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# Enteroscopy-assisted ERCP with needle-knife stricturoplasty of a strictured hepaticojejunostomy

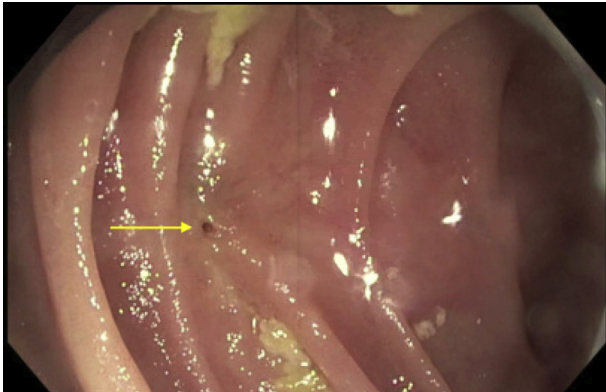


Michael J. Weaver, MD, Koushik K. Das, MD, Vladimir M. Kushnir, MD

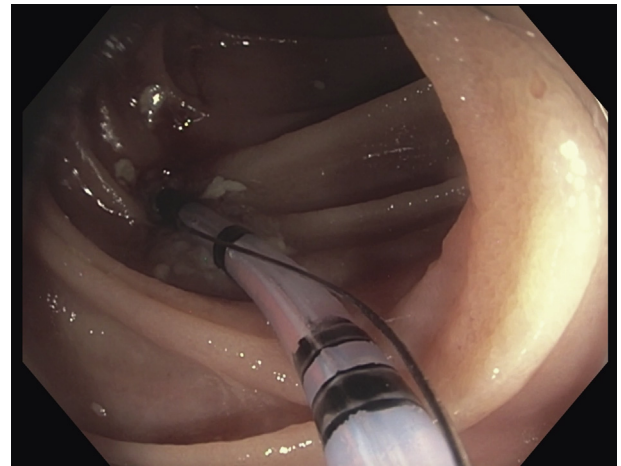
A 66-year-old woman with a history of T3N2 pancreatic adenocarcinoma who had been previously treated with a Whipple procedure and adjuvant chemotherapy presented with jaundice and pruritus. A CT scan demonstrated marked intrahepatic biliary ductal dilation with a transition point at the level of the hepaticojejunostomy; marked nodular enhancement was concerning for a stricture, and findings were suggestive of cholangitis. She was referred for an attempt at ERCP (Video 1, available online at [www.giejournal.org](http://www.giejournal.org)).<sup>1-3</sup>

ERCP was performed with a PCF-H180AL colonoscope (Olympus America, Chelmsford, Mass, USA) because a regular upper endoscope was unable to reach the biliary-enteric anastomosis. The afferent limb was identi-

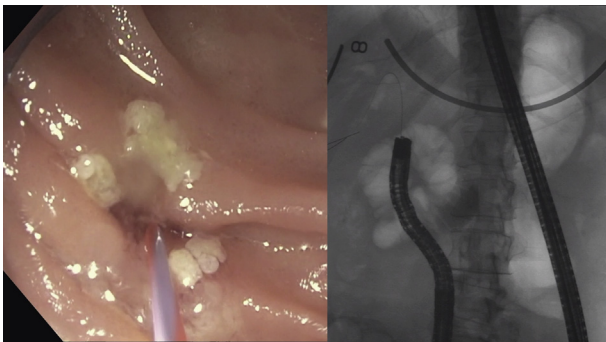
fied, and a severely strictured hepaticojejunostomy was observed (Fig. 1). A straight 0.035-inch Tracer Metro Direct Wire (Cook Medical, Bloomington, Ind, USA) was passed into the biliary tree (Fig. 2). A balloon-tipped catheter could not be advanced through the stricture, and attempts to dilate the stricture with 4-mm and 6-mm balloon dilators were unsuccessful. Further



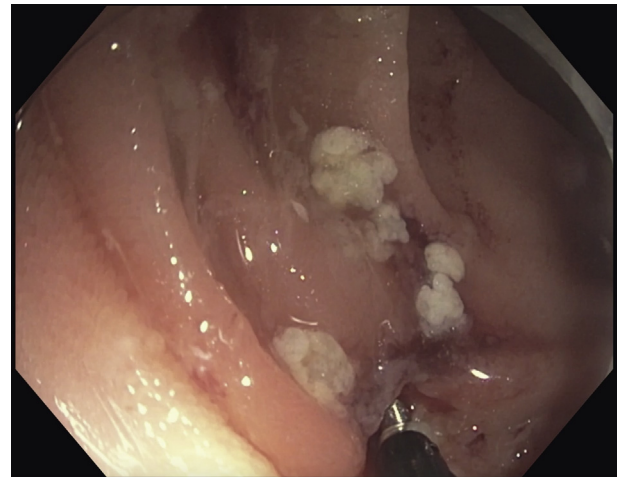
**Figure 1.** The pediatric colonoscope was advanced to the hepaticojejunostomy, which was noted to be severely strictured.



