The Rendezvous Technique Using Double-balloon Enteroscope For Treatment Of Hepaticojejunostomy Anastomotic Stricture After Bile Duct Injury: A Case Report

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Introduction

Iatrogenic bile duct injury (BDI) remains a potentially devastating complication following cholecystectomy. For most of the major BDIs, a biliary-enteric reconstruction surgery is required [1]. Unfortunately, hepaticojejunostomy anastomotic stricture, a significant long-term complication after biliary reconstruction surgery, can still take place [2].

Endoscopic retrograde cholangiopancreatography (ERCP) plays a critical role in the treatment of biliary anastomosis stricture. However, even experienced endoscopists are still failing to cannulate the bile duct in 3% to 10% of cases. This is when percutaneous transhepatic approaches are introduced. The rendezvous technique combines an endoscopy with a percutaneous transhepatic cholangiography to facilitate cannulation of the bile duct. This technique increases the success rate of biliary tract cannulation and facilitates the treatment of biliary tract disorders [3].



▶Fig. 1 Magnetic resonance cholangio-pancreatography showed intrahepatic bile duct dilatation and stenosis of the anastomotic site.



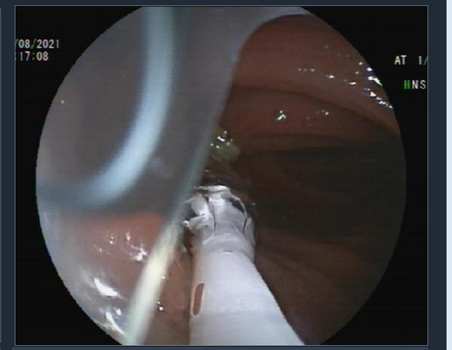
▶Fig. 2 Cholangiography via left PTBD showed dilatation of the intrahepatic bile duct and stenosis of the anastomotic site.

Objective

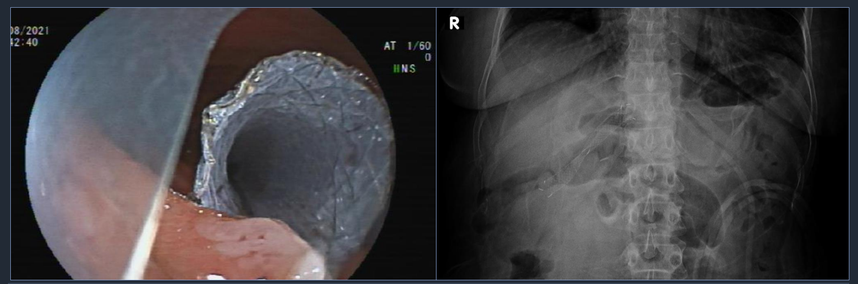
To report the experience of the rendezvous technique combines with the double-balloon enteroscopy for treatment of anastomotic stricture in hepaticojejunostomy reconstruction after bile duct injury



▶Fig. 3 The guidewire was inserted through the left PTBD catheter across the anastomotic site (Rendezvous technique)



▶Fig. 4 The Hepaticojejunostomy anastomosis was dilated using CRE balloon



▶Fig. 5 A 10x10 French full cover metallic stent was placed successfully at the hepaticojejunostomy anastomotic site

Case presentation

A 37-year-old woman presented to our hospital with a high-grade fever, jaundice, and severe right upper quadrant abdominal pain. Historically, she had undergone Roux-en-Y hepaticojejunostomy reconstruction following an iatrogenic bile duct injury during cholecystectomy 4 years earlier. Her magnetic resonance cholangiopancreatography showed bile duct dilatation, with areas suspicious for stenosis at the hepaticojejunostomy anastomosis (▶Fig. 1).

We diagnosed the hepaticojejunostomy anastomotic stricture with ascending cholangitis and performed left percutaneous transhepatic biliary drainage (PTBD). After that we attempted to manage anastomotic stricture by percutaneous transhepatic biliary stenting (PTBS). However, the first procedure was unsuccessful due to unable to canulate the catheter through entero-biliary connection (▶Fig. 2). Later, we performed endoscopic retrograde cholangiopancreatography (ERCP) using double-balloon enteroscope. The patient was placed in the prone position, with the endoscopist standing at the patient's right side. Double-balloon endoscope insertion to the hepaticojejunostomy anastomosis was successful. The guidewire was inserted through the left PTBD catheter under fluoroscopy across the anastomotic site (Rendezvous technique) (▶Fig. 3). After insertion of a guidewire across the anastomosis, we performed dilatation to the stenosis using CRE balloon (▶Fig. 4). Then, a 10x10 French full cover metallic stent was placed successfully at the hepaticojejunostomy anastomosis (▶Fig. 5). No adverse event occurred. The patient's clinical symptoms was improved after the endoscopic treatment.

Conclusion

Biliary stenting by the percutaneous rendezvous approach and endoscopic retrograde cholangiography (ERC) using a double-balloon enteroscope (DBE) is a feasible and safe endoscopic method for management of hepatico-jejunostomy anastomotic stricture.

References
1. Renz BW, Bösch F, Angele MK. Bile Duct Injury after Cholecystectomy: Surgical Therapy. *Visc Med*. 2017;33(3):184-190.
2. Walsh RM, Henderson JM, Vogt DP, Brown N. Long-term outcome of biliary reconstruction for bile duct injuries from laparoscopic cholecystectomies. *Surgery*. 2007;142(4):450-457.
3. Calvo MM, Bujanda L, Heras I, et al. The rendezvous technique for the treatment of choledocholithiasis. *Gastrointest Endosc*. 2001;54(4):511-513.