HYDATID CYST OF LIVER DIAGNOSED ON LIVER BIOPSY

Nisar Ahmad Shah, Showkat Ahmad Kadla,Zahid Zubair, Bilal Ahmad Khan, Shah AI and Shabir Ahmad

Post graduate Department of Medicine and Department of Gastroenterology, Government Medical College, Srinagar, Kashmir

Correspondence Address: Nisar A Shah. DM. Departmentt of Medicine and Gastroenterology, GMC, Srinagar, J&K. *E Mail:* nisarshah19@gmail.com

ABSTRACT

Hydatid disease of liver is caused by the larval cestode *echinococcus granulosus*. Liver is the first filter of Echinococcus Embryos and as a result the primary site for hydatid disease. Diagnosis of hydatid liver is usually simple and straight forward with the help of imaging, serological and immunological studies, however diagnosis may not be that easy in Gharbi type IV and V when serology is not helpful and radiology not characteristic of the disease. We report a young female with space occupying lesions (SOL) liver, were the diagnosis was made inadvertently on biopsy as we were unsure of the etiology of this liver lesion.

Keywords: Hydatid Cyst, Biopsy, radiological features, SOL liver.

INTRODUCTION

Hydatid cyst disease is a parasitic zoonosis caused by the Echinococcus granulosus or Echinococcus alveolaris, which is harbored in canine intestines. Echinococcus infects human beings in cases of accidental ingestion of tapeworm eggs via terminal host feces. Most common locations of echinococcus infection are liver and lungs (60% and 30%, respectively)[1,2]; nevertheless hydatid cysts might rarely affect kidney, bones, Brain, pericardium, etc. In 80% of patients it involves a single organ while as in 20% multiple organs are involved[3]. Cysts have a predilection to right lobe of liver and right lung especially lower lobe[4]. Uncomplicated liver cysts are asymptomatic for a long time. Most common symptom of liver echinococcosis is right upper quadrant pain. Other symptoms include right upper quadrant swelling and discomfort, right scapula pain, jaundice, symptoms of cholangitis, or acute abdomen in cases of intrahepatic or extrahepatic cyst rupture. Diagnosing Hydatid cyst liver is usually simple, however difficulties arise when cyst is encountered in later stage when it mimics other space occupying lesions (SOL).

The issue becomes more complicated when the cyst is dead and we get a negative result of ELISA which is otherwise a sensitive but little less specific investigation[5]. This article reports a case of hydatid in a young female who was referred for evaluation or liver mass.

CASE REPORT

A twenty four year old woman was referred for evaluation of liver mass. Historically she had right upper quadrant discomfort from last six months which would aggravate on lying on right lateral position. Clinical examination was unremarkable except for palpable liver with blunt margins. For this she was

subjected to Ultrasonography which revealed a hyperechoic lession of 10 × 7.5 Cms in interlobular fissure suggestive of ? hemangioma, however further evaluation was suggested. A detailed Hemograme, KFT, ELISA for hydatid, alfa-fetoprotein and x-ray chest were all normal. LFT showed isolated elevation of ALP. A CT abdomen[Fig 1] done showed a large hypodense mass lession7.6 × 11.6 centimeters involving segment IVA, IVB, V and VIII with central calcifications, compressing the right main hepatic duct at porta with the resultant dilatation of right intra-hepatic ducts with differential diagnosis of ? Fibrolamellar HCC, Atypical Hemangioma or FNH.

