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Complicated Cholangitis Due to Post-ERCP Biliary Stone Impaction: A Case Report

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ABSTRACT: Acute cholangitis is a serious medical and surgical emergency, usually caused by obstruction of the biliary tract, most often by stones. We present the case of a 47-year-old male with a biliary stent left in place for over two years, admitted with a clinical picture of complicated cholangitis: jaundice, fever, cholestatic syndrome, and general deterioration. Radiological investigations revealed a biliary stone impaction with biliary dilation. Two attempts at endoscopic retrograde cholangiopancreatography (ERCP) failed. The patient underwent surgical management involving removal of the obstructed stent and stones, and placement of biliary drainage using a Kehr T-tube, Delbet drain, and Salem tube. Intraoperative isolation of Clostridium perfringens prompted targeted antibiotic therapy. Postoperative recovery was uneventful. This case highlights the importance of appropriate follow-up in patients with biliary stents and underscores the essential role of surgery in the event of endoscopic failure or severe infectious complications.

KEYWORDS: Cholangitis, common bile duct stones, ERCP, biliary stent, Kehr drainage, endoscopic failure

INTRODUCTION

Acute cholangitis is a bacterial infection of the biliary tract, typically resulting from an obstruction of bile flow. The most common cause is choledocholithiasis. ERCP is the gold-standard treatment for relieving biliary obstruction. However, when endoscopic therapy fails, surgical intervention becomes imperative. We report a case of complicated cholangitis in a patient with a long-standing biliary stent.

Case Presentation:

A 47-year-old male, with a medical history of laparoscopic cholecystectomy and ERCP with biliary stent placement in 2021, presented with symptoms that began ten days prior to admission, including generalized jaundice, dark urine, acholic stools, pruritus, intermittent diarrhea and constipation, fever of unknown grade, and progressive general decline.

On examination, the patient was conscious (GCS 15/15), hemodynamically and respiratorily stable, with marked jaundice. The abdomen was soft, with tenderness in the right upper quadrant but no palpable mass. Digital rectal examination revealed pale stools.

Laboratory results showed: white blood cell count: 20,230/mm³, CRP: 34.4 mg/L, AST/ALT: 107/131 IU/L, total bilirubin: 199.3 µmol/L, conjugated bilirubin: 163 µmol/L, alkaline phosphatase: 644 IU/L, GGT: 476 IU/L.

Magnetic resonance cholangiopancreatography (MRCP) on April 23, 2024, revealed intrahepatic and common bile duct (CBD) dilation to 13 mm with stone impaction. Abdominal ultrasound showed a dilated CBD (11 mm), though no stones were clearly visualized.

Abdominopelvic CT scan demonstrated tortuous CBD dilation upstream of a hyperdense formation in the distal bile duct, with perihilar hepatic infiltration.

Two ERCP attempts were unsuccessful. Emergency surgery was performed, consisting of stent removal, stone extraction, and placement of a Kehr T-tube, Delbet drain, and Salem tube. Intraoperative cholangiography confirmed proper opacification of the intrahepatic ducts with a filling defect at the lower CBD.

Cultures from the intraoperative biliary fluid yielded Clostridium perfringens, sensitive to ceftriaxone. The patient received a 10-day course of targeted antibiotics. Postoperative recovery was smooth; all drains except the Kehr tube were removed by day 5, and the Kehr tube was removed on day 30.

Iconography

Figure 1 : Surgical specimens showing extracted stones, the obstructed biliary stent, and purulent bile.

