

# PRIMER HYDATID CYST IN PARAVERTEBRAL MUSCLE

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Hydatid cysts may occur in any area of the body, but usually localize to the liver and the lungs. Primary localization in muscle isn't common, accounting for 2-3 % of all sites. We presented a patient with hydatid cyst, diagnosed by ultrasonography and computed tomography, and the cyst was located in the paravertebral muscle of the patient. Surgical and medical treatment combination. The intact intramuscular cyst was completely excised. Postoperatively, the patient began receiving albendazol 400 mg twice daily, for 6 months. At two years postoperatively, a clinical and radiological examination yielded no evidence of recurrence.

**Key words:** Hydatid cyst, Paravertebral muscle

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## INTRODUCTION

Hydatid cyst disease is a zoonotic infection, most commonly caused by *Echinococcus Granulosus*. Hydatid disease is one of the world's most important health problems. Hydatid cysts may occur in any area of the body, but usually localise to the liver and the lungs. Primary hydatid cysts of the skeletal muscle are extremely rare, seen only as isolated case reports in the literature (1,2).

## CASE

A 20- year- old male from the family of shepherds was admitted with a painless swelling over left side of back since six months. There was no history of trauma, fever of weight loss. Physical examination revealed a diffuse, non-tender cystic swelling of 9x5 cm in size over the left Para vertebral region fixed to deep muscles. The neurological examination of the patient was normal.

On blood examination the total leukocyte count was 9000 cells/L and 3.62% eosinophils. Routine chest radiographs and abdominal ultrasound was normal. The diagnosis of hydatid cyst was strongly suspected on ultrasound examination, which showed multiloculated cystic mass with dimensions of 110x37 mm in the para vertebral muscle. On CT, cystic mass in dimensions of 10x5x4 cm was hypodence, filled with daughter cysts, and located in the para vertebral muscle (Figure 1).

The intact intramuscular cyst was completely excised (Figure 2,3). The cavity was thoroughly irrigated with hypertonic saline. A histopathological examination confirmed hydatid cyst. Postoperatively, the patient began receiving albendazol 400 mg twice daily, during 6 months. At two years postoperatively, a clinical and radiological examination yielded no evidence of recurrence.

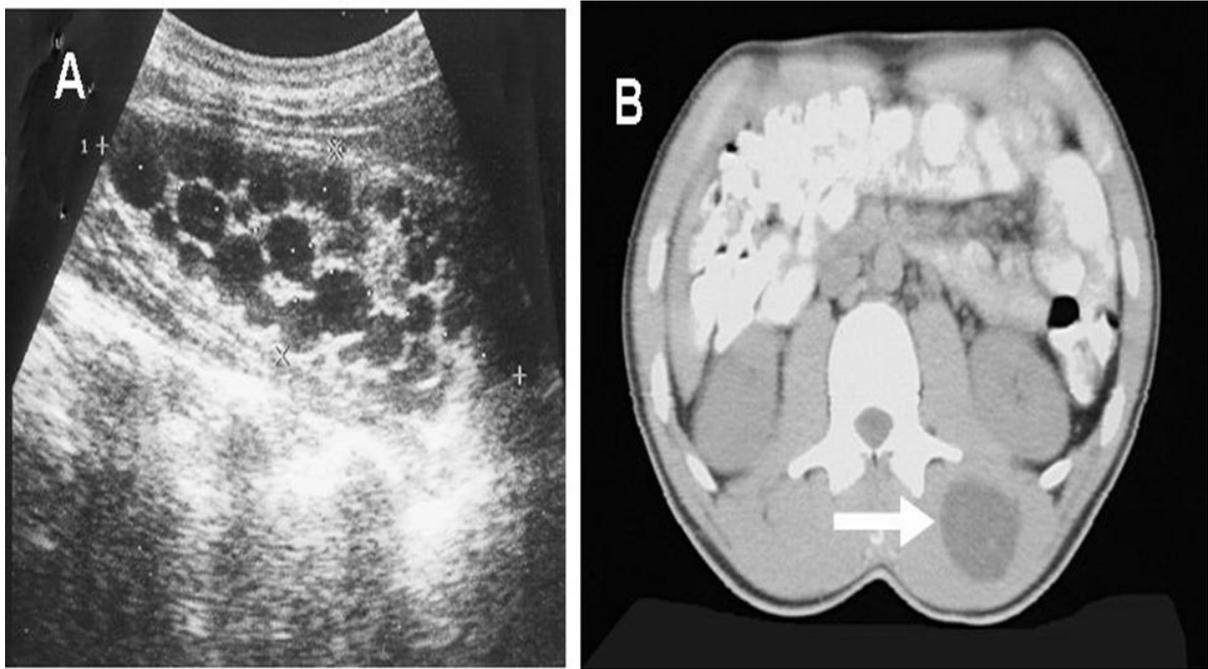
## DISCUSSION

Hydatid cystic disease is a severe medical and public health problem in many Mediterranean countries, in the Middle East, in South America, New Zealand and Australia. Primary cyst may localize anywhere in the body but commonly in the liver (55–70%) and lungs (20–30%)(2); location in muscular tissue accounts for 2–3% of cases (3).