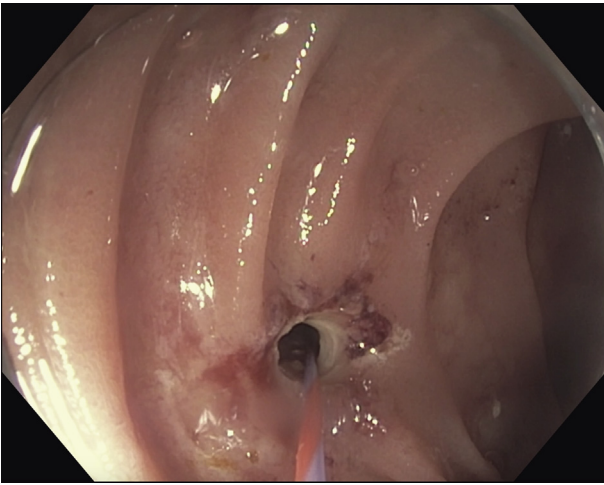
**Figure 3.** A sphincterotome was used to attempt to traverse the stricture, but this was unsuccessful.



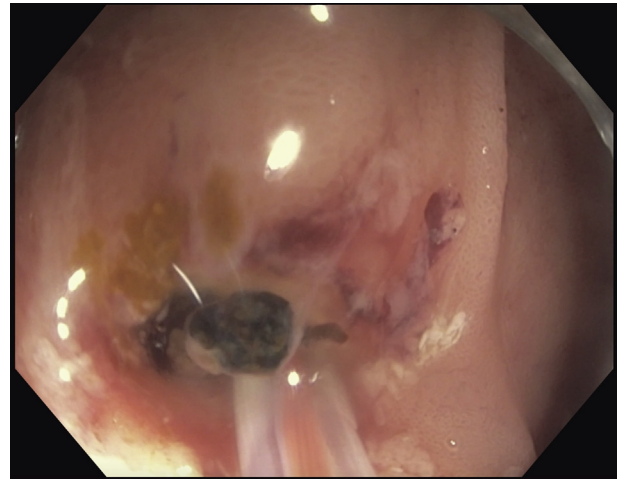
**Figure 2.** A guidewire was passed into the biliary tree under fluoroscopic guidance.



**Figure 4.** A needle knife was advanced to the hepaticojejunostomy, and needle-knife stricturoplasty was performed.



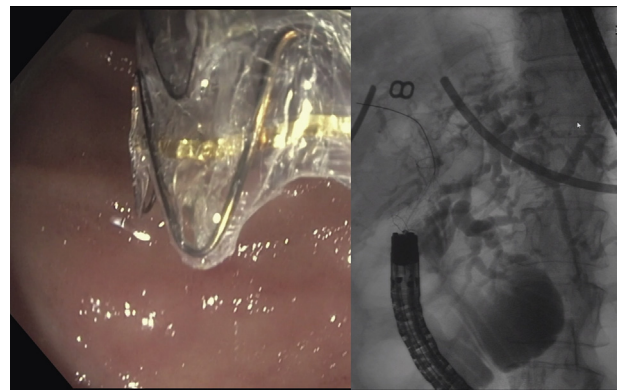
**Figure 5.** After needle-knife stricturoplasty, there was copious drainage of pus and significant improvement in the stricture.



**Figure 7.** Balloon sweeps were performed, with removal of stones, pus, and debris.



**Figure 6.** Cholangiogram demonstrated a focal stricture of the hepatic duct with upstream dilation of the common hepatic duct and intrahepatic ducts.



**Figure 8.** A fully covered metal stent was placed across the stricture.

attempts to pass a sphincterotome through the stricture were also unsuccessful, and other equipment such as Soehendra push dilators and Soehendra stent extractors (Cook Medical) were not used because they were not long enough to be advanced through the pediatric colonoscope (Fig. 3).

A needle knife was advanced to the level of the stricture (Fig. 4), and using the guidewire as a guide, needle-knife stricturoplasty was performed at the anastomosis, followed by immediate drainage of pus and improvement in the stricture opening (Fig. 5). Brushings of the stricture were obtained for cytology; findings were negative for malignancy. A cholangiogram demonstrated common hepatic duct dilation to 13 mm and severe dilation of the

intrahepatic ducts with a focal stricture of the hepatic duct (Fig. 6).

Balloon sweeps were performed with removal of stones, pus, and debris (Fig. 7). Subsequently, a 10-mm × 4-cm fully covered metal stent (Viabil, GORE Medical, Flagstaff, Ariz) was placed across the stricture (Fig. 8).

Enteroscopy-assisted ERCP with needle-knife stricturoplasty of the hepaticojejunostomy was used successfully to relieve the biliary obstruction and cholangitis. ERCP with needle-knife stricturoplasty can be used in patients with surgically altered pancreaticobiliary anatomy with biliary-enteric anastomotic stricture to gain access to the biliary system and provide decompression.

## DISCLOSURE

*All authors disclosed no financial relationships.*

**REFERENCES**

1. Shah RJ, Smolkin M, Yen R, et al. A multicenter, U.S. experience of single-balloon, double-balloon, and rotational overtube-assisted enteroscopy ERCP in patients with surgically altered pancreaticobiliary anatomy (with video). *Gastrointest Endosc* 2013;77:593-600.
2. Hammad H, Brauer BC, Smolkin M, et al. Treating biliary-enteric anastomotic strictures with enteroscopy-ERCP requires fewer procedures than percutaneous transhepatic biliary drains. *Dig Dis Sci* 2019;64:2638-44.
3. Tsujino T, Isayama H, Kogure H, et al. Endoscopic management of biliary strictures after living donor liver transplantation. *Clin J Gastroenterol* 2017;10:297-311.

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