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Hydatid cyst of the thigh: A case report with literature review

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ABSTRACT

INTRODUCTION: Hydatid diseases are cystic parasitic infestation caused by Echinococci. The most frequently affected organs are liver and lung. The aim of this study is to report a rare case of hydatid disease of the thigh.

PRESENTATION OF CASE: A 34-year-old female presented with mild, continuous lower abdominal pain. Concomitantly, she was complaining of gradually increasing swelling of the left thigh for about 9 month duration. On examination, there was tender, 3 × 4 cm, suprapubic mass with firm non-tender 10 × 17 cm swelling at the lateral aspect of left thigh. Magnetic resonance imaging confirmed the diagnosis thigh hydatid cyst. It was managed by surgical resection.

DISCUSSION: In endemic regions, hydatidosis can be controlled by several preventive mechanisms including regular medication of definitive hosts by praziquantel, vaccinating sheep, preventing dog's access to intermediate hosts, boiling or safe disposal of offal. The current case reported positive history of animal contact without fulfilling any preventive measure.

CONCLUSION: Hydatid cyst of the thigh is a very rare parasitic manifestation presenting as a painless swelling, diagnosed typically by MRI and managed with en bloc resection.

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1. Introduction

Hydatid diseases (HDs) are cystic parasitic infestation caused by Echinococci which are the cestode of the Taeniidae family [1,2]. The organisms have both definitive and intermediate hosts. Dogs, wolves or foxes (the definitive hosts) pass eggs in their excretes into the environment subsequently the intermediate hosts (cattle, sheep, humans, goats, horses and camel) develop the disease [3]. The most frequently affected organs are liver and lung followed by brain. Other rarely affected organs are bone, skeletal and smooth muscles, viscera and mediastinum [4–6]. Concomitant multiple hydatid cysts (HCs) of thigh and pelvic have never been reported in the literature. The aim of this study is to review HD of the thigh with report of a case with concomitant multiple HCs of thigh and pelvic in line with SCARE guide line [7].

1.1. Patient information

A 34-year-old house wife from a rural area (with positive history of animal contact) presented with mild, continuous lower abdominal pain mostly in suprapubic region. Concomitantly, she was complaining of gradually increasing swelling in the lateral aspect of her left thigh for about 9 month duration. She was known case of hypertension and had history of caesarian section and tonsillectomy.

1.2. Clinical findings

On examination, there was tender, 3 × 4 cm, suprapubic mass with firm non-tender 10 × 17 cm swelling at the lateral aspect of left thigh. There was no overlying skin change and temperature was normal (Fig. 1). She had skin marks of old Pfannenstiel incision.

1.3. Diagnostic assessment

Ultrasound of the thigh showed 8 × 9 × 11 cm thick walled cystic subcutaneous mass in the lateral aspect of the upper part of left

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Fig. 1. Swelling at the anterolateral aspect of the left thigh (the arrow).

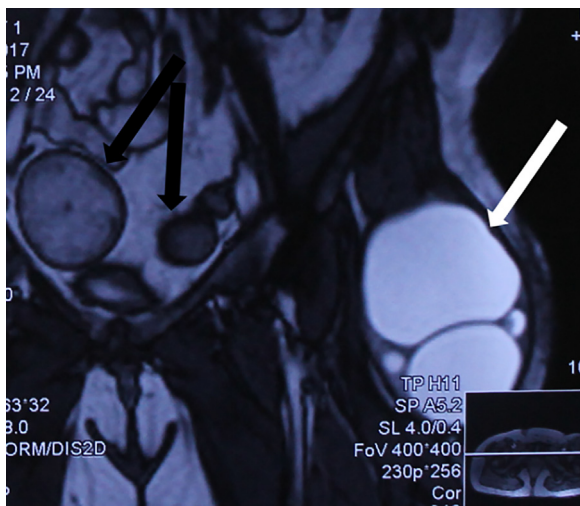


Fig. 2. Magnetic resonance imaging showing thick walled cystic lesion at the left thigh (white arrow). Also, there two thick walled cystic lesions in the pelvis (black arrows).

thigh with multiple variable sized peripherally arranged internal cysts, without evidence of underlying muscle infiltration, features suggestive for HD or benign neoplastic process. Magnetic resonance imaging (MRI) showed a large thick walled cystic lesion in the anterolateral aspect of left thigh, underneath left tensor fascia lata measured about 9*7*12 cm, it had internal peripherally arranged small cysts and undulated membrane. Suspicion of HD increased. Also, there was thick walled cystic lesion in the right side of pelvis superior to urinary bladder and anterior to uterus measures about 5.7*5*5.2 cm and contained internal undulated membrane. Another small similar cyst was found in the left side of pelvis measuring about 4*2.5*2.8 cm. Also inferolateral to the latter, there was small lesion of about one centimeter in diameter (Fig. 2). Chest x-ray and abdominal ultrasound excluded lung and liver HDs.

