

Endoscopic ultrasound (EUS)-guided transluminal endoscopic removal of gallstones

Although laparoscopic cholecystectomy is the standard treatment for cholecystitis, including cholelithiasis [1,2], endoscopic ultrasound (EUS)-guided cholecystenterostomy is an alternative treatment for patients at high surgical risk [3–5]. Here we report on using the fistula created by the EUS-guided cholecystenterostomy to remove gallstones for successful radical treatment of cholelithiasis without cholecystectomy.

A 62-year-old man with significant dementia presented with severe acute cholecystitis. Cholecystectomy was deemed unsuitable because of the presence of sepsis, and EUS-guided cholecystoduodenostomy was carried out. An echoendoscope (GF-UCT240-AL5, Olympus, Tokyo, Japan) was introduced into the duodenum, and a 19-G needle (Echo-Tip; Cook, Winston-Salem, North Carolina, USA) was used to puncture the gallbladder (● Fig. 1).

Cholecystocholangiography revealed gallstones and sludge in the gallbladder (● Fig. 2).

A 0.035-inch guide wire (Revowave, Olympus, Tokyo, Japan) was passed through the needle until it was coiled within the gallbladder, and then 6, 7 and 9-Fr dilators (Soehendra Biliary Dilation Catheters, Cook, Winston-Salem, North Carolina, USA) were serially advanced over the guide wire to dilate the tract. A one-sided pigtail-type stent (Catex, Tokyo, Japan) was deployed in the gallbladder. By day 11 the cholecystitis had improved. However, on day 145 after the procedure, the patient had a relapse. Duodenoscopy (JF260V, Olympus, Tokyo, Japan) revealed obstruction of the stent and the need for reintervention to treat the cholecystitis. After the stent was extracted with a snare, a 0.035-inch guide wire was passed through the catheter (Swing Tip, Olympus Medical Systems, Tokyo, Japan) via the fistula until it reached the gallbladder. A covered metal stent (CMS) (Wallflex, diameter 10 mm; length 4 cm, Boston Scientific, Boston, Massachusetts, USA) was placed to bridge the gallbladder with the duodenum (● Fig. 3), and the gallstones and sludge were discharged into the bowel tract by irrigating the gallbladder with saline (● Fig. 4).

Finally, the CMS was removed with forceps, and a 7-Fr pigtail-type stent was de-

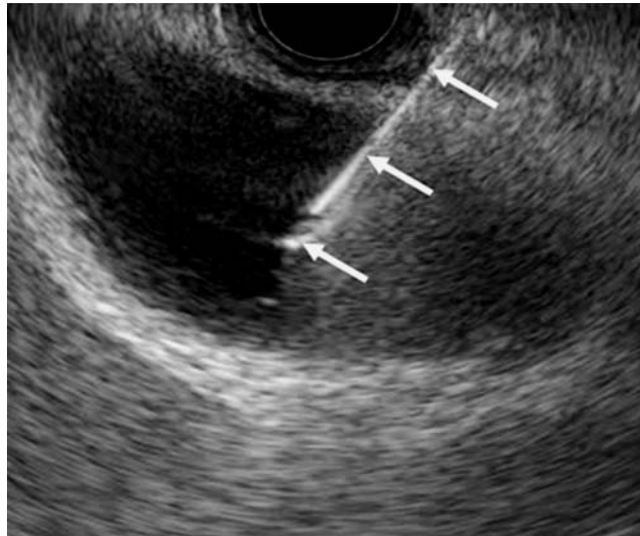


Fig. 1 Endosonographic image of the gallbladder puncture. Arrows indicate the puncture needle.



Fig. 2 Cholecystographic image of the gallbladder puncture.

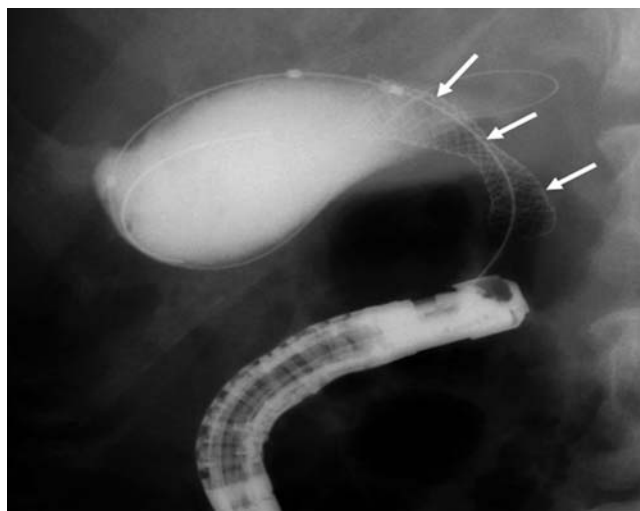


Fig. 3 Fluoroscopic image of the deployment of the covered metal stent (arrows).

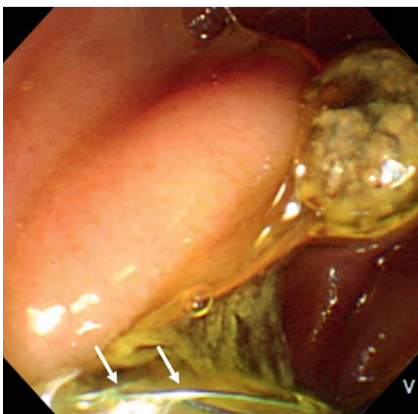


Fig. 4 Endoscopic image of a stone discharged from the gallbladder through the covered metal stent (arrows).

ployed in the gallbladder instead. On day 5 after the operation, the patient's condition improved and he could resume eating. The stent has been in place for 5 months now with no recurrence of symptoms.

Competing interests: None

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Bibliography

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