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Pediatric Surgery A

Hydatid Cyst of the Primary Biliary Tract, A Rare Location: Case Report

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Abstract **Case Report**

Echinococcosis is endemic in Mediterranean countries, with the lungs and liver being the most affected organs in childrens. Primary biliary tract hydatid cyst is an exceptional localization. A 4-year-old child was referred to our surgical outpatient department due to suspicion of a DKC, based on right upper quadrant abdominal pain accompanied by jaundice. Physical examination revealed mild tenderness in the right upper quadrant of the abdomen. An ultrasound complited with an MRI described a Todani type 4 choledochal cyst. The patient underwent right subcostal laparotomy, during which exploration revealed a cystic formation of the choledochus from which clear fluid was aspirated. Upon opening the cyst, a proligere membrane was found, confirming the diagnosis of choledochal hydatid cyst. Primary hydatid cyst of the bile ducts is an extremely rare entity, which is why radiologists do not consider this diagnosis to be primary.

Keywords: Echinococcosis, Hydatid cyst, Choledochal cyst, Biliary tract, Child.

INTRODUCTION

Hydatid cyst constitutes a public health issue in Morocco with a high incidence and significant therapeutic cost [1]. The most frequent localization in children remains pulmonary, followed by hepatic localization [4, 5].

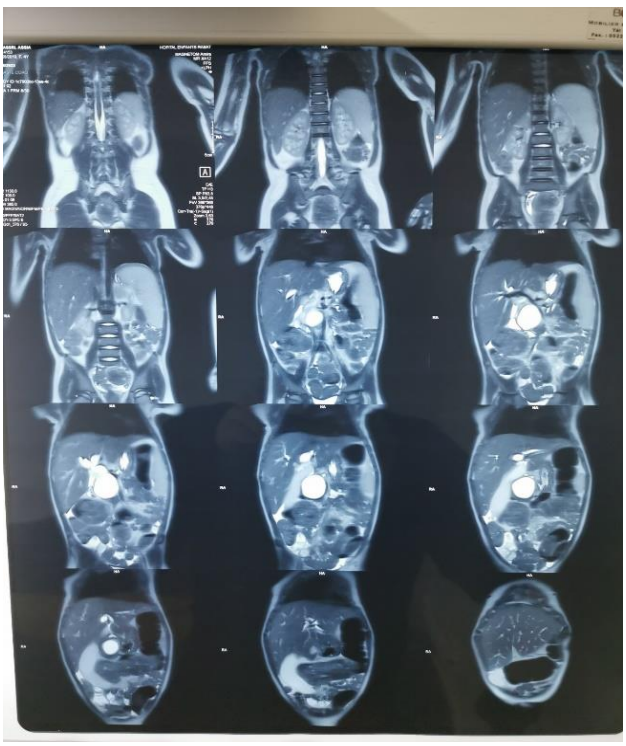
However, other locations can also be affected by this disease. Among these rare locations, primary biliary tract involvement is notable.

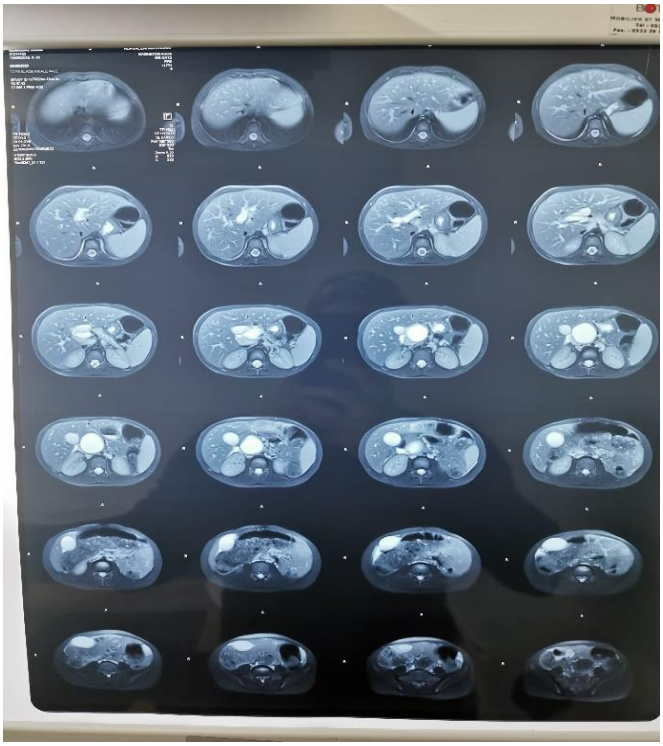
MATERIALS AND METHODS

We report a case of a hydatid cyst in the primary biliary tract in a 4-year-old child initially admitted to the Children's Hospital of Rabat for management of abdominal pain and cutaneomucous jaundice, evolving for 2 months in the context of afebrility.

Clinical examination revealed marked jaundice with homogenous non-painful hepatomegaly on abdominal examination.

Investigations showed elevated liver enzymes and negative hepatic serologies. An ultrasound was initially performed, revealing an enlarged gallbladder with biliary stasis, hepatomegaly and dilation of the primary biliary duct up to 10mm. Additional MRI described a Todani type 4 choledochal cyst.



