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Single-operator cholangioscopy in a patient with prior pancreaticoduodenectomy

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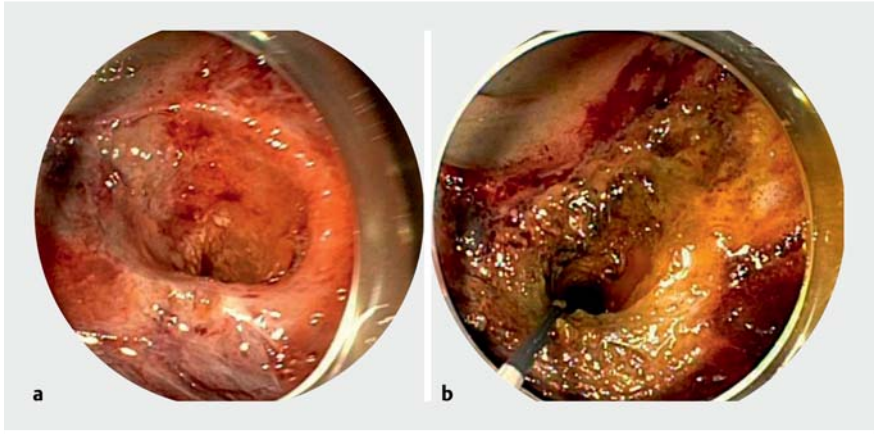
A 64-year-old woman with a history of Gardner syndrome requiring classic pancreaticoduodenectomy for an ampullary adenoma 10 years prior presents for follow-up of adenomatous tissue at the hepaticojejunal anastomosis (▶ **Fig. 1**) with an intraductal extension of adenomatous tissue (▶ **Fig. 2**). She previously underwent endoscopic mucosal resection (EMR) of the adenomatous tissue and intraductal radiofrequency ablation (RFA) (▶ **Fig. 3**). After EMR and RFA, the patient developed a stricture at the hepaticojejunal anastomosis. Subsequently, stricture dilations at the anastomosis were performed. The decision was made to perform cholangioscopy to evaluate for intraductal extension of adenomatous tissue (▶ **Video 1**). A modified therapeutic upper endoscope (1T; GIF-1TH190 Olympus, Center Valley, Pennsylvania, United States) was used and advanced to the anastomosis. Cholangioscopy showed intraductal extension of adenomatous tissue. Cholangioscopy-directed biopsies were obtained. Pathology revealed tubular adenoma without high grade dysplasia. Repeat intraductal RFA is planned.

▶ **Fig. 1** Adenomatous tissue at the hepaticojejunal anastomosis.

▶ **Fig. 2** Intraductal extension of adenomatous tissue.



▶ **Fig. 3** **a** Circumferential endoscopic mucosal resection of adenomatous tissue. **b** Intraductal radiofrequency ablation of adenomatous tissue.

Cholangioscopy can be challenging in patients with prior pancreaticoduodenectomy. Various types of endoscopes are used for endoscopic retrograde cholangiopancreatography (ERCP) in patients with prior pancreaticoduodenectomy. These include adult and pediatric colonoscopes and balloon enteroscopy-assisted ERCP. However, cholangioscopy is not possible with these endoscopes owing to the length or width of their accessory channel. While the hepaticojejunal anastomosis can be reached with an adult upper endoscope, the cholangioscope is not compatible with the diameter of the endoscope accessory channel. In most patients with pancreaticoduodenectomy who need a single-operator cholangioscopy, the most common approach is through a percutaneous biliary drain placed by interventional radiology prior to endoscopy. The modified therapeutic upper endoscope (1T) offers a working length of 103 cm, channel size of 3.7 cm, and accommodates almost all accessories as a conventional side-viewing duodenoscope, hence allowing for the passage of the cholangioscope [1]. Our case highlights that modified therapeutic upper endoscopy (1T) allows for cholangioscopy to be performed in patients with pancreaticoduodenectomy when the hepaticojejunal anastomosis can be reached.

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Competing interests

The authors declare that they have no conflict of interest.

Video 1 Single-operator cholangioscopy in a patient with prior pancreaticoduodenectomy.

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