



Cholangioscopy as a rescue for a post-cholecystectomy adherent stone formed around a migrated surgical clip in the common bile duct

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INTRODUCTION

Cholecystectomy is a widely accepted intervention for symptomatic gallstones. A rare associated adverse event is migration of surgical clips into the biliary tract, where they act as a nidus for stone formation, leading to cholelithiasis, choledocholithiasis, or cholangitis. ERCP, the conventional treatment, is effective in 80% of cases. For difficult cases in patients with high surgical risk, advanced endoscopic technique is favored, sometimes using cholangioscopy.^{1,2} We present a case of an adherent stone around a migrated surgical clip successfully treated with cholangioscopy.

CASE PRESENTATION

An 88-year-old woman with a history of cholecystectomy 30 years ago presented with acute-onset right upper quadrant pain, nausea, and vomiting. Laboratory data revealed total bilirubin of 1.2 mmol/L and alkaline phosphatase of 221 IU/L. Abdominal CT revealed moderate intra- and extrahepatic biliary ductal dilation and multiple stones within the common bile duct (CBD), the largest measuring 2.2 × 1.2 cm. There was a linear metallic density suspicious for obstructing choledocholithiasis around the surgical clip.

Initial ERCP revealed several large filling defects in the CBD. Sphincterotomy and multiple balloon sweeps were performed with a 15-mm biliary balloon beginning at the bifurcation. Multiple stones and pus were removed successfully. Repeat cholangiogram revealed the CBD measuring

20 mm and dilated intrahepatic ducts, a large filling defect suggestive of a stone noted in the CBD measuring about 2 cm encasing a metallic density—probably a migrated surgical clip (Fig. 1). A 10F × 5-cm double-pigtail plastic biliary stent was placed for conservative management.

ERCP performed 4 weeks later revealed a large filling defect around a previously noted clip suggestive of a stone in the CBD (Fig. 2). We proceeded to perform Spyglass (Boston Scientific, Marlborough, Mass, USA) cholangioscopy, and this large CBD stone was visualized. Electro-hydraulic lithotripsy was then performed for fragmentation of the stone. Fragmentation was successful, and multiple stone fragments were visualized. The biliary tree was then swept with a 15-mm balloon starting at the bifurcation of the biliary tree. Multiple stone fragments and sludge were removed successfully. The clip was then swept out successfully. Multiple balloon sweeps were performed (Video 1, available online at www.videogie.org). The final occlusion cholangiogram showed no evidence of filling defects in the CBD (Fig. 3). Excellent bile and contrast drainage was seen endoscopically and fluoroscopically.

CONCLUSION

Stones associated with post-cholecystectomy clip migration have been noted to be difficult to extract, with a risk for mechanical lithotripsy failure. This case highlights that cholangioscopy-assisted lithotripsy is safe and effective for the removal of an adherent stone around a migrated surgical clip in the biliary tract that cannot be extracted using conventional techniques.³⁻⁷

DISCLOSURE

Dr Holzwanger is a consultant for Virgo. Dr Gabr is a consultant for Medtronic, ConMed, Olympus, Boston Scientific, Fuji, and AdaptivEndo. Dr Berzin is a consultant for Boston Scientific, Medtronic, and Fuji. Dr Pleskow is a consultant for Boston Scientific, Medtronic, Olympus, and Fuji. All other authors disclosed no financial relationships relevant to this publication.

Abbreviation: CBD, common bile duct.

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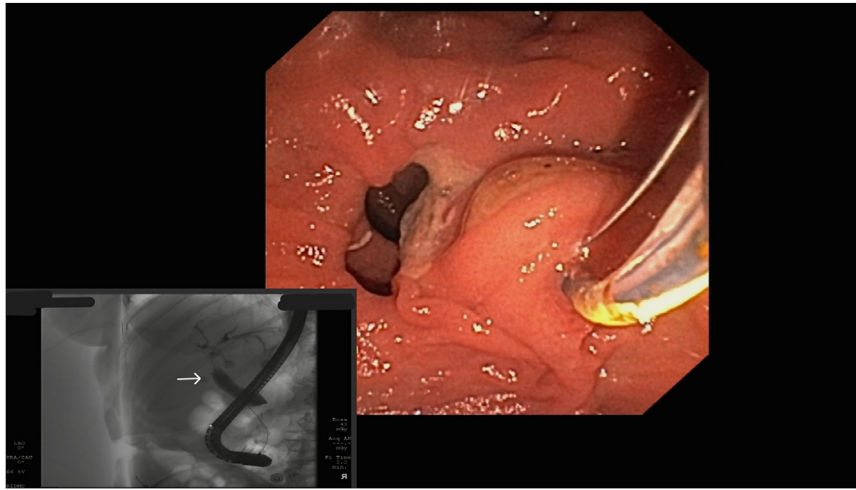


Figure 1. Two-centimeter filling defect suggestive of a stone in the common bile duct.

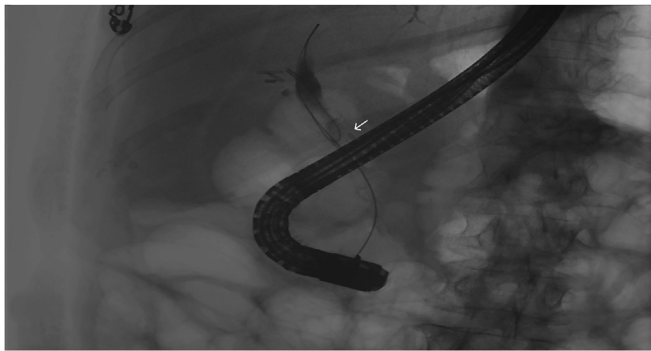


Figure 2. Metallic density representing the migrated surgical clip in the common bile duct.

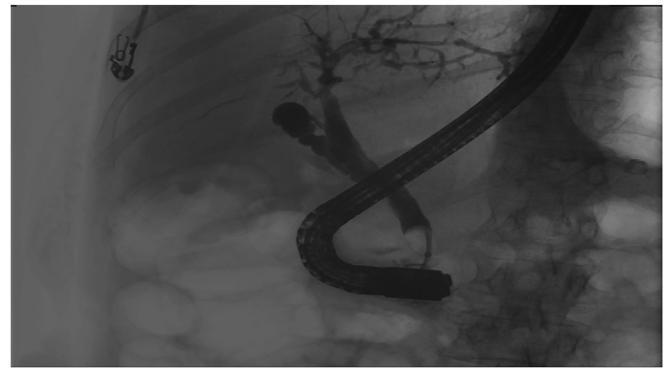


Figure 3. Final occlusion cholangiogram showed no evidence of filling defect in the common bile duct.

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