

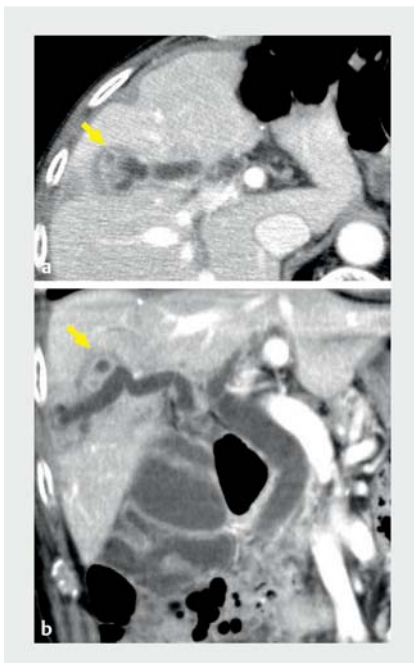
Endoscopic ultrasound-guided hepaticoduodenostomy for an obstructed anterior hepatic branch in a patient with Billroth-II reconstruction

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

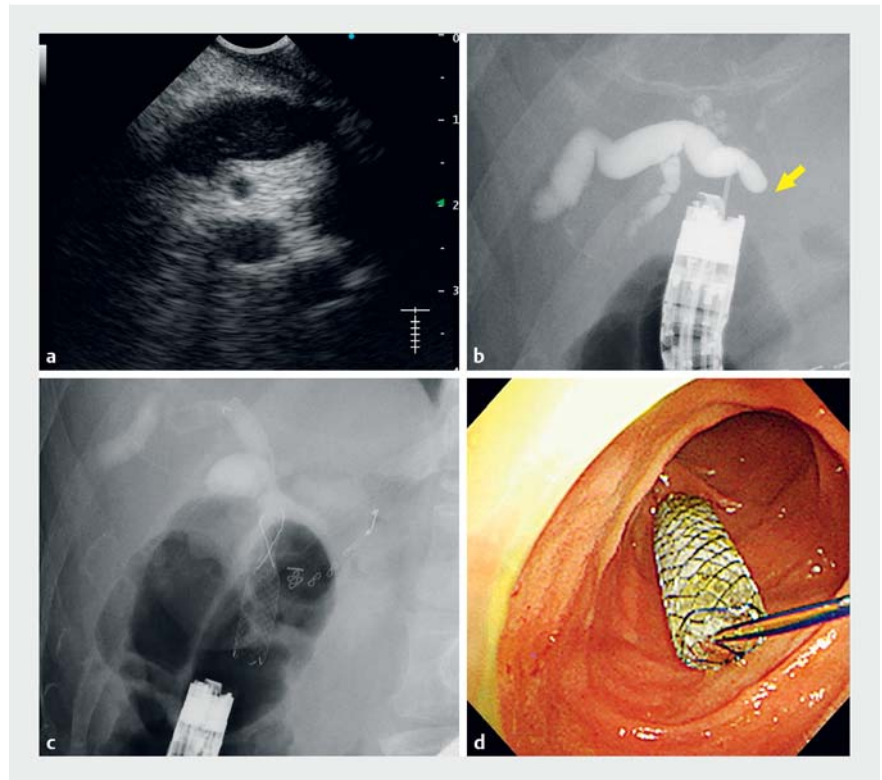
the narrow, winding cystic duct and highly stenotic confluence. Using a forward-viewing echoendoscope (TGFUC260J; Olympus Co., Tokyo, Japan) inserted into the blind end of the duodenum, the dilated anterior hepatic duct was punctured using a 19-gauge needle (Expect; Boston Scientific Japan K. K., Tokyo, 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 cauterly dilator, a fully covered metallic stent (Bonastent, M-Intraductal, 10 mm × 7 cm; Medico's Hirata 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.

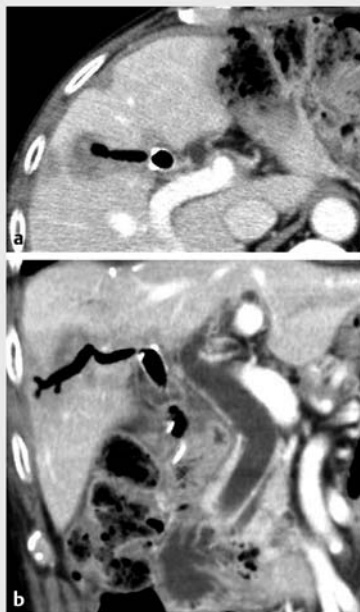
Previous reports have described the use of the EUS-guided biliary drainage technique for hepatic abscess drainage performed using a forward-viewing scope in patients with surgically altered anatomies [1–3]. The present case was the first application of these techniques for a patient with both challenging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



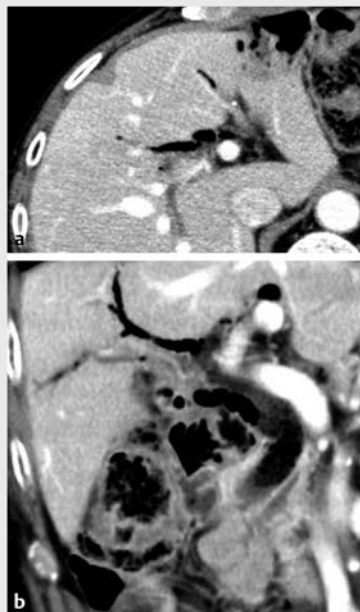
► **Fig. 1** Computed tomography images. Axial (a) and coronal (b) views showing a 25-mm liver abscess in the right anterior segment (arrow).



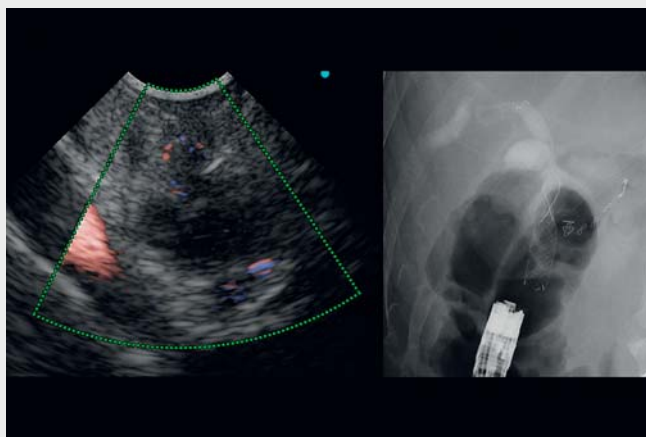
► **Fig. 2** Endoscopic ultrasound (EUS)-guided biliary drainage. a The hepatic bile duct, which was filled with biliary sludge, was punctured using a 19-gauge needle from the duodenum under EUS guidance. b Injected contrast medium revealed the dilated hepatic duct, which was obstructed at the confluence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



► **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.



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



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Competing interests

None