

Portobiliary fistula on single-operator cholangioscopy



Portobiliary fistula formation is an exceedingly rare complication following endoscopic retrograde cholangiopancreatography (ERCP), with a scarcity of cases reported in the scientific literature [1, 2]. Patients may present with ensuing – often fatal – gastrointestinal hemorrhage, with challenges in its diagnosis and management as a result.

We present a case of 78-year-old man who was found to have opacification of vascular structures on intraoperative cholangiography during laparoscopic cholecystectomy. This led to concern over the development of a biliary–vascular fistula. The patient had recently undergone ERCP with biliary stent placement at an outside facility for choledocholithiasis. Gastroenterology was consulted for endoscopic evaluation.

An ERCP was performed. Selective biliary cannulation was achieved, and contrast was injected that identified an irregularity in the distal common bile duct, with upstream dilatation up to 13 mm. No clear contrast extravasation was noted in the biliary tree. The biliary tree was then swept using a 15-mm extraction balloon, with the successful removal of gallstones and sludge. Despite multiple contrast injections, extravasation, as had been previously noted on the intraoperative cholangiography, was not seen. Therefore, a single-operator cholangioscope was introduced and advanced to the hilum of the common hepatic duct (▶ **Video 1**). Examination revealed a small defect in the common bile duct that was in communication with a thrombosed vascular structure, likely a branch of the portal vein.



▶ **Video 1** A portobiliary fistula is identified on single-operator cholangioscopy.

After a multidisciplinary discussion with the surgical service, a fully covered metal stent (10 mm × 8 cm) was placed across the defect and anchored by a second double-pigtail plastic stent (7 Fr × 10 cm), with transpapillary drainage. The patient tolerated the procedure well, with no immediate postoperative complications. Repeat ERCP with stent removal is planned at 12 months post-procedure to allow adequate time for fistula closure. Given the lack of active gastrointestinal bleeding and the risk of compromising the portal vein, embolization was not considered as an approach in this case.

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Competing interests

The authors declare that they have no conflict of interest.

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