



Hydatid Cyst in the Thigh: An Uncommon Presentation of Cystic Echinococcosis

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Abstract

Introduction: Hydatid cyst, a parasitic infection is primarily caused by cystic echinococcosis primarily infecting liver most commonly followed by lungs. However, it can also occur at some extra hepatic and extra pulmonary location such as thigh with a very low incidence rate. This case report aims to underscore the importance of considering hydatid cysts as a differential diagnosis for swelling in the thigh.

Case Presentation: A 19 year old male presented with a palpable mass in the medial aspect of his right thigh, accompanied by intermittent pain and swelling from last 1 year. The patient had no recent travel history to endemic regions but had a history of contact with livestock. Imaging studies, including ultrasound and MRI, revealed a large, well-defined cystic mass with characteristic features suggestive of a hydatid cyst. Serological tests confirmed the diagnosis of hydatid disease.

Discussion: Patients with hydatid cysts of thigh often present with localized swelling, pain, and reduced range of motion. Diagnostic imaging, including ultrasound (USG), computed tomography (CT), and magnetic resonance imaging (MRI), is essential to identify the cyst's location, its size, and potential complications.

Serological tests, such as (ELISA) enzyme-linked immunosorbent assays, also support the diagnosis. Treatment involves surgical removal of the cyst with complete excision to prevent recurrence and postoperative treatment typically involves anti-parasitic medication to eradicate any residual infection.

Conclusion: Hydatid cysts of thigh, while rare, should be considered in the differential diagnosis of soft tissue masses. Early recognition and appropriate surgical management are key to successful treatment and prevention of recurrence. Further research is needed to optimize diagnostic protocols and postoperative care for this unusual presentation of Echinococcosis.

Keywords: Echinococcus Granulosus, Zoonotic infection, Cystic echinococcosis, Hydatid cysts, Subcutaneous nodule, Antihelminthic, Fine needle aspiration cytology (FNAC).

Introduction

Hydatid cyst is a disease caused by Echinococcus Granulosus (cystic parasite) which belong to the taeniidae family. The disease is distributed globally but it is more common in tropics, it is much less common in other countries.

The dog is the definitive host and is the commonest source of infection transmitted to intermediate host's

humans, sheep and cattle. In the dog, the adult worm reaches the small intestine, lays eggs there and the eggs are passed in the faeces. These eggs can withstand extreme temperatures and might remain viable for extended period. In the dogs intestine the cyst wall is digested allowing the release protoscolices to develop into adult worms. Close contact with an infected dog causes contamination by the oral route, with the ovum thus gaining entry into human gastrointestinal tract.

Patient Information

Sumit a 19 year old male resident of Kota, farmer by occupation presented with a complain of swelling of size approx. 15×8 cm in the right thigh region from the last 1 year which is sudden in onset and gradually progressive in nature and it was also associated with a pain.

Clinical Finding

On examination, a swelling of size approx. 15× 8 cm was present in the medial aspect of right thigh region. Temperature overlying swelling was normal with presence of tenderness, there is no dilated vein, non-pulsatile, and no cough impulse was present.

Diagnostic Assessment

USG: - USG of the thigh is suggestive of large well defined cystic lesion of size 106 × 41 × 68 mm, approx. volume 158cc in intramuscular plane of right medial compartment of thigh. Most likely suggestive of chronic hematoma or hydatid cyst.

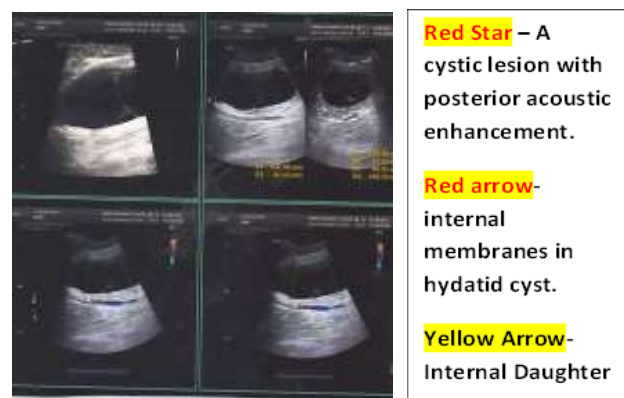


Figure 1: USG finding suggestive Hydatid cyst

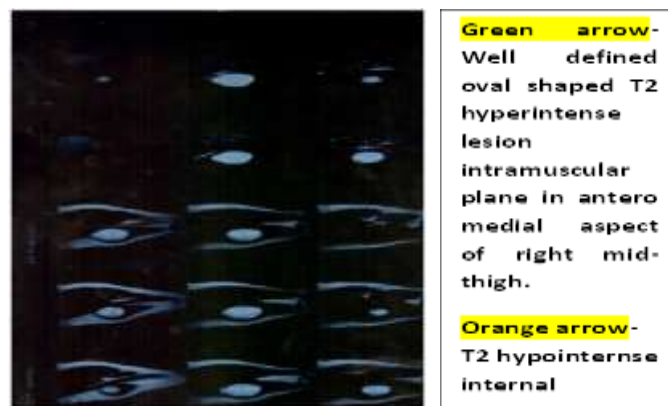


Figure 2: MRI shows well defined, T2/STIR hyperintense lesion with internal septation

