Endoscopic ultrasound-guided hepaticoduodenostomy for an obstructed anterior hepatic branch in a patient with Billroth-II reconstruction

A 70-year-old man who had previously undergone distal gastrectomy with Billroth-II reconstruction visited our hospital complaining of a repetitive fever. Contrast-enhanced computed tomography (CT) revealed a 25-mm liver abscess in the right anterior segment, communicating with the anterior hepatic duct, which was dilated due to stenosis at the anomalous confluence with the middle of the cystic duct; this obstruction was believed to be the cause of the fever (Fig.1). Conservative treatment with antimicrobial agents was not sufficiently effective. After obtaining written informed consent from the patient, endoscopic ultrasound (EUS)-guided biliary drainage was performed to resolve the structural problem (Fig.2, Video 1) after considering other interventions, including transpapillary stenting through the narrow, winding cystic duct and highly stenotic confluence.

Using a forward-viewing echoendoscope (TGFeUC260J; Olympus Co., Tokyo, Japan) inserted into the blind end of the duodenum, the dilated anterior hepatic duct was punctured using a 19-gauge needle (Expect; Boston Scientific Japan K. K., Tokyo, Japan) under EUS guidance. After dilation of the punctured tract using a 7-Fr bougie catheter, a 4-mm balloon catheter, and a 6-Fr cautery dilator, a fully covered metallic stent (Bonastent, M-Intraradial, 10 mm × 7 cm; Medico’s Hira Inc., Tokyo, Japan) was deployed at the puncture site. No procedure-related adverse events were observed.

CT showed diminution of the drained duct with air influx 7 days after the procedure (Fig.3), and disappearance of the abscess 3 months later (Fig.4). No symptoms indicating recurrence were experienced in the subsequent 10 months.

Previous reports have described the use of the EUS-guided biliary drainage technique for hepatic abscess drainage performed using a forward-viewing scope in patients with surgically altered anatomies [1–3]. The present case was the first application of these techniques for a patient with both challenging conditions and with reasons that made other treatment options difficult.

Fig. 1 Computed tomography images. Axial (a) and coronal (b) views showing a 25-mm liver abscess in the right anterior segment (arrow).

Fig. 2 Endoscopic ultrasound (EUS)-guided biliary drainage. a The hepatic bile duct, which was filled with biliary sludge, was punctured using a 19-gauge needle from the duodenum under EUS guidance. b Injected contrast medium revealed the dilated hepatic duct, which was obstructed at the confluence with the middle of the cystic duct (arrow). c,d A fully covered self-expandable metallic stent was deployed at the puncture site.
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Competing interests

None

The authors

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Video 1 Endoscopic ultrasound-guided biliary drainage procedures for the right anterior hepatic duct using a forward-viewing echoendoscope.

Fig. 3 Computed tomography images. Axial (a) and coronal (b) views showing diminution of the drained duct with air influx 7 days after the procedure.

Fig. 4 Computed tomography images. Axial (a) and coronal (b) views showing the disappearance of the abscess 3 months after the procedure.