

## **Hydatid cyst of the thigh revealed by acute knee arthritis: report of a case.**

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**Abstract:** Muscle involvement of hydatid disease is rare, representing less than 1% of the locations of human cystic echinococcosis. The clinical symptoms are very misleading. The muscular hydatidosis may have several imaging aspects which may cause diagnostic problems. We report the case of a 74 year old patient who was presented with acute arthritis of the right knee, the exploration led to the diagnosis of hydatid cyst of the thigh.

**Keywords:** primitive cyst of the thigh, imaging, surgery.

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### **INTRODUCTION:**

Cystic echinococcosis is an antrozoonose; spreading in an endemic form in the Mediterranean countries, including Morocco. The parasite is *Echinococcus granulosus*.

Muscular localization of this parasite is rare and unusual even in endemic countries. The diagnosis is based on a set of arguments: anamnestic, clinical and radiological ones.

The treatment is mainly based on surgery but medical treatment is possible in a few well-defined cases.

### **CASE REPORT**

This is a woman aged 74 years, hypertensive and followed for asthma for the past 2 years taking inhaled steroids and  $\beta_2$  mimetic, hospitalized for febrile monorathrite right knee lasting for 11 days with a background of voiding burns treated with ciprofloxacin a dose of 1500mg / day right from the 2nd day of the onset of symptoms without improvement. Clinical examination revealed a swollen right knee with patellar shock and signs of inflammation (heat and redness), with a heel-to-buttock distance of 70 cm, the rest of the osteoarticular and physical examination was normal.

Laboratory tests discovered a ESR 130 mm CRP 112 mg / L, and leukocytosis with 15,600 / mm<sup>3</sup> (PNN: 13260 / mm<sup>3</sup> and Eosinophils: 900 / mm<sup>3</sup>). The articular puncture removed 11 cc of a viscous

cloudy liquid and cytobacteriological analysis showed a mechanical liquid (1000 cells / mm<sup>3</sup>) without germ or parasite on direct examination with a sterile culture. ECBU returned as sterile. The patient was put under flucloxacillin 6g / d + Gentamicin 160 mg / day for 5 days and gentamicin was replaced with ciprofloxacin at a dose of 1500mg / day. The evolution was marked by a decrease in the inflammatory syndrome during the first 17 days but with a new increase after (Fig 1).

Following this development, a morphological assessment was requested and which featured a Doppler ultrasound of the lower right limb has not objectified thrombophlebitis, an osteo-articular ultrasound that revealed a cystic lesion in the lower third of the anterior face of the thigh (in favor of a hydatid cyst or a cystic tumor) (Fig 2). The magnetic resonance imaging of the thigh has visualized a multicystic lesion whose wall is T2 with a low signal enhancement periphery in contrast (Fig 3). The decision to a surgical exploration was made to identify the nature of the cystic mass. Histological study showed a multilocular cystic mass measuring 6 cm of diameter, it is filled with clear liquid where there are daughter cysts, the periphery of the cyst is formed by fibrous wall and an acellular eosinophilic lamellar membrane (structureless membrane) lined with a proligerous membrane. So the diagnosis of hydatid cyst was made and surgical supplement has not been considered since the resection was complete with a margin of 4 cm safety. Abdominal ultrasound and chest CT did not objectified secondary location.