CHEST XRAY – it is done to exclude out lung hydatid cyst

USG whole abdomen: - done to rule out liver hydatid cyst

Therapeutic Intervention

Under spinal anesthesia, in supine position marsupialization and evacuation of the cyst along with the daughter cyst is done with a suction drain placed before closure.

Intraoperative finding is suggestive of hydatid cyst in the antero medial aspect of the thigh along with daughter cyst.

Histopathological report confirmed the specimen sent was of hydatid cyst.

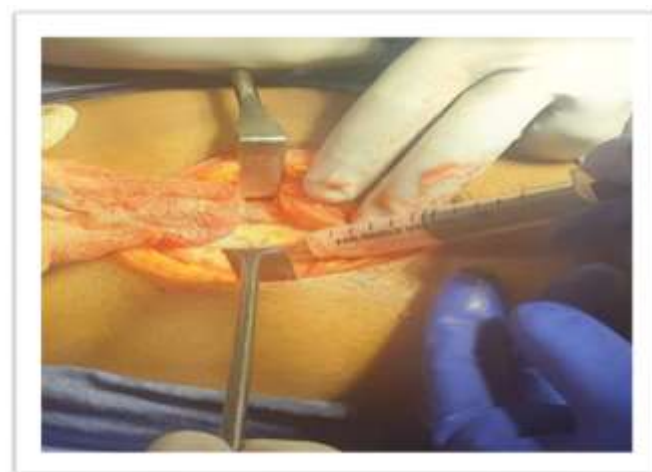


Figure 3: Aspiration of hydatid fluid from the cyst



Figure 4: Intraoperative view of excision of hydatid cyst

Follow Up and Outcome

The patient was discharged after 5 days after removal of the suction drain, with healthy suture line with suture in situ.

Patient was given ALBEDAZOLE (anti helminthic) 400 mg twice daily for 14 days and followed up in outdoor after 7 days.

Sutures are removed after 10 days, suture line was healthy.

After one and half month patient was followed up and USG was done, there was no sign of hydatid cyst in the thigh.

Discussion

The presence of hydatid cyst outside lungs and liver is very less around 2%. Subcutaneous hydatid cyst could be primary or secondary. In secondary cases of hydatid cyst at least one of the common site is involved of hydatid cyst is involved like liver, lung or spleen that is operated or not operated.

Reports suggest that primary subcutaneous hydatid cyst are very rare. In this case the hydatid cyst was located subcutaneously in thigh, there is no evidence of patient undergoing any previous surgery for hydatid cyst located elsewhere in the body and there is no evidence of hydatid cyst found in any other organ. Therefore, we can say that

our patient was diagnosed of having primary subcutaneous hydatid cyst

The mechanism of primary subcutaneous hydatid cyst localization is not clear. After being ingested orally by the host, under the action of gastric and intestinal enzymes, the oncosphere is released which penetrates the intestinal wall, joins the portal system and reaches the liver. If the parasitic eggs attaches to the liver and hepatic hydatid cyst is formed parasite eggs can pass through systemic circulation and causes disease in other end organs. Larvae must pass through two filters (lungs and liver) to form a solitary hydatid cyst but that is very difficult it is very possible that systemic dissemination via the lymphatic's route accounts for the solitary cases at uncommon site. Direct spread from adjacent sites may be another mechanism of infection provided a micro rupture has occurred.

The unique character of hydatid cyst in any area of body is that the worm remains stays silent for a long period of time (months to years) either it is diagnosed incidentally or causing pressure symptoms Making the victim to seek medical advice. In this case the patient presents with pressure symptoms associated with pain.

Preoperative diagnosis of subcutaneous hydatid cyst is very crucial. Sensitivity of serological test depends on the type of hydatid cyst which is positive in most of the cases with hepatic hydatidosis while negative in hydatid located elsewhere in the body. In atypical cases ultrasound can diagnoses hydatid cyst with high sensitivity and specificity. Computed tomography (CT) scan gives a clearer image regarding number, site, size and architecture of the cyst and also its relation with the surrounding tissue. However in atypical cases like muscular and subcutaneous hydatid cyst magnetic resonance imaging confirms the diagnosis.

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