



## Case Report

# Isolated splenic hydatid cyst as a rare cause of abdominal pain

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Hydatid cyst (echinococcosis) is an endemic disease in certain parts of the world. It mostly affects the liver and the lung, but the spleen, too, may sometimes be the site of primary disease. Up to our knowledge, there is no reported case in the literature of any isolated splenic hydatid cyst which presented with chronic abdominal pain. Our case is a female patient who applied to our hospital with the complaint of a long-standing chronic abdominal pain of a history of 3 years. Following her admittance to the hospital, she undertook a computed tomography (CT) examination of the abdomen. At CT, a thick-walled hydatid cystic mass with calcified membranes was detected at the spleen. The post-operative pathological examination confirmed the diagnosis of an echinococcus cyst. Based on the experience we derive from this case, we suggest that a splenic hydatid cyst, even though it is a fairly low probability, must be considered in the differential diagnosis in patients who present with long-standing chronic abdominal pain.

**Keywords:** Isolated hydatid cyst, spleen, chronic abdominal pain.

## INTRODUCTION

Hydatid cyst disease is a parasitic infection which is caused by the echinococcus larvae. The sites of endemic echinococcosis are the Middle East, South America, North Africa, India, Australia, and New Zealand (Acar et al., 2009; Llatas et al., 2010; Ibrarullah et al., 1999). Turkey is among the countries with endemic echinococcosis, and this parasitic disease is still an important community health issue in our country. The predominant parasite responsible for the disease is the echinococcus granulosus, but echinococcus multilocularis and vogeli too, can cause the disease (Mergen et al., 2007; Cabadak et al., 2009; Sinha et al.,

2004). The definitive host of the disease is the dog. Humans are the intermediate hosts in the life cycle of the parasite. The oncospheres which come out from the ingested parasite eggs enter the systemic circulation via their passages through the intestinal mucosa. Even though the primary sites of settlement are the liver, lungs, and kidneys, the disease may show primary presentation in certain other parts of the body, too. Settlement of the disease in organs other than the liver usually takes place as a dissemination from the liver itself. Even though there are case reports in the literature about primary splenic hydatid cyst disease (Llatas et al., 2010; Ibrarullah et al., 1999; Andren-Sandberg et al., 1992; Patanvadia et al., 2011), there is no reported case, up to our knowledge, of a primary and isolated splenic hydatid cyst which presented with chronic abdominal pain. A primary and isolated splenic hydatid cyst disease case is being presented in this case report.

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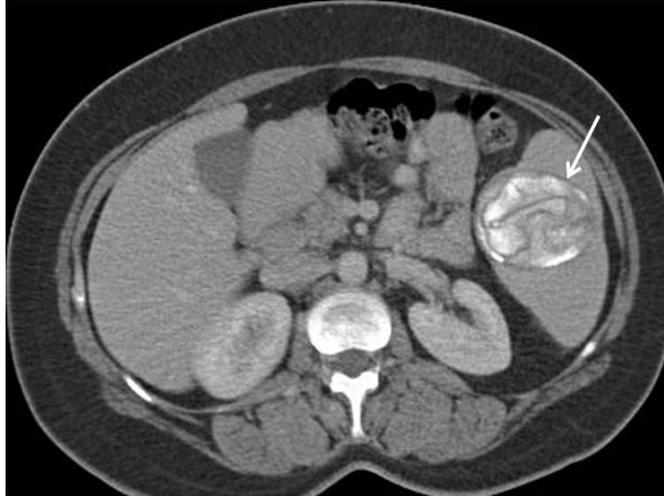


Figure 1

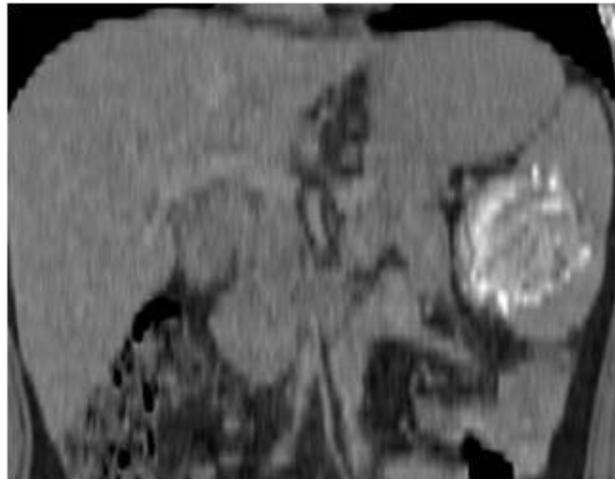


Figure 2

## CASE REPORT

A 36-year-old female patient was admitted to our hospital with the complaints of abdominal pain especially localized at the umbilical region, and fatigue, which had a fairly long history of two years. Her history revealed a rural life of farm work woven with close contact with animals. Her physical examination revealed no other specific findings else than a slight sensitivity around the umbilicus. Her history taken at the time of application did not disclose any other findings than abdominal pain, nausea, vomiting, and weight loss. She did not have any systemic disease. Her total blood count and routine biochemical workup were within normal limits. The abdominal pain that the patient described was nonspecific and did not reveal any clue to an association with a specific organ. Then it was decided to have a

