

Nonoperative repair of complete transection of the common bile duct using single-operator cholangioscopy

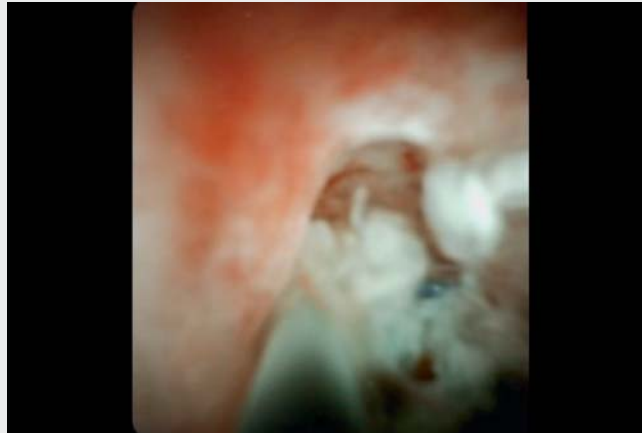
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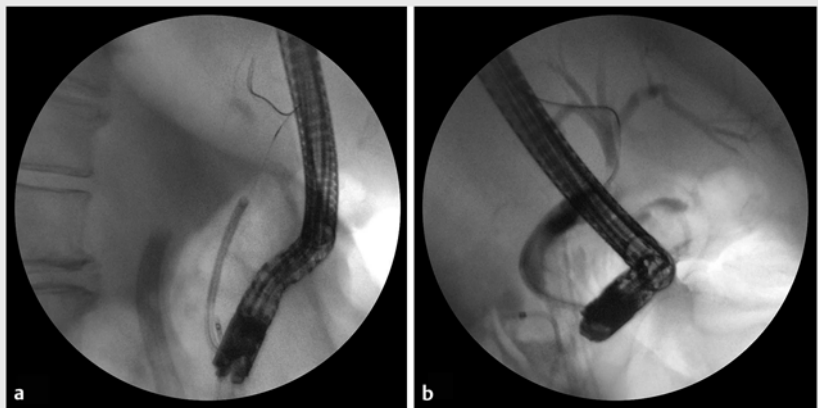
► **Fig. 1** Fluoroscopic image showing a choledochal duct of 6 mm in diameter with bile leakage in the drain area – placement of a guidewire into the intrahepatic bile duct was not possible.



► **Fig. 2** Cholangioscopic view showing the Jackson-Pratt drain inside the choledochal duct, which was retrieved under direct cholangioscopic visualization.



► **Video 1** Cholangioscopic view showing the dehiscence of the choledochocholedochostomy, removal of the Jackson-Pratt drain, placement of a guidewire into the intrahepatic duct, and finally placement of a plastic stent.



► **Fig. 3** Fluoroscopic images showing: **a** a guidewire placed in the left intrahepatic bile duct under cholangioscopy guidance; **b** view of the guidewire in position after removal of the cholangioscope.

A 79-year-old woman with recurrent biliary colic due to cholelithiasis that had been observed via both ultrasonography and magnetic resonance cholangiography came to the hospital for a scheduled cholecystectomy. During the laparoscopic cholecystectomy, the common bile duct was accidentally sectioned. A

choledochocholedochostomy was carried out with placement of a juxta-anastomotic Jackson-Pratt drain. Following this, the patient had 300 mL/day drain output, along with a biliary leak.

An endoscopic retrograde cholangiopancreatography (ERCP) was carried out. We observed a choledochal duct of 6 mm in

diameter and bile leakage in the area of the drain. Placement of a guidewire into the intrahepatic bile duct could not be achieved (► **Fig. 1**), so an endoscopic sphincterotomy was performed. After 7 days, the ERCP was repeated, with single-operator cholangioscopy (SOC) being performed (► **Video 1**). Complete dehiscence



► **Fig. 4** Fluoroscopic image showing the plastic biliary stent that was placed across the transected choledochal duct.

cence of the proximal suture line at the site of the cystic duct was observed. This allowed access to the peritoneal cavity and the Jackson–Pratt drain inside the choledochal duct, which was then retrieved under direct cholangioscopic visualization (► **Fig. 2**). A guidewire (0.035 Fr × 260 cm) was placed into the left intrahepatic bile duct (► **Fig. 3**) and a plastic stent (8.5 Fr × 12 cm) was then also placed without complications (► **Fig. 4**). After the ERCP had been performed, the drain had disappeared and it was retrieved 3 days after the patient was sent home.

Management of postcholecystectomy bile duct injury depends on the type and extent of injury and the timing of its recognition. Strasberg's classification is one of the most commonly used to define the injury, and type E injuries (main hepatic duct injury and, in our case, transection) are more difficult to manage. Historically, the restoration of a postoperative transected bile duct required further major surgery [1, 2]. The rendezvous procedure has been used, but restoration of

biliary continuity is not always possible. We used SOC [3–5] as a safe alternative to manage a completely transected bile duct followed by plastic stent placement to achieve biliary tree continuity.

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Competing interests

The authors declare that they have no conflict of interest.

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