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Hydatid biliocystic fistula-induced cholestasis

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IMAGE OF THE MONTH

Key words: obstructive jaundice; complicated hydatid cyst; biliocystic fistula; Frank Intrahepatic Biliary Rupture; Liver Surgery

Abbreviations: IV In Venous, FIR Frank Intrahepatic Biliary Rupture, ERCP Endoscopic Retrograde Cholangiopancreatography, CT Computed Tomography, MRI Magnetic Resonance Imaging, POD Post Operative Day, IPC Intermittent Pedicular Clamping

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A 40-year-old Moroccan man without relevant past medical history was admitted for abdominal pain, fever and jaundice, without clinical signs of septic shock or peritonitis. He underwent fluid IV resuscitation and wide spectrum antibiotic regimen, with good response. No vasoactive-amine was used. Biology showed hyperleucocytosis (16 400 giga/L) and mainly conjugated (115 μ mol/L) hyperbilirubinemia (190 μ mol/L), with elevated liver enzymes: aspartate transaminase (AST) 114 IU/L, alanine transaminase (ALT) 127 IU/L, alkaline phosphatase (ALP) 523 IU/L, γ -glutamyltransferase (GGT) 444 IU/L. Hydatid serology was highly positive, and albendazole therapy was introduced. A triphasic, IV contrast-enhanced CT scan, revealed a 93 mm left liver hydatid cyst with no sign of intraperitoneal rupture. Bili-MRI confirmed the 93 x 86 mm left liver cyst with irregular low-signal-intensity rim on T2 weighted images, compressing the left intrahepatic bile ducts, with a cysto-biliary communication image. These findings were consistent with a Gharbi II/CE3 OMS hydatid cyst complicated by a Frank Intrahepatic Rupture (FIR) (fig. 1). An upper GI endoscopy showed some hydatid material secreted from the Vater's papilla. A sphincterotomy was not realized. A left open hepatectomy was proposed. With hypertonic saline surgical fields protection, hepatic pedicle and left hepatic vein control was realized: left pedicular dissection, according the pure glissonian intrafascial approach (1), preceded parenchymal transection along the middle hepatic vein. After left bile duct section and removal of the specimen (fig. 2), intraoperative cholangioscopy showed patent common and right intrahepatic bile ducts with no residual hydatid material. No intermittent pedicular clamping was needed, blood loss was less than 100 ml. On post operative (POD) day 5 total bilirubin was 25 μ mol/L, prothrombin time 80%, and the postoperative course was uneventful: the patient was discharged on POD 7, and albendazole regimen continued during the following 4 weeks.

FIR is a potentially life threatening complication that can occur in 30% of patients affected by hydatid cysts (2). Fever, right upper quadrant pain and jaundice are the most common symptoms, with evolution through cholangitis, and sepsis (3). FIR risk factors include cyst central location and diameter superior to 7.5 – 10 cm. If FIR is greater than 5mm, cystic material is often seen on the bile duct (4), as it was the case in this observation. Even if diagnosis is easy in case of jaundice associated with positive serology, MRI is highly sensitive in FIR documentation.

Operative management strategies include ERCP in acute cholangitis settings as bridge to scheduled surgical treatment, or as treatment alone in older patients with severe comorbidities. Liver resection may be a radical treatment in case of FIR, being affected by lower postoperative bile leak and recurrence rate than simple unroofing or incomplete resection (3-5).

FIGURE 1

- a. MRI T2-weighted sequence, showing FIR: communication among cyst and left bile duct (arrow).
- b. MRI cholangiography showing left liver intrahepatic bile duct compression (small arrows), and FIR (big arrow).

FIGURE 2 Intraoperative view of left liver hydatid cyst (white arrows).