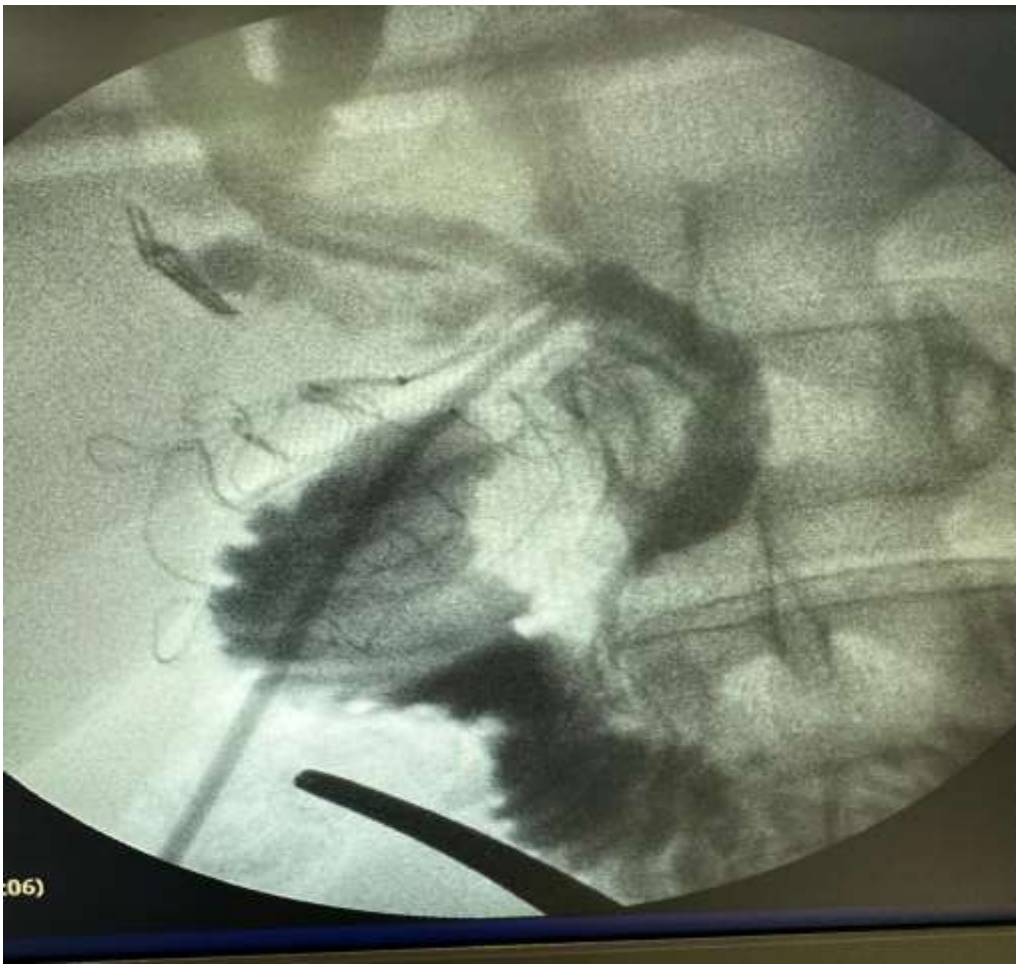

Figure 2 : Intraoperative cholangiography revealing a filling defect in the distal CBD.

