



Endoscopic transpapillary gallbladder stent placement in the presence of uncovered biliary metal stents using a through-the-mesh technique

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Percutaneous transhepatic gallbladder drainage (PTGBD) has traditionally been the treatment of choice for acute cholecystitis (AC) after biliary self-expandable metal stent (SEMS) placement.¹ However, PTGBD or EUS-guided drainage cannot be performed on patients with ascites or coagulopathy. For these patients, endoscopic transpapillary gallbladder drainage (ETGBD) is the treatment of choice.²⁻⁵ Furthermore, ETGBD may have another advantage over PTGBD: Prompt internal drainage can be achieved by endoscopic transpapillary gallbladder stent placement.²⁻⁴ However, ETGBD is technically challenging, and access into the gallbladder through the cystic duct may be difficult, especially when the previously placed SEMS overlaps the orifice of the cystic duct (OCD). Herein, we present what is to the best of our knowledge the first case of a successful ETGBD performed through the mesh of the previously placed double biliary uncovered SEMSs that overlapped the OCD (through-the-mesh technique).

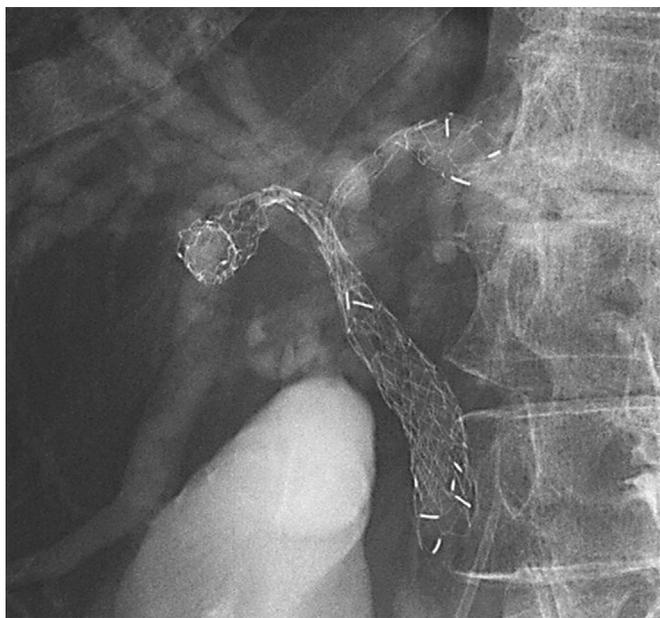


Figure 1. Double uncovered self-expandable metal stents previously placed by partial stent-in-stent for hilar biliary stricture.

A 78-year-old woman with double uncovered SEMSs placed via the partial stent-in-stent technique⁶ (in which the double SEMSs partially overlapped in the common bile duct and branched out in the left and right hepatic duct) for hilar biliary stricture (Fig. 1) due to intrahepatic cholangiocarcinoma 14 days previously was admitted to our hospital for right upper quadrant pain and high fever. On the basis of CT findings, the patient received a diagnosis of AC and ascites (Fig. 2). PTGBD was contraindicated because of ascites, so the patient received ETGBD.

