Received: 11 September 2023 | Revised: 30 September 2023 | Accepted: 3 October 2023

DOI: 10.1002/ccr3.8056

Clinical Case Reports Open Access WILEY

CASE IMAGE

Primary giant hydatid cyst of the thigh: An unusual location

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Key Clinical Message

Primary hydatid cyst of the thigh is a rare condition requiring prompt recognition and accurate diagnosis for timely management and prevention of complications.

Abstract

Muscular hydatid cysts are rare, with a frequency ranging from 1% to 5% even in endemic areas. The clinical presentation of muscular hydatidosis is typically subtle and lacks specific features, frequently resulting in delayed diagnosis. Herein, the authors describe a case of a primary hydatid cyst located in the thigh.

KEYWORDS

hydatid cyst, muscular, parasite, primary, surgery, thigh

1 | CASE DESCRIPTION

A 40-year-old male patient from the northwestern region of Tunisia, known for its endemicity of hydatid cyst, presented with chronic and worsening pain in the posterior region of his left thigh. He has a history of pulmonary tuberculosis and works as a farmer with regular contact with dogs. Upon admission, a thorough examination identified an immobile subcutaneous mass in the medial and posterior aspect of the left thigh. The mass had a painless and fluctuating soft texture. The skin covering the swelling appeared normal. In addition, the patient presented with sciatica, characterized by pain that extended along the left L5-S1 region, along with discomfort experienced during prolonged periods of standing. The patient's overall condition was satisfactory, without any systemic symptoms. MRI revealed a distinctive area of abnormal signal in the posteromedial compartment of the left thigh. The observed lesion exhibited a predominant cystic nature measuring 16 cm along its major axis and 5 cm in the transverse plane, displaying a hypointense signal on T1-weighted sequences and a hyperintense signal on T2-weighted sequences (Figure 1). Furthermore, internal cystic changes were evident, suggestive of a hydatid cyst in the thigh. Abdominal ultrasonography, chest X-ray, and CT scan of the brain were conducted, and the findings demonstrated no abnormalities, definitively excluding the presence of any lesion indicative of a hydatid cyst. The enzyme-linked immunosorbent assay (ELISA) serology test yielded a positive result for *Echinococcus*. Taking into consideration the clinical presentation, imaging results, and laboratory findings, a preoperative diagnosis of a hydatid cyst was established. The patient underwent complete surgical excision of the intact cystic

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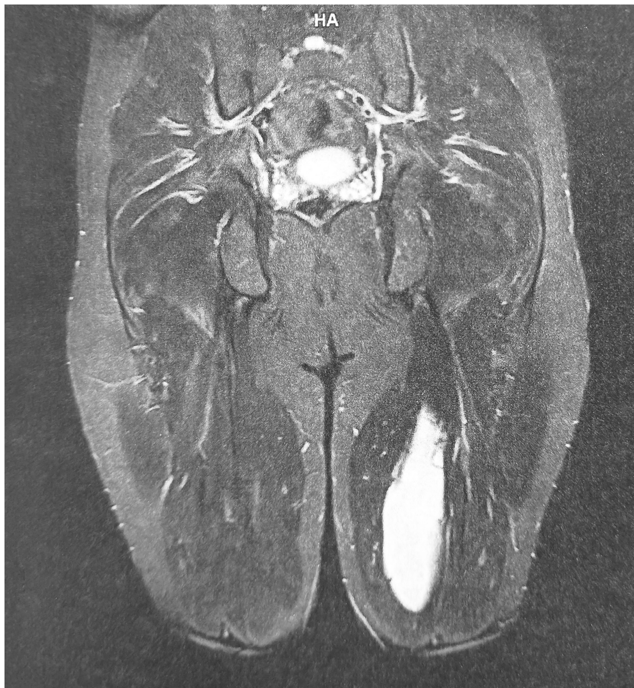

FIGURE 1 Magnetic resonance imaging (MRI) revealed a distinct abnormal signal area in the posteromedial compartment of the left thigh. The observed lesion predominantly exhibited a cystic nature, measuring 16 cm along its major axis and 5 cm in the transverse plane. It displayed a hyperintense signal on T2-weighted sequences.

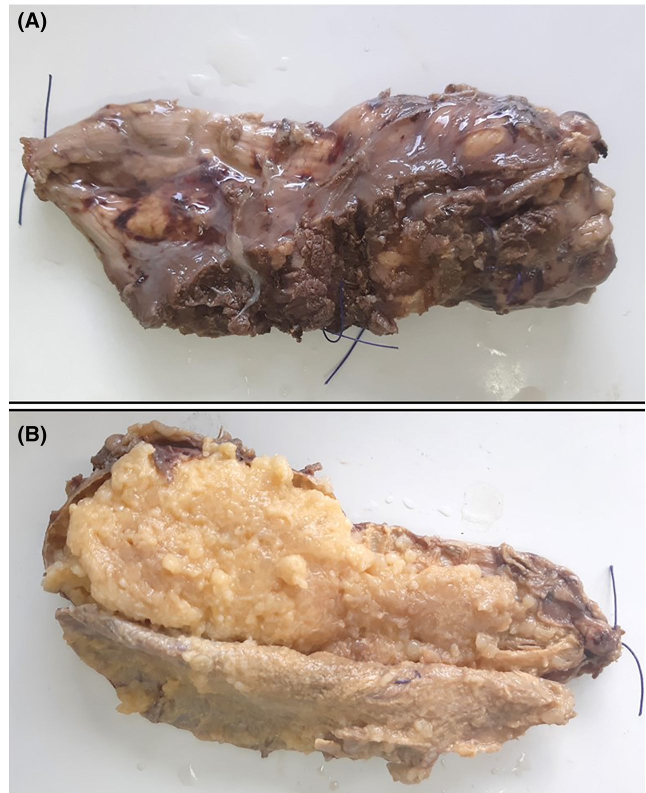

FIGURE 2 (A) Gross specimen showing external surface of intact hydatid cyst with adjacent muscle. (B) The cut surface revealed a unilocular cyst filled with numerous daughter cysts, accompanied by a gelatinous yellow material.

