

## Three Cases of Primary Hydatidosis of the Gluteus Muscle: Our Experience in Clinical, Diagnostic and Treatment Aspects

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### Rezumat

#### *Trei cazuri de hidatidoză primară a mușchiului fesier: experiența noastră în aspectul clinic, de diagnostic și de tratament*

Sunt descrise trei cazuri de hidatidoză primară a mușchiului fesier tratate în departamentul nostru în ultimii 10 ani. Primul a fost inițial interpretat ca hernie perineală sau sciatică. Diagnosticul a fost pus în sala de operație. În al doilea caz, am inclus în diagnosticul nostru diferențial posibilitatea de implicare parazitară cu localizări neobișnuite. Diagnosticul a fost confirmat prin ecografie urmată de tomografie computerizată (CT), cu scopul de a exclude implicarea ficatului și a pulmonului. Ultimul pacient a fost operat inițial în altă parte, dar în cele din urmă a venit la noi pentru a-i fi tratate complicațiile. La ani de la operație nu a existat nici o dovadă de recurență la vreunul dintre pacienți, ultimul suferind însă în continuare de fasciita recurentă și sciatică.

**Cuvinte cheie:** hidatidoză primară, mușchiul fesier

### Abstract

Three cases of primary hydatidosis of the gluteus muscle

treated in our department during the last 10 years are described. The first was initially misinterpreted as perineal or sciatic hernia. The diagnosis was set in the operating room. In the second case we included in our differential diagnosis the possibility of parasitic involvement at unusual sites. The diagnosis was confirmed by ultrasonography followed by computed tomography (CT) scans in order to rule out liver and pulmonary involvement. The last patient was initially operated elsewhere but finally came to us to treat his complications. At years following surgery there was no evidence of recurrence in any of the patients, but the last one still suffers from recurrent fasciitis and sciatica.

**Key words:** primary hydatidosis, gluteus muscle

### Introduction

Hydatid disease (echinococcosis) is characterized by worldwide distribution and frequent hepatic involvement. Approximately 65% of hydatid cysts are located in the liver, 25% in the lungs while only 4% of cases are present in muscles (1-2). The southern part of South America, Iceland, Australia, and southern part of Africa are regarded as intensive endemic areas. Most cases reported in the United States have occurred in immigrants from Greece and Italy (3).

We now present three cases of primary hydatidosis located in the gluteus muscle.

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## Case reports

### Case 1

A 47-year-old man was admitted to our department complaining of a tumor-like mass that was located in the lower median half of his right buttock, extending to the perineum (4). He had no other symptoms apart from a sensation of tension at the site of the lesion. The mass had been present for 10 years, but during the last one it had noticeably increased in size.

At physical examination the lump was soft, painless and mobile, bulging when abdominal pressure was increased. Routine laboratory tests were negative.

The patient was operated on under general anesthesia on a provisional diagnosis of sciatic hernia. A vertical incision was made above the mass and a well-defined lesion measuring approximately 10 x 10 cm was revealed in the ischiorectal fossa, displacing the rectum wall to the left of the middle. After careful dissection the mass was opened and its content were typical of hydatid cyst, with a yellowish fluid and daughter cysts. The content was drained and the cavity was irrigated with hypertonic saline solution and povidone-iodine solution. The cyst was then completely removed and the ischiorectal fossa was drained. The postoperative course and healing progressed uneventfully. Following diagnostic procedures including intravenous pyelography, ultrasonography and CT scans revealed no other sites of hydatid foci. No oral agents were given and upon follow up examination five years later no evidence of local recurrence was noticed.

### Case 2

A 52-year-old man presented with a tumor in the area of his right gluteus muscle. His general health was good with no associated weight loss. According to his history he remembered to have this mass for the last 8 years, but during the last 2 years it had grown steadily (Fig. 1).

At physical examination the mass was firm and tender, fixed to the underlying tissues with the overlying skin mobile. According to our previous experience primary hydatidosis was included our differential diagnosis. Ultrasonography (Fig. 2), CT scans (Figs. 3, 4) and indirect agglutination serologic tests for echinococcus were positive indicating primary hydatidosis of the gluteus muscle.

The patient noticeably referred no hydatidemia in the past. At operation our diagnosis was confirmed and the cyst was dissected by following the previous procedure with a few muscle fibres (Figs. 5, 6). Histologic examination completed the diagnosis. The postoperative period progressed uneventfully. Oral albendazole (10 mg/kg) was given for 1 month, and at 5 years following surgery there was no recurrence

### Case 3

A 72-year-old man presented in our department with multiple abscesses on the lower third of his right buttock and the upper third of his lateral thigh. Three months ago he had undergone surgical dissection of a cyst from the above area in another department. The patient remembered to have that



Figure 1. Mass in the median lower aspect of the right buttock

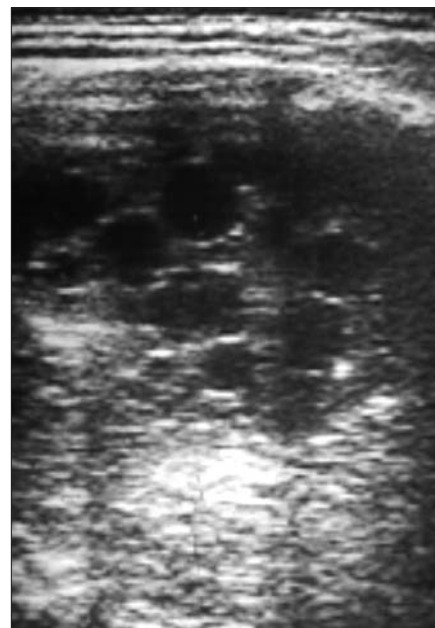
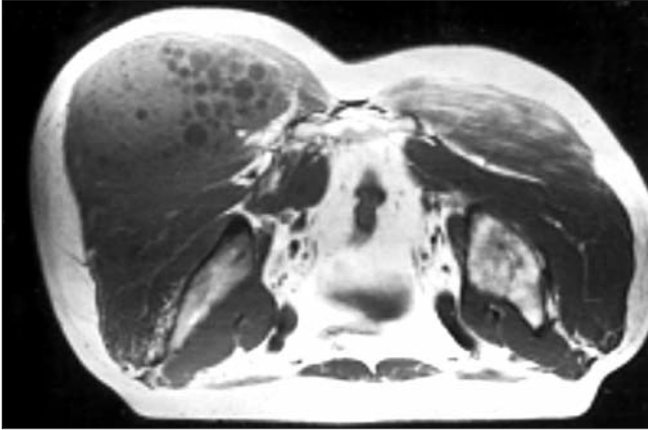