Cholangiography revealed that the double uncovered SEMSs overlapped the OCD (Fig. 3). The uncovered SEMSs placed previously were Niti-S large cell D-type stent (Taewoong Corp, Seoul, Korea) and BileRush Selective (Piolax Medical Devices, Yokohama, Japan). Hence, a 0.035-in hydrophilic guidewire (Radifocus; Terumo Co, Ltd, Tokyo, Japan) was advanced to negotiate the cystic duct through the mesh of the SEMSs. After the hydrophilic guidewire was inserted into the gallbladder (Fig. 4), it was changed to a stiff type (VisiGlide; Olympus, Tokyo, Japan). Next, we tried to dilate the mesh of the SEMSs using a 7F tapered catheter, but it could not be passed through the mesh of the SEMSs. Hence, we used a 6-mm dilation balloon catheter with a 3F tapered tip and thin shaft (REN biliary dilation catheter; Kaneka Corp, Osaka, Japan) and successfully dilated the mesh of the SEMSs (Fig. 5). After balloon dilation of the mesh, we successfully inserted a 7F tapered catheter into the gallbladder, suctioned the bile, and irrigated the gallbladder with saline solution (Fig. 6). Finally, we placed a modified 5F, 13-cm single-pigtail plastic stent created by cutting nasobiliary tube⁷ (Gadelius Medical Co, Ltd, Tokyo, Japan) into the gallbladder (Fig. 7). After endoscopic transpapillary gallbladder stent placement, AC improved immediately (Fig. 8), and there was no recurrence of AC until the patient died of intrahepatic cholangiocarcinoma 63 days later.

The technique of endoscopic transpapillary gallbladder stent placement through the mesh of double biliary uncovered SEMSs that overlapped the OCD (via the mesh technique) is shown in Video 1 (available online at www.VideoGIE.org). Although this technique requires the passing of guidewire and stent through the mesh of the

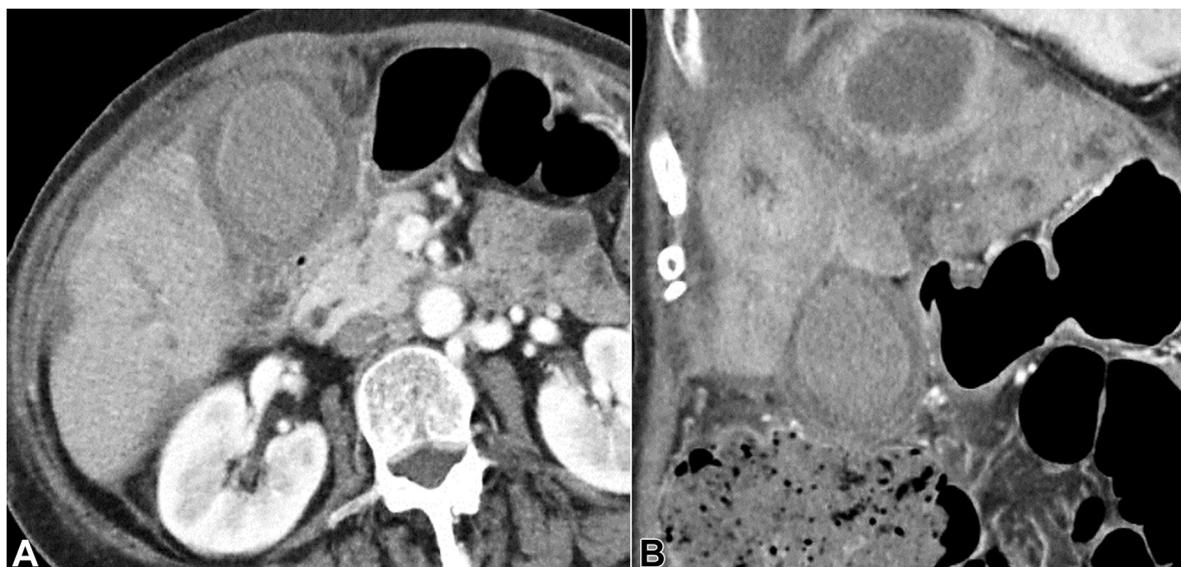


Figure 2. CT revealed acute cholecystitis, ascites, and intrahepatic cholangiocarcinoma.



Figure 3. Cholangiography showed that the double uncovered metal stents overlapped the orifice of the cystic duct (*arrow*: orifice of the cystic duct).

