

Case report

Primary Hydatid Cyst Of The Thigh – A Case Report

Abstract

Hydatid cyst is caused by a dog tapeworm echinococcus granulosus. Hydatid cysts are most frequently found in the liver (75%) and lungs (15%) and 10% occur in any part of the human body. Primary muscular hydatidosis is very rare and occurs in 1-4% ~~in~~ of all hydatidosis. The localizations of hydatid cyst in muscles is rare 0.7-0.9% even in endemic countries. Muscular hydatidosis is rare, because of muscle lactic acid content and muscle contraction, there are two factors that likely prevent cyst growth in striated muscles.

Mesddi et al reported 11 cases of intramuscular hydatid cysts in a period of 17 years. Muscle hydatid disease most often manifests as a ~~slow~~ slow-growing soft-tissue tumour and mostly presents with a painless growing mass. However, the cyst is clinically asymptomatic and diagnosed incidentally. The most common skeletal muscle sites include the hip and thigh and the shoulder and ~~humours~~ humerus regions.

We are reporting extremely rare cases of primary hydatid cyst of the right thigh in a 32 years⁴ male patient, with an asymptomatic thigh mass and diagnosed on ultrasonography. We performed total surgical excision of the mass with pericystectomy was done and Albendazole therapy was given preoperative and postoperatively.

Keywords

Echinococcus granulosus, Hydatid cyst, Skeletal muscles,

Introduction

Hydatid disease is a major problem in the endemic areas, including Asia, Africa, the middle east, Australia, New Zealand, and South America. Hydatid disease is caused by tapeworm echinococcus granulosus and the liver and lungs are the commonly affected organs of the body in 75% and 15% of cases respectively. Due to the filtration action of the liver and lungs in preventing echinococcus to enter the systemic circulation. Hydatid cysts ~~is~~ are rarely found in the skeletal muscles due to the contractility of muscles and high concentration of lactic acid and the reported incidence ~~is~~ is less than 1.5%. [1,3,5]

However, hydatid cysts are inclined to grow in the trunk, neck, and legs because of relatively less muscle contraction and more vascularization of these areas. Intramuscular hydatid cysts have been reported in the muscles of the chest wall and pectoralis major, Sartorius, quadriceps, and gluteal muscles. Ultrasonography is non-invasive, in-expensive, and repeatable imaging modality, which is widely used and accepted in the diagnosis of hydatid disease. [2,6,7]

Case Report

A ~~32-years~~ year-old man was admitted to our centre on 15/09/2010, with complaints of painless swelling in his right thigh which he had noticed ~~from~~ for 1 years. He had no history of trauma, surgery, or any other disease. Physical examination revealed a non-tender mass measuring 15x12 cm in his right thigh, located in a lower end, Antero-medial aspect of the thigh. There was no lymphadenopathy at the inguinal region. He had no restriction of movements at the hip and knee joints. Blood investigations were normal.

Right thigh ultrasonography revealed a large well defined double walled cystic lesion of size 15x12x8 cm in the muscle plane of the medical aspect of the right thigh, with a well-defined unilocular anechoic cystic lesion suggestive of a hydatid cyst in the thigh muscles. CT and MRI ~~was~~ were not done.

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Patient-The patient was prescribed Albendazole 15 mg/kg/day orally **of-for** 4 weeks before the surgery. **Patient-The patient** was planned surgery under spinal anaesthesia. An antero-medial skin incision was taken on **the** right thigh. The entire large cystic mass along with **the** pericyst was carefully dissected free from its surrounding muscles and bone posteriorly, taking great care. The total large cyst was taken out without any spillage from **the** cyst. Locally betadine as a **septicidal sporicidal** agent washes given surrounding the muscles tissue. A Romo vac drain was inserted and the wound **was** sutured in layers. Histopathological examination confirms the diagnosis of a hydatid cyst. (Fig 1-6)

On gross examination of cyst of 15x12x8 cm in size. After cutting the cyst unilocular white gelatinous membrane of **the** hydatid cyst was delivered out. Post-operative recovery was uneventful and **the** patient **was** discharged 8th postoperative day. We have started Albendazole therapy for 6 months. After **follow-follow**-up of one year there was no recurrence and **the** patient was healthy.

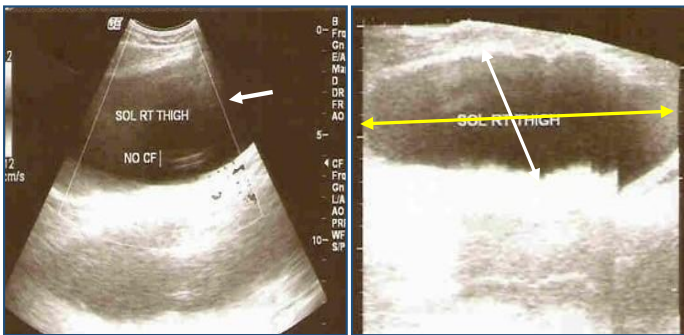


Fig-1 Ultrasonography of Right thigh showing hypoechoic unilocular cystic double walled lesion of size 15x12x8 cm

