HYDATID CYST OF GALL BLADDER: A CASE REPORT

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ABSTRACT

Hydatid disease of gall bladder is a rarity. We report a case of 61 years old female presenting with right hypochondrial pain and hepatomegaly. The diagnosis of hydatid disease of gall bladder depends on high clinical suspicion combined with sonological and CT findings. Ultrasound revealed large exophytic lesion arising from gall bladder, CT showed heterogeneous lesion in gall bladder with CT density of 30 HU and a lesion in liver with split membrane. She underwent surgical treatment and histopathology turned out to be hydatid disease. In view of this case report, we present various imaging features of hydatid cyst of gall bladder.

Keywords: Hydatid cyst, gall bladder, Echinococcus.

Introduction

Hydatid disease is a parasitic tape worm infection caused by larval cyst of Echinococcus granulosus.[1,2] The disease has worldwide distribution[4] and continues to be a substantial cause of morbidity and mortality in many parts of the world.[5,9] Hydatidosis is endemic in regions where there is close contact between man and the definitive host (dog) and intermediate host (sheep).[2,4]

Liver is the most frequently involved organ (70-80%) followed by lungs (15-20%),[5] however, the disease can occur in any part of the body. Extra hepatico-pulmonary hydatid cysts are very rare. Other atypical sites are peritoneum (1.6%), spleen (1.6%), ovary (0.4%), subcutaneous (0.8%), seminal vesicle (0.4%), spinal (0.4%), pancreas (0.4%), kidney (0.4%), mediastinal (0.4%), muscle (0.4%), and brain (0.8%).[1,6] Here in, we present a case report of hydatid cyst of gall bladder highlighting the diagnostic features and imaging findings on ultrasound and CT scan.

Case Report

61 years old woman, resident of Khyber Pakhtoon Khwa, previously in good health was admitted to Shifa International Hospital, Islamabad with nausea and pain in right hypochondrium which started 4 months earlier. The pain was dull, aching,non-radiating and increased in intensity in past 20 days. She had been treated with antispasmodics and H_2 receptor blockers by her primary physician. She had no jaundice, fever, rigors and chills. Her general physical examination revealed only mild pallor. Abdominal examination showed right upper quadrant tenderness, positive Murphy sign and palpable enlarged liver with three finger breadths below the right costal margin. Rest of examination was unremarkable. Her complete blood count showed eosinophilia. ESR, LFT and RFT were normal. ELISA was positive. Chest radiograph showed no sign of consolidation in the lungs. Ultrasound showed cholelithiasis and large ovoid mildly heterogeneous, predominantly hypoechoic partly exophytic lesion

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arising from fundus of gall bladder. A cystic lesion in segment VII of liver was also demonstrated. CT scan showed large 9 x 4.5 cm ill defined, hypodense lesion in the lumen of gall bladder with CT density of 30 HU, abutting the transverse colon (Fig. 1A and 1B). Another hypodense cystic lesion containing split membrane in segment VII of liver was redemonstrated. (Fig. 2)

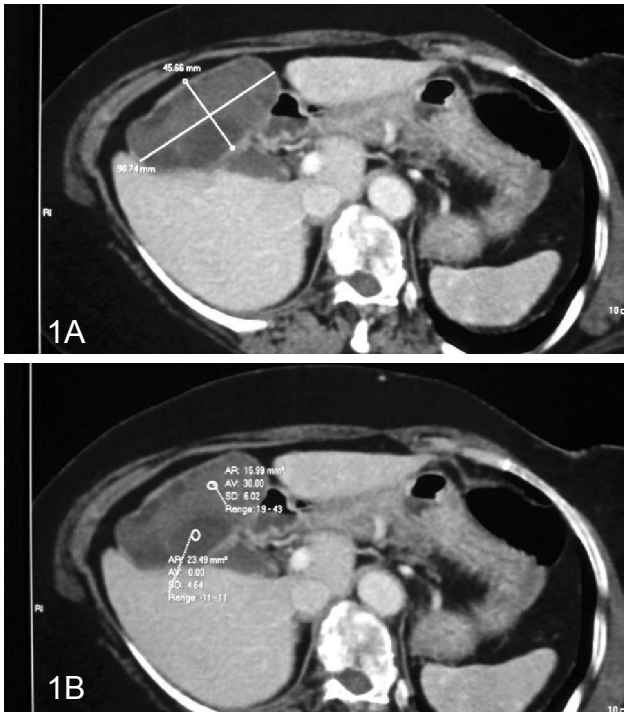

Figure 1A and 1B: Large heterogenous lesion in gall bladder measuring 90.74mm x 45.66mm, with CT density of 23-30 Hounsfield Unit.