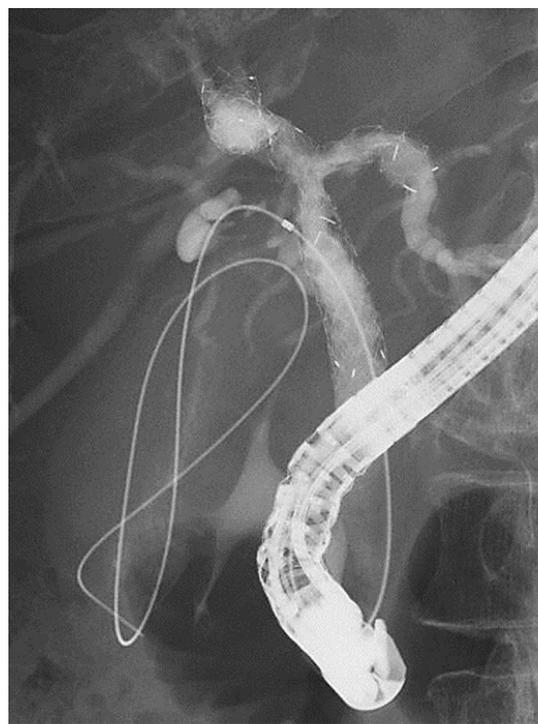


Figure 4. A hydrophilic guidewire was inserted into the gallbladder through the mesh of the uncovered metal stents that overlapped the orifice of the cystic duct.

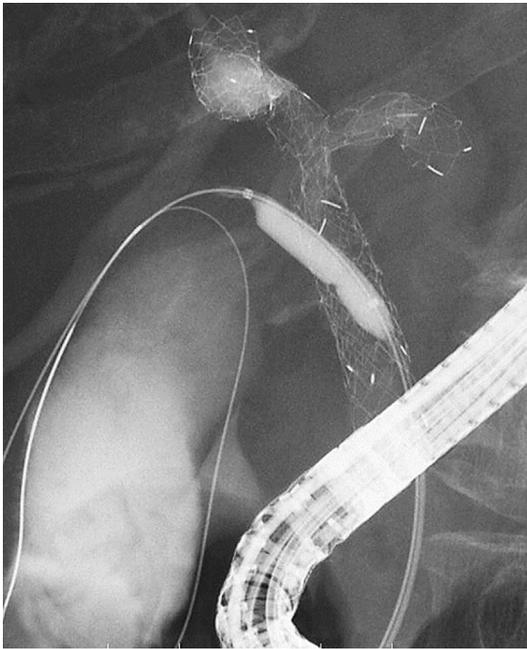


Figure 5. The mesh of the double uncovered metal stents was dilated using a 6-mm dilation balloon catheter with a 3F tapered tip.



Figure 6. After balloon dilation of the mesh of the uncovered metal stents, a 7F tapered catheter was successfully inserted into the gallbladder.

