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Isolated Infected Primary Hydatid Cyst of Spleen- A Case Study

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Abstract

Hydatid cyst of spleen is a rare condition compared to the hydatid cyst of other organs. It ranges from 0.5-4.0 % of abdominal hydatid cyst. The most common sites for hydatid cyst are the liver (60-70%) and lung (10-40%). The first filter of hydatid cyst is liver followed by lung which acts as a second filter. The other rare sites of hydatid cyst are spleen, thyroid, gall bladder, central nervous system, kidney, psoas muscle and retroperitoneum. Splenic hydatid cyst is uncommon, because cyst embryos are trapped by liver and lungs. In this case report, a 54 year old female admitted with complaint of left upper abdominal pain for 15 days duration with splenomegaly. With relevant investigations patient was diagnosed as isolated hydatid cyst of spleen and underwent open splenectomy. This case presented as a case of rarity.

Key words: Hydatid cyst, Echinococcus, Splenectomy, Eggshell calcification, Spleen.

1. Introduction

There are two types of Echinococcus infections, Echinococcus granulosus is the most common type, compared to Echinococcus multilocularies, which is less common, but more invasive. Hydatid disease is a parasitic disease caused by the larval form of Echinococcus granulosus. The disease is spread when food or water that contains the eggs of the parasite is eaten or by close contact with an infected animal. The eggs are released in the stool of meat eating animal that are infected. The definitive hosts are dogs, whereas human was an intermediate host [1].

Splenic hydatid cyst is very rare with its occurrence less than 3% of total hydatid cyst and it is classified as primary or secondary based on isolated occurrence or associated with other organs. Isolated splenic hydatid cyst occurs only when the parasite has passed two filters, namely hepatic and pulmonary system [2].

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2. Case report

54 years old female patient admitted with complaint of upper abdominal pain for 15 days duration, gradual onset, progressive, dull aching and non-radiating with no aggravating or reliving factors and no history of nausea, vomiting, jaundice, cough or respiratory distress. She was known diabetic on oral drugs. On examination of her general examination and vital were normal. Abdominal examination showed tenderness in left hypochondrium and splenomegaly. Respiratory, cardiovascular, central nervous system and musculoskeletal system found to be normal.

Routine laboratory investigations like, complete blood count, renal function test, liver function test and coagulation profile revealed no abnormalities. Plain radiograph of the abdomen showed soft tissue opacity with calcified margins is noted in left hypochondrium. Chest X-ray found to be normal. Ultrasound abdomen showed 6.3 X 5.9 cm round well defined peripherally calcified lesion noted in left hypochondrium [Figure 1]. Contrast Computed Tomography (CT) of abdomen showed large 6.3 X 6.4 cm well defined lesion with peripheral rim of calcification is seen in upper pole of spleen [Figure 2]. Liver and lung showed no evidence of cyst. Patient was diagnosed as isolated hydatid cyst of spleen and underwent open splenectomy after adequate preparation. Surgical exploration revealed a hydatid cyst occupying upper pole of spleen with rim of splenic tissue was noted in inferior surface [Figure 3 & 4]. The rest of abdominal organ found to be normal. Histopathological examination showed 7.2 X 6.4 cm cavity lesion with thick calcified wall with many scolices with a double layer of hooklets confirmed the diagnosis of splenic hydatid cyst. Post operative period was uneventful and patient was discharged with course of albendazole.

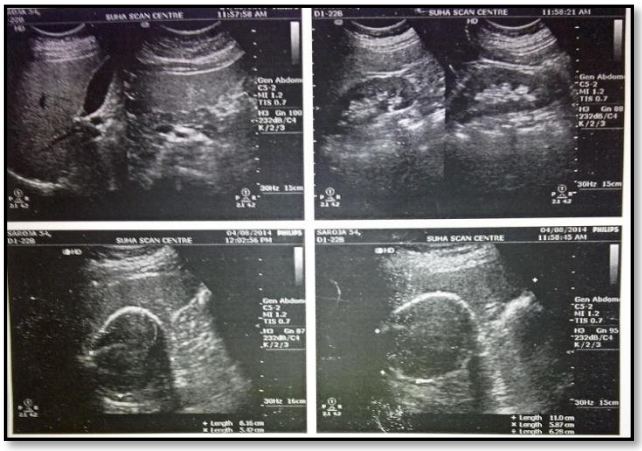

Figure 1. Ultrasound abdomen showed 6.3 X 5.9 cm round well defined peripherally calcified lesion noted in left hypochondrium.

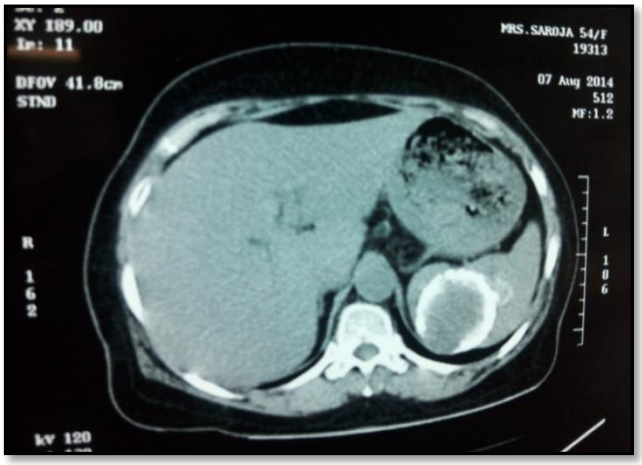

Figure 2. Computed tomography of abdomen showed large mass of 6.3x6.4cm with peripheral rim of calcification in the spleen.

