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Exceptional Location of Hydatidosis: Hydatid Cyst of the Gallbladder: A Case Report

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Abstract | **Case Report**

We report two cases of hydatid cyst located in the gallbladder in two adults. Although Morocco remains an endemic area for echinococcosis, this presentation of the disease is rare. The pericyst was closely attached to the liver. A complete pericystectomy followed by cholecystectomy was performed in both cases. Histopathology confirmed the presence of a calcified hydatid cyst of the gallbladder. Perioperative adjuvant medical treatment with albendazole was administered. During the 2-year follow-up, no recurrence occurred.

Keywords: Echinococcal cyst, gallbladder, hydatid disease, porcelain gallbladder.

INTRODUCTION

Hydatid disease is an endemic zoonosis caused by the larval stages of dog tapeworms belonging to the genus Echinococcus. The organs most frequently affected are the liver (75%) and the lungs (15%) [1,2]. The disease continues to be an important cause of morbidity and mortality in many parts of the world, such as countries bordering the Mediterranean Sea, the Middle East, South America, South Africa and Oceania [3]. In the literature, there are only a few reports of gallbladder involvement in hydatid disease. This article emphasises that echinococcal cysts should be included in the differential diagnosis of cystic masses of the gallbladder, especially in endemic regions such as Morocco.

PATIENT AND OBSERVATION

Case report 1

A 38-year-old Moroccan man, resident in a sheep farming area, with no known previous medical history, was admitted to the emergency room with an infectious syndrome. The onset of symptoms was 6 days old with fever, abdominal pain with nausea and vomiting. On examination, he was conscious, oriented and febrile (38°C). Abdominal examination revealed tenderness in the right hypochondrium, with a positive Murphy's sign and palpable hepatomegaly with its inferior border extending over the right costal margin. The rest of his examination was unremarkable. Laboratory results on admission showed a white blood cell count of 12,800 mm3 (62% neutrophils, 14% eosinophils); an erythrocyte sedimentation rate of 23 mm in the first hour. Alanine aminotransferase (ALT), aspartate aminotransferase (AST) and total bilirubin were normal. The diagnosis, confirmed by ultrasound, was a hydatid cyst of the gallbladder (Figure 1).
Chest X-ray showed no evidence of localisation in the lung.

In accordance with the presumptive diagnosis of an infected hydatid cyst of the gallbladder, antibiotics were administered; the patient became apyretic after 36 hours. The pain subsided and the liver sensitivity gradually decreased. After about a week of improvement, fever and abdominal pain returned. A laparotomy performed the following week showed thickening of the gallbladder wall, with a calcified hydatid cyst (size, 5 cm × 3 cm) located in the body of the gallbladder (Figure 2). A complete pericystectomy and cholecystectomy was performed, and the abdomen was then carefully packed with hypertonic saline pads to prevent echinococcal fluid leakage. No other cysts were found during careful exploration of the liver. Histopathology of the surgical specimen confirmed the diagnosis of hydatid gallbladder cyst. The patient's immediate postoperative recovery was uneventful, and she was discharged from hospital on postoperative day eight. The patient received six 21-day courses of Albendazole 400 mg/day orally, with a 7-day break in

between. Two years of clinical and ultrasound follow-up showed no recurrence.

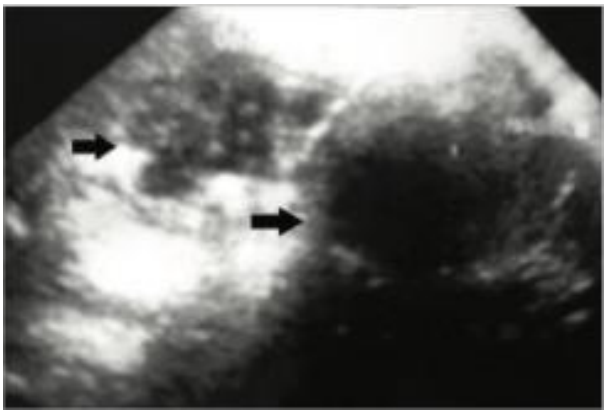

Figure 1: partially calcified hydatid cyst with gallbladder deformation on ultrasound

Figure 2: Surgical view: Calcified hydatid cyst (dimensions, 5 cm × 3 cm) located in the body of the gallbladder

Case report 2

A 35 year old Moroccan woman, resident in a sheep farming area, with no previous medical history, was seen in a surgical consultation. The patient presented with abdominal pain and vomiting episodes that had been developing paroxysm for 2 months without any other associated signs. Abdominal examination noted tenderness in the right hypochondrium and hepatomegaly with a FH=14cm. The biological workup showed white blood cells at 7600 mm3, the liver workup was normal. The diagnosis of hydatid cyst of the gallbladder was confirmed on ultrasound. Chest X-ray was normal. A laparoscopy was performed and showed a thin-walled gallbladder with a calcified hydatid cyst (4 cm x 2 cm) in the body of the gallbladder [Figure 3]. A complete pericystectomy and cholecystectomy had been performed, no other cyst was found. Anatomopathological examination of the surgical specimen confirmed the diagnosis of hydatid cyst of the gallbladder. The postoperative course was simple and the patient was treated with Albendazole 400 mg/day orally for six 21-day courses with 7-day intervals. The clinical and radiological follow-up at two years noted no particularities.