mass and the specimen was sent for histopathological evaluation. Grossly the resected specimen weighed 99 g and measured 16 × 5 cm. The cut surface showed a unilocular cyst filled with multiple daughter cysts with a gelatinous yellow material (Figure 2A,B). The histological analysis revealed that the cyst wall consisted of an outer fibrous layer containing fibrovascular collagenous tissue, accompanied by a mild chronic mononuclear inflammatory infiltrate (Figure 3A). The middle layer displayed a thick lamellated cuticle, and the inner layer showed a thin germinal layer (Figure 3B–D). The final pathological diagnosis established the presence of a hydatid cyst in the thigh. The postoperative course was uncomplicated. The patient was put on albendazole 400 mg twice daily. Currently, the patient is undergoing regular follow-up, with a 1-month observation period.

2 | DISCUSSION

The thigh is an atypical site for the development of hydatid cysts.[1,2] MRI is considered the preferred imaging modality for detecting daughter cysts and guiding surgical planning.[1,2] Possible differential diagnoses for a cystic intramuscular mass of the thigh include myxoma, myocysticercosis, soft tissue abscess, hematoma, hemangioma, lipoma, neurofibroma, schwannoma, and malignant tumor. Radical pericystectomy, while avoiding cyst rupture, is the treatment of choice for hydatid disease.[3] When encountering painless and progressively enlarging intra-muscular masses, it is crucial to consider the possibility of hydatid cysts, especially in endemic regions.[2,3]

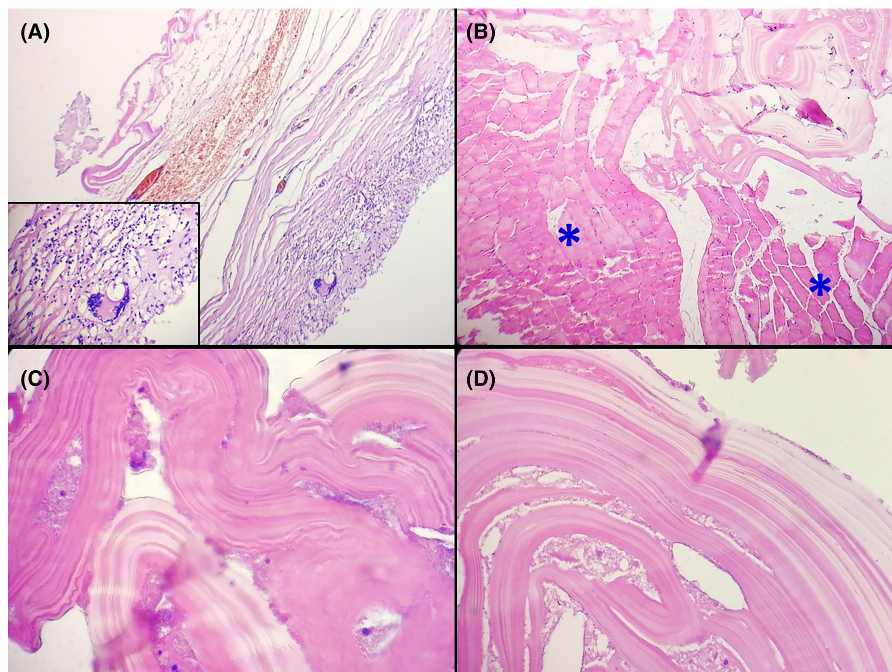

FIGURE 3 (A) The section reveals a pericyst consisting of a fibrous wall infiltrated with inflammatory cells. The inset demonstrates the presence of multinucleate giant cells. (hematoxylin and eosin staining, magnification × 100). (B) Microscopic examination reveals striated muscle tissue (indicated by the blue asterisk) with a laminated membrane. The membrane consists of acellular, eosinophilic material arranged in concentric layers. (hematoxylin and eosin, magnification × 100). (C, D) The middle layer of the hydatid cyst exhibited a thick lamellated cuticle, while the inner layer displayed a thin germinal layer. (hematoxylin and eosin, magnification × 400).

AUTHOR CONTRIBUTIONS

Faten Limaiem: Conceptualization; data curation; formal analysis; investigation; methodology; project administration; resources; writing – original draft; writing – review and editing. **Anis Teborbi:** Resources; supervision; validation; visualization; writing – review and editing. **Ramzi Bouzidi:** Formal analysis; resources; software; supervision; validation; visualization; writing – original draft; writing – review and editing.

FUNDING INFORMATION

We did not receive funding for this article.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

All procedures performed were in accordance with the ethical standards. The examination was made in accordance with the approved principles.

CONSENT

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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How to cite this article: Limaiem F, Teborbi A, Bouzidi R. Primary giant hydatid cyst of the thigh: An unusual location. *Clin Case Rep*. 2023;11:e8056. doi:10.1002/ccr3.8056