A Rare Case: 
Primary Cyst Hydatic Localized to the Biceps Femoris

Nadir Bir Olgu: 
Biseps Femoris Kasına Lokalize Primer Kist Hidatik

<table>
<thead>
<tr>
<th>Özet</th>
<th>Abstract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kist hidatik hastalığı, genellikle primer olarak karaciğer ve akciğerleri tutan bir protozoa enfeksiyonudur. Primer intramuskuler kist hidatik, torasik ve abdominal organ tutulumu olmadan çok nadir olup, görüntü sıklığı %0.5 ile %5.4 oranında bildirilmiştir. Özellikle endemik bölgelerde kas yerleşimli kistik yumuşak doku kitlelerinde primer intramusküler kist hidatik mutlaka ayırıcı tanıda düşünülmelidir. Biz nadir rastlanan iliopsoas kası yerleşimli primer intramusküler kist hidatik olgusunu görüntüleme bulguları eşliğinde sunmayı amaçladık.</td>
<td>Hydatid cyst generally is a protozoal infection primarily involving the lungs and liver. Primary intramuscular hydatid cyst is very rare without involvement of thoracic and abdominal organs and the incidence have been reported between 0.5% and 5.4%. Especially in endemic areas, muscle located cystic soft tissue masses, primary intramuscular hydatid cyst should be considered in differential diagnosis. We aimed to present a rare iliopsoas muscle located primary intramuscular hydatid cyst case accompanied by imaging findings.</td>
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</table>

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<thead>
<tr>
<th>Anahtar Kelimeler</th>
<th>Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kist Hidatik; Manyetik Rezonans Görüntüleme; Kas İçi</td>
<td>Hydatid Cyst; Magnetic Resonance Imaging; Intramuscular</td>
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</tbody>
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Introduction
Hydatid disease is a parasitic infection. This infection is generated by E. granulosus and less frequently E. multilocularis [1]. Hydatid cyst caused by Echinococcus granulosus is usually in form of the slow-growing cystic mass. In 50 to 70% of cases the liver, in 20 to 30% the lung and in 22% of cases, muscle, peritoneum, bone, spleen, pancreas, heart, kidney and brain are affected [2]. The primary involvement of the muscles are very rare cases. For this article only the patient with biceps femoris muscle involvement was revised by the accompany of literature.

Case Report
26 years old male patient who is dealing in stockbreeding has swelling in thigh for 4 months. In the ultrasonographic examination (US), in the right iliopsoas muscle, properly limited, containing moving echogenicities and thin septations, relatively thick walled and approximately 40 mm in size cystic lesion determined. And than in his magnetic rezonans imaging (MRG) examination; in biceps femoris muscle in his right thigh, a 40x35x30 mm in size, T2-hyperintense, lobulated, properly limited, containing septation (figure 1a,b), showing peripheral contrast enhancement, cystic mass was determined (figure 2). Patient’s E. granulosus indirect hemagglutination test was positive. In lung and liver scan of patient, there were no other hydatid cyst detected. The case were considered as primary intramuscular hydatid cyst. In patient who was operated (figure 3) and anthelmintic treatment was started, the diagnosis was confirmed in favor of primary intramuscular hydatid cyst localized in right iliopsoas muscle.

Discussion
Hydatid disease, is a disease due to parasite from Echinococcus granulosus and is an important medical problem in endemic areas such as Turkey. Hydatid disease primarily keeps liver and lungs, but rarely keeps bone, heart, central nervous system, spleen, and muscles. Being more in the lower extremities; primary intramuscular hydatid cyst, have been reported, in the form of case presentations in various muscles [3]. Hydatid disease is a zoonosis in which Echinococcus granulosus is factor [4]. Dogs are the main hosts and animals as cattle, sheep, horses and pigs are intermediate hosts. People are incidentally be intermediate host and they are infected by contacting with main host or by eating contaminated foods. The eggs taken into the organism open up in the duodenum, the released embryos penetrate the intestinal wall, pass through the portal venous system or lymphatic system, reach to liver and lungs, and constitute cystic hydatid. The embryos which passed the hepatic sinusoids or pulmonary capillary barrier, may affect all organs and structures of the body, through the systemic circulation [5]. Hydatid disease who settled in skeletal muscle constitutes 0.5-1% of all echinococcus infections and usually occur by diffusion during the surgery of the lesion in the liver and lungs [6, 7]. Infections are usually taken during childhood, but because the incubation time is more than 10 years, the clinical emergence may delay until adulthood [7, 8]. The direct implantation of the embryo with infected dog bites and from the intestine into the systemic circulation, than passing through the two major filter as the liver and the lungs and reaching skeletal muscle, are put forward ideas in the pathogenesis about the hydatid cyst’s primary skeletal muscle location [5, 9]. In the diagnosis of soft tissue hydatid cyst US should be the first imaging method. By US, cyst type, location and size can be determined. Although in diagnosis of the disease the sensitivity is 95%, if girl vesicles seen, it is close to 100% [3]. In the US examination, it is observed as thin or thick-walled cysts containing internal echoes. Multiple echogenicity is depend to the structures which called hydatid sand and named “snow storm” and is not monitored in simple cysts. Also girl vesicles and septa may be seen. But MRI is the best method in assessing cyst appearance, in making the differential diagnosis, in evaluating the localization of cyst, in
determining the relationship with the surrounding tissues and in the planning of surgery [10]. MRI in the diagnosis of hydatid cyst, according to other radiological imaging techniques has important advantages. MRI may bring to mind the diagnosis of hydatid cyst, by pinpointing such findings as the relatively cyst wall thickening, girl cysts and germinal membrane separation. Lesion typically be seen in multivesicular cystic structure; with or without hypointense ring. Girl vesicles, which are located in the main cyst, high signal intensity on T2-weighted images can be seen on or hypointense. MRI is especially important in determining the viability of cysts. In T2-weighted images compared with the matrix of the girl cyst main cyst hypointense be seen is an important clue about the death of the parasite. Also, by this sequence the thickness of cyst wall and the sheets of wall can be monitored clearly. [11]

Serological tests are significant when they are positive, but in half of the primary intramuscular hydatid cyst cases the results are negative. Sensitivity of IHA in patients with primary intramuscular hydatid cyst is reported 67%. Although serological tests are helpful in diagnosis reliability is questionable [10]. In accompany of surgery and imaging methods with contemporary techniques, in the treatment of primary intramuscular hydatid cyst is given the antiscolicidal substances into cysts [3,12]. Although hydatid disease is endemic in Turkey, intramuscular localized cystic lesions, being assume abscess. And although contraindicated in hydatid disease, fine-needle aspiration is applied without consideration. In endemic areas, in intramuscular tissue swellings, primary intramuscular hydatid cyst should be considered. Before invasive procedures the US, and if necessary MRI and serological tests should be performed.

Competing interests
The authors declare that they have no competing interests.

References

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