e-ISSN:2147-2181

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A Rare Case in Emergency Service: Cardiac Hydatid Cyst

Acilde Serviste Nadir Bir Olgu: Kardiyak Kist Hidatik

Acil Tıp

Başvuru: 29.05.2014
Kabul: 11.08.2014
Yayın: 17.09.2014

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Özet

Kist hidatiğin en sık yerleşim yeri karaciğer ve akciğer olup kardiyak yerleşimi çok nadirdir. Klinik, genellikle asemptomatik olup, aritmi ve ölüm gibi ciddi komplikasyonlarla seyredebilmektedir. 16 yaşında bayan hasta acil servise karın ağrısı şikayeti ile başvurdu. Karın ağrısı etyolojisi için yapılan bilgisayarlı tomografi (BT) incelemesinde perikardiyal efüzyon ve 70 mm boyutunda kardiyak kistik lezyon görülen hastaya kardiyak magnetik rezonans görüntüsü (MRG) çekilerek sağ ventrikül inferior duvarında kistin anatomik lokalizasyonu belirlendi. Kardiyak kist hidatik tanısı ile opere edilen hasta komplikasyonsuz olarak taburcu edildi. Ülkemizde endemik olarak görülen kist hidatik hastalığının kardiyak tutulumu hatırlanmalı ve ciddi komplikasyonlarla seyredebilen bu hastalığın erken tanısı konularak tedavi edilmelidir.

Anahtar kelimeler: *Kardiyak, Kist hidatik Acil servis*

Abstract

Hydatid cysts are most frequently localized in the liver and the lungs, with cardiac localization being very uncommon. The clinical presentation is generally asymptomatic, and can be associated with serious complications such as arrhythmia and death. A 16-year-old female patient was admitted to our emergency service with complaints of abdominal pain. The computed tomography (CT) performed to identify abdominal pain etiology revealed a 70 mm cardiac cystic lesion and pericardial effusion. Using Magnetic Resonance Imaging (MRI), the cyst was determined to be anatomically located on the right ventricular inferior wall. Surgery was performed on the patient for the diagnosis of a cardiac hydatid cyst, and the patient was later discharged without complications. Cystic hydatid disease is endemic in Turkey. In this respect, it is important to bear in mind that the disease may also demonstrate cardiac involvement, and that this disease, which is capable of engendering serious complications, should be diagnosed at an early stage and treated accordingly.

Keywords: *Cardiac, Hydatid cyst Emergency department*

Introduction

Hydatid cystic disease is a parasitic infection caused by E. Granulosus[1]. The organs to which the disease is most frequently localized are the liver and the lungs. Cardiac localization in hydatid cysts is rare, with a ratio of 2-200 in 10,000[2]. The clinical picture generally varies according to the localization, size, and complications of the cyst, although the disease is generally asymptomatic [3]. The most effective method for the diagnosis of cardiac hydatid cysts is echocardiography [3]. CT and MRI are used to evaluate extracardiac involvement. Due to its fatal complications and arrhythmias, cardiac hydatid cysts are generally treated by surgery [4]. The goal of presenting this case was to provide a reminder regarding cardiac hydatid cysts, which is a rare type of localization for cystic hydatid disease in Turkey, and also to review the emergency service management and care of patients with this type of involvement.

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e-ISSN:2147-2181

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Case Report

A 16-year-old female patient was admitted to the emergency service for complaints of nausea and abdominal pain, which had been ongoing for two days. During the physical examination, sensitivity in the right lower quadrant was identified along with slight leukocytosis. Previously, the patient had moderately reactive free fluid identified in the lower quadrant during abdominal USG. The patient was then kept under observation, and was later discharged with recommendations. Two days following discharge, the patient was once again admitted with complaints of abdominal pain, nausea, vertigo, shortness of breath, and swelling in the leg. The patient's tests revealed the following values: WBC: 12.52, HGB: 9.8, AST: 52, ALT: 76 and CRP: 11.49. Furthermore, the abdominal tomography performed for the purposes of differential diagnosis revealed hepatomegalia, widespread free fluid on the bilateral paracolic fascia and the pelvis that was more distinct on the right, in the perisplenic area and on the perihepatic distance, and a 23.3 mm cyst (follicular cyst?-cystic hydatid?) on the left adnexal region. Pericardial effusion was measured as 17.6 mm at the thickest location within the cross-sections passing below the thorax. A 70 mm thick, walled cystic mass lesion adjacent to the cardiac apex, potentially located in the pericardium, and compatible with a Garbi type III hydatid cyst was observed (Figure 1), along with a bilateral pleural effusion that was more pronounced on the right side.

