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Biliary Clip Migration as an Unexpected Cause of Acute Cholangitis

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CASE REPORT

A 39-year-old woman with a surgical history of laparoscopic cholecystectomy 3 years ago. She was complaining of a 5-day history of right upper quadrant abdominal pain, fever, and jaundice. A complete blood count and liver function tests showed a 22,120/mm^3 white blood cell count, 2,331 U/L alkaline phosphatase, 316.5 U/L alanine aminotransferase, 5,418 U/L γ-glutamyl transferase, and direct bilirubin in 15.3 mg/dL.

The clinical presentation and laboratory tests were consistent with acute cholangitis. Initial computed tomography scan showed an 11-mm dilated common bile duct (CBD) with hyperdense metallic appearance distally (Figure 1). Magnetic resonance cholangiopancreatography confirmed an 11-mm dilated CBD with an obstructive hypointense appearance in the distal third (Figure 2). An ERCP was performed revealing a 10-mm diameter CBD and a 12 by 8-mm biliary stone with a metal component inside (Figure 3). After a 12-mm sphincterotomy, the stone and a surgical clip were removed resolving the patient's condition (Figure 4).

Figure 1. CT showing a dilated common bile duct with hyperdense solid appearance in the distal CBD. Notice the similar density of the distal bile duct obstruction with the clip located on the cystic stump. CBD, common bile duct; CT, computed tomography.

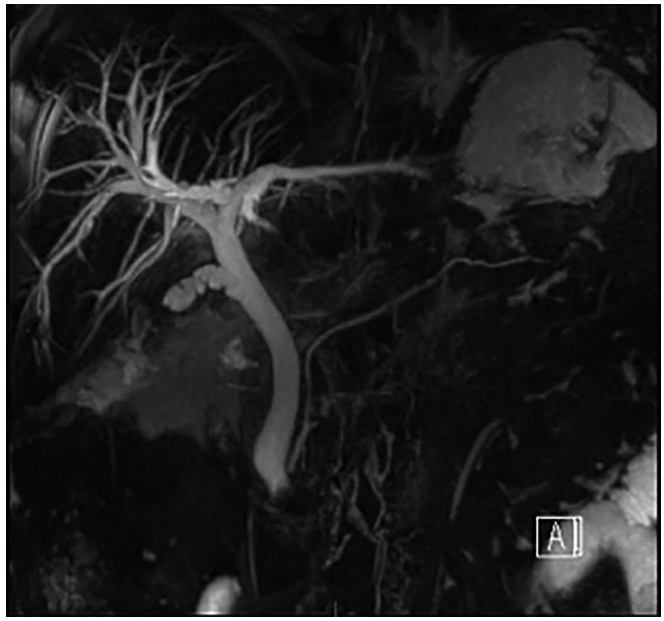

Figure 2. MRCP showing a dilated CBD with a hypointense obstruction at the distal end. CBD, common bile duct; MRCP, magnetic resonance cholangiopancreatography.

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Figure 3. Endoscopic retrograde cholangiopancreatography fluoroscopy showing a dilated CBD with a subtraction image suggestive of a biliary stone with a metal component inside. CBD, common bile duct.

Figure 4. After retrieval of the stone from the bile duct with an extraction balloon and roth net, the stone was found to consist of biliary sludge nested inside a metal surgical clip.

Postcholecystectomy surgical clip migration is a rare adverse event that can nest biliary stones.[1–4] The pathophysiology of how this phenomenon occurs is not well understood; one theory considers a possible mechanism to be the invagination of the cystic duct stump after necrosis because of endoluminal pressure.[1,3] This would happen because of compression of the clipped cystic duct stump over time by adjacent structures such as the liver.[1,4] The time required for this condition to develop is unclear because patients can develop symptoms years after surgery.[2] Endoscopic retrograde cholangiopancreatography has a reported success rate close to 80% for managing these complications.[4] Therefore, although there are not many cases reported, clip migration should be considered a possible cause of acute cholangitis after cholecystectomy in patients presenting with typical symptoms even many years after the surgery.

DISCLOSURES

Author contributions: C. Azañedo, P. Larrea, and J. León wrote and revised the manuscript for intellectual content and approved the final manuscript. E. Alva revised the manuscript for intellectual content and approved the final manuscript. C. Azañedo is article guarantor.

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