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Case Report

Primary Hydatid Disease of the Adductor Magnus. A Rare Location

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Abstract

Cystic echinococcosis is an infectious disease secondary to the contamination by Echinococcus granulosus. Muscle localization is very rare, and is characterized by atypical clinical presentation and the absence of pathognomonic signs, leading to diagnosis delays. MRI is the method of choice for diagnosis of soft tissue hydatid cysts, and surgery remains the main curative treatment. We report a case of hydatid cyst of the adductor magnus muscle in a 24- year-old young man, along with a literature review.

Keywords: Hydatid Cyst; Muscle; Echinococcosis; Pericystectomy.

Introduction

Hydatid disease is a cosmopolitan illness, originating from the infection by *Echinococcus granulosus* [1]. Cystic echinococcosis affects mammals, including humans. The dog is like the final host, while humans are only intermediate hosts who become infected following contact with dogs or by ingesting contaminated food [2]. The hydatid cyst of the muscle remains a rare and exceptional entity even in endemic countries, the frequency of which does not exceed 5% [3,4]. We report a case of hydatid cyst localized in the adductor magnus muscle, and discuss the epidemiological and clinical profiles as well as the surgical treatment for this rare entity.

Case Presentation

The young patient is 24 years old, of rural origin, and with no significant pathological history. He consulted for a swelling of the inner side of the right thigh. The disease has begun 9 months before admission by the installation of a tumefaction on the medial face of the right thigh, which gradually increased in volume, without general signs. The clinical examination found a mass in the proximal third of the inner surface of the right thigh, measuring 15 cm*5 cm, adherent to the deep plane, of soft consistency, slightly painful on palpation, and without signs of vascular-nervous compression. MRI showed a cystic formation with a thin wall, slightly enhanced after the injection of contrast product. In its lower third, the loci were slightly smaller and more numerous with a higher signal in T1. This formation originated from the large adductor muscle and measured 15 cm in height by 7 cm*4 cm in transverse diameters. The adjacent muscular parenchyma was normal, and the mass remained distant from the superficial and deep femoral pedicle. This radiological description did not make it possible to evoke the diagnosis of a muscular hydatid cyst at the first intention. Surgery was then planned for both diagnosis and treatment purposes (Figures 1-3).

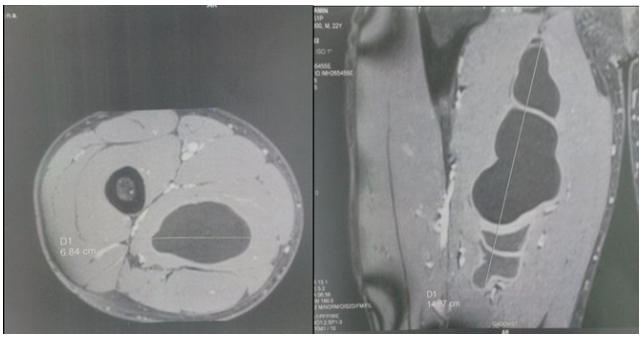

Figure 1: Contrast-enhanced magnetic resonance images of a cystic mass arising from the origin of the right adductor magnus.

The treatment was surgical with an internal approach. A pericystectomy was initiated. Given the difficulty of finding a cleavage plane, aspiration evacuation was performed associated with pericyst resection, while protecting the operative site with drapes soaked in hypertonic saline and hydrogen peroxide. The postoperative follow-up was simple. Anatomopathological examination of the surgical specimen confirmed muscular hydatidosis. After 9 months of follow up, no recurrence was detected.

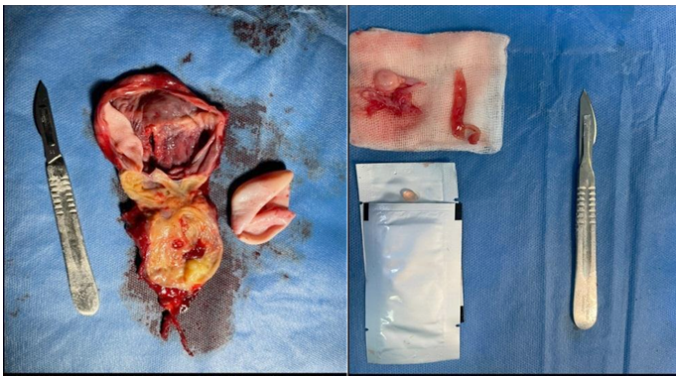

Figure 2: postoperative view of the macroscopic aspect. The surgical specimen contained multiple small daughter cysts.

