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Review Article

Hydatid Cyst of The Gluteus Maximus Muscle: Rare Location, About A Case and Review of The Literature

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Abstract

The hydatid cyst of the gluteal region is a very rare condition, even in endemic areas. The symptomatology is often discreet, but it can be very obvious. the diagnosis is confirmed by imaging: ultrasound and/or MRI. Its treatment is surgical. We report a case of solitary hydatid cyst, of unusual location in the gluteal region, in close contact with the gluteus maximus muscle.

Keywords: Hydatid cyst; Gluteal muscle; Pericystectomy; Echinococcus

Introduction

Muscle infestation by Echinococcus is a rare entity even in endemic countries where its frequency is estimated at less than 3% [1,2]. It's often asymptomatic nature and its slow evolution make its diagnosis late. Soft tissue hydatidosis can have several imaging aspects that must be known in order to be able to make the diagnosis preoperatively and avoid the occurrence of sometimes serious complications [3,4]. We report a rare case of primary muscular hydatid cyst located in the gluteal muscle.

Observation

It is a 19-year-old girl, living in the countryside. In his background, there is a notion of contact with dogs. She consults for a slightly painful swelling of the left gluteal region, evolving for 2 years and gradually increasing in volume, the whole evolving in a context of apyrexia and conservation of general condition. Clinical examination found swelling in the upper outer quadrant of the left gluteal region. It was an oval subcutaneous mass, 16 centimeters in diameter, slightly painful, renitent, adherent to the deep and superficial planes. We also note the presence of inflammatory signs of the facing skin, namely redness and collateral venous circulation (Figure 1). Furthermore, there was no inguinal lymphadenopathy or fever and the rest of the somatic examination was unremarkable.

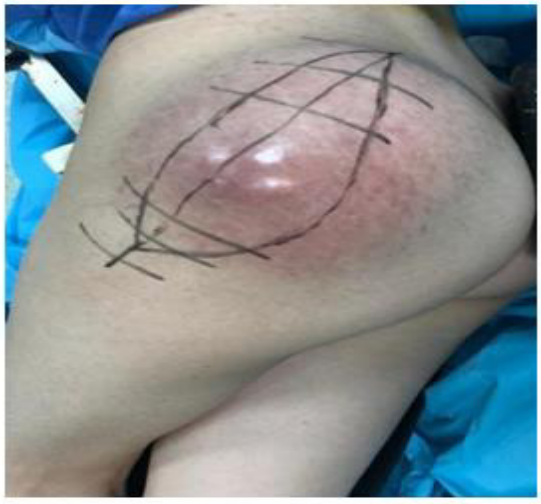

Figure 1: Clinical aspect of the gluteal region, showing the inflammation of the skin next to the dome of the cyst.

The pelvic x-ray came back normal, with no soft tissue calcification

Ultrasound strongly suggested a hydatid cyst (KH) type II, in front of the individualization of a subcutaneous formation, well limited, cystic, anechoic, and measuring ten centimeters in diameter (Figure 2). Computed tomography (CT) of the gluteal soft tissue evoked a stage 2 hydatid cyst of Gharbi coming into contact with the gluteus maximus muscle which it pushes back without a fatty border of separation (Figure 3). Magnetic Resonance Imaging (MRI) performed after CT confirmed the diagnosis by objectifying a well-limited right gluteal cystic formation measuring 13*10*7cm resulting in the form of a hypo signal in T1 and hyper signal in T2 containing membranes power stations. (Figure 4). A general assessment seeking another location was carried out. It included a chest X-ray, a liver ultrasound which were normal.

