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Hydatid Cyst of the Calf: Exceptional Location

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Abstract: Echinococcosis or hydatidosis is a cosmopolitan antropozoonosis common to humans and several mammalian species. The disease results from the development of the larval or hydatid form of canine tenia (Echinococcus granulosis) in the body. Intra-muscular hydatic cysts are rare, even in endemic areas. We report an exceptional case of intra muscular calf cyst. We report the case of a 50-year-old female patient with right swollen tumefaction, whose investigation led to the diagnosis of hydatid cyst of the triceps sural muscle Magnetic resonance imaging (MRI) was a great contribution, showing a very evocative aspect of a hydatid cyst. The treatment was surgical, thus allowing healing, but with a risk of recurrence. Hydatid cysts are rarely present in the muscles. The diagnosis must nevertheless be maintained according to the clinical and endemic context. Ultrasonography, and incidentally magnetic resonance imaging, is the exploration tools of choice to confirm the diagnosis before surgery and avoid puncture. Exclusive surgical treatment is indicated, ideally for total pericystic resection without rupture.
Keywords: Hydatid; muscular; calf.

INTRODUCTION

The hydatid cyst or hydatidosis is an anthropozoonosis due to the larval form development in humans of tenia Echinococcosis granulose [1].

It is endemic and constitutes a real public health problem in Morocco

The preferred locations for human echinococcosis are the liver and lungs, which account for 85% of cases [2]. Isolated muscle localization is an unusual entity even in endemic countries. Its frequency would be 2 to 3% of all locations [15].

It is often asymptomatic and its evolution is progressively slow, which can delay the diagnosis. Soft tissues Hydatidosis may have several imagery aspects, which must be known to make the diagnosis preoperatively and prevent the appearance of many serious complications. Through this observation, we report an exceptional case of triceps sural muscle hydatid cyst.

OBSERVATIONS

This is a patient aged 50, of rural origin, with no specific history, was hospitalized in our department for exploration of posterior internal face and swelling of the right calf that appeared progressively and insidiously for 5 months. This lesion, initially asymptomatic, caused, after 2 months of evolution leg pain radiating to the right foot, not systematized. This Pain was mechanical and calmed by rest and analgesics, gradually became inflammatory and insomnia, pushing the patient to consult. The examination found a good general condition patient with no fever. Palpation of the right calf found a bad limited mass, adherent to the deep plane, slightly sensitive and quivering.

Standard radiographs showed soft tissue thickening without calcification or bone abnormalities (Fig. 1). Right calf Ultrasonography showed an intramuscular, heterogeneous hypoechoic formation on the internal side of the sural triceps muscle measuring 8 cm at its long axis, of regular contours and containing several vesicles, with an enhancement of the Doppler signal at the lesion periphery, evoking the diagnosis of a multi-vesicular muscle hydatid cyst.

Chest x-ray and abdominopelvic ultrasound showed no other locations (Fig 2)

Magnetic resonance imagery (MRI), performed to better study the relationship between the mass and neighboring vascular and neurological structures, showed 3 cysts: one subcutaneous extended to the triceps sural muscle of cracked appearance type 3 of GHARBI classification, the second at the deep posterior box and a 3rd, an infra-centric at the anterior box with a hypo intense signal T1, and hyper intense T2. (Fig 3, 4)

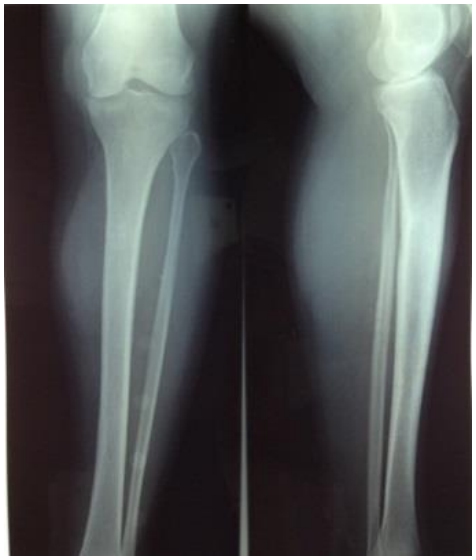

Fig-1: Standard radiograph of face and profile of the leg showing a thickening of soft sparices without image of calcification or bone abnormality

