



A RARE CASE OF ISOLATED HYDATID CYST IN SPLEEN

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ABSTRACT **INTRODUCTION:** Hydatid Cyst is a zoonotic infection caused by the larval form of parasite tapeworm *Ecchinococcus granulosus*. It is most commonly found in liver and rarely found in the spleen. It presents with vague symptoms and usually grows slowly. In this report we describe a rare advanced presentation of a splenic echinococcosis mimicking malignancy. **CASE REPORT:** A 16yr old female patient presenting with complaints of pain in left lumbar region since three months. Preliminary examination showed splenomegaly with tenderness. Abdominal CT scan showed evidence of well defined, round peripherally enhancing Hypodense lesion in spleen likely splenic abscess. After clinical and radiological evaluation splenectomy was done and resected spleen along with cyst was sent for histopathological examination. **Conclusion-** Splenic abscess, abdominal tuberculosis and abdominal malignancy were considered clinically in differential diagnosis. Histopathology helped to reach a final diagnosis of splenic echinococcosis which is a very rare presentation.

KEYWORDS : Hydatid cyst, spleen, liver, *ecchinococcus granulosus*

INTRODUCTION :

Hydatid Cyst is a zoonotic infection caused by the larval form of parasite tapeworm *Ecchinococcus granulosus*^[1]. It is a major health problem worldwide, mainly in sheep and cattle rearing areas^[2]. It is most commonly found in liver which acts as a first filter and the lungs which acts as a second filter and rarely found in the spleen^[2]. Splenic involvement is very uncommon because cyst embryos are trapped in the liver and lungs and rarely enter the systemic circulation. The eggs of the parasite enters the spleen through arterial route^[3]. It can also arise from retrograde spread via venous route^[2]. It presents with vague symptoms and usually grows slowly^[3]. Splenic hydatid cyst are usually secondary resulting from spontaneous spread of cysts or occurring after operations involving hydatidosis in other regions. The first case of splenic hydatid cyst was reported by Berlot in an autopsy^[2].

In this case report we describe a rare advanced presentation of a splenic echinococcosis mimicking malignancy.

CASE PRESENTATION:

A 16yr old female patient presenting with complaints of abdominal pain since three months. Patient had no history of fever or burning micturition. Physical examination showed splenomegaly with tenderness. Abdominal pain was dull, mild in severity.

On general physical examination the patient was pale and the built was appropriate for her age. Her vitals were stable. On superficial palpation, pain was present in the left lumbar region and on deep palpation spleen was palpable below the costal margin.

Routine laboratory test were within normal limits. Abdominal CT scan showed evidence of well defined, round peripherally enhancing Hypodense lesion in spleen likely splenic abscess. After clinical and radiological evaluation splenectomy was done and resected spleen along with cyst was sent for histopathological examination.

The resected spleen was received in the histopathology lab and representative sections were taken.

Gross Examination –



Figure 1: Globular swelling measuring 10 cm in diameter on the concave surface of the spleen.

Received splenectomy specimen with a well defined globular swelling on the inner surface overlying hilum. Spleen measured 10x9x2cm. Swelling was 10 cm in diameter. On cutting the swelling was unilocular and yielded clear serous fluid. A white glistening sac like lining noted which got separated from the cyst wall.



Figure 2: White sac lining and clear fluid separated out from the swelling after cutting the swelling.

Microscopic Examination –

H/E stained section shows laminated acellular membrane with a thin germinal epithelial lining. Protoscolices, attached to the membrane and budding from it were noted. Cyst wall shows mixed inflammatory infiltrate with large number of eosinophils. The adjacent spleen showed normal architecture.

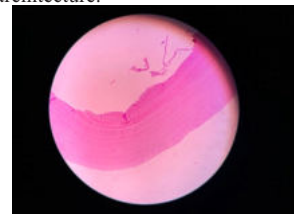


Figure 3: Laminated Acellular Membrane.

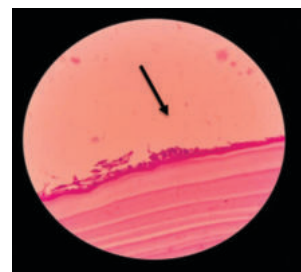


Figure 4: Budding Protoscolices attached to the membrane.

DISCUSSION:

Adult *ecchinococcus granulosus* worms live in the intestines of the definitive host which is the dog^[3]. The eggs can be swallowed by sheep

or cattle. Human can get infected by being in contact with either the dog or by ingestion of food and fluids that is infected by the eggs^[3].

Involvement of the other sites is uncommon but hydatid cyst can occur anywhere in the body^[3]. It can also occur in bone, kidney, breast, ovary, pancreas, scrotum, inguinal canal, chest wall, brain and heart. Hydatid cyst in these locations is difficult to diagnose^[3].

Hydatid disease should be considered in the differential diagnosis of all cystic masses in all anatomic locations, especially when they occur in areas where the disease is endemic^[4].

Primary splenic involvement is rare, but secondary involvement is common after the systemic dissemination via vessels or hydatid cyst's local dissemination in the ruptured cyst. In the pediatric population, the most involved organ is the lung^[5].

The biological variants of *E. granulosus* have been designated as strains. Based on mitochondrial DNA (mtDNA) analysis, the *E. granulosus* complex has been split *E. granulosus* into genotypes G1, G2 and G3 whereas other species such as *E. equinus* (G4), *E. ortleppi* (G5). Most of human cases are related to G1 strain of *E. granulosus*.^[6]

Similarity in presentation and radiologic findings often makes preoperative diagnosis difficult. Serological tests like ELISA, indirect hemagglutination test, and immunoelectrophoresis added with imaging findings can also help in splenic hydatidosis diagnosis^[5].

Radiologically they are similar to the liver hydatid cyst and ranges from cystic to solid. The cyst can be unilocular or multilocular. Cyst wall can also have calcifications.^[6]

Albendazole therapy preoperatively reduces the risk of intraoperative puncture. Puncture, aspiration, injection of scolicedal re aspiration (PAIR) which is utilised in the treatment of hepatic lesions is not used for splenic disease.^[8]

The histopathological findings of splenic hydatid cyst are similar to those of hydatid cyst of liver or lungs. It consists of three layers. The outermost is pericyst made up of fibrous tissue, middle layer is ectocyst which is laminated, hyaline and is a acellular membrane and the innermost layer is endocyst which is the germinating layer consisting of daughter cysts and brood capsules with scolices and which secrete the hydatid fluid internally and the laminated membrane externally producing new generations of parasites^[7].

The differential diagnosis of hydatid cyst includes epidermoid cyst, pseudocyst, splenic abscesses, hematoma and cystic neoplasm^[7]. Splenic abscess, abdominal tuberculosis and abdominal malignancy were considered clinically in our case^[2]. Histopathology helped to reach a final diagnosis of splenic echinococcosis which is a very rare presentation.

CONCLUSION:

In our case we report a young 16yr old patient residing in Hapur presented with complaints of pain in left lumbar region since 3 months. This case report is to emphasize the need of considering hydatid cyst as a differential diagnosis of abdominal pain with splenomegaly in endemic as well as non-endemic areas so that the complications such as anaphylactic shock and sepsis could be avoided which can occur because of rupture of the cyst.

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