ANTERIOR ABDOMINAL WALL HYDATID CYST: A RARE CASE REPORT

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ABSTRACT:
Hydatid disease is a parasitic infestation caused by Echinococcus granulosus. The most commonly encountered form of the disease is visceral hydatid cyst. Muscular involvement has been reported in only 3-4% cases. We report a case of 73 year-old male patient, who presented with swelling over the anterior abdominal wall at right iliac fossa region which on FNAC was reported as a Hydatid cyst. On histopathological examination the diagnosis of hydatid cyst in anterior abdominal wall was confirmed.

KEYWORDS: Hydatid cyst, Anterior abdominal wall

1. INTRODUCTION:

Hydatid disease is a parasitic infestation by a tapeworm of the genus Echinococcus or dog tapeworm. Human echinococcus is a zoonotic infection. Dog is the primary host in echinococcal infestation while the intermediate hosts are sheep, cattle, horse & occasionally man. For this reason, hydatid disease has its highest incidence in sheep and cattle rearing regions, such as the Mediterranean countries, the Middle East, the Southern part of South America, Iceland, Australia, Newzealand, and Southern parts of Africa.1,2 Primary hydatidosis of skeletal muscle is therefore rare, with reported prevalence of 0.5 – 4.7 %3,4. In hydatid disease, muscles, apart from myocardium, are involved as a result of spread from hepatic or pulmonary foci. It has been hypothesized that the presence of lactic acid in the muscle does not allow the larvae to grow into cysts5. Nevertheless, some cases of primary muscular hydatidosis at various sites had been reported i.e thoracic wall6, sartorius7, biceps brachii8, supraspinatus8, gluteus9, and soleus muscles10, but involvement of abdominal parietal wall had not been reported till now.

2. CASE REPORT:

A 73-year-old man presented with anterior abdominal wall swelling at right iliac fossa region since 3 years duration. The patient underwent Ultrasonography of abdomen, Contrast enhancing computerized tomography of abdomen, Chest radiograph and Peripheral blood examination. The peripheral blood smear showed Total Leucocyte Count of 15,800/mm³ with Eosinophils constituting 4%. Ultrasonographic examination of the abdomen revealed a well-defined hypoechoic mass measuring 5.8 x 3.5 cms with multiple cysts within the anterior abdominal wall at right iliac fossa region. Contrast Enhanced Computerized Tomography abdomen revealed a well-defined hypodense mass with enhancing peripheral wall and septations in anterior abdominal wall noted in right iliac fossa (Figure I). A chest radiography result was normal. Fine Needle Aspiration Cytology of anterior abdominal wall swelling was...
performed under aseptic conditions using a 18-gauge spinal needle. The aspirate revealed a very thick, whitish material. The material was smeared on the slides and stained with routine Hematoxylin & Eosin and Papanicolaou stain.

The aspirate revealed the laminated hyaline membranes of a cyst (Figure II) with scolices & hooklets (Figure III). The hooklets were bifid & refractile in nature. The hooklets were characteristic of Echinococcus. Later patient underwent surgery and specimen sent to pathology department. We received single grey white cystic mass measuring 5.5 x 5 x 3cms. Cut section of cystic mass shows unilocular cystic area filled with tiny pearly white multiple cysts each one measuring 1 x 1cms (Figure IV). Histopathological Examination of biopsy specimen revealed hydatid cyst with laminated membrane surrounded by mixed inflammatory cells (Figure V).

3. DISCUSSION:

Hydatid disease is a worldwide zoonosis caused by larval stage of Echinococcus granulosus (rarely E multilocularis). Human disease is acquired by ingestion of parasitic eggs (larval form) either directly by definitive hosts, such as dogs, foxes and intermediate hosts such as sheep and cattle, or indirectly by contaminated water or vegetables. Most of the larval forms are destroyed by the liver, which acts as a primary filter, followed by the lung. Most commonly it involves liver, but other organs are also involved. According to earlier study conducted in Australia, organs involved are liver (63%), lungs (25%), muscle (5%), bone (3%), kidney (2%), spleen (1%) and brain (<1%). However, a review of the English medical literature also revealed cases involving the muscles of the chest wall, sartorius and biceps brachii, supraspinatus, and gluteus, although it has been suggested that muscle provides a poor environment for the parasite because of the presence of lactic acid. Hydatid disease usually remains asymptomatic for many years. The development of hydatid cysts in humans is very slow, at a rate of ~4 cm per year in diameter. Radiography is useful in identifying calcification and transdiaphragmatic migration (computed tomography) and neural involvement (magnetic resonance imaging) of hydatid disease. The USG appearance of hydatid cysts may vary. Simple cysts do not demonstrate internal structures, although multiple echogenic foci due to hydatid sand may be seen within the lesion by repositioning the patient. On Ultrasonography hydatid cysts mimic a solid mass, producing a mixed echogenic pattern when it is filled completely by matrix.

FNAC has proved to be more sensitive and rapid. The hooklets present in necrotic lesions of echinococcus have refractile blades, handles and guards, and Ziehl-Neelsen stain is particularly useful in identification of the elusive hooklets in necrotic lesions. Hira et al recommended Whealty’s modifications of Gomori’s trichrome stain to identify hooklets. When the laminated membrane fragments are diagnostic, the differential diagnosis is fibrinoid material and mucin (periodic acid-Schiff stain positive) that show pseudolamellar formations.
Fig 1: A well defined hypodense mass with enhancing peripheral wall and septations in anterior abdominal wall noted in right iliac fossa [Contrast enhanced computerized tomography of abdomen]

Fig 2: Laminated hyaline membranes of cyst [H&E, X400]

Fig 3: Scolices and hooklets of hydatid cyst [Pap stain, X400] multiple tiny pearly white cysts.

Fig 4: Cut section of unilocular cystic mass filled with

Fig 5: Laminated hyaline membrane of hydatid cyst surrounded by mixed inflammatory cells [H&E, X100]
Vercelli Retta et al reported that silver methenamine and Best’s carmine stain were of special value in identifying laminated layer fragments. Oztek et al concluded that cytochemical stain and darkfield microscopy are useful in increasing the sensitivity of cytologic detection of hydatid elements (hooklets and laminated membrane fragments). Hydatid cysts can lead to local complications (cyst rupture and infection, transdiaphragmatic migration, peritoneal seeding, portal vein involvement and abdominal wall invasion) and systemic complications through hematogenous dissemination to lungs, kidneys, brain, bone and spleen. Anaphylactic symptoms can occur as a result of release of highly toxic hydatid fluid. Thus early and rapid diagnosis is mandatory to prevent such complications. FNAC of echinococcal cyst in about 1% of cases may cause spillage and anaphylactic shock; use of a small needle is recommended for preventing this. Surgery remains the mainstay of treatment for hydatid disease and is indicated in all patients with symptomatic disease. The recurrence rate after extrahepatic hydatid disease is very high because it is impossible to identify small residual seedings.

4. CONCLUSION:

The diagnosis of hydatidosis should be considered in asymptomatic swelling in musculoskeletal system without history of trauma and irradiation when patients belong to endemic area to avoid FNAB and the consequences of spillage of cyst content.

5. REFERENCES: