Portobiliary Fistula on Single Operator Cholangiosocopy

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Background

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

Case Presentation

We present a case of 78-year-old male who was found to have opacification of vascular structures on intraoperative cholangiography during laparoscopic cholecystectomy. This was concerning for 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 to identify 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 successful removal of gallstones and sludge.

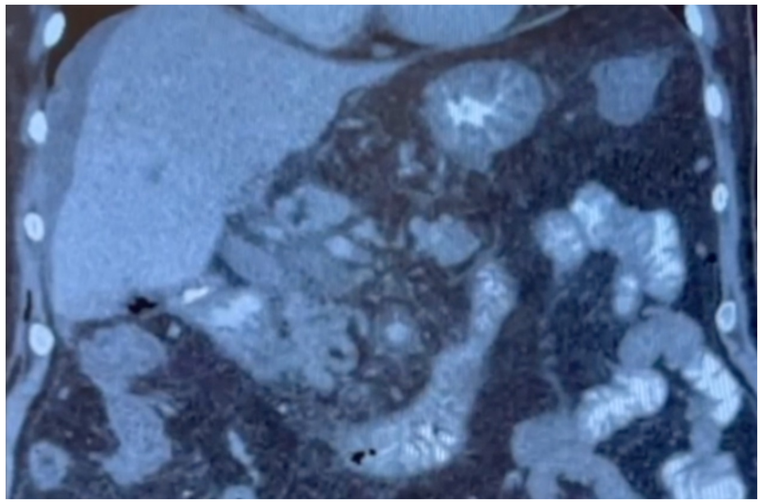

Figure 1. Abnormal CT Imaging

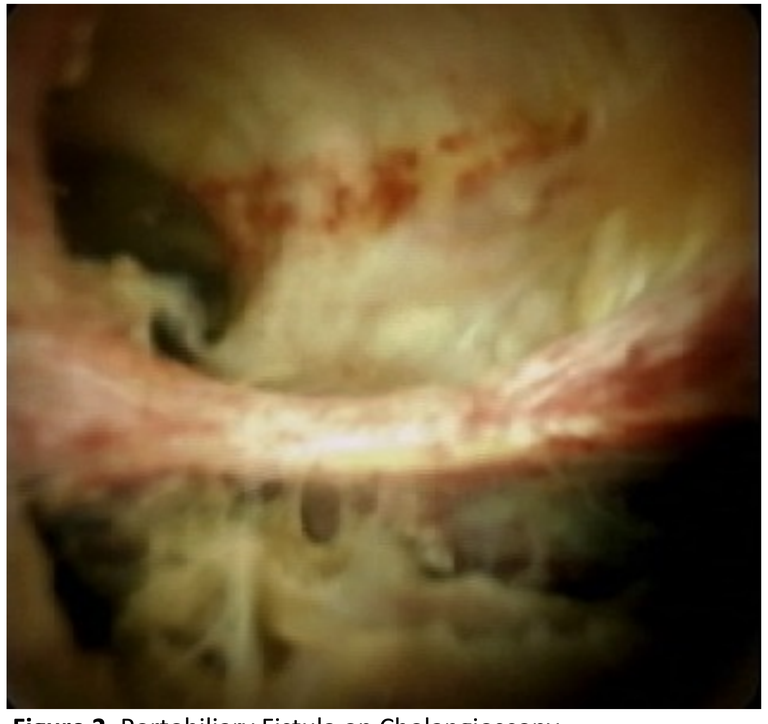

Figure 2. Portobiliary Fistula on Cholangioscopy

Case Continued

Despite multiple contrast injections, extravasation was not seen, as previously noted on intraoperative cholangiography. Therefore, single operator cholangioscopy was introduced and advanced to the hilum of the common hepatic duct. Examination revealed a small defect in the common bile duct communicating with a thrombosed vascular structure, likely a branch of the portal vein.

After a multidisciplinary discussion with surgery service, a fully covered 10 mm by 8 cm metallic stent was placed across the defect, anchored by a second 7 French by 10 cm double-pigtail plastic stent, with trans-papillary drainage. The patient tolerated the procedure well with no immediate post-operative 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 risk of compromising the portal vein, embolization was not considered as an approach.

References

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