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IMAGE | ENDOSCOPY

Biliary-Colonic Fistula Associated With High-Grade Biliary Stenosis From Errant Surgical Clip During Previous Biliary Surgery: Diagnosis and Treatment By ERCP

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CASE REPORT

A 65-year-old woman, status-post cholecystectomy and Roux-en-Y hepaticojejunostomy (circumstances unknown, 2017), was admitted (2020) for right upper quadrant abdominal pain and pyrexia for 3 days. Physical examination revealed a temperature of 39.1°C; no jaundice; soft, nondistended abdomen; and right upper quadrant tenderness. Alkaline phosphatase was 171 U/L, aspartate aminotransferase was 123 U/L, alanine aminotransferase was 100 U/L, and total bilirubin was 1.1 mg/dL. Leukocyte count was 10.4 bil/L, and leukocyte differential revealed neutrophilia (7.6 bil/L). Hematocrit and lipase were within normal limits.

Viral serologies for hepatitis A, B, and C were negative. Abdominal and pelvic computed tomography with intravenous contrast showed clusters of punctate fluid collections (microabscesses) along right hepatic lobe, pneumobilia, mild bile ductal dilatation, surgical clips

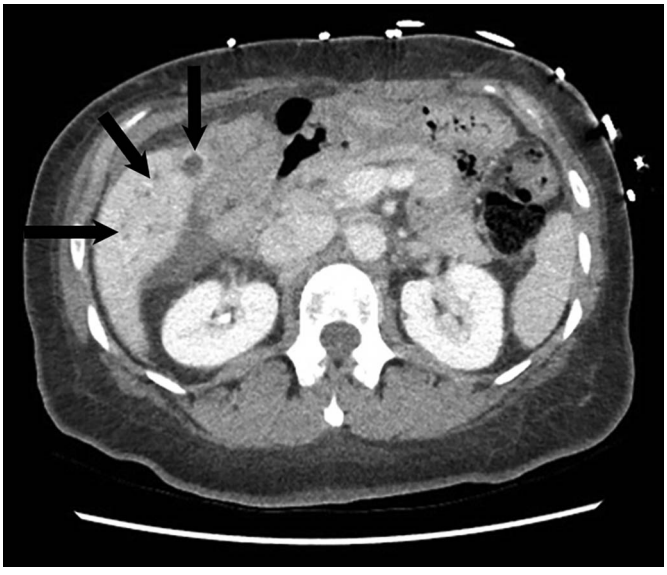

Figure 1. Abdominal and pelvic computed tomography with intravenous contrast shows clusters of punctate fluid collections along right hepatic lobe (arrows, largest 1.3 × 1.0 cm), from microabscesses (from ascending cholangitis), pneumobilia, mild bile duct dilatation, and one suspected errant surgical clip slightly far of liver raising suspicion of right bile duct obstruction with consequent cholangitis.

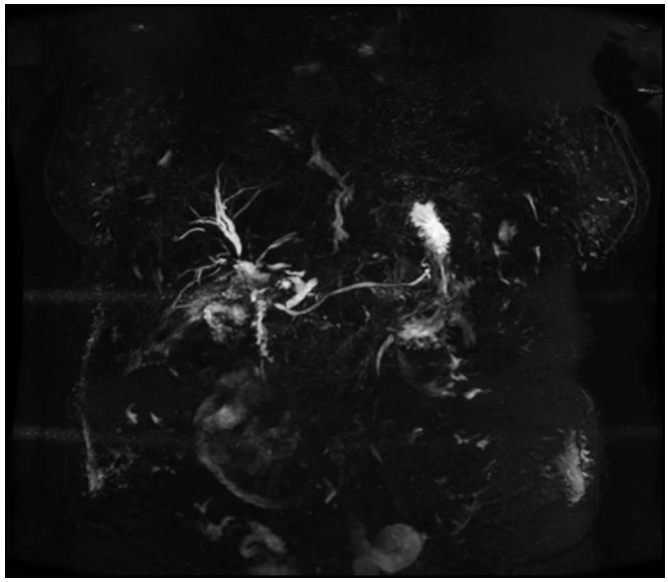

Figure 2. Magnetic resonance cholangiopancreatography shows mild intrahepatic biliary ductal dilatation, pneumobilia, and multiple rim-enhancing right hepatic microabscesses, but no evident choledochal stenosis or choledochal hepatic flexure fistula.