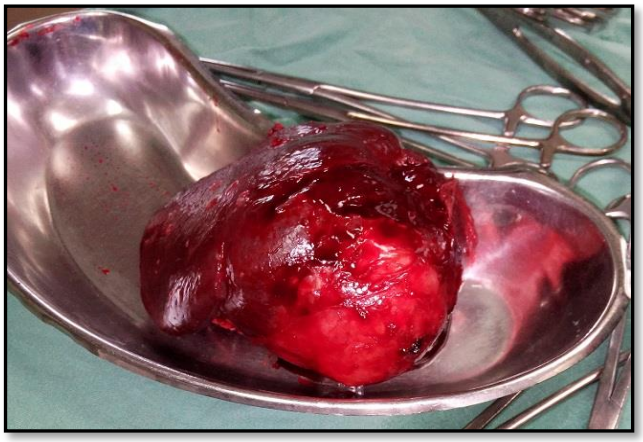

Figure 3. Post operative picture showed hydatid cyst involving upper pole of spleen.

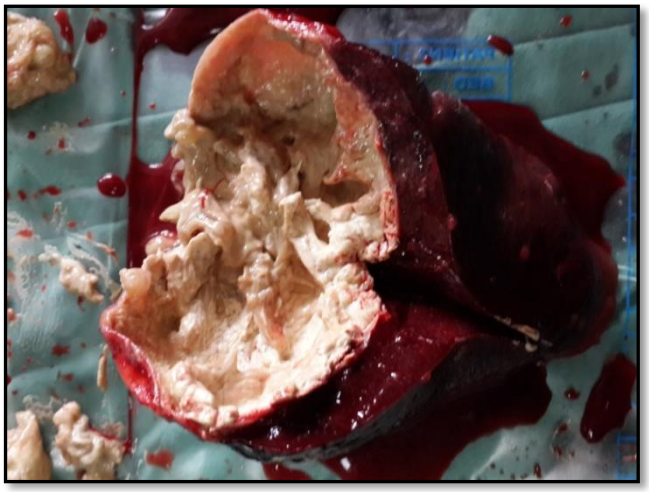

Figure 4. Cut section of spleen showing hydatid cyst with daughter cyst.

3. Discussion

Splenic hydatid cyst constitutes 0.5 to 4.0% of abdominal hydatid disease [3]. The most common affected organ of hydatid cyst was the liver and the lung, followed by other organs. Development of splenic hydatid cyst is uncommon due to life cycle of tapeworm, Echinococcus granulosus [4]. Primary infestation of the spleen usually takes place when parasite bypass hepatic and pulmonary filter. Retrograde spread of splenic Echinococcosis from the liver to the spleen via the portal vein and splenic veins is also documented in portal hypertension.

Primary infestation of spleen happens through the arterial route and secondary hydatid cyst of splenic usually follows systemic disseminated or intraperitoneal spread following ruptured hepatic hydatid cyst [5]. Most of the time splenic hydatid cyst is asymptomatic [6]. Splenic hydatid cysts associated with abdominal discomfort, abdominal pain and palpable mass in left hypochondrium [7]. It can present with multiple complications like infection, compression to adjacent organ, intra abdominal rupture, gastrointestinal bleeding and severe anaphylactic shock [8].

Mostly diagnosed based on imaging technique. Abdominal X-ray shows egg-shell calcifications in the splenic area, suggestive of hydatid cyst of spleen. Ultrasound abdomen shows calcifications of the cyst wall, presence of daughter cyst, cyst membrane or septations. CT is the best modality to detect calcification and splenic hydatid cyst [9].

Surgery is the main modality of treatment [10]. Most of the time preferred line of management was total splenectomy, sometimes partial splenectomy, cyst enucleation and unrooting with omentoplasty also accepted management [11]. Splenectomy can be done either open or laparoscopic method, large spleen open method was preferred, whereas small spleen laparoscopy in the treatment of choice [12].

4. Conclusion

Isolated hydatid cyst of spleen is a rare entity. Most of the time non specific abdominal pain or mass abdomen will be the primary complaint. CT is the most sensitive investigations for confirmation of diagnosis. Surgical resection is the best curative procedure. Mode of surgical technique either opens or laparoscopic technique tailored to the patient and how much was the splenic enlargement. Large spleen open technique was preferred compared to laparoscopic technique. Post surgical anti-helminthic treatment necessary for complete remission.

5. Consent of patients

Written informed consent was obtained from the patient for the publication of this case report and any accompanying images.

6. Conflict of Interest

The author(s) report(s) no conflict(s) of interest(s). The author along are responsible for content and writing of the paper.

7. Acknowledgment

NA

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