



Hydatid cysts in muscle: a modified percutaneous treatment approach

Necati Örmeci^{a,*}, Ramazan Idilman^a, Serdar Akyar^b,
Murat Palabıyıkoglu^a, Sahin Çoban^a, Hakan Erdem^c, Fuat Ekiz^a

^a Department of Gastroenterology, Ankara University Medical School, Ibn'i Sina Hospital, Sıhhiye, Ankara, 06100 Turkey

^b Department of Radiology, Ankara University Medical School, Ankara, Turkey

^c Department of Infectious Diseases, Gulhane Medical Military School, Ankara, Turkey

Received 8 June 2005; received in revised form 12 September 2005; accepted 12 October 2005

Corresponding Editor: Raymond A. Smego, Sohar, Oman

KEYWORDS

Hydatid disease;
Echinococcus granulosus;
Muscle;
Percutaneous treatment

Summary

Introduction: Any organ in the human body may be affected by hydatid disease, but the liver and the lungs are most commonly affected. A rare localization of hydatid disease is within muscle tissue. Herein we present three patients with muscular hydatid disease who were successfully treated with a modified percutaneous approach.

Methods: Patients with Gharbi type III cysts were treated on an outpatient basis. All procedures were performed under ultrasound guidance in the ultrasonography unit of our department. After local anesthesia, percutaneous puncture was performed in a one-step procedure. After free drainage stopped, absolute ethanol and povidone iodine were injected into the cyst cavity. After the procedure, the patient was observed for at least six hours for any adverse reactions and sent home. Patients were followed-up with ultrasonography. A positive treatment effect was characterized by a reduction of the cyst's pseudo-tumor pattern and size, and by detachment of the germinal membrane.

Results: The three patients in this report had a total of five hydatid cysts in muscle tissue and were all successfully treated with a modified percutaneous approach without recurrence.

Conclusion: Percutaneous drainage without re-aspiration is simple, easy to apply, low cost, repeatable, and does not require hospitalization. There have been no reported deaths associated with the procedure and morbidity is very low. When the technique is applied properly, relapses do not occur. With its low complication rate and its suitability for outpatient treatment, this method can be an alternative to surgery or puncture, aspiration, injection, and re-aspiration (PAIR) in selected patients.

© 2006 International Society for Infectious Diseases. Published by Elsevier Ltd. All rights reserved.

* Corresponding author. Tel.: +90 312 231 17 95; fax: +90 312 419 50 79.

E-mail address: normeci@yahoo.com (N. Örmeci).

Introduction

Ecchinococcosis or hydatid disease, a parasitic infection caused by *Echinococcus granulosus* or *Echinococcus multilocularis*, is prevalent in most sheep- and cattle-raising countries in the Mediterranean region and the Middle East, as well as Asia, Australia, New Zealand, and South America. The disease is still an important cause of morbidity in these parts of the world.¹ Most cases of hydatid disease are generally asymptomatic, and when apparent the symptoms are due to compression of adjacent structures by enlarging cysts.

Largely occurring in the liver and lungs, musculoskeletal involvement is a rare manifestation of hydatid disease due to the high lactic acid concentration in skeletal muscle and to mechanical factors such as contractile activity,² and usually affects a single muscle. Ultrasonography, computerized tomography (CT), and magnetic resonance imaging (MRI) are useful in the diagnosis and classification of the cysts.^{3–8} Current methods of treatment include surgery, percutaneous methods like puncture, aspiration, injection, and re-aspiration (PAIR), percutaneous drainage without re-aspiration, and medical management with benzimidazole derivatives.^{9–11} These methods are used principally for liver cysts.

To our knowledge, there have been no published studies of percutaneous aspiration for the management of muscle hydatidosis. Herein we present three patients with hydatid cysts in muscle tissue and their successful treatment with a modified percutaneous technique.

Methods

Intervention

Patients with muscle hydatidosis were classified according to the Gharbi classification (Table 1).¹² Those with Gharbi type III cysts were treated on an outpatient basis. All procedures were performed under ultrasound guidance in the ultrasonography unit of our department, which is fully equipped for emergencies. An intravenous line was established and 50 mg of meperidine was given 20 minutes before the procedure. After local anesthesia, the percutaneous puncture was performed with a 22-gauge Chiba needle in a one-step procedure.

Unlike the PAIR technique, which includes re-aspiration of the sclerosing agent used, this method involves puncturing the cyst and allowing it to drain freely under its own pressure.¹¹ After free drainage has stopped, 2 mL of absolute (96%) ethanol and 1 mL of polidocanol (aethoxysclerol

1%) for each centimeter of the cyst's longest diameter are injected into the cyst cavity under ultrasound guidance. An advantage of this technique is that type III cysts can also be treated, but without free drainage. The needle is then held in place for five minutes within its sheath and is then withdrawn from the patient. The alcohol mixture remains in the cyst. After the procedure, the patient is observed for at least six hours for any adverse reactions, and is then permitted to go home.

Follow-up

Patients were followed-up with ultrasonography on the day after the procedure (within 24 hours), twice in the first six months and then every six months thereafter. A positive treatment effect was characterized by a reduction of the cyst's pseudo-tumor pattern and size, and by detachment of the germinal membrane. For each patient, CT examinations were performed before treatment and at least six months after.

Case reports

Case 1

A 51-year-old man presented to the Gastroenterology Unit in June 1997 with pain and a palpable mass in the right gastrocnemius muscle. His medical history was not significant and his physical examination was unremarkable except for the leg mass. All routine laboratory tests were normal. On CT, two adjacent Gharbi type III cysts (multicystic fluid collections with septae) with diameters of 10 cm each were visible in the right gastrocnemius muscle (Figure 1A). Indirect hemagglutination testing was positive for *E. granulosus* at a titer of 1:800. After percutaneous treatment, the hydatid cysts gradually became solid (Gharbi type IV) (Figure 1B) and the pain in the muscle resolved. The patient was followed up for almost eight years with ultrasonography and CT.

Case 2

A 31-year-old man with chronic renal failure was hospitalized in May 2000 with complaints of abdominal discomfort, nausea, and muscle pain in the left upper leg. The patient had undergone nine surgical operations, starting in 1994, for recurrences of hydatid disease in this leg. On physical examination a painful and palpable mass was detected. Routine biochemical tests revealed anemia, and elevated blood urea nitrogen and creatinine levels. Ultrasonography and CT revealed two Gharbi type III cysts in the left gluteus medius, with maximal diameters of 5.6 and 4.8 cm, respectively (Figure 2). In the gluteus maximus and iliopsoas muscles, additional cysts smaller than 5 cm (1.5 × 1.5 cm, 4 × 3.5 cm, 2 × 2 cm, and 4 × 5 cm) were detected behind the two larger lesions. The indirect hemagglutination test was positive (>1:200) for *E. granulosus*. The two large cysts were successfully treated with a modified percutaneous method, and the pain subsided and the palpable mass became smaller. Five years after the procedure, ultrasonography and CT confirmed that the two cysts treated percutaneously had become solid

Table 1 The Gharbi classification for hydatid cysts

Type I	Purely cystic lesion
Type II	Germinal membrane is detached within parts of the cyst
Type III	Multicystic lesion separated by septae
Type IV	The cyst is degenerated with a pseudo-solid appearance
Type V	The pseudo-solid cyst and ectocyst are calcified

Download English Version:

<https://daneshyari.com/en/article/3363432>

Download Persian Version:

<https://daneshyari.com/article/3363432>

[Daneshyari.com](https://daneshyari.com)