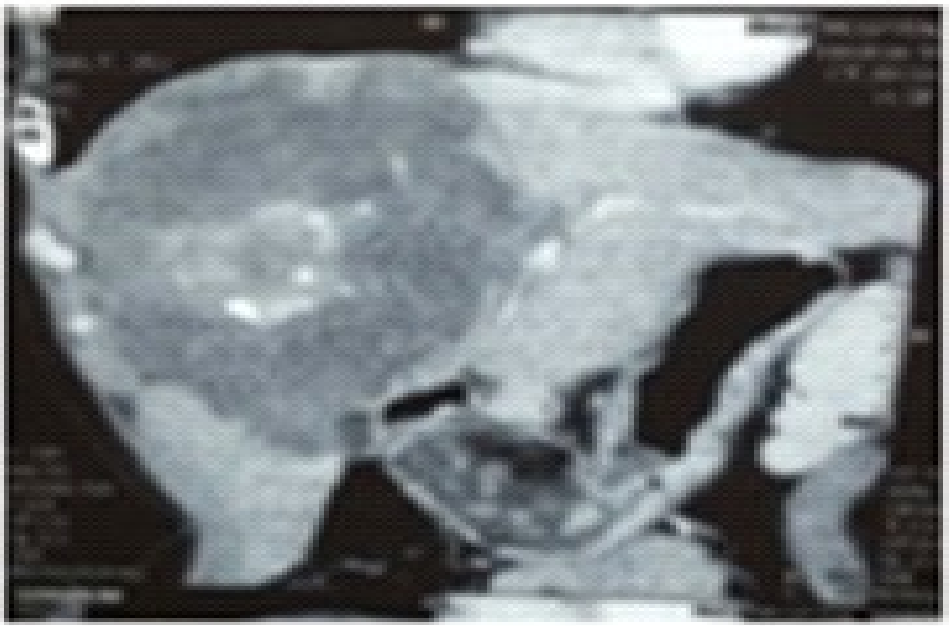

Fig 1 : CT scan showing Hypodense lesion with central calcifications

An MRI was advised [Fig 2} which showed a large mass 11×7 cm in segment IV,V, VIII of liver, diffusely hypointense on T1W sequence with faint irregular central hyperintensity suggestive of calcification. Haste 2 D sequence (T2W)showed multiple hyperintense cystic foci irregularly distributed throughout the lesion. The lesion is compressing the right lobe ducts causing the dilatation of right ductal system, features suggestive of ? Hydatid cyst.

However the radiologists were not sure about diagnosis and suggested biopsy of lesion for confirmation of diagnosis. In view of uncertainty about the diagnosis and negative Hydatid serology, patient consented to undergo biopsy of lesion. An Ultrasound Guided Biopsy of the lesion was done [Fig. 3] which revealed strips of laminated membranes surrounded by hepatic parenchyma with no discernible morphology. Foci of calcifications also present; features suggestive of Hydatid Cyst. Adequate precautions were taken during and after the liver biopsy; for this patient was admitted and observed

Fig 2: MRI showing Multiple hyperintense cystic foci irregularly distributed throughout the lesion with central hypointensity

Fig 3: Liver Biopsy: Showing Laminating membranes within liver parenchyma

for twenty four hours after biopsy though the chances of complication are least in calcified hydatid which by definition is a dead hydatid. Patient was put on Albandazole 10mg/Kg/Day and Praziquintal 30mg/week for six months (3 weeks plus one week gap). The lesion size regressed by 2cms over this period however the patient continues to have dull ache in right hypochondrium, however the patient was satisfied knowing the nature of the lesion. A surgical opinion was also made who preferred conservative management keeping in view the inactive nature of the Cyst and high rate of complication if a walled off calcified hydatid is operated.

DISCUSSION

Echinococcosis is an infection caused in humans by Larvae of Echinococcus Granulosus, E. multilocularis or E. vogeli. E granulosus produces Cystic disease in humans which usually involves liver and lungs, however it can involve any organ of the body. Hydatid disease a worldwide phenomenon is usually easy to diagnose when patient reports with Type I to III (Gharbi)[6] cyst. Diagnosis becomes difficult in advanced stages and even impossible when patient presents with a liver mass not so characteristic of Hydatid cyst. Usually X-ray chest, Ultrasound abdomen, CT and MRI are sufficient to diagnose a case of Hydatid disease. Standard diagnostic approach for Cystic Echinococcosis involves combination of imaging techniques and serological analysis[7]. The advantages of USG are its low cost, observing the Cyst wall, hydatid sand, daughter cysts and the relation of cyst to adjacent diaphragm. CT can detect any gas within the cyst, minute calcifications and gives a detailed anatomical mapping. Multiple studies suggest CT has higher sensitivity than USG in the diagnosis of Hydatid Cyst [8,9]. Conventionally a liver biopsy is contraindicated in cyst Echinococcosis, however literature is unclear about the type/stage of Cyst in which it is absolutely contraindicated, because type IV/V cyst looks like a mass and there is no chance of spillage of hydatid sand and sometimes it becomes absolutely necessary to diagnose a hypodense mass when the radiological and serological investigations are not helpful.

Before resorting to tissue diagnosis one can rely on some specific diagnostic clues on imaging like hydatid sand on ultrasonography, presence of daughter cysts, ruptured membranes, or egg shell calcifications. Demonstrating the scolices and hooklets on aspirate is most specific for diagnosis. But all these things are possible in early (Gharbi type I-III) cysts.

Surgery traditionally has been the treatment of choice; however the method of treatment is decided by size, site and manifestation of the cyst. PAIR (percutaneous aspiration, injection of scolicidal agents and re-aspiration) can be done in specific patient population, however it is contraindicated in superficial cysts, cysts with multiple septae (honeycomb pattern) and in cysts with a suspected biliary communication.

Medical (pharmacological) treatment with Albendazole alone or with Praziquintal for 12 to 24 weeks is helpful in 30% of patients only. After completion of treatment, PAIR or Pharmacological, there may not be complete radiological resolution. Some cysts may transform into advanced stages like Gharbi IV or V which requires observation only.

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