

## Bile leak from the duct of Luschka treated with double-balloon enteroscopy ERCP in a patient with Roux-en-Y gastric bypass

Bile leaks after laparoscopic cholecystectomy are usually treated using endoscopic retrograde cholangiopancreatography (ERCP). The presence of complex, surgically altered gastrointestinal anatomy poses a diagnostic and therapeutic challenge to the endoscopic treatment of these lesions. Herein, we present a patient with Roux-en-Y gastric bypass who developed a bile leak after cholecystectomy and underwent endoscopic therapy using double-balloon enteroscopy (DBE) ERCP.

A 59-year-old patient with Roux-en-Y anatomy underwent laparoscopic cholecystectomy with removal of a large and inflamed gallbladder. The patient developed abdominal pain and fever postoperatively. A computed tomography scan was performed and revealed a fluid collection near the gallbladder fossa, which measured 5.2×2.8 cm. A percutaneous drain was placed and the patient was sent to our hospital for further surgical treatment. We performed a DBE ERCP, and cholangiogram through the native papilla revealed a bile leak from the right hepatic duct, consistent with a leak from the duct of Luschka (● Fig. 1 a, b). A double pigtail plastic stent was placed (● Fig. 1 c). The bile drainage from the percutaneous leak resolved over the subsequent 72 hours.

To the best of our knowledge, this is the first case report of successful endoscopic treatment of a bile leak from the duct of Luschka in a patient with Roux-en-Y gastric bypass using DBE ERCP. This case also highlights the possibility of bile leaks occurring distal to the cystic duct stump. The duct of Luschka is an anomaly that directly connects the hepatic ducts to the gallbladder, draining a portion of the right lobe of the liver [1, 2]. When accidentally severed, it may cause a bile leak leading to biloma formation [1–3]. In patients with normal upper gastrointestinal anatomy, ERCP with stent placement and/or sphincterotomy is an effective therapy [2, 3]. Although successful biliary cannulation rates in Roux-en-Y situations are lower, we believe that ERCP using DBE should be attempted first, as shown in this case. In summary, we have shown that an endoscopic approach using advanced ERCP

with a double-balloon enteroscope was effective in treating a postoperative leak in a patient with Roux-en-Y gastric bypass, thus sparing the patient from having to undergo a more invasive surgical intervention.

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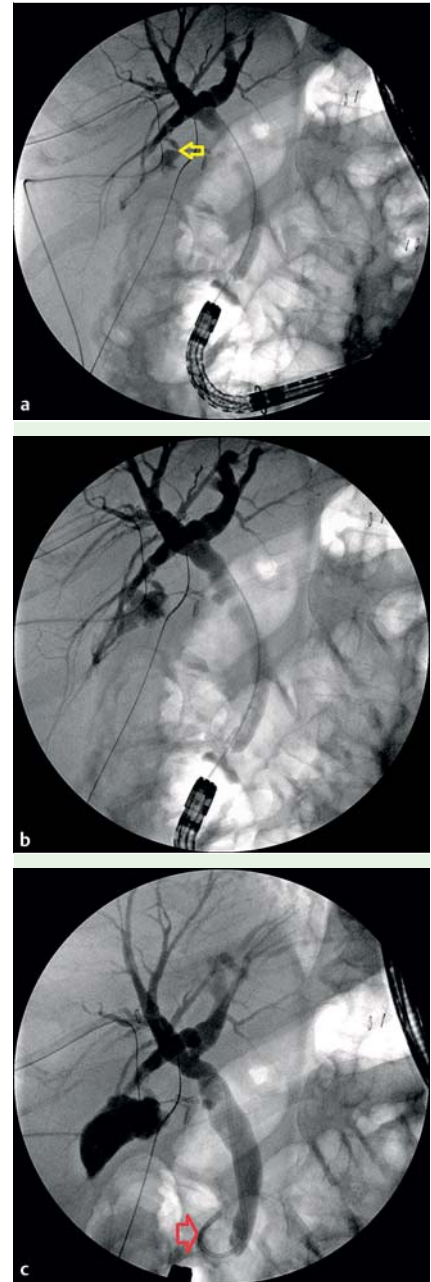
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**Fig. 1** Cholangiogram through the native papilla. **a, b** A bile leak was observed from the right hepatic duct, consistent with a leak from the duct of Luschka (yellow arrow). **c** A double pigtail plastic stent was placed (red arrow).