A 47-year-old man who had undergone subtotal stomach-preserving pancreato-duodenectomy presented with recurrent cholangitis, possibly due to a hepatico-jejunostomy anastomosis (HJA) stricture (Fig.1). Endoscopic retrograde cholangiopancreatography using short-type single-balloon endoscopy was planned. However, as the HJA was completely occluded by a fibrous membrane, we could not insert the cannula into the bile duct. Therefore, we performed endoscopic ultrasound-guided hepaticogastrostomy (EUS-HGS).

The dilated intrahepatic bile duct (B3) was punctured with a 19-gauge needle (EZ shot 3 plus: Olympus Co., Tokyo, Japan). However, no contrast medium flowed from the dilated bile duct to the jejunum, and a 0.025-inch guidewire could not be inserted across the anastomosis (Fig.2). One month after EUS-HGS, a 7-Fr plastic stent was exchanged for a 6-mm, fully covered, self-expandable metal stent (HANAROSTENT Biliary; M.I. Tech, Gyeonggi-do, Korea) across the EUS-HGS route (Fig.3). A SpyGlass DS system (Boston Scientific Corp., Marlborough, Massachusetts, USA) was used to perform cholangioscopy to visualize the anastomosis from the inside of the bile duct (Video 1). We found that the duct was completely obstructed at the anastomotic site and covered with a fibrous membrane (Fig.4a). It was difficult to break through this obstruction even with cholangioscopy guidance. Repeated poking with a stiff edge of a guidewire partially broke the fibrous membrane, and a guidewire could finally be passed thorough the anastomosis; however, a 4-Fr catheter could not be passed through the anastomosis. We dilated the anastomosis stricture by gradually removing the fibrotic tissue using biopsy forceps (SpyBite MAX; Boston Scientific Corp.) under direct cholangioscopic observation (Fig.4b). After dilation of the anastomosis using a 7-Fr catheter and a...
6-mm balloon catheter, antegrade trans-anastomotic placement of a 7-Fr plastic stent across the EUS-HGS route was performed. No procedure-related adverse events were observed, and cholangitis improved after treatment. Although EUS-guided drainage for stenosis of the HJA has been reported [1], complete obstruction makes it difficult to recanalize the anastomosis using endoscopic procedures. Recently, the usefulness of cholangioscopy through a percutaneous transhepatic or transpapillary route for postoperative biliary strictures or obstructions has been described [2, 3]. EUS-guided antegrade intervention under cholangioscopy via an EUS-HGS route is an alternative treatment.

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Competing interests

The authors declare that they have no conflict of interest.

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