

# Two rare cases; primary soft tissue hydatid cyst mimicking soft tissue tumor

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## Abstract

Hydatid cyst is a parasitic disease caused by *Echinococcus granulosus*, most commonly located in the liver and lung. Our country is an endemic region for this disease. While many involvement have been reported in the literature; isolated soft tissue or intramuscular involvement is rare. The liver, which acts as the first filter after the entry into the body, is the most frequently involved organ. It can reach all organs and systems with systemic circulation and lymphatics. Soft tissue and intramuscular involvement are rarely seen. Intramuscular involvement is more often seen in peripheral muscles. Soft tissue and intramuscular hydatid cysts constitute 3-5% of all cases. The recommended treatment for soft tissue hydatid cysts is extensive surgical excision. In this study, we aimed to present two cases with gluteal region and vastus lateralis muscle involvement.

**Keywords:** *Echinococcus Granulosus*; Hydatid Cyst; Soft Tissue Mass.

## INTRODUCTION

Hydatid cyst is a parasitic disease caused by *Echinococcus granulosus*, most commonly located in the liver and lung. Liver and extrapulmonary involvement are rare. The parasite first reaches the liver through the portal vein and lymphatic circulation from the gastrointestinal tract after oral ingestion in humans. The second most common localization is the lung. Liver and lung; acts as a filter for parasite. Parasites that rarely enter into systemic circulation can also cause involvement of organs and soft tissues (1). Soft tissue and intramuscular hydatid cysts constitute 3-5% of all cases (2). Intramuscular hydatid cyst hydatid is hard to distinguish from soft tissue tumors. In this article, we aimed to present two cases of hydatid cysts located primarily in soft tissue.

## CASE REPORT

A 33-year-old female patient presented to our outpatient clinic with swelling and pain at her right gluteal region for about one year. The patient, who gave birth one month ago, stated that the swelling started to appear with pregnancy and did not regress after the delivery. Examination revealed a soft, painful mass about 15x17 cm in the right gluteal region. No abnormalities were detected in other extremity

and body examinations. Contrast magnetic resonance imaging (MRI) and superficial tissue ultrasonography (USG) tests were requested. Superficial tissue USG revealed a thick-walled heterogeneous lesion of 106x70 mm in soft tissue in the right gluteal region. MRI for right hip revealed cystic mass lesion sized as 151x133x91 mm with uniformly limited, localized lobulation including dissociated membranes subcutaneously located in the postero-superior of the right gluteal region and in the posterior of the iliac crest (Figure 1,2).

No other focus was detected in abdominal and thorax computed tomography (CT) screening of the patient who was consulted with general surgery and infectious diseases clinics, and indirect hemagglutination (UAV) test was positive. The operation was planned with preliminary diagnosis of isolated soft tissue hydatid cyst. Total excision with wide margins was performed. Membrane fragments and brown medium viscous liquid were seen when the mass was removed. Surgery was terminated with placing a hemovac drain after the control of the structures that could be associated with the cyst. No complications were occurred postoperatively. The patient was discharged on the 1st postoperative day without any problem. Pathology result was as hydatid cyst. Postoperative albendazole

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treatment was given for 3 weeks. No additional lesion was detected in the postoperative 3rd month and 1st year follow-up controls.

### Case presentation-2

A 21-year-old female patient presented to our outpatient clinic with complaints of left thigh pain for two years and palpable swelling on the lateral side of the thigh. Examination revealed a soft, painful mass between the muscles on the lateral side of the left thigh. Contrast-enhanced MRI revealed a thick-walled cystic mass, including small amount of thin septa and microcysts, sized as 45 x 23 x 30 mm in the left vastus lateralis muscle (Figure 3,4). Abdominal and thorax CT scan was reported as clean. Indirect hemagglutination (UAV) test was positive. A longitudinal incision was made to the patient. The mass in the inter-muscular region was totally excised with wide margins, with small amounts of muscle remaining on each side. No complications were occurred postoperatively. The patient was discharged on the 1st postoperative day without any problem. Pathology result was as hydatid cyst. Postoperative albendazole treatment was given for 3 weeks. No additional lesion was detected in the postoperative 1st month and 1st year follow-up controls.