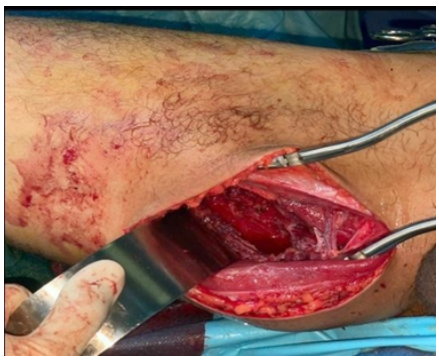

Figure 3: intraoperative view of the residual cavity.

Discussion

The hydatid cyst of the muscle is an exceptional and rare entity even in endemic countries [3,4]. The rarity of muscle localization can be explained by the presence of hepatic and pulmonary filters which stop the hexacanth embryos from passing into the general circulation [5]. The contractile character of the muscle and the presence of lactic acid can also explain the rarity of this entity [6,7]. To our knowledge, a very limited number of cases of hydatid cysts of the adductor magnus muscle have been reported in the literature [8,9]. A less evocative and insidious clinical picture, as well as the absence of pathognomonic signs, can explain the frequency of diagnostic delays [3, 10]. Clinically, the primary hydatid cyst of the muscle most often manifests as a tumor gradually increasing in size. In some situations, the discovery of a cyst is following the installation of infectious complications or a compressive syndrome, giving the appearance of a malignant tumor or an abscess [11]. Hydatid serology is negative in the majority of cases, the positivity of which may point to cyst fissuring or infection [10, 12]. The multi-vesicular appearance of a cyst on ultrasound examination confirms the diagnosis of a hydatid cyst. However, the hydatid cyst may present a solid heterogeneous appearance which may simulate a tumor mass [13, 14]. The importance of CT examination for muscle hydatid cysts is evident in determining location, number, size, and also vascular and nerve involvements [4,12]. On CT scan, the multi-vesicular appearance is characteristic of hydatid cysts, while the solid appearance; which reflects an intracystic inflammatory reaction; can simulate the appearance of a tumor mass. In addition, CT may be of importance in the study of calcified cysts [14,15]. MRI is considered the method of choice for soft tissue hydatid cysts. It allows, thanks to the multi-plane study to specify: the aspects, the localization, and the locoregional involvements, in particular vascular and nervous. Consequently, better planning of the surgical approach [16].In the typical hydatid cyst situation, MRI shows the appearance of “cysts within the cyst”, which reflects the presence of multiple daughter vesicles following the proliferation of the proligerous membrane. These daughter vesicles appear in hyposignal on T1-weighted images and in hyper or hyposignal on T2-weighted sequences [17,18]. This semiological aspect is only present in 30% of cases [3,18]. Indeed, despite the high diagnosis value of MRI in the hydatid pathology, the diagnosis may remain difficult since the aspects of muscular hydatid cysts on MRI are not well defined, unlike pulmonary and hepatic cystic pathology [14]. In our case, MRI did not confirm the diagnosis of a hydatid cyst. The treatment of muscular echinococcosis is mainly surgical. It allows a total cure and diagnostic confirmation. Intraoperative prevention against local dissemination of the scolex is essential by protecting the operating field with oxygenated water or hypertonic saline. The ideal surgical technique is the excision of the cyst in one piece with pericystectomy. However, this surgical procedure can be limited by: depth, the absence of a cleavage plane, the remodeling, and the adhesion of the cyst to the vascular-nervous pedicles. In this situation, aspiration of the cyst associated with resection of the pericyst is the therapeutic alternative to prevent rupture [19]. The place of anti-hydatid chemotherapy is to be discussed in hydatid cysts of the musculoskeletal system given the low diffusion in the cyst [20]. However, its efficacy in monotherapy is between 30 and 40%, hence its indication in inoperable forms may be appropriate [21].

Conclusion

The primary muscular hydatid cyst, especially of the adductor magnus, is a very rare entity even in endemic countries. However, it should be evoked when radiology shows muscular masses of cystic appearance. Surgical treatment, based on monobloc cystic resection with pericystectomy, is the mainstay treatment. Health education and monitoring of animals, especially dogs, are the best ways to prevent and eradicate this disease.

Conflict of Interest: Authors have no conflict of interest to disclose.

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