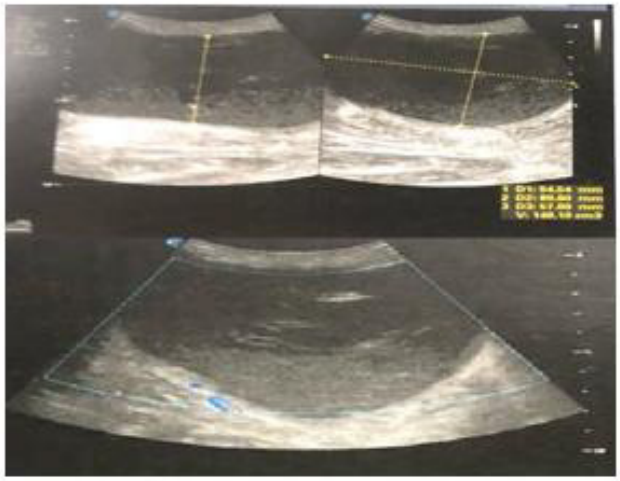

Figure 2: Ultrasound showing the hydatid cyst and its measurements.

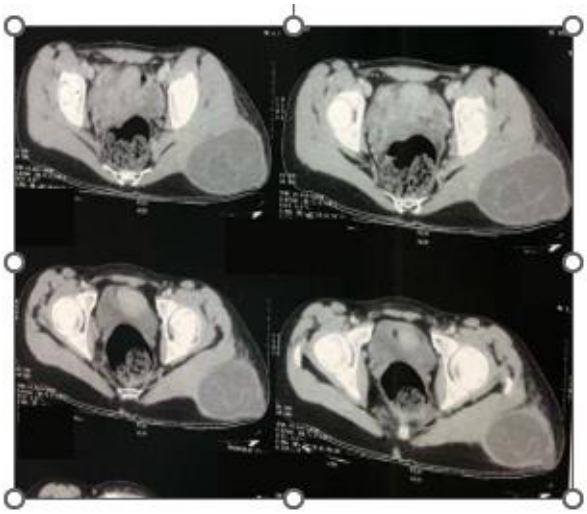

Figure 3: Scan sections showing the hydatid cyst, its volume, and its location.

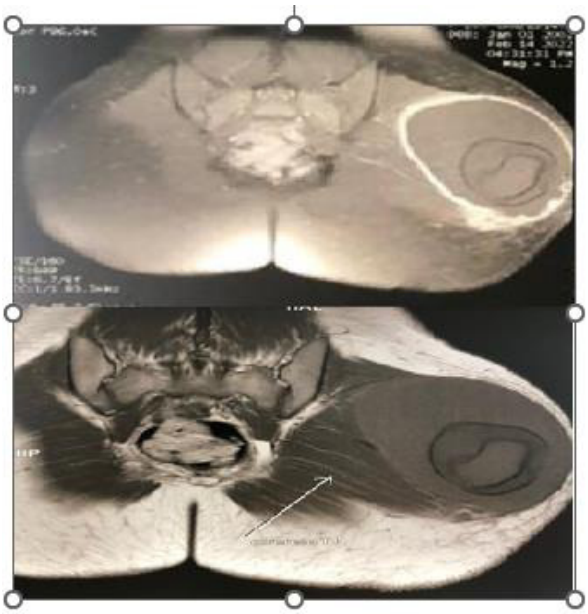

Figure 4: MRI images showing the constitution of the cyst and its envelope.

Hydatid serology was positive

The patient underwent surgical excision under locoregional anesthesia. An orange wedge incision was made, removing the skin adhering to the cystic dome (Figure 5). The dissection was careful to avoid any cystic rupture since the cleavage plane was not obvious because of the narrow cystic adhesions at the subcutaneous and muscular planes (Figure 6). The cyst was healthy excised (Figure 7). The opening of the operating room found whitish membranes with a dodgy white fluid (Figure 8). The postoperative course was simple. The patient was put on medical treatment based on Albendazole 400mg twice a day for 3 months. The patient was reviewed in consultation every month for a clinical, ultrasound and biological check-up (liver test++). At 36 months follow-up, no local or visceral recurrence was objectified.