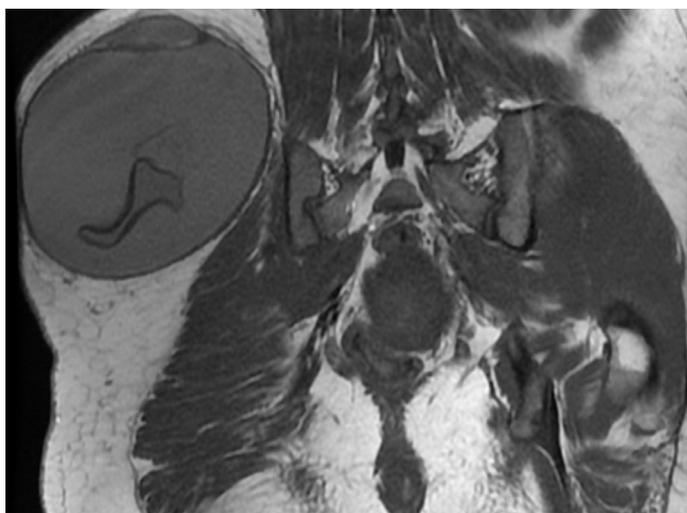


Figure 1. Pelvic MRI coronal image

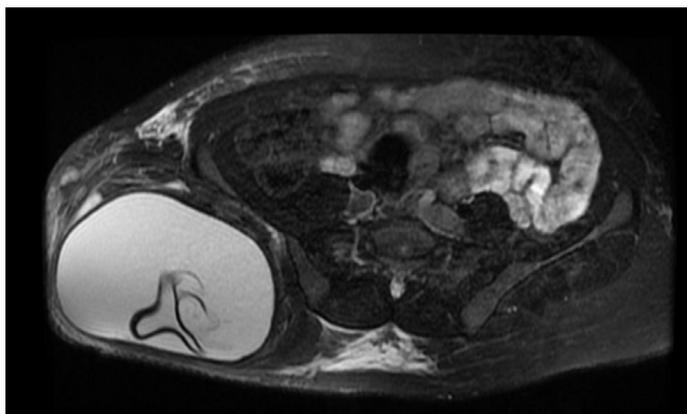


Figure 2. Pelvic MRI axial image

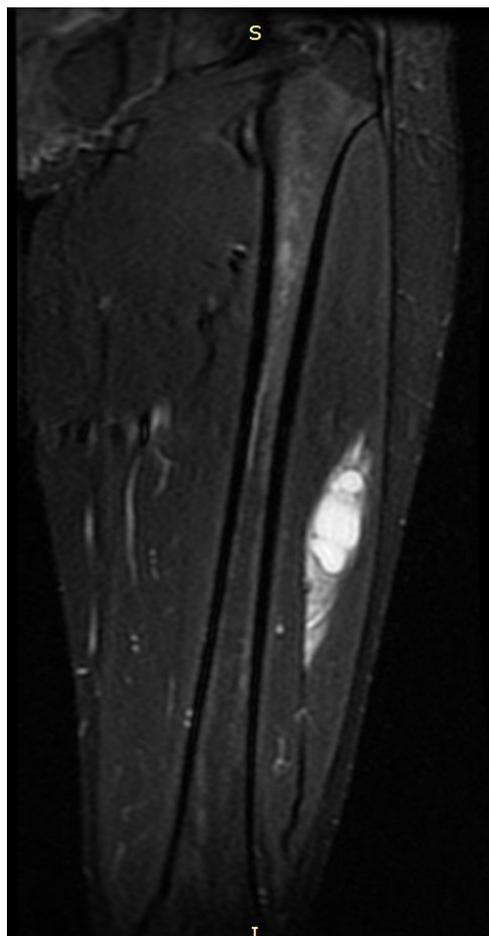


Figure 3. Left lower extremity contrasted MRI coronal image

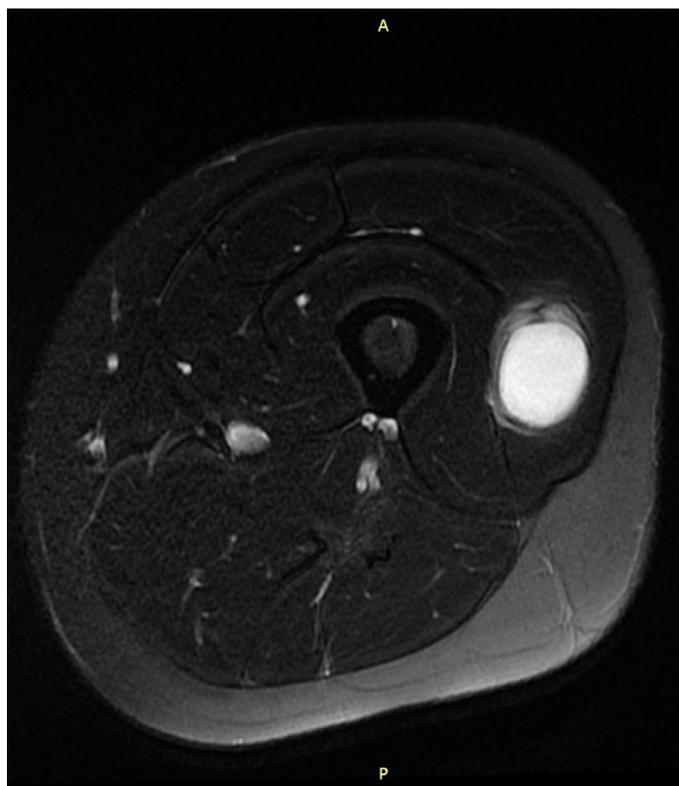


Figure 4. Left lower extremity contrasted MRI axial image

## DISCUSSION

Hydatid cyst is a parasitic disease in people who have contact with infected dogs in rural areas (3). It can reach all organs and systems with systemic circulation and lymphatics. The liver, which acts as the first filter after the entry into the body, is the most frequently involved organ. Soft tissue and intramuscular involvement are rarely seen. Intramuscular involvement is more often seen in peripheral muscles. Generally the first symptoms are swelling and pain (4). Our cases were those who were suffering from pain and swelling and who had contact with animals in rural areas.

While the diagnosis of hydatid cyst is performed; USG, MRI, CT, serological and immunological tests are used. Serological and immunological tests may be negative in the early period and can also be false-negative and false-positive (5). Therefore, radiological imaging methods are more reliable (6). Soft tissue and intramuscular hydatid cysts are sometimes difficult to differentiate with soft tissue tumors. At this point, radiological diagnostic methods and serological diagnostic methods gain importance (7). Soft tissue benign and malignant tumors should be taken into consideration in patients with complaints of pain and swelling in soft tissue (8). One of the points to be considered in the diagnosis of hydatid cyst is invasive procedures such as aspiration or biopsy. It should be remembered that a biopsy procedure may cause an anaphylactic reaction of the scolexes into the systemic circulation or may cause the spread of the disease. The definitive diagnosis is made by histopathological method (9).

The recommended treatment for soft tissue hydatid cysts is extensive surgical excision. Care must be taken during surgery and contact of the cyst with the surrounding tissue should be avoided. If there is contact; recurrence rate increases and complications such as fever, eosinophilia and anaphylactic shock can also be seen. Albendazole treatment can be given before and after surgery and also can be given to the patients to whom surgery was not performed. The recommended dose of Albendazole is 10-15 mg / kg / day, with an average duration of 3 months (10). Some clinics recommend washing the region from which the cyst is removed with alcohol, formol (1%) and hypertonic sodium chloride (20%) in order to ensure sterilization during surgery (5,11). We performed surgical

excision in both cases and treated with Albendazole for three months postoperatively. No recurrences or complications were observed after follow-up of our cases.

## CONCLUSION

As a result, differential diagnosis should be made in patients with soft tissue mass in our country, which is an endemic region for hydatid disease, before surgery or follow-up decision. Although the most common localizations are liver and lung, other system scans should be kept in mind.

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