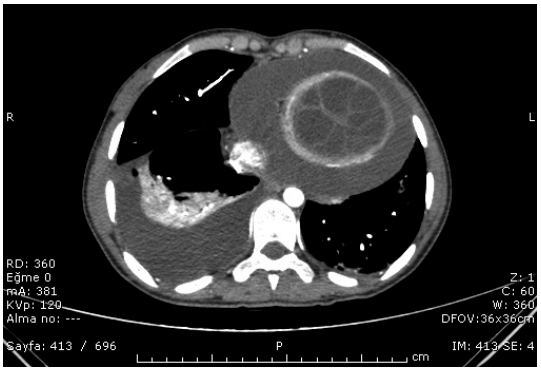

Figure 1
Tomography of intracardiac hydatid cyst

A cystic mass lesion located on the right ventricular inferior wall, measuring 70.7x57.8 mm at its thickest point, and with multiple septations, was observed in the cardiac MRI (Figure 2).

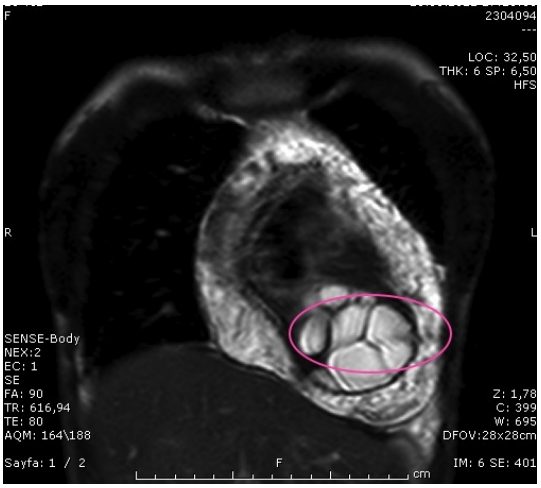

Figure 2
cardiac MRI of patient

e-ISSN:2147-2181

Surgery was performed on the patient for a diagnosis of an intracardiac hydatid cyst. The patient developed no postoperative complications, and was later discharged.

Discussion

Hydatidosis is a parasitic cystic infection caused by the larval form of E. Granulosus in humans [1]. In hydatid cysts, involvement is observed in organs such as the liver (63%), lungs (25%), muscles (5%), bones (3%), kidneys (2%), brain (1%), and spleen (1%) [5]. Cardiac localization in hydatid cysts is rare, with a ratio of 2-200 in 10,000[2]. Cardiac hydatid cysts are observed on the left ventricle at a frequency of 55-75%, on the right ventricle at a frequency of 15-18%, on the interventricular septum at a frequency of 5-9%, on the right atrium at a frequency of 3-4%, and at the interatrial septum at a frequency of 2%[2]. Cyst localization in our case was on the right ventricular inferior wall, which is also an uncommon location. Echinococcus embryos can reach the left heart by means of coronary circulation [6]. In right heart, on the other hand, it is reached through the venous return path. There are two possible ways in which the embryo can enter coronary circulation. In one of these, transition occurs through the patent foramen ovale or pulmonary circulation. In the other path, transition to the pulmonary veins occurs either through the passage of the scolex from the hepatic system to the right atrium, or through the rupturing of the lung cysts [7,8]. Cysts were observed on the right ventricle of our case, and it is believed that these cysts reached the heart through the venous path. No hydatid cyst-related lesions were identified on the liver or the abdomen.

Although cardiac hydatid cysts are generally asymptomatic, they can be observed with complications such as angina, arrhythmias, emboli, pulmonary hypertension, and anaphylactic reactions. In Akar et al.'s study, 62.9% of the patients with cardiac hydatid cysts were admitted to the hospital with complaints of dyspnea[9]. In our case, abdominal pain was initially prominent, with dyspnea later becoming manifest among the complaints that were experienced. These complaints were initially not considered to be associated with hydatid cysts, and diagnosis for the patient was established while evaluating the etiology for abdominal pain.

The most effective method for the diagnosis of cardiac hydatid cysts is echocardiography [7,8]. CT and MRI can be used to evaluate extracardiac involvement. The fact that the CT cross-sections are axial on a single plane is considered to be a disadvantage. Cystic cardiac masses can be confirmed with thoracic CT; however, their localization and anatomic vicinity cannot be clearly distinguished with this technique. Cardiac MRI is used in cases where echocardiography is inadequate, and provides more information than tomography [10]. In our case, the CT initially performed for evaluating the patient's abdominal pain revealed a cystic lesion; an MRI was then performed, and the anatomic localization of the cystic lesion was evaluated. Due to the nature of the complications, as well as the cases of sudden death that they might cause, the main treatment method for cardiac cystic hydatid is surgery [4]. The rate of surgical mortality of cardiac hydatid cysts has been reported as 0.29 – 0.6% [11]. Our case was treated by surgery, and no postoperative complications were encountered.

Conclusion

Cardiac hydatid cysts are an important disease in endemic regions such as our country. This disease, which is generally asymptomatic, can lead to serious complications that might even result in death, especially in cases in which the cyst becomes ruptured. During the evaluation of patients in emergency services, hydatid cyst should be considered for pathologies observed in the heart, and any complications should be treated accordingly.

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e-ISSN:2147-2181

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