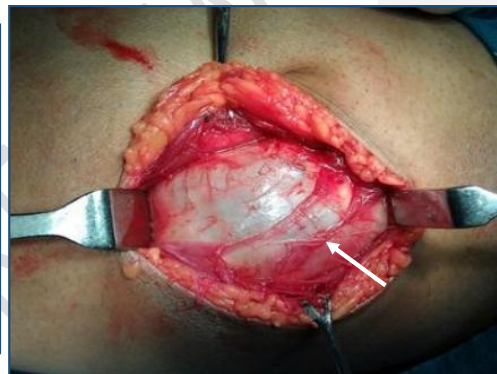


Fig-2 Intra-operative photograph showing cystic mass in Right thigh

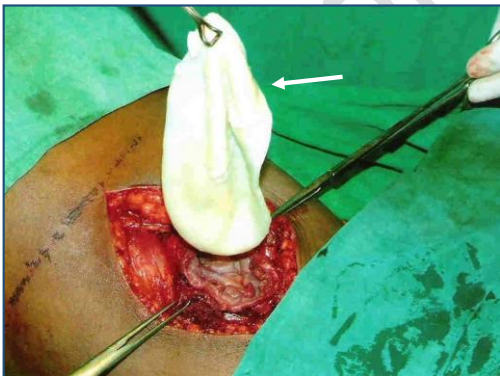


Fig-3 Intraoperative photograph showing white gelatinous laminated hydatid cyst

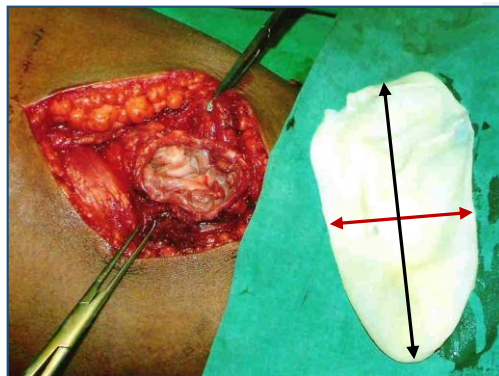


Fig-4 Intra-operative photograph showing unilocular hydatid cyst of size 15x12x8 cm

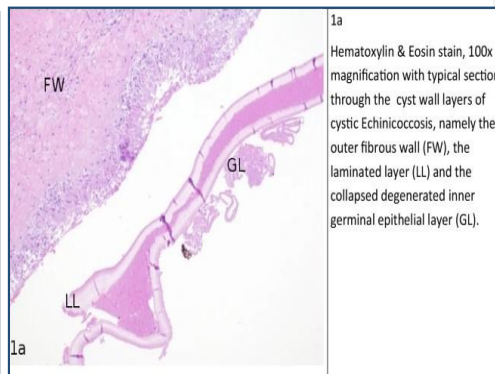
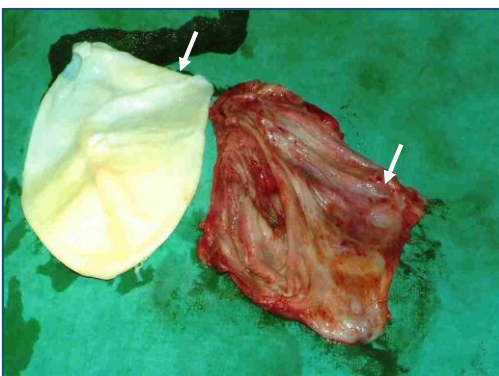


Fig-5 Photograph showing white laminated layer of a hydatid cyst with pericystectomy specimen

Fig-6 Photograph showing histopathological examination

Discussion

Up to date, 17 cases of hydatid disease of the thigh have been reported in the literature. Primary skeletal muscles hydatidosis is rare and have been reported in only 1-4% of all patients in endemic areas. Intramuscular hydatid cyst is rare because the growth of cysts within the muscles is hindered by the contraction and relaxation of the muscle and by high local concentration of the lactic acid in the muscles. Parasite cysts most commonly grow in the muscles of the neck, trunk, and limbs probably because of less muscles activity and more vascular supply in these areas. [2,8]

A hydatid cyst has three layers. The outer pericyst is composed of modified host cells a protective zone only a few millimetres thick. The middle, laminated membrane the white in colour and easily ruptured. It is acellular and 2 mm thick. The inner, germinal, or geminating layers are thin and translucent called endocysts. It produces the scolices, and brood capsules, forming hydatid sand. The cyst fluid is crystal clear, contains proteins, and is antigenic causing eosinophilia or anaphylaxis.

Ultrasonography should be the first diagnostic tool used for the detection of hydatid disease of soft tissue. The sensitivity of ultrasonography is 95% and sensitivity increase to 100%. The CT scan has an accuracy of 98% to demonstrate the daughter cysts and thin rim of calcification, a cyst suggestive of an echinococcus cyst. MRI has no real advantage over CT scan. [3,4,7]

Serological tests can be used for diagnosis, screening, and post-operative follow-up for recurrence. These included hydatid immunoelectrophoresis, ELISA, latex agglutination, and indirect haemagglutination (IHA) test. The sensitivity of the serological test is from 64 to 87%. Surgery is the most effective treatment of choice for hydatid cysts. It should be removed radically whenever possible. During surgery, Spillage of the cyst content is to be avoided as it causes dangerous anaphylaxis and dissemination. Intraoperative irrigation using 0.5% cetrimide, 15% hypertonic saline, and 0.5% silver nitrate solution can be used to kill the daughter cysts and reduces the recurrence.

In our case after total excision of the cyst, the surgical site was irrigated using betadine and hydrogen peroxide to avoid dissemination of the hydatid cyst. In the treatment of hydatid cysts, surgical excision, and preoperative and postoperative Albendazole therapy are the gold standard treatment. [6,8]

Conclusion

Primary hydatid cyst of the thigh is an extremely rare manifestation of hydatid disease which is endemic in India and should be diagnosed with ultrasonography and MRI. Complete surgical excision of the hydatid cyst using pericystectomy is the first choice of treatment along with Albendazole therapy.

Reference

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