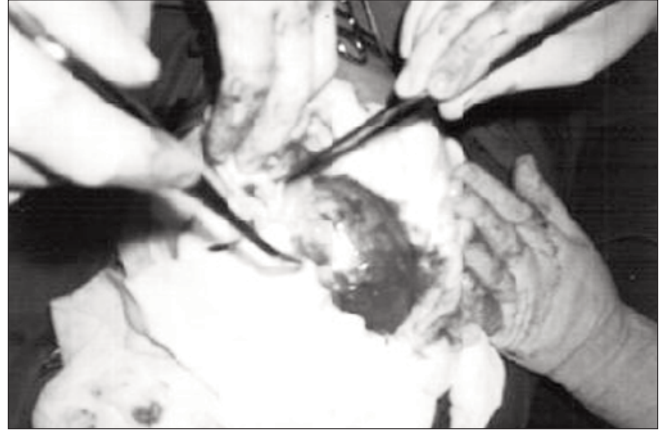
Figure 2. Ultrasonography defined lesions with echogenic content

tender mass measuring 8 x 7 cm for 6 months before his first admission. The diagnosis had not been set preoperatively as CT scan had revealed a cystic tumor with no specific signs of any particular disease, and all laboratory tests including ELISA had been negative. Both frozen and permanent sections revealed hydatidosis.

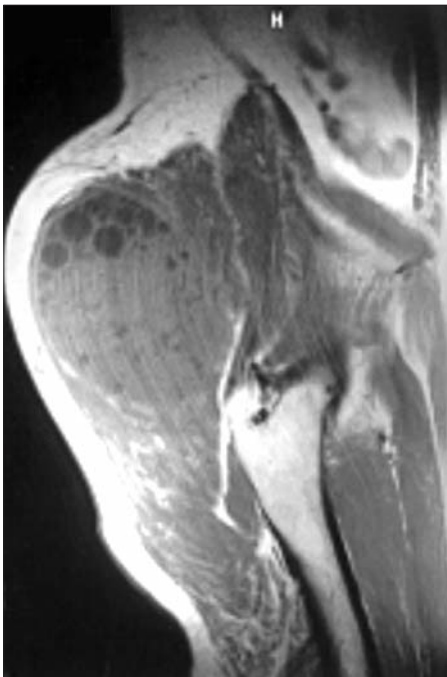
Postoperative abdominal and chest CT scans excluded any other possibility of disease elsewhere. No oral agents were given at that time. We treated the abscesses by surgical incision, drainage and broad-spectrum antibiotics. Twelve



**Figure 3.** CT-scan: image of the cyst



**Figure 5.** Dissection of the hydatid cyst



**Figure 4.** Cyst of 11 mm diameter with fluid content



**Figure 6.** Macroscopic appearance of the specimen after resection

months after the operation the patient suffers from sciatica and recurrent fasciitis although all his exams are negative.

## Discussion

Echinococcosis is endemic in some European countries including France, Italy and Greece. Liver and lungs are the most common sites (65% and 25% of the cases respectively), with muscular involvement present in 4% of cases (4-5). Although necessary, preoperative diagnosis can be difficult, as there are no special signs of the disease and many soft tissue tumors, trichinosis, and lymphangioma can mimic the clinical presentation of primary hydatidosis of the muscle (6-7). In high-risk areas we advocate preoperative diagnosis based on abdominal and chest CT scans, ultrasound and ELISA test (positive in 85% of the cases). The importance of preoperative diagnosis is to

facilitate the plan of surgery and to avoid puncture or inadvertent rupture of the cyst that may precipitate anaphylactic reactions or spread of the infection. Furthermore some authors suggest preoperative drug administration. Based on our experience, we limit the administration of albendazole in the postoperative period with good results in selected cases, avoiding to affect the liver function preoperatively.

Surgically we perform total removal of the cyst including the adventitial layer, unless massive bleeding restricts us only to remove the inner germinative membrane. Several hypotheses concerning the mechanisms of embryos' escaping entrapment in the liver or lungs - which may result in primary muscular localization- have been described. Smaller embryos' diameter relative to hepatic sinusoid and lung capillaries, direct anastomoses between intestinal venous and caval circulation, migration of embryos via lymphatics and immediate inoculation via dog bite are the most dominant. (Table 1)

Among the already existing hypotheses we propose a new one: Are we really dealing with a primary hydatidosis or is it a secondary one after a complete, long term concealed

**Table 1.** Clinical features of the patients with primary hydatidosis

	Preoperative diagnosis	Serologic tests	Albendazole postoperative	Complications	Recurrence
Case 1	-	-	-	No	No
Case 2	+	+	+	No	No
Case 3	+	-	-	Yes	No

hydatidemia of a primary echinococcosis of the lung overlooked by the patient and not detected in our CT scans?

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