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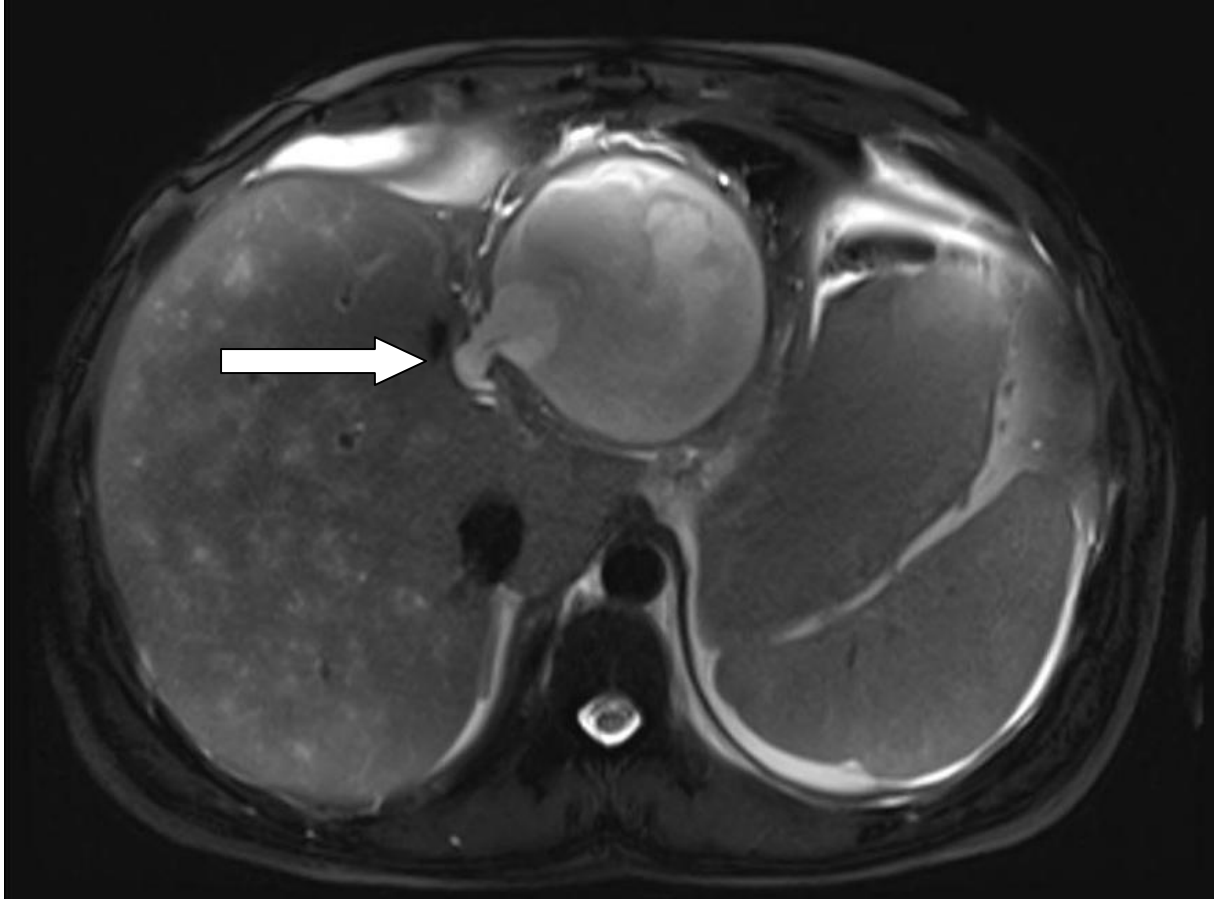


