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# **Isolated Primary Splenic Hydatid Cyst: A Rare Site of Presentation**

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**Abstract:** Primary isolated splenic hydatid cysts are extremely rare. Spleen is third most common site of hydatid cyst after liver and lung but it is present usually along with liver and lung. Cystic lesions are rare in spleen. Diagnostic challenge persists in non endemic area. Splenic involvement of hydatid disease occurs after parasite has passed liver and lung filter by arterial route. The retrograde venous route may infect spleen but much less common. Hereby, we present a 35 year female with pain abdomen in right hypochondrium. En-bloc excision of cyst and splenectomy was done. Histopathology report confirmed hydatid cyst of spleen of *Echinococcus granulosus* origin.

Keywords: Isolated hydatid cyst, Spleen, Splenectomy

#### INTRODUCTION

Isolated primary hydatid cyst of spleen is extremely rare [1]. Hydatid disease is a zoonosis caused by Echinococcus species, a cestode class parasite. There are many species including *Echinococcus granulosus*, *E.multilocularis*, *E. vogeli and E. oligarthrus* [2]. Definitive host of Echinococcus life cycle is dog and intermediate host is sheep [3]. Humans are accidental intermediate hosts that are contacted by ingesting eggs of *Echinococcus* in contaminated foods [4]. Human are dead end of parasite life [5]. These eggs are hatched in duodenum and released as embryo. Embryo reaches liver by portal circulation and in lung [6, 7]. No human to human transmission can occur [4].

The incidence of the splenic hydatid cysts varies. It ranges 0.5–4% of all cases of echinococcosis [1, 8, 9]. We report a 35 year female who was operated for hydatid disease of spleen.

## **CASE REPORT**

A 35 year old female presented in surgical OPD of PBM hospital, Bikaner with chief complaint of dull aching pain in left upper quadrant for last 2 years and heaviness in upper abdomen for 1year. The pain was localized in left hypochondrium and associated with feeling of heaviness. There was no history of diabetes, hypertension, tuberculosis or any surgical history in past. On physical examination, she was of average built with stable vitals. Per abdomen examination revealed soft, slightly tender mass in left hypochondrium region. The mass was palpable up to 7

cm from left costal margin with smooth surface, lower margin well defined with upper margin not palpable due to ribcage. Dull note was noted on percussion over the swelling. Splenic notch could be felt and the mass was not ballotable. Hematological examination showed Hb-10.2gm/dl,TLC-8600/cumm with eosinophils significantly high 4% suggestive of parasitic infestation. USG abdomen showed massive splenomagaly with large cystic lesion 12x13 size. CECT abdomen showed enlarged spleen with well defined 11x14x14 cm cystic lesion at upper pole with early peripheral calcification suggestive of hydatid cyst (Fig. 1).

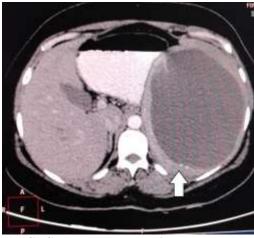


Fig. 1: CECT abdomen showing enlarged spleen with well defined 11x14x14 cm cystic lesion at upper pole with early peripheral calcification

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After complete pre-anaesthetic examination, the patient was taken for elective laparotomy. Midline skin incision was given and peritoneum opened. Intra abdominal packing was done so thats if cyst reptures then spillage of contents could be avoided to prevent anaphylaxis. After all ligaments were cut and hilum was tied, en-bloc excision of spleen with hydatid cyst was done (Fig. 2). Cut section of cyst showed multiple daughter cyst with fluid. Specimen was sent for histopathological examination and confirmed to be hydatid cyst of spleen caused by *Echinococcus* species with scolex and hooks. Albedazole that was started pre operatively to reduce infectiveness of fluid was continued post operatively for 2 months.



Fig. 2: Intraoperative picture showing enlarged spleen with cystic lesion



Fig. 3: Intraoperative picture showing enbloc excision of enlarged spleen with cystic lesion

### DISCUSSION

Infection in human by *Echinococcus* is called hydatid disease or hydatidosis [4]. It is a zoonotic disease [2]. Primarily, it is disease of liver and lungs in

human but may be present in spleen, brain, bone, and muscles [10]. Primary hydatid cyst of spleen in isolated case is very rare [1].

Infection is possible at any age, including childhood [11] and remain asymtomatic [12]. Cyst grows at a rate 0.3-1 cm/year and takes 15-20 years to cause symptoms [13].

Pre operative diagnosis should be mandatory to prevent anaphylaxis as rupture of cyst can occur. USG abdomen can diagnose as cystic lesion pre operatively and conformed by CT scan [14]. Complication like rupture into peritoneum and infection can occur [13, 15]. Differential diagnosis of cystic lesion of spleen includes epidermoid cyst, , pseudocyst, abscess, hematomas and cystic neoplasms [16, 17]. If there is calcification along wall of cyst, it is highly suggestive of hydatid cyst [15, 18].

Hydatid cyst has 3 layers: (i) pericyst, the outermost adventitia of of fibrous tissue, formed by host tissue; (ii) ectocyst, the middle layer of laminated membrane; (iii) endocyst or germinal layer that produces scolices [19]. Scolices and broods are present in hydatid fluid in cyst called hydatid sand [20].

Laparotomy and en-bloc excision of spleen along with cyst is the standard treatment of choice [21]. Pre and postoperative administration of albendazole and praziquental reduce the risk of anaphylaxis [22]. Intra operative hyper tonic saline is given into cyst to kill daughter cyst [19].

### **CONCLUSION**

In the presented case of primary isolated splenic hydatid cysts en-bloc excision of cyst and splenectomy was done. Albedazole that was started pre operatively to reduce infectiveness of fluid was continued post operatively for 2 months.

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