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Case Report

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Primary Gluteal Hydatid Cyst: A Case Report

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Abstract

Introduction and background: Hydatid Disease (HD) is a parasitic infection caused by the larval form of Echinococcus granulosus. It is endemic in regions with widespread livestock farming and close human-animal contact. Although the liver and lungs are the most frequently involved organs, rare cases of primary subcutaneous hydatid cysts have been reported, especially in the absence of visceral involvement. Gluteal localization is extremely rare and may be misdiagnosed due to its nonspecific presentation.

Case presentation: We report the case of a 25-year-old woman who presented with a gradually enlarging, painless swelling over the lateral aspect of her right buttock, noted for five months. There were no systemic symptoms and she had no history of trauma or prior medical conditions. Physical examination revealed a well-circumscribed, fluctuating, non-mobile mass measuring 5×4 cm with no overlying skin changes. Laboratory results were within normal limits. Ultrasound imaging revealed multiple well-defined cystic lesions in the subcutaneous tissue. Chest X-ray and abdominal ultrasound excluded hepatic or pulmonary hydatidosis. A diagnosis of primary subcutaneous hydatid cyst was made. The patient underwent pericystectomy under spinal anesthesia. Intraoperatively, typical hydatid features were noted and the cyst cavity was irrigated with hypertonic saline. Postoperatively, Albendazole therapy (400 mg BID) was administered for three months. There were no signs of recurrence during 6 months of follow-up.

Discussion: Primary soft tissue hydatid cysts are rare and can mimic benign soft tissue tumors or abscesses. In endemic regions, such lesions should be carefully evaluated using imaging and clinical suspicion. The diagnosis is typically made through imaging and definitive treatment includes surgical excision with careful handling to prevent dissemination, accompanied by pre- and postoperative anthelmintic therapy to minimize recurrence.

Conclusion: This case highlights the importance of considering hydatid disease in the differential diagnosis of gluteal masses, especially in endemic areas. Prompt diagnosis and combined surgical and pharmacologic therapy can lead to excellent outcomes without recurrence.

Keywords: Hydatid cyst; Gluteal hydatid disease; Subcutaneous echinococcosis; Echinococcus granulosus; Pericystectomy; Albendazole; Case report

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Introduction

Hydatid Disease (HD) is a parasitic infection caused by the larval stage of Echinococcus granulosus and is endemic in regions with close contact between livestock and dogs, such as the Middle East, South America, Africa and Central Asia [1-3]. The liver (70%) and lungs (20%) are the most affected organs [4-6]. However, unusual locations including the spleen, kidney, brain, bone and soft tissues may also be involved [7,8].

Soft tissue hydatid disease is rare and comprises only 0.5%–5% of all hydatid cysts [9]. The gluteal region is an extremely uncommon site and may be confused with lipomas, abscesses or soft tissue tumors [10,11]. Subcutaneous HD without visceral involvement is referred

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to as primary soft tissue hydatidosis and its diagnosis can be challenging due to its rarity and nonspecific presentation [12,13].

This report presents a rare case of primary gluteal subcutaneous hydatid cyst in a young woman, highlighting the importance of clinical suspicion, imaging, surgical approach and adjuvant medical therapy.

Case Scenario

A 25-year-old lady presented to the surgical clinic with the main complaint of gradual progressive painless swelling with over the right side of her buttock. She had no abdominal pain or discomfort, no chest pain or cough. She noticed the swelling 5 months prior to the presentation. There was no history of trauma to the site, no difficulties of walking, no discharge from the swelling and no lesions noticed on other sites. Family history and drug history was unremarkable.

At presentation, the blood pressure was 110/75 mmHg, the pulse rate was 84 beats per minute (bpm), the respiratory rate was 18 per minute and the temperature was 36.4°C axillary.

A physical examination of our patient was normal in the rest of her systems. She also had a normal neurological finding. On the local examination, there was an oval, 5x4 cm in diameter, well circumscribed lump, minimally tender to touch, non-mobile mass. fluctuant and with no color change of the overlying skin, which was non-pulsatile and located over the lateral of her right gluteal area.

A complete blood count of our patient showed: White Blood Cells (WBC) 4000 mcL, Red Blood Cells (RBC) 3.8 mcL, Hemoglobin (Hgb) 11.2 gm/dL, Hematocrit (Hct) 38%, Mean Corpuscular Volume (MCV) 79, platelets 290 × 103, creatinine 0.8, Blood Urea Nitrogen (BUN) 20, Alanine Aminotransferase (ALT) 28, Aspartate Aminotransferase (AST) 32, Alkaline Phosphatase (ALP) 55, albumin 3.8, total bilirubin 1.1 and direct bilirubin 0.3, Ultrasound (US) showed cm multiple variable size heterogeneous subcutaneous lesion in the lateral aspect of the right buttock with multiple well-defined cystic lesions **(figure 1)**. Chest X-ray and abdominal ultrasound exclude lung and liver HDs.

The primary subcutaneous Hydatid cyst was diagnosed and a pericystectomy was chosen as the preferred surgical treatment.