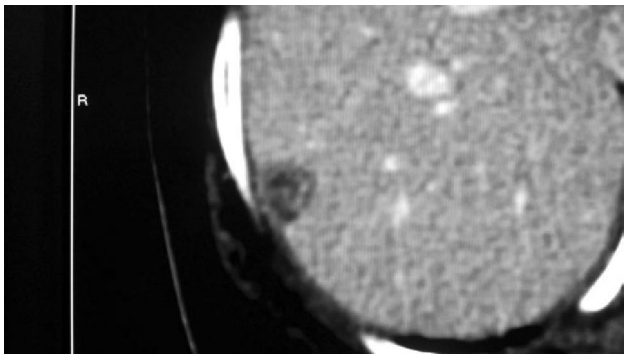

Figure 2: Lesion in segment VII of liver with split membrane inside it.

The diagnosis supported by sonological and CT findings was of calcified hydatid cyst of liver with involvement of gall bladder. She underwent right subcostal laparotomy. Cholecystectomy with partial hepatectomy was performed. Gall bladder revealed a calcified hydatid cyst located in its fundus which was confirmed on histopathology examination. Our patient received oral Albendazole pre and postoperatively. She recovered uneventfully and was discharged in satisfactory condition. On follow up, there was no recurrence of hydatid disease.

Discussion

Involvement of gall bladder by hydatid disease is extremely rare manifestation[4,5] and is usually due to either intrahepatic biliary rupture of a hepatic hydatid cyst or a direct cyst rupture into gall blaldder.[1]

Hydatid cyst structure: It has 3 layers. Outer pericyst is a dense fibrous protective layer. Middle laminated membrane is for flow of nutrients. Inner germinal layer where larvae and laminated membranes are formed. Collectively, middle and inner layers are known as endocyst.[3]

Diagnosis of hydatid disease depends on clinical suspicion[4] and combination of serological tests with imaging findings.[1]

Symptoms are manifested when cysts are larger than 5 cm in diameter. Abdominal pain, dyspepsia, hepatomegaly and palpable abdominal lump are common presentations.[4,5] Jaundice and biliary colic can occur due to rupture of hydatid cyst into biliary channels.[4] Urticaria and anaphylaxis can be sequelae in case of intraperitoneal rupture.[1,4] In our case, patient presented only with dull aching pain in right upper quadrant. Abdominal examination revealed hepatomegaly and positive Murphy's sign.

Complete blood profile can only reveal eosinophilia.[4] Serological tests which are highly sensitive for hydatid disease are indirect haemagglutination test (IHA) and latex agglutination test (LA). Highly specific tests are double diffusion test (DD), immunoelectrophoresis (IEP), ELISA and radioallergosorbant test (RAST).[4] In our patient, ELISA was positive.

Imaging findings depend on the stage of hydatid cyst growth and recognition of floating membrane, daughter cysts or vesicles, degree of calcification.[1,3]

Radiographs can demonstrate calcification of pericysts in a curvilinear or ring like manner in 20-30% cases.[3,8] However in our case, chest radiograph showed no abnormality. Ultrasound features of gall bladder hydatid disease are same as hepatic disease.[1,7]

It can appear as a simple unilocular cyst[1] or can demonstrate internal structures like hydatid sand, membranes and septae. Hydatid sand appears like echogenic foci falling to the most dependant part of cyst.[6] Endocyst can split from pericyst and may appear as floating membrane inside the cavity[1,6] and when completely separated is called as water lily sign.[8] Another presentation can be honey comb appearance of multivesicular cyst with multiple septa.[6] Heterogenous solid mass can be visualized when daughter cysts are filled by hydatid matrix. Calcification can occur in the cyst wall or inside matrix.[6,8] In our case, ultrasound imaging showed cholelithiasis and large ovoid mildly heterogenous, predominantly hypoechoic lesion arising from fundus of gall bladder with exophytic extension. A cystic lesion in segment VII of liver was also demonstrated.

CT scan findings are similar to those of ultrasound. Hydatid cyst has fluid attenuation value of 3-30 HU.[6,8] Cyst walls can show enhancement; wall or internal calcifications are more readily recognizable at CT.[8] Ultrasound and CT Scan have high sensitivity and specificity, can display the structural characteristics of hydatid cyst, its location, size, number, relation to adjacent structures and can differentiate it from other lesions.[1,6,8] In our case NECT showed large ill defined, hypodense lesion in the lumen of gall bladder with CT density of 30 HU, abutting the transverse colon. Another hypodense cystic lesion containing split membrane in segment VII of liver was also noted.

Management of hydatid disease is usually by combination of medical therapy and surgery.[2] Surgery is the mainstay of treatment[2,8] which removes the disease bulk and obliterates cyst cavities. Pericystectomy is the most commonly done surgery.[2] Albendazole can be used as an adjunct to sterilize the cyst contents and avoid spillage associated anaphylaxis. In hydatid disease of gall bladder, treatment of choice is cholecystectomy.[4] In our case, open cholecystectomy with partial hepatectomy was done with preoperative administration of albendazole for 6 weeks. The surgical specimen of calcified gall bladder on histopathological examination confirmed hydatid disease of gall bladder.

To conclude, hydatid disease of gall bladder is an extremely rare manifestation and is best shown on ultrasound and CT. Cystic lesions of gall bladder should be investigated meticulously and differentials should include, though uncommon, hydatid disease of gall bladder.

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