1.4. Therapeutic intervention

Under general anesthesia, in supine position, Pfannenstiel incision was done, seven pelvic cysts anterior to the uterus were removed. Longitudinal elliptical incision was performed in the anterolateral aspect of the left thigh, the mass was enucleated. Both pelvic and thigh drains were inserted. The masses were opened and daughter cysts were found (Fig. 3). Histopathological reports confirmed concomitant multiple pelvic and thigh HDs.

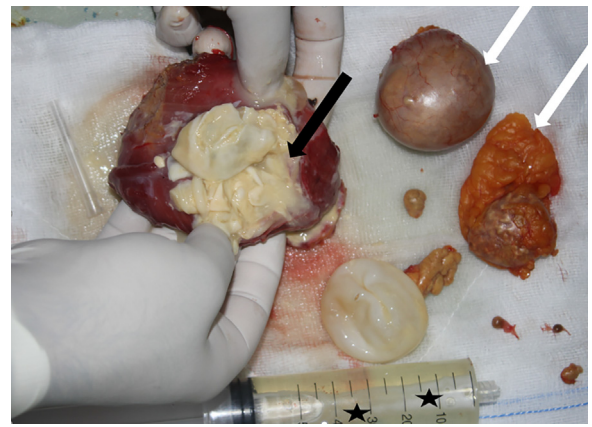


Fig. 3. Hydatid cyst of thigh with daughter cysts (black arrow). Multiple hydatid cysts of the pelvic (black arrows). Hydatid fluid (stars).

1.5. Follow-up and outcomes

the patient was put on albendazole 400 mg twice daily and she was found to be healthy two months after the operation.

2. Discussion

The prevalence of subcutaneous HDs is not well determined; it has been postulated that it is around 2% [2]. Subcutaneous HDs could be secondary or primary. In the former type, HC should be reported in at least one of the common sites of HD like liver, lung or spleen [2]. In this study, multiple HCs were found in the pelvic. In endemic regions, HD can be controlled by several preventive mechanisms including regular medication of definitive hosts by praziquantel, vaccinating sheep, preventing dog's access to intermediate hosts, boiling or safe disposal of offal [8]. The current case reported positive history of animal contact without fulfilling any preventive measure. Up to date, 17 cases of HD of the thigh have been reported in the literature [2,8–23]. The age ranged between 8 to 61 years [12,21]. Ten patients (58%) were female. Left side was affected more than the right one (ten in left side, 7 in right side) [2,8–23].

The unique character of HD in any area of the body is that the worm can stay silently for a long period of time (months to decades) without causing specific symptom. Either it is diagnosed incidentally or causing pressure symptoms making the victim seek medical advice [13]. The HC in this case resulted in swelling and disfigurement while the pelvic ones induced non-specific abdominal pain.

Preoperative diagnosis of subcutaneous HD is crucial. Sensitivity of serological tests depends on the type of HD which is positive in 90% of the patients with hepatic hydatidosis while negative in the most of the HD in other areas of the body. In atypical cases, ultrasound can diagnose HDs with 100% sensitivity and specificity. Computed tomography (CT) scan gives a clearer image regarding number, site, size and architecture of the cysts also their relationship with the neighboring structures. However, in atypical HDs like muscular or subcutaneous hydatidosis, MRI is the diagnostic tool of choice because of detailed information about soft tissue structure and relationship [9]. In the current case, ultrasound of the pelvic and left upper thigh showed features suspicious for hydatidosis or benign neoplasm. Magnetic resonance imaging confirmed the diagnosis of subcutaneous HD.

Surgical resection in toto is the definitive management strategy [10]. The hydatid cysts in this case were managed under general anesthesia by two incisions, an elliptical one in the thigh and lower transverse pelvic incision. All the cysts were resected en bloc. Whether the pelvis was the source to the thigh or the vice versa, it is

not clear. Sarda et al. reported a 60-year-female patient presented with thigh swelling with a palpable lump in the lower abdomen, on exploration, they found that there were HCs of thigh and retroperitoneum communicating via sub-facial plane [22]. In the current case, no canal was found between the cysts.

In conclusion; hydatid cyst of the thigh is a very rare parasitic manifestation presenting as a painless swelling, diagnosed typically by MRI and managed with en bloc resection.

Conflicts of interest

There is no conflict to be declared.

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Ethical approval

Ethical approval has been taken from Kscien organization for scientific research, no. 09.

Consent

Written informed consent has been taken from both the patient and the family for publication of this report.

Author's contribution

Abdulwahid M. Salih: Surgeon performed the operation and follow up.

Fahmi Kakamad: writing the manuscript and follow up.

Rawezh Qadir, Hawbash Rahim, Imad J. Habibullah, Hunar A. Hassan, Tomas A. Mikael: drafting and follow up.

Registration of research studies

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