biliary and duodenal obstruction. For such patients, both biliary and duodenal self-expandable metal stent placement is necessary to palliate their symptoms, but it was difficult to cross two metal stents. Recently, endoscopic ultrasonography-guided choledochoduodenostomy (EUS-CDS) was reported to be effective for patients with an inaccessible papilla. We report two cases of pancreatic cancer with both biliary and duodenal obstructions treated successfully with simultaneous duodenal metal stent placement and EUS-CDS. The first case was a 74-year-old man with pancreatic cancer. Duodenoscopy revealed that papilla had been invaded with tumor and duodenography showed severe stenosis in the horizontal portion. After a duodenal uncovered metal stent was placed across the duodenal stricture, EUS-CDS was performed. The second case was a 63-year-old man who previously had a covered metal stent placed for malignant biliary obstruction. After removing the previously placed metal stent, EUS-CDS was performed. Then, a duodenal covered metal stent was placed across the duodenal stenosis. Both patients could tolerate a regular diet and did not suffer from stent occlusion. EUS-CDS combined with duodenal metal stent placement may be an ideal treatment strategy in patients with pancreatic cancer with both duodenal and biliary malignant obstructions. (Gut Liver 2012;6:399-402)

Key Words: Endoscopic ultrasonography-guided choledochoduodenostomy; Duodenal stent; Malignant biliary obstruction

INTRODUCTION

Patients with pancreatic cancer frequently suffer from both biliary and duodenal obstruction. For such patients, both biliary and duodenal self-expandable metal stent (SEMS) placement is necessary to palliate symptoms. However, when the duodenal papilla is involved with tumor and covered by a duodenal metal stent, it is difficult to insert a catheter into the biliary duct through the mesh of the duodenal stent. Recently, endoscopic ultrasonography-guided choledochoduodenostomy (EUS-CDS) was reported to be an alternative to endoscopic transpapillary biliary drainage for patients with an inaccessible papilla due to tumor invasion. Here, we report two cases of pancreatic cancer with both biliary and duodenal malignant obstructions treated successfully with simultaneous duodenal metal stent placement and EUS-CDS.

CASE REPORT

1. Case 1

A 74-year-old man presented with obstructive jaundice and appetite loss. Computed tomography showed unresectable pancreatic head cancer. Duodenoscopy revealed that the duodenum was obstructed by tumor from just anal side of the papilla to the third portion about 2 cm, so both biliary and duodenal stents were necessary for symptom palliation. The endoscope (GIF-2T240; Olympus, Tokyo, Japan) was advanced into the duodenum and duodenography showed severe stenosis in the horizontal portion of the duodenum. A 0.035-inch guidewire (Revowave; Piolax Medical Devices, Kanagawa, Japan) was passed through the stenosis under endoscopic guidance. An uncovered expandable metal stent (WallFlex Duodenal; Boston Scientific, Natick, MA, USA) was advanced over the guidewire through the endoscopic channel and released under endoscopic and fluoroscopic guidance. An uncovered expandable metal stent (WallFlex Duodenal; Boston Scientific, Natick, MA, USA) was advanced over the guidewire through the endoscopic channel and released under endoscopic and fluoroscopic guidance (Fig. 2A). Immediately after stent placement, duodenography showed contrast fluid passing through the stent smoothly. However we could...
not identify the orifice of the papilla through the endoscope and perform transpapillary stenting. Then the endoscope was withdrawn and a curvilinear array echoendoscope (GF-UCT240; Olympus, Tokyo, Japan) was advanced into the duodenum. The dilated extrahepatic bile-duct was punctured at the bulb of the duodenum with a 19-gauge needle (Echotip Ultra; Cook Medical, Winston-Salem, NC, USA) and contrast was instilled through the needle under fluoroscopic guidance to confirm successful biliary access. A 0.035-inch guidewire (Revowave; Piolax Medical Devices) was introduced through the needle and advanced into the intrahepatic duct. After removing the needle, the puncture channel was expanded with 7 Fr biliary dilator catheters and a 4-mm balloon catheter. Then, a 7 Fr straight plastic stent (Flexima; Boston Scientific) was placed over the guidewire (Fig. 2B and C). The patient could tolerate a regular solid diet after the procedure and 7 Fr plastic stent was electively replaced with 8.5 Fr plastic stent (Flexima; Boston Scientific) using Soehendra stent retriever without complications 32 days after EUS-CDS. After the replacement, stent occlusion did not occur.

2. Case 2

A 63-year-old man underwent covered SEMS placement for malignant biliary obstruction due to pancreatic head cancer on December 2008. He had been suffering from recurrent cholangitis without stent occlusion and SEMS was replaced with two plastic stents on January 2009. He presented with appetite loss and vomiting on March 2009. Duodenography revealed severe duodenal stenosis from the oral side of the papilla to the third portion due to tumor invasion about 2 cm (Fig. 3). Furthermore, the papilla was involved with tumor, so the duodenal metal stent placement would block the papilla. Therefore, we needed to perform EUS-CDS instead of transpapillary stenting. After removal of biliary plastic stents with snare, a curvilinear array

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**Fig. 1.** Duodenoscopy showing duodenal invasion and obstruction at the anal side of the papilla (arrow).

**Fig. 2.** Endoscopic images showing (A) an uncovered duodenal metal stent and (B) a transmural biliary stent at the duodenal bulb, and (C) a fluoroscopic image showing the choledochoduodenostomy and duodenal stent.

**Fig. 3.** Duodenography showing severe stenosis on the oral side of the papilla (arrow).