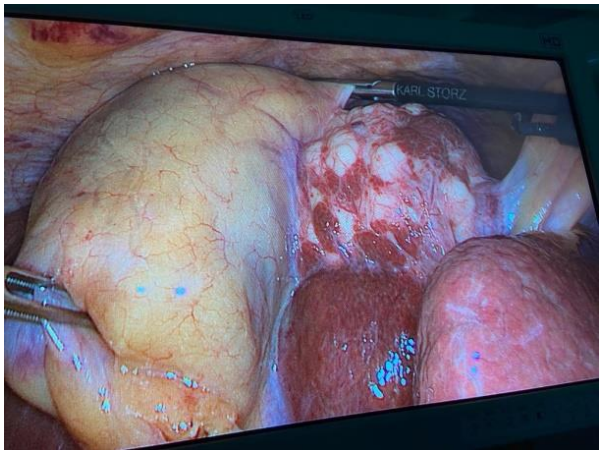

Figure 3: Laparoscopic view of a hydatid cyst of the gallbladder body

DISCUSSION

Hydatid disease is a parasitic disease caused by the larval stage of Echinococcus granulosus or Echinococcus multilocularis. The main pathogenic species for humans in Mediterranean and Southern European countries is Echinococcus granulosus [3]. The liver is the most frequently affected organ in both forms, followed by the lung [1,2]. With the exception of the liver and lung, all other organs of the human body are considered to be infrequent sites of hydatid disease. In 10% of cases of echinococcosis, the location of the cyst is characterised as rare and involves the spleen, pancreas, gallbladder, adrenal gland, pelvis, seminal vesicles, heart, bone, breast, kidney, thyroid gland and soft tissue.

The pathogenesis of primary hydatid gallbladder cysts (HGCs) depends on whether the cyst is located in the lumen of the gallbladder or on the external surface. [4,5] It is usually the result of either intrabiliary rupture of a hepatic hydatid cyst or direct rupture of the cyst into the gallbladder. [6] A primary hydatid cyst of the gallbladder is even rarer, with only a few cases reported in the literature. [7,8] Rigas et al. described this location as the result of lymphatic rather than biliary dissemination of the brood capsules in primary hydatid disease of the gallbladder; in contrast to Cangiotti et al, who found that dissemination was via the bile ducts.

The diagnosis of hydatid disease with an uncommon primary location can be a diagnostic problem even in areas where the disease is endemic [9]. Most patients with echinococcosis are asymptomatic, especially in the long early stages. Symptoms occur because the size of the cyst, usually larger than 5 cm in diameter, causes pressure-related problems or because the rupture of the cyst produces an infection in the affected organ or an allergic reaction. In some cases, the

allergic reaction can lead to anaphylactic shock. In addition to a history of close contact with dogs, the presence of pain, mid-abdominal discomfort and dyspepsia, or a swollen mass on physical examination, the diagnosis of hydatid cyst is based on serological tests and imaging techniques. Ultrasound and CT scans are very useful in the diagnosis of hydatid cysts; they can detect hydatid disease as purely cystic lesions, or when floating membranes, daughter cysts or vesicles are recognised. 10] The sonographic features of hydatid cysts of the gallbladder are similar to those of hydatid cysts of the liver [KHF]. 11]

The classification proposed by Gharbi[12] can be adopted for other locations. Type I appears cystic and unilocular. Type II is a fluid filled with a floating membrane (the water lily sign). Type III has a typical honeycomb appearance. Type IV is a heterogeneous mass, and type V is a calcified lesion. However, although types II and III are specific for KHF, there is no pathognomonic image for types IV and V. In our first case, the initial ultrasound described the lesion as acute cholecystitis with partially calcified infected hydatid cyst of the liver with involvement and deformation of the gallbladder. Hydatid cysts of the gallbladder should be differentiated from gallbladder carcinoma in types IV and V and from other extrahepatic cystic lesions.

Surgical intervention is the optimal treatment for hydatid cysts of the gallbladder; in this case, a total pericystectomy with cholecystectomy was performed [13]. Some authors recommend the use of a scolicidal agent in the surgical field to avoid dissemination in case of rupture [14]. Mebendazole or albendazole should be used as an adjunct to surgery when resection is incomplete, or as a treatment when surgery cannot be performed.

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