

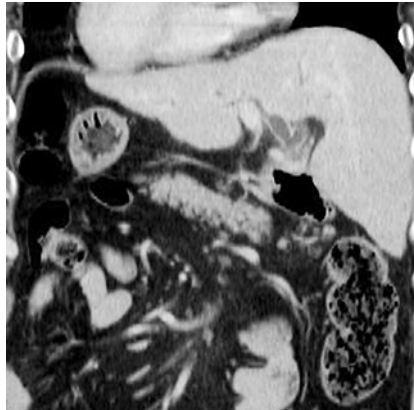
Double-balloon enteroscopy-assisted ERCP in situs inversus with Roux-en-Y hepaticojejunostomy for complex anastomotic stricture dilated with Soehendra stent retriever

A woman in her 50s with situs inversus presented to our hospital with high fever, jaundice, and pain in the left hypochondriac region. The patient had undergone Roux-en-Y hepaticojejunostomy following iatrogenic bile duct injury during cholecystectomy 9 years earlier. Abdominal computed tomography and magnetic resonance cholangiopancreatography revealed bile duct dilatation, with areas suspicious for stenosis at the hepaticojejunostomy anastomosis, with the visceral organs in a mirror image location from their normal positions (► **Fig. 1**, ► **Fig. 2**). We diagnosed obstructive jaundice with cholangitis, and performed endoscopic retrograde cholangiopancreatography (ERCP) for biliary drainage using double-balloon enteroscopy (EI-580BT; Fujifilm, Tokyo, Japan).

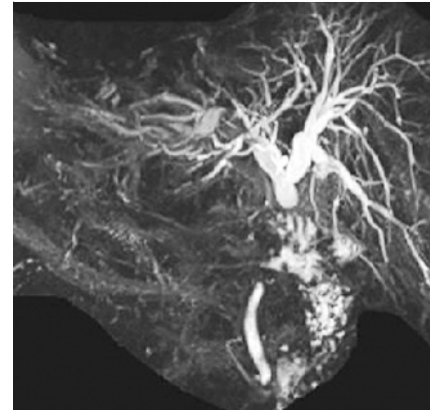
The patient was placed in the abdominal position, with the endoscopist standing at the patient's right side, which is the standard position for ERCP. Endoscope insertion to the hepaticojejunostomy anastomosis was successful without requiring any modification or positional change for the patient or the endoscopist. The anastomotic site showed severe stenosis, with dilation of the intrahepatic bile ducts (► **Fig. 3**, ► **Fig. 4**). After insertion of a guidewire across the anastomosis, we performed dilation to the stenosis using the Soehendra stent retriever (Cook Medical Inc., Bloomington, Indiana, USA). Then, a 7 Fr plastic stent was placed in the intrahepatic bile duct (► **Fig. 5**, ► **Video 1**).

The procedure time was 24 minutes. No adverse event occurred. The patient's symptoms and laboratory data rapidly improved after the endoscopic treatment.

For situs inversus, ERCP is challenging, and it has been suggested that alteration of patient and/or endoscopist positioning is warranted [1,2]. However, there are no reports of patients with situs in-



► **Fig. 1** Abdominal computed tomography revealed bile duct dilatation with stenosis at the hepaticojejunostomy anastomosis, with left-right transposition of all viscera.



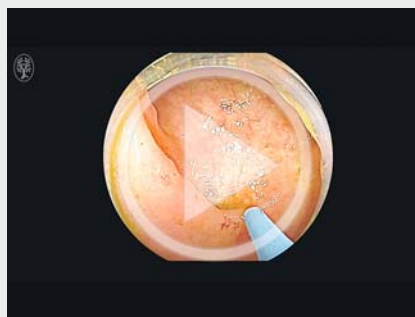
► **Fig. 2** Magnetic resonance cholangiopancreatography revealed intrahepatic bile duct dilatation.

versus undergoing balloon enteroscopy-assisted ERCP. In the present case, the procedure could be performed using the same technique as that used in patients with normal anatomy. Even in situs inversus, balloon enteroscopy-assisted ERCP

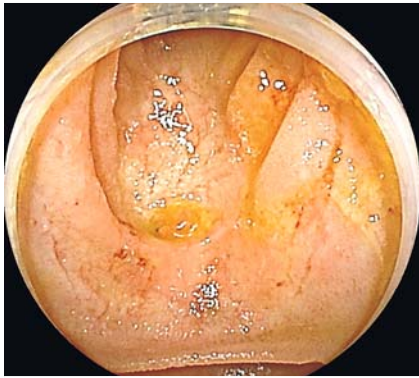
can be performed in the usual manner for patients with surgically altered anatomy.

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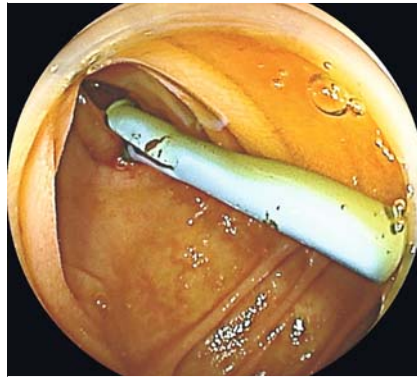
► VIDEO 1



► **Video 1:** Double-balloon enteroscope was inserted using the standard technique with the patient in the abdominal position. The gastric bubble was noted in the right upper quadrant of the abdomen. After reaching the hepaticojejunostomy anastomosis, a 0.025-inch guidewire was inserted across the stenotic anastomosis. The anastomotic stenosis was dilated using a stent retriever. Finally, a 7 Fr plastic stent was placed in the intrahepatic bile duct.



► **Fig. 3** Endoscopic view showing severe stenosis at the hepaticojejunostomy anastomosis.



► **Fig. 5** A 7 Fr plastic stent was placed in the intrahepatic bile duct.



► **Fig. 4** Cholangiography showed dilation of the intrahepatic bile duct and stenosis of the anastomotic site.

Competing interests

None

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Bibliography

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