

## Endoscopic ultrasound-guided transhepatic biliary drainage in altered anatomy: a two-step approach

Endoscopic ultrasound (EUS)-guided biliary drainage has been used for more than a decade as an alternative to percutaneous drainage. It offers a minimally invasive option for patients in whom conventional endoscopic retrograde cholangiopancreatography (ERCP) is unfeasible.

A 45-year-old woman with a history of cholecystectomy for cholecystitis, complicated by common bile duct transection with a subsequent Roux-en-Y hepaticojejunostomy was admitted with recurrent cholangitis. A previous attempt at balloon enteroscopy-assisted ERCP had failed and therefore EUS-guided biliary drainage was performed.

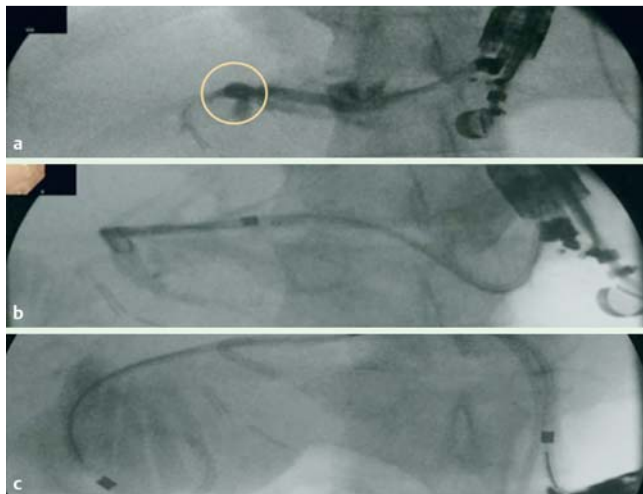
The echoendoscope was used to identify the left intrahepatic duct (LIHD) and a 19-gauge needle was used to access the duct. Cholangiogram showed a dilated LIHD with an anastomotic stricture (Fig. 1a, Video 1). A guidewire was advanced into the LIHD under fluoroscopic guidance. Multiple attempts to cross the stricture with the guidewire were unsuccessful. A plastic double-pig-tail hepaticogastrostomy stent was placed (Fig. 1b, Video 1) and the patient was discharged home.

On follow-up endoscopy 2 months later, the guidewire was advanced across the anastomotic stricture via manipulation of a swing-tip catheter. Dilatation of the stricture was performed and a transanastomotic hepaticogastrostomy stent was placed (Fig. 1c, Video 1). At 1-year follow-up, the patient had experienced no further episodes of cholangitis.

This case highlights a two-step antegrade approach to treat recurrent cholangitis and an anastomotic stricture in a patient with surgically altered anatomy [1]. EUS-guided biliary drainage constitutes the least invasive approach in patients with surgically altered anatomy [2, 3].

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**Fig. 1** Three steps for successful treatment of cholangitis and anastomotic stricture. **a** Cholangiogram showing anastomotic duct stricture (circle). **b** Deployment of the hepaticogastrostomy stent. **c** Follow-up jejunohepaticogastrostomy stent placement across the anastomotic stricture.

### Video 1



Two steps for successful treatment of cholangitis and anastomotic stricture.

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