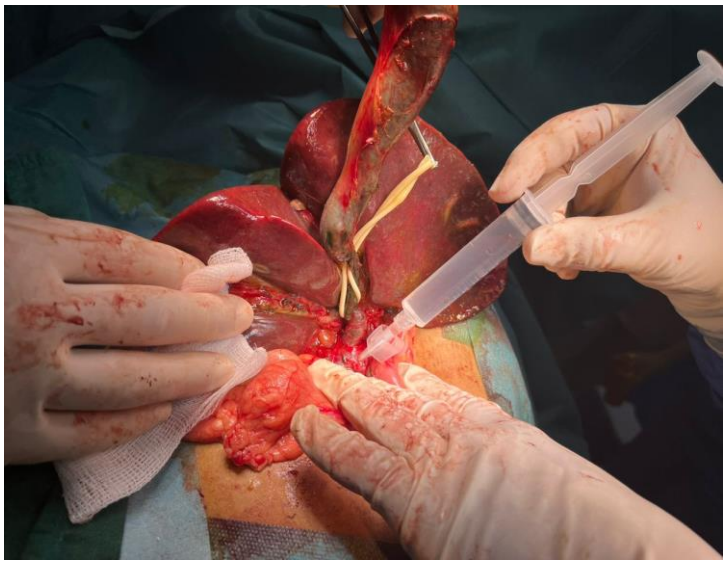


The child was admitted to the operating room, we proceeded with a right subcostal laparotomy under general anesthesia, release of its ligamentous attachments the liver is dislocated externally.

Dissection of the hepatic pedicle revealed a large cyst of the lower bile duct which resembles a true DKC.

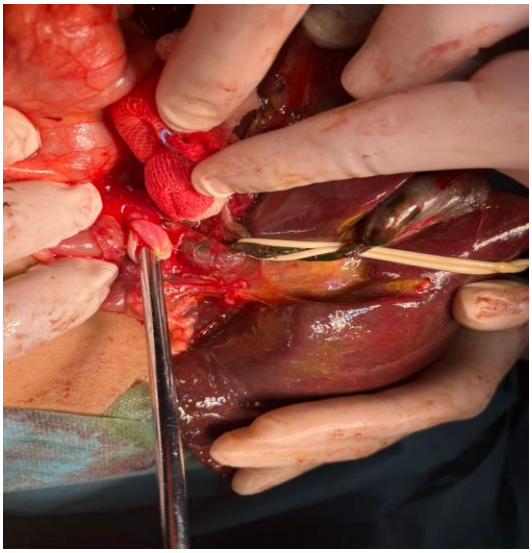
We begin the dissection of the gallbladder and the cystic duct then the choledochal cyst. It was so bulky and tense that we had to puncture it to reduce its size and tension and facilitate its dissection.

The puncture brought back clear liquid “rock water” which is exactly reminiscent of that of KH.



Faced with this fact, we immediately proceeded to protect the operating field with wicks soaked in scolicide (10% hypertonic saline serum).

After complete evacuation of the cyst and its sterilization with scolicide, we proceed to its opening with evacuation of the proligerous membrane which confirms the diagnosis of KH of the common bile duct.



After resection of the protruding dome of the cyst, no cystobiliary biliary fistula is found.

DISCUSSION

The mechanism of gallbladder infiltration in primary localizations is poorly understood, but arterial passage after the embryos pass through the hepatic filters remains the most likely, although transmission via the lymphatic route is also possible [2, 3].

The localization of hydatid cyst in the biliary tract is exceptional, representing 0.1% of all hydatid localizations, with only 2 cases reported in the literature.

Gallbladder hydatid cyst can be primary or secondary, with its secondary location most often resulting from rupture of the hydatid cyst into the bile ducts or direct fistula of a hydatid cyst into the gallbladder [6].

Clinical manifestations are those of gallbladder pathology, with the most frequent symptoms being hepatic colic or palpable gallbladder [6, 7]. It may present as cutaneomucous jaundice or cholecystitis.

Laboratory findings include concurrent eosinophilia during the invasive phase, which rapidly subsides but may reappear in case of cyst rupture or secondary bacterial infection. Liver function is usually normal, with cholestasis or cytolysis suggesting other complications such as ductal rupture or compression [7].

Radiological diagnosis and differentiation between primary and secondary localization from a hepatic hydatid cyst fistulizing into the gallbladder are challenging.

CT has diagnostic value in doubtful cases by demonstrating wall calcifications and lack of enhancement after contrast injection.

MRI visualizes hydatid membranes as hypointense on all sequences without enhancement after Gadolinium injection.

In our case, the initial diagnosis was a Todani type 4 choledochal cyst (DKC), based on clinical findings, ultrasound, and confirmed by MRI.

However, during the intraoperative period, a cyst aspiration was performed to confirm the diagnosis, but it yielded clear fluid.

Upon opening the cyst, a proligere membrane was found, leading to a revised diagnosis.

This suggests the importance of cyst aspiration during intraoperative exploration of any biliary tract cyst before considering any biliary-digestive diversion. The patient recovered uneventfully after surgery.

CONCLUSION

Hydatid disease is a public health problem in endemic areas represented by all livestock countries where dog-sheep contact is constant, especially in the Mediterranean region, notably Morocco.

Symptomatology varies according to localization, cyst size, and the occurrence of potential complications. Hydatid cysts can localize in all parts of the body, with involvement of the biliary tract remaining extremely rare.

Surgery serves as the definitive treatment for hydatid disease, aiming to eradicate the parasite without spilling the cyst content.

Additionally, cholecystectomy was performed in our case. Postoperative recovery proceeded without complication

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