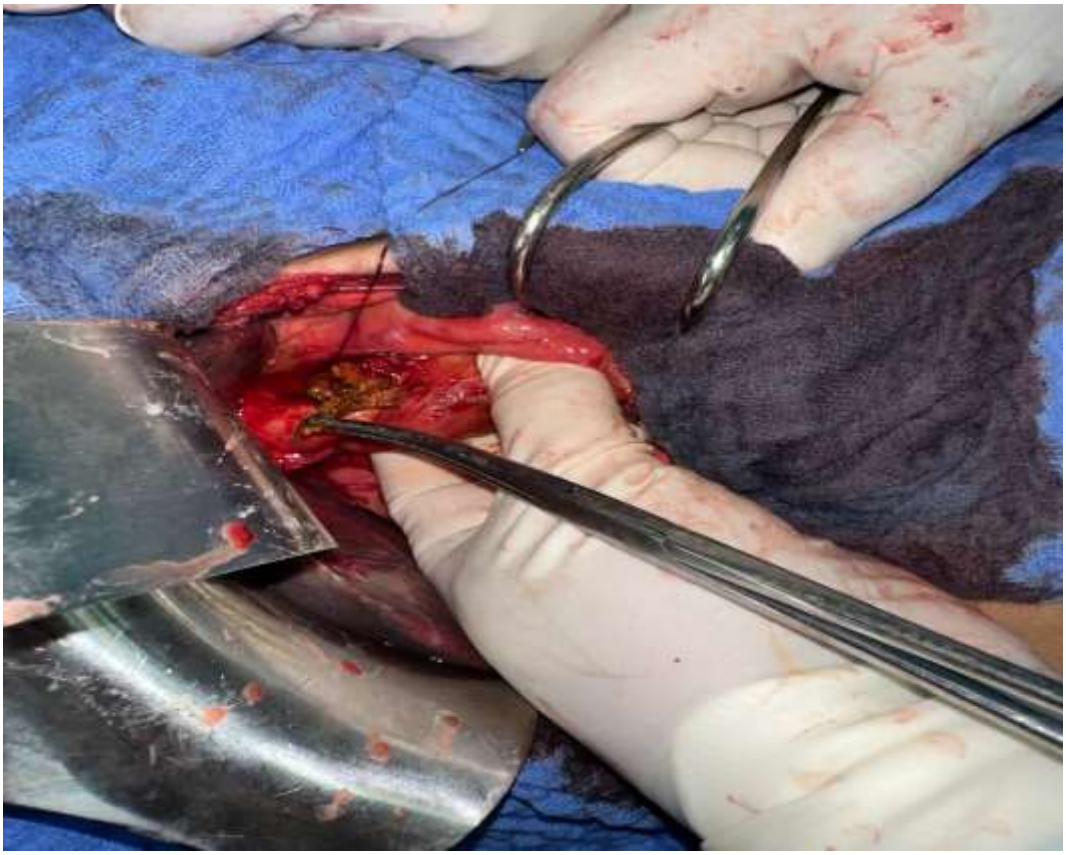

Figure 3 : Intraoperative view showing stent extraction through an incision in the CBD.

DISCUSSION

Acute cholangitis remains a life-threatening medical-surgical emergency, triggered by bacterial infection in the context of biliary obstruction. The most frequent cause is choledocholithiasis, though benign strictures, tumors, or indwelling devices such as biliary stents may also be implicated.

Diagnosis is primarily based on Charcot's triad (fever, right upper quadrant pain, jaundice), supported by laboratory findings (inflammatory markers, cholestasis, cytolysis) and imaging (biliary dilation, stones). The Tokyo Guidelines 2018 provide diagnostic criteria and severity grading, informing therapeutic decisions [1,2].

ERCP with sphincterotomy and stone extraction is the first-line treatment [4,7]. Nonetheless, ERCP may fail, particularly in patients with altered anatomy or old stents, as in our case [5,6].

Progression to severe infection involving anaerobic bacteria such as Clostridium perfringens is rare but potentially lethal. This organism produces toxins that induce rapid tissue necrosis, and its presence necessitates targeted antibiotic therapy [9].

Surgical intervention remains vital when ERCP fails or complications arise. Kehr T-tube drainage offers a controlled external biliary diversion [8]. Combining it with Salem and Delbet drains ensures effective management of infected subhepatic spaces.

Intraoperative stent removal prevents recurrence. Intraoperative cholangiography is essential to rule out residual stones and confirm biliary continuity.

Importantly, this case emphasizes the necessity of close monitoring in patients with biliary stents, which should typically be replaced or removed within 3–6 months in the case of plastic stents. Failure to do so can lead to severe complications, as illustrated here [3].

The prognosis of cholangitis depends on prompt intervention, effective drainage, proper antibiotic selection, and timely removal of the obstruction. A multidisciplinary approach is essential to optimize outcomes.

CONCLUSION

This clinical case underscores the importance of a multidisciplinary approach in managing complicated cholangitis. Post-ERCP follow-up is essential. When endoscopic treatment fails, surgery remains a reliable option for controlling infection and restoring biliary drainage.

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