Under spinal anesthesia, a transverse incision (pericystectomy) was made over the lump **(figures 2 and 3)**. After the cyst cavity thoroughly irrigated with hypertonic saline, the hydatid cyst's typical endocyst membrane was encountered. Protecting the surrounding area with iodine-soaked gauze. The endocytic membrane was aspirated. Wound closed after putting on a drain.

Treatment involved 400 mg of Albendazole twice per day for two weeks before, it was continued for three months after surgery and there was no evidence of recurrence of the lesion during the 6-month follow-up **(figure 4)**.

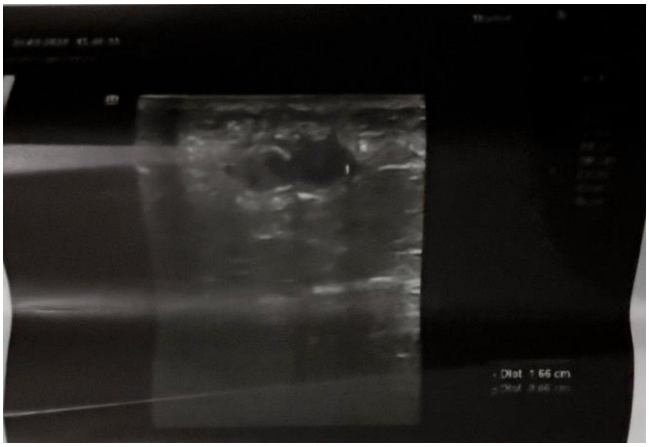


Figure 1: Preoperative ultrasound demonstrates multiple variable size heterogeneous subcutaneous lesion hydated cysts.



Figure 2: Intra-operative view of the field during removal of cysts.



Figure 3: Post-operative image demonstrates excised hydated cysts with daughter cysts.

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Figure 4: 3 months postoperative image of healed incision at left lateral Buttock.

Discussion

Hydatid disease is a chronic parasitic infestation that often remains asymptomatic until the cyst grows significantly or becomes complicated [14]. The disease spreads *via* ingestion of eggs from contaminated food or contact with definitive hosts (typically dogs). After ingestion, the larvae penetrate the intestinal mucosa and travel hematogenously to organs, where they develop into cysts [15].

In this case, the absence of liver and lung cysts and lack of systemic symptoms supported the diagnosis of primary subcutaneous hydatid disease, an extremely rare manifestation. The pathogenesis of primary soft tissue involvement remains unclear but is hypothesized to occur through lymphatic or venous spread bypassing the portal system [16,17].

The typical clinical presentation of a soft tissue hydatid cyst includes a slow-growing, painless, soft or firm mass. In contrast to abscesses, they are usually non-inflammatory and fluctuant, without signs of infection [18]. The diagnosis is supported by ultrasound or MRI findings that reveal characteristic features such as daughter cysts, floating membranes and septations [19].

In this patient, ultrasound was crucial in identifying the cystic nature of the lesion. Negative findings in chest and abdominal imaging helped exclude secondary hydatidosis. Serology can support the diagnosis, although it may be falsely negative in isolated soft tissue disease [20].

Surgical removal remains the definitive treatment for soft tissue HD. The goal is to complete excision without rupture, which may cause dissemination and anaphylaxis [21]. We performed a pericystectomy with hypertonic saline irrigation, an effective scolicidal agent [22]. Use of iodine-soaked gauze helped reduce the risk of contamination.

Postoperative antiparasitic therapy with Albendazole is recommended to eliminate residual scolices and prevent recurrence [23,24]. Our patient received a preoperative and extended postoperative course, consistent with WHO recommendations [25]. At 6-month follow-up, there were no signs of recurrence.

This case underscores the importance of considering hydatid disease in the differential diagnosis of soft tissue masses, especially in endemic areas and demonstrates the efficacy of combined surgical and medical management [26-30].

Conclusion

Primary gluteal hydatid disease is an unusual clinical entity. Due to its nonspecific presentation, it can be misdiagnosed as other benign soft tissue lesions. In endemic areas, clinicians should maintain a high index of suspicion. Imaging studies, particularly ultrasound, play a critical role in diagnosis. Surgical excision combined with perioperative Albendazole therapy remains the cornerstone of treatment, effectively preventing recurrence.

Key Clinical Message

Primary hydatid cysts in the gluteal region are extremely rare and can mimic soft tissue tumors or abscesses. Clinicians should maintain a high index of suspicion for hydatid disease in endemic regions, even in unusual anatomical locations, to ensure accurate diagnosis and prevent intraoperative compilations through appropriate preoperative planning

Declarations

Informed consent

Written informed consent was obtained from the legal guardians of the patient for publication of this case report and any accompanying images.

Ethical approval

This case report was conducted in accordance with the ethical standards of the institutional and national research committee. Ethical approval was not required for this case report as per institutional guidelines since it is a retrospective report with no experimental intervention.

Conflict of Interest

The author declares no conflicts of interest regarding the publication of this case report.

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Author Contributions

Dr. Abushaiba was responsible for the patient's clinical care, data collection and Dr. Mohammed Alssir MohammedAhmed was responsible for analysis and manuscript preparation. The author read and approved the final version of the manuscript.

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