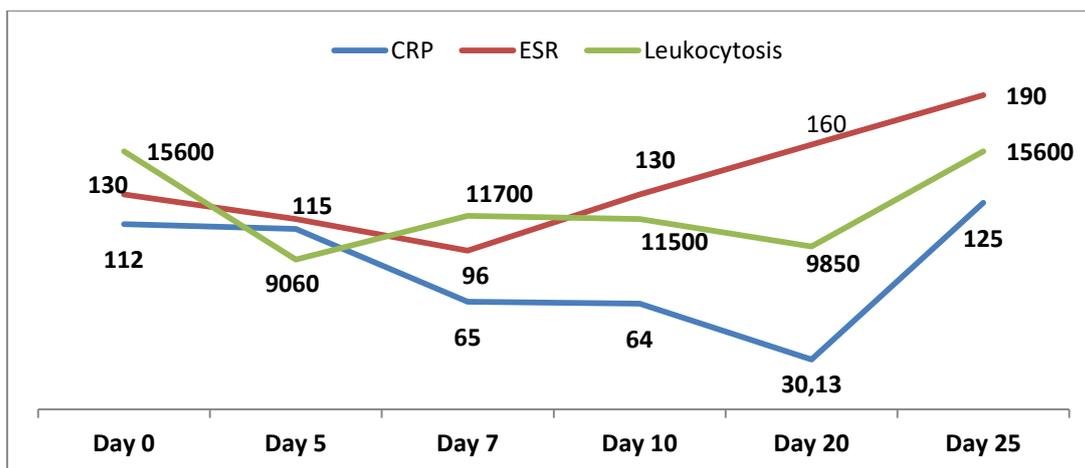


Fig 1: Evolution of inflammatory parameters



Fig 2: Ultrasound of the right thigh: Multicystic lesion.



Fig 3: MRI of the right thigh in T2: Multicystic formation of the lower third of the thigh with a low signal intensity peripheral wall.

## DISCUSSION

The hydatid disease is cosmopolitan, discovered in 1782 by Goeze [1]. It results from tissue development of the larva or hydatid tapeworm *Echinococcus a* (*Echinococcus granulosus*), parasitic as adults in the small intestine of canids. It grows in intermediate hosts, represented by herbivores and humans following accidental ingestion of food contaminated with parasite eggs. It stays at different tissues, mainly the liver (70%) and lung (15%), so the

extra-hepatopulmonary location particularly muscular is rare.

What is attractive in our case, it is the solitary and unusual location of hydatid cyst in the thigh on one hand and the revelatory symptomatology on the other. The frequency of the primary location of hydatid cyst in the thigh is presumed to 5.4% of the muscle locations in an endemic area [2]. Several authors have explained the rarity of this specific location of hydatid cyst because of the efficiency of the liver and lung barriers that oppose

the easy migration of the embryo into the systemic circulation and the role of muscle environment that is not conducive to rest growth hydatid larvae due to the production of lactic acid, without forgetting the mechanism of contraction/relaxation of muscles preventing the attachment of the parasite [2,3]. the clinical presentation is often asymptomatic and is summed up in the majority of cases by an increasing swelling in volume, without altering the general condition [4,5]. Sometimes a compression table of adjacent structures is found. [5] But the discovery of knee arthritis is almost - exceptional. Standard radiography remains normal in the majority of situations, but can highlight an intracystic calcification [6]. Ultrasound remains the reference examination for diagnostic orientation. In typical cases, it allows the diagnosis of hydatid cyst fluid by revealing the nature of the mass, size, its location and stage in the classification of Gharbi. However there is atypical forms when the mass is mixed or pseudotumoral [6,7]. The computed tomography gives more information on loco regional reports of the mass but is still facing the same problems as diagnostic ultrasound. The MRI is the diagnostic method of choice for hydatid disease of the soft parts as soon as ultrasound cannot decide [7,8]. It shows, in addition to vesicles and membranes, the wall as a peripheral rim of low signal intensity on T2-weighted. Cystic peri enhancement after gadolinium injection, allows the diagnosis of hydatid soft tissue. MRI also allows better analysis of loco regional reports. When all of the additional tests fail to determine the origin of the soft tissue mass, it is the time of the surgical exploration with pathologic study that confirms the diagnosis and eliminates other causes of a cyst including soft tissue tumor.

Treatment of muscular echinococcosis is surgical [3, 4, 5]. The technique of choice is pericystectomy, taking the entire cyst without breaking its wall. Preoperative precautions using soaked fields of hypertonic saline on the banks of the wound can prevent the local spread of the scolex.

For some authors [2,9], techniques by percutaneous puncture, aspiration, injection of alcohol or sclerosing and rebreathing or percutaneous drainage with injection without rebreathing are a well validated alternative to surgical resection in selected patients [4,5].

The interest of medical treatment with benzimidazole derivatives (albendazole) in solitary musculoskeletal locations remains controversial because of their poor dissemination in the cyst fluid. The indication of this treatment can be to inoperable cases or in addition to surgery, if the cyst is complicated by fracture [5].

## **CONCLUSION**

The muscular hydatidosis should be discussed in the differential diagnosis of the masses of the parts. Ultrasound examination is the key to the diagnostic orientation. The CT and MRI are reserved for complicated cases or when the ultrasound does not help. Surgical treatment is imperative

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