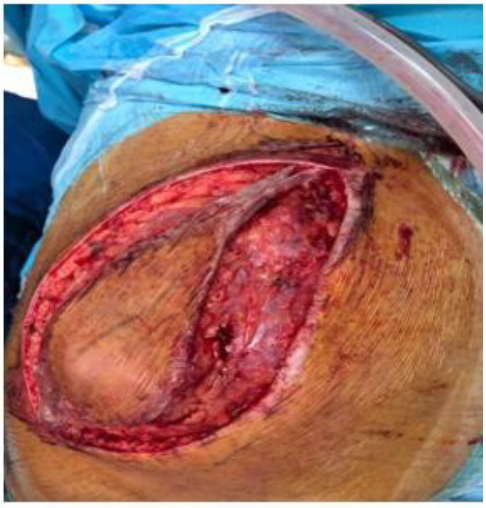

Figure 5: Intraoperative image showing orange wedge skin incision.

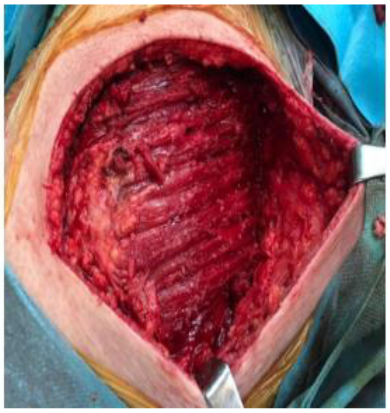

Figure 6: Intraoperative image after excision of the cyst.

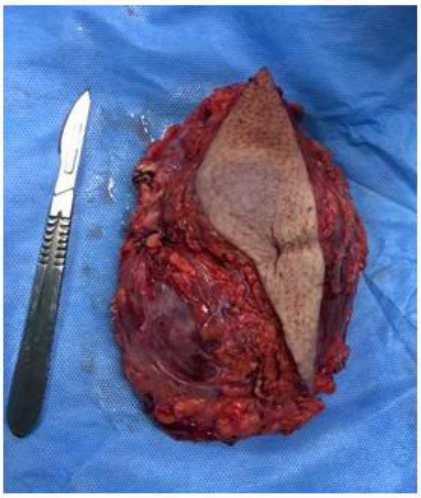

Figure 7: Appearance of the cyst after excision.

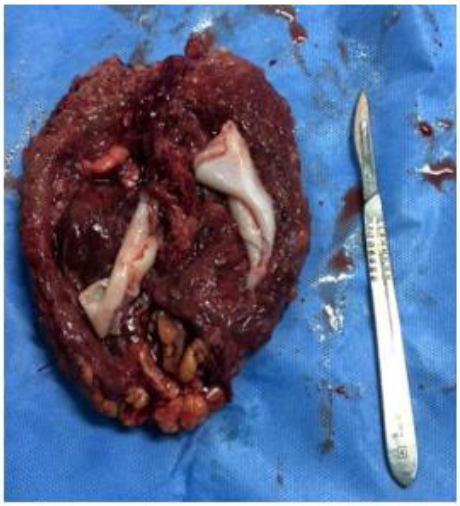

Figure 8: Constitution of the cyst after its opening.

Discussion

Hydatidosis is a human disease caused by the larva of Taenia echinococcus, which lives in the digestive tract of dogs, domestic or wild, and other carnivorous animals of which they are the definitive hosts. Humans are accidental intermediate hosts when they ingest Taenia eggs. It is an endemic disease in many countries where sheep, dogs and humans live in close contact, as is the case in North Africa [5]. The two most common locations are the liver (60% of cases) and the lung (20% of cases). It must be said that these two organs also constitute a double physiological filter for the dissemination of the parasite, thus making extra hepato-pulmonary localizations less frequent.

Muscular KH is a rare location and only represents 1–4% of hydatidosis [3]. Usually the primary lesion is intrahepatic, subphrenic or pulmonary. The chest wall musculature [6], pectoralis major [7], sartorius [8], quadriceps [9] and gluteus [10] are the reported locations of primitive muscle locations. In the case presented, the muscle localization was at the level of the gluteus maximus muscle. It is difficult to explain how the larva was able to cross the two hepatic and pulmonary filters and form a solitary cyst without associated visceral localization, knowing that the portal route is the only proven larval dissemination route in humans [11].