FIGURE 1.a

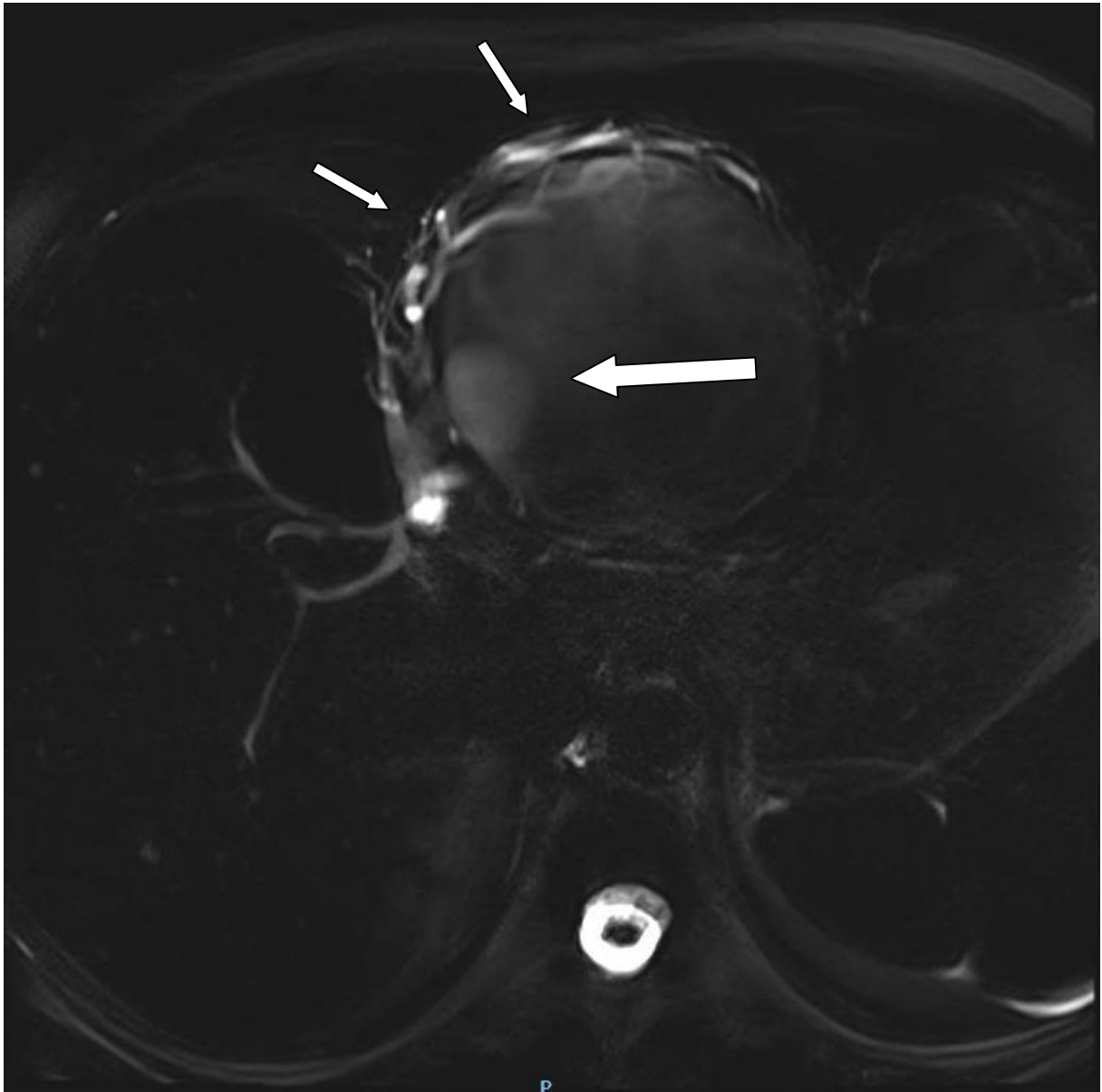


FIGURE 1.b

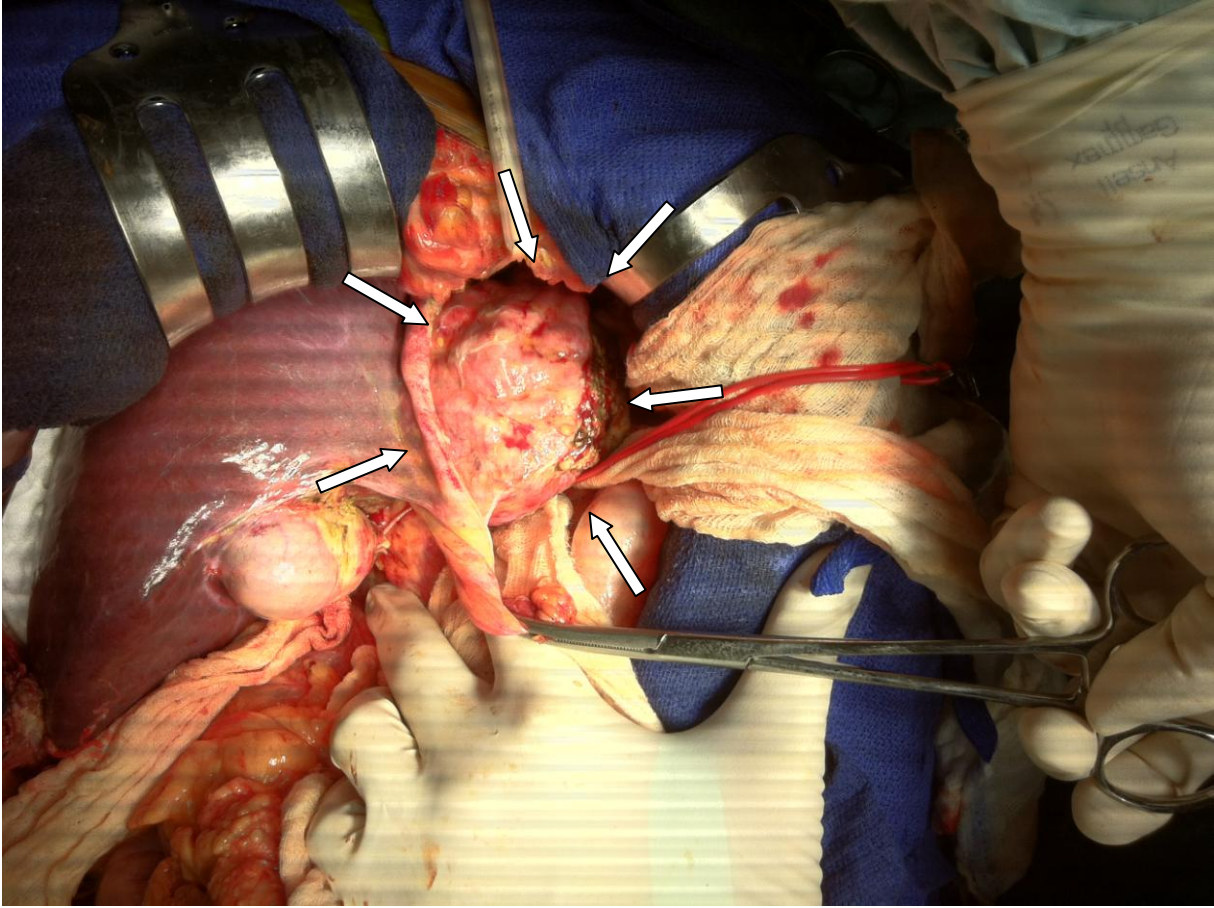


FIGURE 2