

Liver hydatid cyst rupture in biliary tree resulting in cholangitis and pancreatitis: A case report

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ABSTRACT

Hydatid disease is commonly observed in the Mediterranean region and North Africa and is caused by *Echinococcus* species. The liver is the most commonly affected organ, and biliary complications are the most frequent complications of hepatic hydatid disease. Despite this, pancreatitis due to hepatic hydatid disease is rare. In this case report, we describe a patient with cholangitis and pancreatitis resulting from the rupture of a hepatic hydatid cyst into the biliary system.

Keywords: Cholangitis, Hydatid disease, Pancreatitis

Introduction

Hydatid disease is a relatively common problem in the Mediterranean region and North Africa, caused by *Echinococcus granulosus* (EG). Humans are intermediate hosts, final hosts are dogs and other canines. Humans get the larval form via fecal-oral transmission (handling dogs, contaminated water, etc.). EG can infect almost everywhere in the human body but in most cases, patients have a solitary cyst in the liver.^[1] Most of the complications are also seen in the liver, cyst rupture in the biliary system is one of the most common complications.^[1,2] Despite biliary complications, pancreatic complications such as pancreatitis are rare.^[3]

Case Report

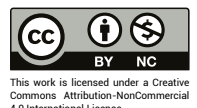
A 33-year-old male patient was admitted to the emergency department with fever, jaundice, and abdominal pain. He did not have any known disease or significant family history. During the physical examination, he has a 38,5°C

fever, other vital signs are in the normal range. Abdominal examination was uneventful except for right upper quadrant tenderness. Laboratory tests showed leukocytosis (21.400/ μ L), elevated CRP (303 mg/L), elevated liver function tests, and bilirubin levels (AST: 74,5 U/L, ALT: 90,6 U/L, ALP: 541 U/L, GGT: 310 U/L, Total Bilirubin/Direct Bilirubin: 8,72/6,91 mg/dL) and elevated amylase and lipase levels (Amylase: 469 U/L, Lipase: 1490,4 U/L). Abdominal Ultrasonography (USG) showed two hydatid cysts (90x80 mm anteriorly, 105x90 mm posteriorly) located in the right lobe of the liver, dilated intrahepatic biliary tracts near the cysts, and also subcentimetric calculi in the gallbladder. Abdominal computerized tomography (CT) showed two hydatid cysts in segments 7(90x83 mm) and 6 (100x85 mm). Cyst in segment 6 has communications to near intrahepatic biliary tracks (Fig. 1). Magnetic resonance cholangiopancreatography (MRCP) shows similar findings to CT scan, additionally, daughter vesicles and membranes are seen in the intrahepatic, and extra-



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hepatic bile ducts (Fig. 2). The pancreas was normal in radiologic imaging.

The patient has been consulted on infectious diseases, piperacillin-tazobactam, and albendazole therapy were started. INR level was above normal,^[1] therefore 1 unit of fresh frozen plasma was given to the patient. Endoscopic retrograde cholangiopancreatography (ERCP) and Sphincterotomy were performed and daughter vesicles and parts of membranes were retrieved from the main hepatic duct. The post-ERCP course was uneventful, piperacillin-tazobactam antibiotherapy continued for 7 days and the patient was discharged. An elective operation for a hydatid cyst is planned.

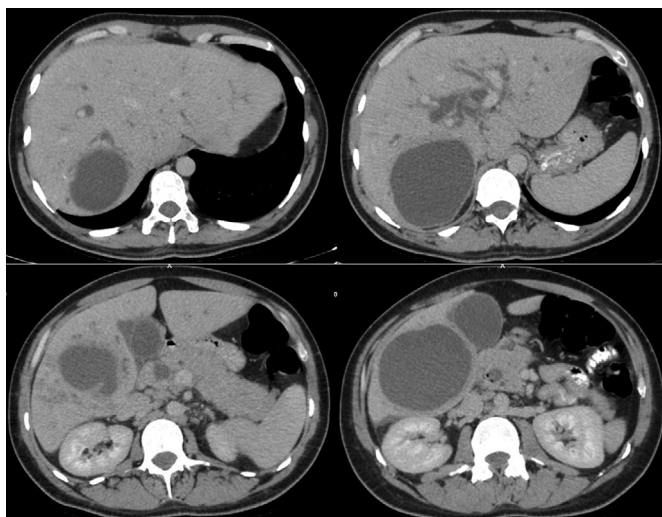


Figure 1. CT imaging of hydatid cysts and dilated intrahepatic biliary tracts.