The implantation of the parasite in the muscles could be explained either by its passage in the systemic circulation after escape from the hepatic and pulmonary capillary filtration, or by its lymphatic passage through the intestine, or by borrowing a venous circuit shunting the liver [12]. A direct transcutaneous passage has also been mentioned [13]. However, the contractile activity of the muscles as well as the presence of lactic acid could be unfavorable to the development of the larvae, explaining the rarity of this location [12]. Hydatidosis muscle is clinically manifested by the appearance of a mass, often painless, gradually increasing in size without altering the general condition. However, very large cysts can lead to functional impairment or compression neuropathy [14]. Differential diagnoses are other soft tissue swellings: abscess, cyst or malignancy. In our case, a subcutaneous dermoid cyst had been suggested. The clinical diagnosis of muscular hydatidosis is difficult to evoke. Imaging is the essential tool to avoid a biopsy which can trigger anaphylactic shock and which is therefore totally prohibited. Ultrasound is the first-line examination. The typical appearance is a smooth-walled, hypoechoic round image. The multiplicity of vesicles gives a “honeycomb” image. The sonographic classification of the hydatid cyst, developed by a WHO expert committee, makes it possible to classify it as an active or inactive cyst [15], but it is only used in hepatic localizations.

MRI remains the best examination for the diagnosis of muscle cysts by showing a multiloculated cystic image [16]. It also makes it possible to locate them with precision. The scanner remains useful in the assessment of extension. Biologically, eosinophilia is inconstant [17,18]. Hydatidosis serology is based on at least 2 screening techniques (HAI, ELISA, immunofluorescence, electro syneresis, etc.), followed, in case of positivity, by a confirmation technique (Western Blot). Serology is very sensitive in the hepatic and pulmonary forms, whereas it is only positive in approximately 25% of the other forms [16]. A negative serology therefore does not exclude the diagnosis. In our case, the screening serology was positive. The treatment of muscular hydatidosis is above all surgical, consisting of a total peri cystectomy, associated with washing with a scolicidal agent (hypertonic saline or hydrogen peroxide) in order to avoid dissemination during the intervention. The diagnosis of certainty is made by examining the extracted mass within which daughter vesicles or membranes are found depending on the evolutionary stage of the cyst. Microscopic examination of hydatid fluid may reveal the presence of protocolizes if the cyst is still active. In hepatic forms, supervision of the surgical procedure with albendazole is recommended for a total duration of 3 to 4 months [18-19]. Concerning the muscular forms, there are no recommendations. Our patient was put on albendazole 400mg*2/d for 3 months. Long-term patient monitoring is necessary to detect

local or distant recurrence. It is based on clinical examination, imaging and monitoring of serology (every 3 months, for 2 years) [20]. A rise in antibodies can mean a recurrence or reinfection. Faced with any subcutaneous or muscular mass in a patient residing or having resided in an endemic area, the diagnosis of hydatidosis should be considered, even if it is rare. Imaging and serology must then be performed. The treatment consists of a total pericystectomy supervised by a medical treatment based on albendazole. Long-term monitoring is necessary.

Conclusion

The hydatid cyst of the gluteus maximus muscle is a rare condition, it is always to be considered in a patient living in an endemic country and presenting with a mass in the gluteal region. Its confirmation requires additional examinations, and its therapeutic management is often medical and surgical. Prophylaxis is the only guarantee of the eradication of this disease, it is based on the health education of populations, the treatment of domestic dogs, the systematic euthanasia of stray dogs, and the monitoring of the slaughter of animals.

Acknowledgment

None.

Conflicts of interest

None.