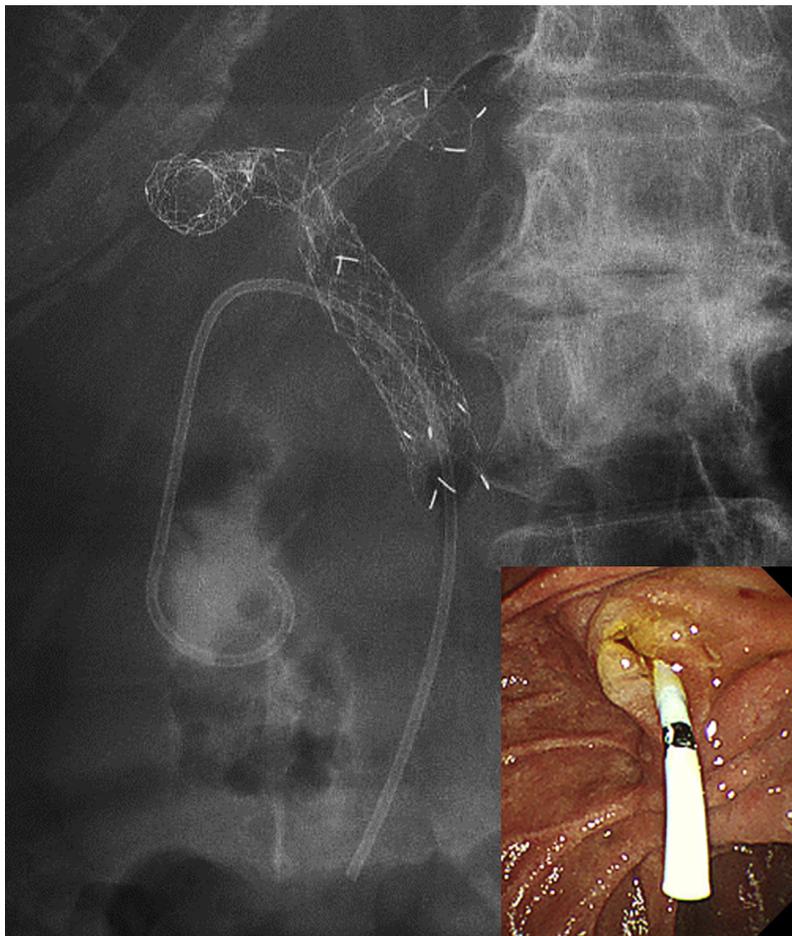


Figure 7. A 5F plastic stent was successfully placed into the gallbladder through the mesh of the double uncovered metal stents.

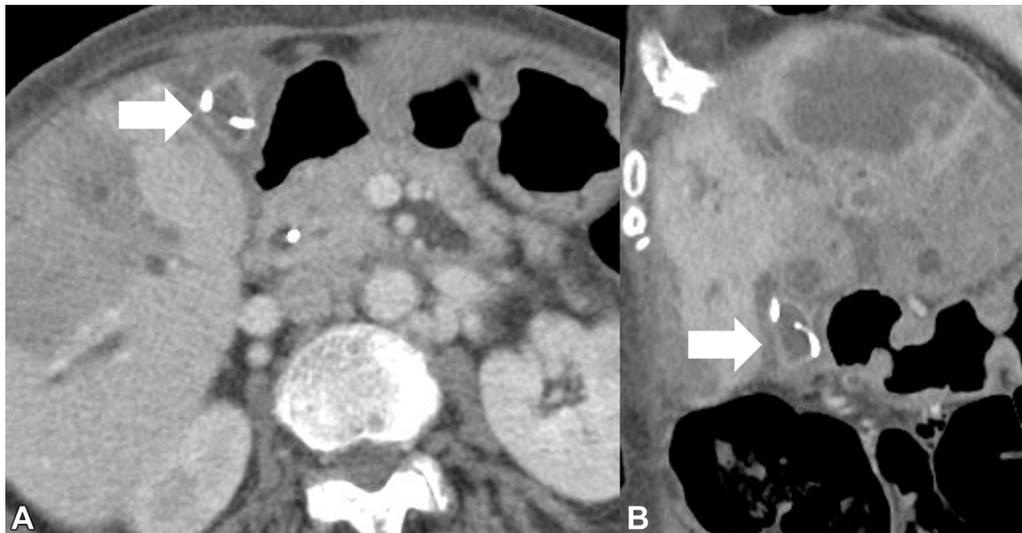


Figure 8. CT showed improvement of acute cholecystitis after endoscopic transpapillary gallbladder stent placement (*arrow*).

SEMS into the gallbladder via the cystic duct, which can be challenging, ETGBD using the through-the-mesh technique could be a treatment option, especially in the patients in whom PTGBD is contraindicated.

DISCLOSURE

All authors disclosed no financial relationships.

Abbreviations: AC, acute cholecystitis; ETGBD, endoscopic transpapillary gallbladder drainage; OCD, orifice of the cystic duct; PTGBD, percutaneous transhepatic gallbladder drainage; SEMS, self-expandable metal stent.

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