



Case Report

A Rare Nidus for Biliary Stone Formation: Post-Cholecystectomy Clip Migration

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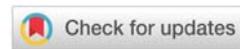
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Question

A 54-year-old woman presented with one month of recurrent postprandial right sided and epigastric abdominal pain, associated with intermittent anorexia and vomiting.

Her past medical history includes Crohn's disease diagnosed in 1976, requiring total colectomy and end ileostomy in 1977 and small bowel resection for fibrotic stricture in 1980. A cholecystectomy for biliary pancreatitis was performed in 2004.

Physical exam revealed normal vital signs, decreased bowel sounds and tenderness to palpation in the right upper quadrant.

Laboratory investigations included a total bilirubin of 1.5mg/dL; aspartate aminotransferase 73 IU/L; alanine aminotransferase 174 IU/L; alkaline phosphatase: 243 IU/L; gamma-glutamyl transferase 310 IU/L; amylase: 91 IU/L; lipase : 87 IU/L; CRP: 87.5 mg/dL, and a white blood cell count of 8.3 x 10⁹/L.

Abdominal Computed Tomography (CT) scan demonstrated a metallic object within the common bile duct (CBD) with dense surrounding material. The CBD was dilated to 2.3 cm with intra-hepatic biliary duct dilation (Figure 1).

What is the diagnosis?

Answer: Post-Cholecystectomy Clip Migration with Gallstone Formation.

The patient was diagnosed with CBD obstruction from

choledocholithiasis formed around a surgical clip nidus. Endoscopic Retrograde Cholangiopancreatography (ERCP) with sphincterotomy was performed and the CBD stone was extracted and all symptoms and laboratory abnormalities resolved (Figure 2). The stone was subsequently recovered from the patient's ileostomy bag.

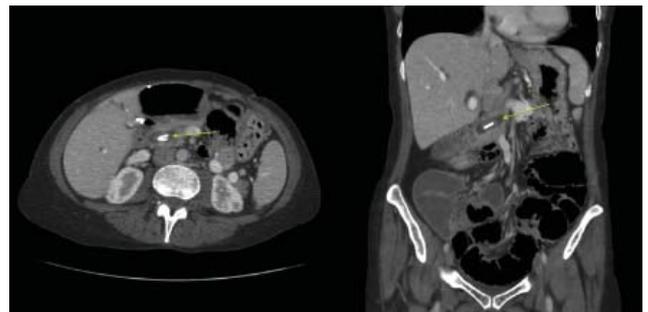


Figure 1: Cholecystectomy clip seen within choledocholithiasis on axial (left) and coronal (right) computed tomography scans.



Figure 2: Cholecystectomy clip (right) and piece of suture (left) seen within the opened biliary stone retrieved from ileostomy bag.



Discussion

This is the first case of symptomatic choledocholithiasis due to PCCM in a patient with inflammatory bowel disease where the stone was recovered from an ileostomy. Early complications of Laproscopic Cholecystectomy (LC) include hemorrhage, iatrogenic perforation of the gallbladder, CBD injury and iatrogenic bowel and vascular injuries [1]. Late complications involve intra-abdominal bile leakage, sub-hepatic abscesses, retained bile duct stones, post-cholecystectomy syndrome and bile duct stricture [2]. During LC, surgical hemostatic clips placed on the cystic duct and arteries are used to avoid cystic duct leakage and arterial bleeding. Rarely, Post-Cholecystectomy Clip Migration (PCCM) into the bile ducts occurs with stone formation around this clip leading to symptomatic choledocholithiasis or cholangitis.

Up to 80 cases of PCCM with biliary stone formation have been reported in the literature. Most cases occur in female patients with a median age of 60 years old [3]. The median time between the cholecystectomy and the development of clip migration with stone formation was 26 months. Most were successfully treated by ERCP3. No etiology or risk factors for

PCCM have been identified.

Author contributions

Robert Battat MD: Manuscript creation, literature review, and photography.

Marilyse Drapeau: Manuscript creation, literature review.

Jonathan M. Wyse MD: Manuscript creation, literature review.

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