References

1. Kazakos CJ, Galanis VG, Verettas DA, Polychronidis A, Simopoulos C (2005) Primary hydatid disease in femoral muscles. J Int Med Res 33: 703-706.
2. Cissé AM, Nassar I, Hammani L, Dafiri R, Imani F (2002) Hydatidose primitive et étendue de la cuisse : aspect radiologique inhabituel. J Radiol 83: 1778-1780.
3. Meddeb N, Bachrouch N, Elleuch M, Sahli H, Cheour E, et al. (2001) Kyste hydatique des adducteurs de la cuisse. Aspect IRM, à propos d'un cas. Bull Soc Pathol Exot 94: 106-108.
4. Alouini Mekki R, Mhiri Souei M, Allani M, Bahri M, Arifa N, et al. (2005) Kyste hydatique des tissus mous : apport de l'IRM (à propos de trois observations). J Radiol 86: 421-425.
5. Dawson JL, Stamatakis JD, Stringer MD, Williams R (1988) Surgical treatment of hepatic hydatid disease. Br J Surg 75: 946–950.
6. Alvarez-Sala R, Gomez de Terreros FJ, Caballero P (1987) Echinococcus cyst as a cause of chest wall tumor. Ann Thorac Surg 43: 689–690.
7. Abdel-Khaliq RA, Othman Y (1986) Hydatid cyst of pectoralis major muscle. Case report and note on surgical management of muscle echinococcosis. Acta Chir Scand 152: 469-471.
8. Rask MR, Lattig GJ (1970) Primary intramuscular hydatidosis of the sartorius. Report of a case. J Bone Joint Surg 52: 582-584.
9. Ozkoc G, Akpinar S, Hersekli MA, Ozalay M, Tandogan R (2003) Primary hydatid disease of the quadriceps muscle: a rare localization. AOrthop Trauma Surg 123: 314-316.
10. Combalia A, Sastre S (2005) Kyste hydatique du muscle glutéal. Deux cas. Revue de la littérature. Rev Rhum 72: 851-857.
11. Ok Engîn, Sozûer EM (2000) Solitary subcutaneous hydatid cyst: a case report. Am J Trop Med Hyg 62: 583-584.
12. Abhishek V, Patil VS, Mohan U, Shivswamy BS (2012) Abdominal wall hydatid cyst: case report and review of literature. Case Rep Surg: e583294.
13. Kayaalp C, Dirican A, Aydin C (2011) Primary subcutaneous hydatid cysts: a review of 22 cases. Int J Surg 9: 117-121.
14. Tuna S, Duymus TM, Yanik HS, Durakbasa MO, Mutlu S, et al. (2015) Hydatid cyst of biceps brachii associated with peripheral neuropathy. Int J Surg Case Rep 8: C150-153.
15. Brunetti E, Kern P, Vuitton DA (2010) Expert consensus for the diagnosis and treatment of cystic and alveolar echinococcosis in humans. Acta Trop 114: 1-16.
16. Orhan Z, Kara H, Tuzuner T, Sencan I, Alper M (2003) Primary subcutaneous cyst hydatic disease in proximal thigh: an unusual localisation: a case report. BMC Musculoskelet Disord 4: 25.
17. Mseddi M, Mtaoumi M, Dahmene J, Ben Hamida R, Siala A, et al. (2005) Hydatid cysts in muscles: eleven cases. Rev Chir Orthop Reparatrice Appar Mot 91: 267-271.
18. Cappello E, Cacopardo B, Caltabiano E, Volsi S, Chiara R, et al. (2013) Epidemiology and clinical features of cystic hydatidosis in Western Sicily: a ten-year review. World J Gastroenterol 19: 9351-9358.
19. Arif SH, Bari S, Wani NA, Zargar SA, Wani MA, et al. (2008) Albendazole as an adjuvant to the standard surgical management of hydatid cyst liver. Int J Surg 6: 448-451.
20. Thaunat O, Priollet P (2004) Hydatidose hépatique. Presse Med 33: 30.