The pathogenesis of muscular localization remains ill understood. Some authors claim that it is due to direct implantation through a wound (e.g. dog bite) (4), but most authors believe embryo can reach the muscles from the systemic circulation after leaving the intestine and passing through two filters: the liver and the lungs.

The relatively infrequent involvement of muscle by the disease may have a statistical basis. Muscles constitute two-fifths of body mass and receive most arterial blood. Muscle function, however, may be an impediment, both mechanically and environmentally

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**Figure 1. Preoperative imaging methods: A) Ultrasound scan, B) The appearance of multiocular hydatid cyst in paravertebral muscle with CT.**

(lactic acid concentration) for implantation of the embryo (5,6). Previous trauma (3) and the functional status of the muscle may also have a role in conditioning the implant within the muscle. A review of the literature shows that commonly involved muscles are those of the trunk and proximal limbs (7, 8). It was interesting that patient has not any trauma history, and primary localization of cysts was in para vertebral muscles.

Clinically, growth of the cyst may manifest, in addition to the presence of a mass, local symptoms related to compression of adjacent

structures. General symptoms related to immune reactions or to complications such as anaphylactic shock or infection of the cyst, may also occur (2). In our case, there wasn't any symptom except a mass, which was growing on para vertebral side. So, although it is very rare, hydatid cyst should be considered, in the diagnosis of a mass growing in muscles.

US and CT are the most valuable screening methods in the diagnosis of a hydatid cyst. Ultrasonography is available worldwide and diagnose typical unilocular or multilocular



**Figure 2. The view of hydatid cyst in paravertebral muscle.**



**Figure 3. The daughter cysts and germinal layer**

cysts, especially if the possibility of hydatid disease is considered. CT is especially valuable for surgical planning because of the three-dimensional information regarding localization of the cyst. Daughter cysts within a large cyst and increased density of the hydatid membrane are pathognomonic signs on CT. (9, 10). Routine blood tests are generally normal. Eosinophilia is the least reliable of immunological responses, being present in only 25 % of all patients. Various serologic tests can assist in diagnosing Echinococcosis. The immunoelectrophoresis test is the most specific and the most sophisticated test in general use. The indirect agglutination test is positive in about 85 % of cases; the complement-fixation test is slightly less sensitive. The Casoni skin test is positive in approximately 90 % of patients, and the reaction may be obtained years after surgical removal of the cyst or after the parasite has died (11). However, serology alone is insufficient to diagnose Echinococcosis.

Computed tomography or ultrasound guided needle biopsies also are helpful in diagnosis (12), although some authors do not recommend it because of the risk of cyst rupture and anaphylactic reaction could occur (9,11). Concerns over microscopic spillage at the time of needle biopsy do not appear warranted, especially if patient receive subsequent medical treatment and biopsy tracts are resected at the time of surgery (13). We don't offer fine needle aspiration in patients with a suspicious or diagnosed cyst hydatid, because of risk of rupture and anaphylactic reaction.

The treatment of hydatid cyst is principally surgical. However pre operative medical treatment should be considered in order to sterilize the cyst to decrease the tension in the cyst and the chances of spillage and resultant anaphylaxis. Intra operatively, the instillation of 0,5% cetrimide, 15% hypertonic saline or 0,5% silver nitrate solution before opening the cavity tends to kill the daughter cysts and thus prevent further spread and anaphylactic reaction. Postoperative medical treatment reduces recurrence rate. (14)

Chemotherapy is usually given because of the risk of recurrence; this medical treatment consists of albendazole and mebendazole administration for 3–6 months in the postoperative period (11).

In conclusion, we emphasise that hydatid disease should be taken into consideration in the differential diagnosis of a cystic mass in every anatomical location, especially when

appearing in a patient from an endemic area. Muscular Echinococcosis infestation is rare but important entity, more frequently seen in rural areas. Intramuscular infestation may mimic a soft tissue tumor leading to inappropriate cyst rupture with the attendant risks of anaphylaxis and dissemination to other organs, so a preoperative correct diagnosis is important. It should be remembered that the result of treatment in paravertebral hydatid cyst is good and the appropriate surgical procedure associated with albendazole treatment should be carried out.

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