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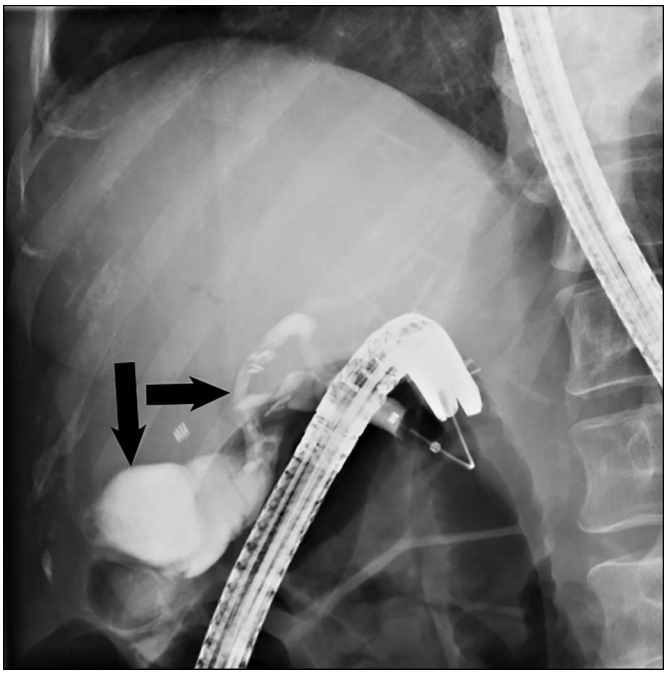

Figure 3. Contrast injected into choledochus at endoscopic retrograde cholangiopancreatography travels through a choledochal fistula (horizontal-arrow) to outline colonic hepatic flexure (vertical-arrow). Hepatic flexure identified by the wide colonic lumen (as opposed to the narrow choledochal lumen), adjacent intrahaustral fold, and characteristic intra-abdominal location.

around porta hepatis, and 1 errant surgical clip to the right of the liver, suspicious for causing right bile duct obstruction and cholangitis (Figure 1). Piperacillin/tazobactam was administered intravenously. Magnetic resonance cholangiopancreatography (MRCP) performed before and after intravenous administration of gadolinium showed mild intrahepatic biliary ductal dilatation, significant pneumobilia throughout the biliary tree, and multiple rim-enhancing right hepatic microabscesses, but no evident choledochal stenosis/fistula (Figure 2). Endoscopic retrograde cholangiopancreatography (ERCP) showed high-grade, post-surgical, midcholedochal stenosis, choledochal-to-colonic hepatic flexure fistula, and mildly dilated proximal biliary tree (Figure 3). At ERCP, a 7-Fr, 15-cm-long, plastic biliary stent was emergently deployed deeply into the choledochus, yielding a small trickle of pus followed by a gush of bile flow (Figure 4). The patient was discharged after ERCP with a stent with the resolution of pyrexia, abdominal pain, and neutrophilia, and improved liver function tests. Laparotomy 12 days later confirmed errant surgical clip near midcholedochus at fistula origin.

Hepaticojejunostomy revision and choledochal resection were performed. The patient was discharged 3 days later. She was doing well 3 months postoperatively without symptoms.

This work reports a highly unusual case of a biliary-colonic fistula 3 years after complex biliary surgery that was complicated by high-grade biliary stenosis from an errant surgical clip. Although

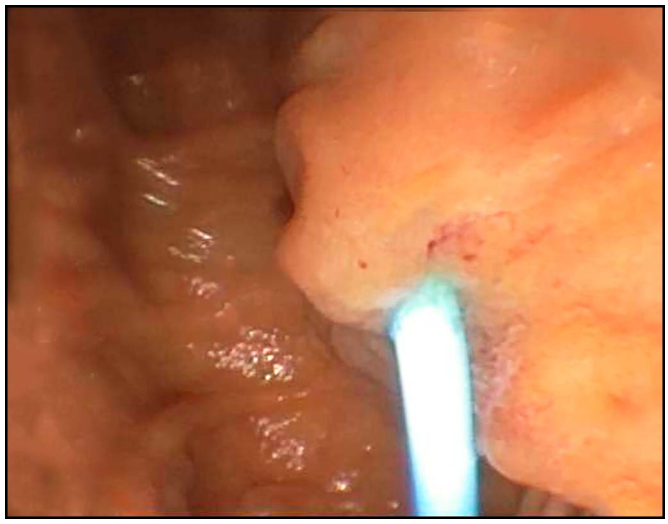

Figure 4. At endoscopic retrograde cholangiopancreatography, a 7-Fr, 15-cm-long, plastic biliary stent was inserted beyond the choledochal stenosis 13 cm into choledochus, yielding a gush of bile flow.

MRCP rarely misses a bile duct fistula to another organ,[1,2] MRCP missed this fistula. ERCP was diagnostic of the fistula and was also therapeutic in emergently stenting the stenosis, restoring physiologic flow through the choledochal stenosis to treat cholangitis, and collapsing the fistula.[3–5] Although deploying a biliary stent to manage a biliary stricture is not infrequently performed electively,[6–8] this stent was deployed emergently to treat cholangitis, close a biliary-colonic fistula, and successfully stabilize the patient from the cholangitis and biliary microabscesses, allowing for the patient to be discharged home with the postponement of definitive biliary surgery until the patient stabilized.

DISCLOSURES

Author contributions: A. Hanna and AM Aneese wrote the manuscript. MS Cappell wrote the manuscript, revised the manuscript for intellectual content, and is the article guarantor. A. Hanna and MS Cappell are cofirst authors.

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Informed consent was obtained for this case report.

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