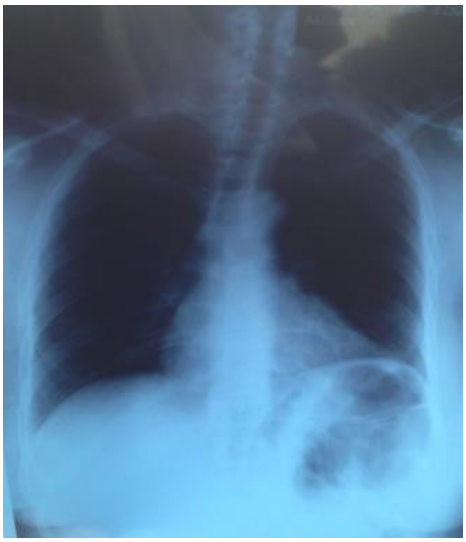

Fig-2: Frontal lung radiography without suspicious lesions

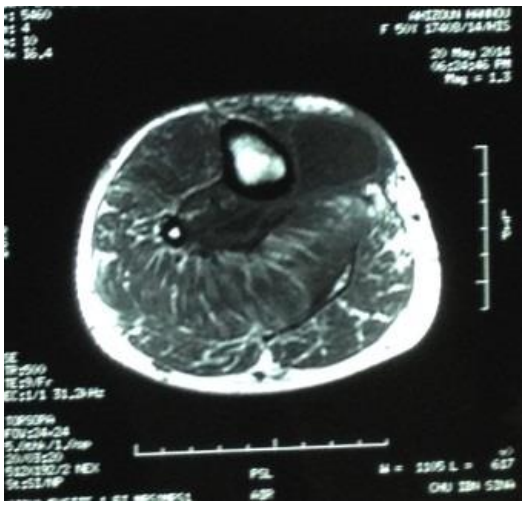

Fig-3: MRI T1 of the leg in cross section showing cysts in hypo-signals

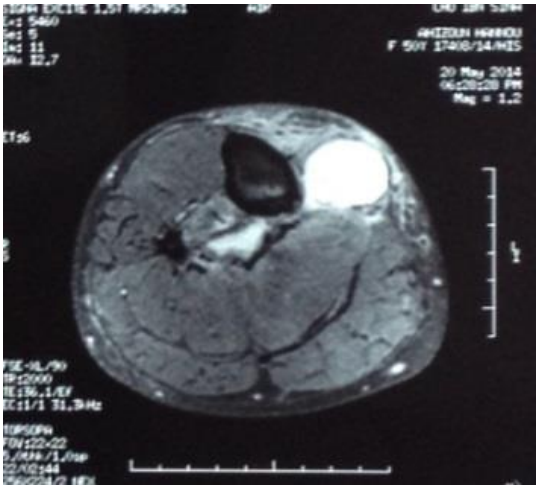

Fig-4: MRI T2 of the leg in cross-section showing cysts in hyper-signals

The diagnosis of hydatid cyst was made in front of the presence of a specific bow in immunoelectrophoresis. The surgical exploration found a cystic formation measuring 7 cm x 5 cm long axis and another cyst 9 x 4 cm. These lesions sat behind the vascular axis and were buried in the sural triceps mass. We realized a H2O2 washing at the end of the surgery, to clean some cystic walls that have remained adhering to the muscle fibers. The postoperative course was simple. In macroscopy, the cystic lesions contents were yellowish, bound and multivesicular.

With a follow-up of 8 months, the patient is currently asymptomatic. The clinical examination found no palpable mass in the calf. Postoperative hydatid serology was weakly positive.

DISCUSSION

Primary muscle hydatid cyst is rare even in endemic areas. Its frequency varies from 1 to 5% [4,5]. Larvae entering the gut are most often stopped by the liver and lungs acting as filters. A very small number of hexacanthes arrive in the coronary circulation where they spread throughout the body. The rarity of muscle sites is explained by the fact that muscular contractions and the lactical acid production prevent the scolex implantation [5,7-10]. Some muscle sites have been described, with predominant involvement of the neck, trunk, limbs and root muscles. This can be explained by the rich vascularization of these areas [4,7-9]. Clinical symptomatology is insidious and nonspecific, frequently causing a delay in diagnosis.

The symptomatology is generally represented by a painless non - inflammatory swelling gradually increasing in volume over several years with preservation of the general condition [4,5,7]. However, a number of cysts are revealed by complications such as nerve compressions or infections simulating acute abscess or malignancy [5,11]. Serological tests are often negative. Usually, the hydatid serology is only positive in case of infection or cyst cracking [3,7].

Ultrasound is the key examination for diagnostic orientation of any soft tissue swelling. It specifies the fluid nature of the swelling and its seat [4,10,11]. In typical cases, the hydatidosis diagnosis can be made by showing a heterogeneous fluid formation containing vesicles , as in our case [4,7]. However, there are atypical forms which in the lesion are either mixed or solid pseudotumor with or without transonic elements [8].

The advantage of computed tomography (CT) lies in its ability to enumerate cysts and to demonstrate their size and topography as well as their relationship with neural vascular elements [3,8].

MRI is the first-choice diagnostic method for hydatid soft tissue diseases. With its high contrast resolution, it provides a better study of the locoregional extension of the lesion and its relationship with the nerve and vascular pedicles, while providing a meticulous analysis of the walls cyst [5,7,10,11].

Biological diagnosis of muscular hydatidosis is difficult [12]. Eryosinophilia is neither constant nor specific, and immunological reactions are often negative when the cyst is not cracked or remodeled [13]. Nevertheless they constitute an additional support [14]. The persistence of a high titre of antibodies or better a re-ascension observed 6 months to 1 year after a surgery are in favor of a secondary echinococcosis [12]. However the treatment of muscular hydatidosis still remains surgical.

Recent years have been marked by the development of percutaneous interventional radiology such as puncture-aspiration-injection and re-aspiration (PAIR), and percutaneous drainage without re-aspiration, which has improved the hydatid cyst mortality and morbidity.

Complementary drug treatment is necessary to achieve a complete cure and avoid reinfections.

Prophylaxis is a real treatment that must act at all levels of the epidemiological chain [15].

CONCLUSION

The muscular localization of the hydatid cyst is rare, even in highly endemic countries. Nevertheless, the diagnosis must be evoked in the epidemiological and clinical context.

Ultrasound and incidentally MRI are the kye exams to confirm this diagnosis thus avoiding the puncture. The treatment is mainly surgical, taking the cyst and the pericyst without breaking it.

CONFLICT OF INTEREST

The authors do not report any conflict of interest in this study.

AUTHORS CONTRIBUTIONS

All authors contributed to this study since conception, reading, and approved the latest version.

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