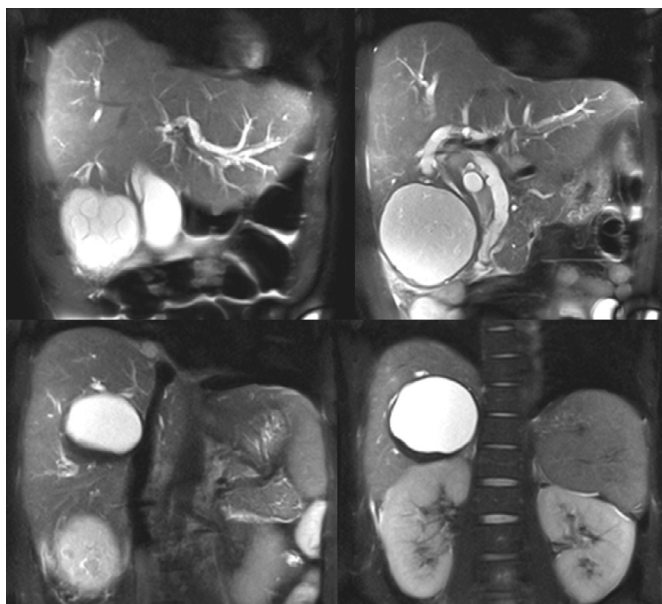


Figure 2. MR imaging of hydatid cysts and dilated intrahepatic biliary tracts.

Discussion

E. granulosus is a common health problem in the Mediterranean region and the most common type of disease localization is liver and lungs.^[1] The course of the disease is generally asymptomatic until complication occurs. Patients who have abdominal pain, elevated LFT, and bilirubin levels may have complicated hydatid cyst in the liver.^[2] Rupture of the cyst and opening into biliary tracts are relatively common complications but pancreatitis due to hydatid disease is scarce.^[3-6]

Radiologic imaging techniques are important in diagnosis and management. Abdominal USG is cheap, radiation-free, and effective for the diagnosis of hydatid cysts in the liver. CT and MR imaging can be used for treatment planning. CT and MRI provide a more accurate staging of hydatid cysts compared to USG, enabling a better assessment of the bile ducts. Moreover, the location of the cyst and its relationship with surrounding organs can be more accurately evaluated. This allows for the identification of structures that require careful attention during surgery, and in suitable cases, interventional radiologic treatment can be planned.^[7]

Treatment of hydatid disease consists of surgery, radiologic interventions, and medical therapy. Complications arising from the rupture of a hydatid cyst into the biliary tract are among the most common, and in some patients, the presence of a hydatid cyst can be detected based on these symptoms.^[1,2] The passage of daughter vesicles and germinative membranes from the cyst into the biliary ducts through cystobiliary fistulas can lead to elevated cholestatic enzymes, jaundice, and cholangitis. In cases with biliary obstruction, this obstruction can be treated through endoscopic or surgical methods. In experienced centers, surgical treatment for hydatid cysts is often preferred following endoscopic treatment for cholangitis. For patients with sepsis due to cholangitis who wish to avoid the complications of general anesthesia, fluid resuscitation, antibiotic therapy, and treatment of biliary obstruction with ERCP, can yield better results compared to surgical treatment.^[4,8]

Conclusion

Pancreatitis due to hepatic hydatid cyst is a rare condition but can be encountered. In patients where radiological methods for pancreatitis reveal cystic lesions in the liver, hydatid cyst should be considered as an etiological factor.

Disclosures

Informed Consent: Written informed consent was obtained from the patient for the publication of the case report and the accompanying images.

Peer-review: Externally peer-reviewed.

Conflict of Interest: None declared.

Authorship Contributions: Concept – B.D.; Design – B.D., A.F.K.G.; Supervision – A.F.K.G.; Materials – B.D., A.F.K.G.; Data collection and/or processing – B.D.; Analysis and/or interpretation – B.D., A.F.K.G.; Literature search – B.D.; Writing – B.D.; Critical review – B.D., A.F.K.G.

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