

Recurrent primary intermuscular hydatid cyst of thigh - a case report

Abstract

Muscle Hydatidosis is a rare entity and accounts for only 3-5% of all Hydatidosis cases,¹ possibly because the cyst uses oxygen for growth while muscles usually contain lactic acid.² Diagnosis requires higher degree of clinical suspicion when evaluating soft tissue swellings.

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Introduction

Echinococcosis (Hydatidosis) is a zoonotic infection caused by *Echinococcus granulosus* (Dog Tapeworm). Muscular localisation of hydatid cyst is very rare condition and if found is mostly secondary to hepatic or pulmonary hydatidosis. Muscular hydatid cyst is usually difficult to diagnose due to lack of typical radiological finding. Hydatid Cyst has three coverings which include pericyst, ectocyst and an endocyst. Pericyst is the outermost layer made from the modified host cells. Endocyst, also known as a germinal layer is the innermost layer and produces Scolices from inside which represent larval Stage and laminated membrane from outside, which forms the middle layer. The middle laminated layer permits nutrients but is impervious to bacteria. When cyst becomes infected it may result in abscess formation and inadequate drainage of that abscess may account for recurrence of disease.

Case history

A 30 year old married female with no known comorbidity presented with a throbbing pain of moderate to severe intensity in left thigh and popliteal fossa region. On physical examination there was a tender erythematous, fluctuant swelling on posterior aspect of distal thigh and popliteal fossa. Incision and drainage of Abscess was done in one of the local hospitals and about 1.5 L of frank pus was drained. As per the records available with the patient. Pus contained some whitish membranes and cysts. Histopathological examination of specimen was done which revealed lamellated membranes of *Echinococcus granulosus*. No post-operative medical therapy was prescribed at that time. After a period of about one year the lady again presented to Sheri Kashmir Institute of medical Sciences Soura Srinagar with gradually increasing painless swelling in distal one third of thigh posteriorly. Ultrasonography of left thigh swelling was done which showed evidence of 10x4.7x6.2cm, thick walled cyst with finger-like projections and daughter cysts in lower third of posterior thigh with surrounding fat stranding, suggestive of hydatid Cyst. Screening ultrasonography of liver and spleen showed no cystic lesion. Chest Radiography was also found to be normal. MRI of Left lower thigh showed fluid intensity collection or cyst between Biceps

femoris and semitendinosus myo-fascial planes which was extending deep to semitendinosus muscle. The swelling was 9.1x6.3x5.5cm and showed hypointense intracystic septae or crumpled membranes. Mild hypointense signal on T1W images and bright signal on STIR and T2W images was seen, suggestive of infected Hydatid Cyst. Hydatid Serology of the patient was found to be positive. Patient was put on oral Albendazole 400mg for 2 weeks and then excision of cyst was done. Albendazole was continued postoperatively for 4 weeks (Figure 1), (Figure 2).

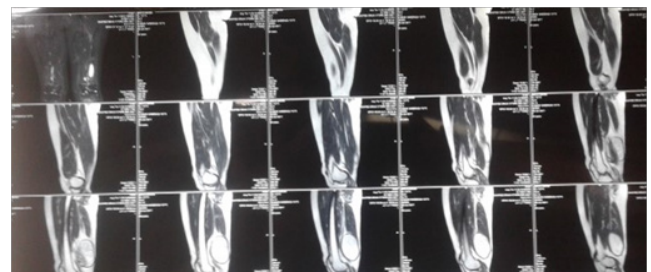


Figure 1 MRI showing hypointense cystic lesion in left lower thigh.

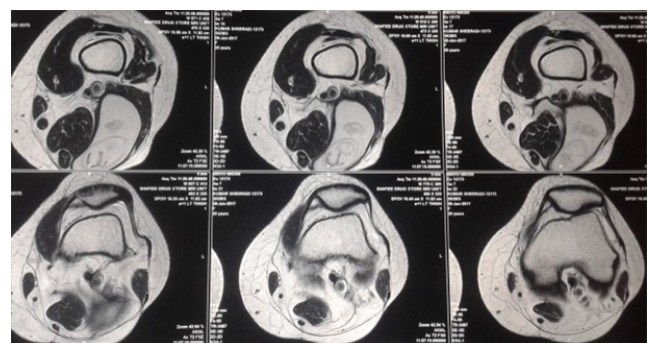


Figure 2 MRI showing large cyst with crumpled scolices inside between biceps femoris and semitendinosus.

Discussion

Hepatic and Pulmonary Hydatidosis account for 90% cases of hydatid disease. Skeletal muscles are thought to be unfavourable sites for dog tapeworm infestation because of high Lactic acid concentration. Muscular Hydatidosis can be primary or secondary. Majority of infestations are caused by *Echinococcus granulosus* and *E. Multilocularis*.^{3,4} Skeletal muscle cysts are commonly misdiagnosed as either a malignancy or pyogenic infection because radiological appearances are not specific and Hydatid Serology often yields negative results. Management of Muscular Hydatidosis is largely by a radical surgery (Total Percystectomy). Intra-operative spillage or inadequate clearance of daughter cysts is responsible for local recurrence. However, chances of recurrence have been proved to be less with the use of drugs like albendazole and mebendazole. Mebendazole was the first drug to be used for hydatid disease. Later on Albendazole was introduced with better results. The usual dosage scheme for albendazole, suggested by Horton (1989) and endorsed by WHO is, three 28 day courses of 10 mg/kg/day in divided doses separated by two weeks intervals. These benzimidazole carbamate groups of drugs act by blocking glucose uptake in the parasite and depletion of its glycogen stores. Praziquantal is another drug used against hydatid cyst liver disease in the dose of 40 to 60 mg/kg/day in divided doses. It is the most active and rapid scolocidal agent. It is highly effective against protoscolices. Praziquantal is probably the ideal agent for prophylaxis in the preoperative and postoperative setting to prevent implantation of protoscolices and subsequent recurrence. It is unlikely to be as effective as albendazole in treating whole cyst as it is less active against germinal layer of the hydatid cyst. Some authors have recommended a treatment with albendazole alone in certain patients such as patients with recurrent disease if it has not been used previously, patients refusing surgery, patient at extremes of age and pregnant women.^{5,6} The rationale for Albendazole therapy after percutaneous aspiration-injection-reaspiration (PAIR) or surgery is to inactivate viable scoleces in the residual cyst and prevent recurrence. Adjunctive chemotherapy initiated is also of benefit for patients with cysts in inaccessible anatomic locations or when there is spillage of cyst contents or rupture into the biliary system.⁷ A randomized trial comparing albendazole therapy and PAIR demonstrated maximum reduction in cysts treated with concomitant chemotherapy.^{8,9} Similarly in a study conducted by Bari et al, recurrence of hydatidosis was significantly less in patients who had been put on albendazole therapy either preoperatively or post operatively or both.¹⁰

Conclusion

Preoperative diagnosis and avoidance of diagnostic biopsy or aspiration is crucial in preventing local recurrence, cystic infection, and anaphylactic shock.

Acknowledgments

None.

Conflict of interest

The author declares there is no conflict of interest.

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