contrast-enhanced CT scan of the abdomen in order to proceed with the diagnostic struggle towards the etiology of the clinical situation. At CT, a space-occupying lesion of a size of 6x4 cm was detected in the spleen. The lesion had dissociated membranes in its structure, and its wall was calcified (Figures 1 and 2). These CT findings were evaluated in favor of a hydatid cyst. A splenectomy was performed thereafter, with the prediagnosis of splenic echinococcus cystic disease. The postoperative histopathological diagnosis was compatible with hydatid disease, too. The patient was discharged from the hospital with no further problems. Her clinical follow-up done after one year following her operation revealed a history of no disease-related complaints nor abdominal pain. No intraabdominal pathologic findings were found at her control abdominal ultrasonographic (US) examination.

## DISCUSSION

Hydatid cyst disease is a parasitic infection caused by the parasite *Echinococcus granulosus*. The disease is endemic in certain countries of the world, including Turkey (Llitas et al., 2010; Cabadak et al., 2009; Jastaniah et al., 1997; Guney et al., 2008; Kilic et al., 2008; Yardimci et al., 2011). The most frequently affected organs by the disease are the liver and the lungs, in sequence. The disease may emerge primarily in other tissues and organs, too, besides the liver and the lungs (Omran et al., 2006; Ozdogan et al., 2001; Ugras et al., 1997; Mahdhaoui et al., 2003; Safioleas et al., 2006; Joshi et al., 2008). Splenic involvement due to both systemic dissemination via the blood circulation or peritoneal dissemination following rupture of the primary site is defined as secondary onset of the disease (Cabadak et al., 2009; Tarcoveanu et al., 2006; Yesilkaya et al., 2009). Isolated primary splenic involvement is a rare phenomenon even in endemic regions of the disease.

Hydatid cystic disease of the spleen is generally asymptomatic. In those patients with symptoms, abdominal pain, abdominal mass and compression are the most frequently encountered findings (Hepgul et al., 2010). Unanticipated complications may arise, such as bacterial infection and/or rupture of the cyst, or fistulization of the cyst into neighboring intestinal segments. Eosinophilia may present as an important laboratory finding in some of the patients. Various serological tests are in use in the diagnosis and follow-up of the disease, such as immunoelectrophoresis, ELISA, latex agglutination, and indirect hemagglutination (Benabid et al., 2010; Kilic et al., 2007).

The fact that most of the patients with isolated splenic hydatid cystic disease are asymptomatic and also that the complaints encountered in symptomatic patients are rather mild, may lead to a delay in the diagnostic process of the disease. This diagnostic delay may eventually lead to a secondary delay in the therapeutic phase of the follow-up. One of the most important tools of diagnosis of this disease are the radiologic examinations. Among these radiologic procedures, US is the method of first choice due to its certain qualifications such as easy access, cheapness, ionizing radiation-free characteristics, and abundance in very many hospitals (Sinan et al., 2002). CT, too, is certainly a very eligible diagnostic tool in the diagnosis of intraabdominal pathologies in general, due to its certain characteristics such as its speed, detailed anatomic display, very high resolution, and also its ability to demonstrate retroperitoneal structures. Contemporarily, CT is one of the best diagnostic tools with regard to the diagnosis of hydatid cyst disease. This is because those characteristics of the cyst such as its unique internal structure, density, wall, contrast-enhancement pattern, and daughter cysts, can be demonstrated by CT in the

most perfect fashion (Zidi et al., 2007; Patnaik and Deshpande, 2007).

Pseudocysts, abscesses, hematomas, and cystic neoplasms stand in the differential diagnosis list of splenic hydatid cystic disease (Sinha et al., 2004; Duman et al., 2011). The fact that cystic neoplastic pathologies are in the differential list emphasizes the importance of radiologic evaluation in the diagnostic process. In our patient, the findings of cystic wall calcification and cuticular membranous structures protruding internally towards the cystic lumen were evaluated as very important diagnostic radiologic data.

In splenic hydatid disease too, just like the hydatid disease of the liver, the method of percutaneous aspiration, injection, and reaspiration (PAIR) is a basic interventional radiologic therapeutic procedure; but besides this, splenectomy, too, is still accepted as a fundamental operation in the radical cure of the disease (Mawhorter et al., 1997; Chowbey et al., 2003; Polat et al., 2009).

Patients with splenic hydatid cysts are usually asymptomatic, and those patients who are indeed asymptomatic have complaints of only mild severity. Therefore, a very good clinical history taking, along with the utilization of laboratory and immunologic tests together with the diagnostic radiologic procedures are mandatory in the diagnosis of the disease. Since abdominal pain is a non-specific complaint and various pathological situations may lie under this clinical situation, we, in accordance with our experience with this presented case, suggest that splenic hydatid cystic disease too, must be considered among the possible etiological factors in the diagnostic workup of patients presenting with nonspecific chronic abdominal pain.

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