

Cardiac hydatid cyst case recovered with medical treatment

Tıbbi tedavi ile düzelen kardiyak kist hidatik olgusu

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Introduction

Hydatid cyst (hydatidosis) is a parasitic disease that is caused by the larval form of *Echinococcus granulosus*. Cardiac involvement is rare and comprises about 0.5-2% of human hydatidosis (1). The left ventricle - the part of the heart with the most abundant blood supply- is most frequently involved, the right ventricle and the interventricular septum are rare involved, respectively (2). The definitive treatment of cardiac echinococcosis is surgical extraction of the cyst because of the fatal complications and arrhythmias (3). We are reporting a patient with cardiac hydatidosis who was treated with medical drugs without surgical treatment.

Case Report

A 12-year-old boy was admitted to our hospital with abdominal pain and cough for 20 days. Physical examination was unremarkable. Complete blood counting results were as follows; white blood cell: 8600/mL, sedimentation rate: 46 mm/h, C-reactive protein: 14.7 mg/L. Computed tomography showed 4x2 cm cyst in the apical portion of left

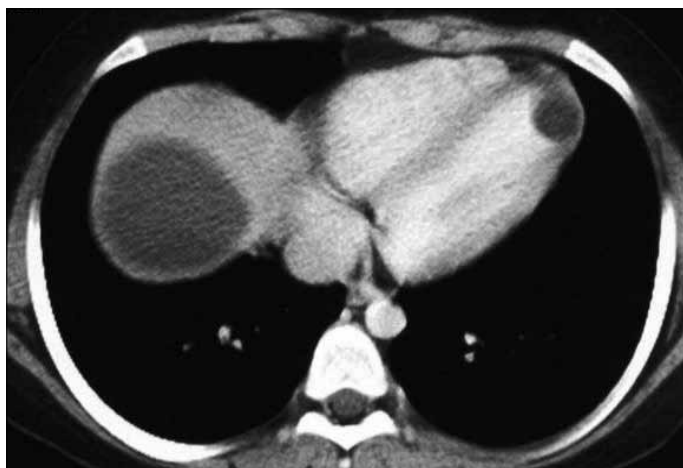


Figure 1. Computed tomography image of a 4x2 cm cyst in the apical portion of left ventricle



Figure 2. (a-e). Computed tomography images of an absence of the initial left ventricular hydatid cyst

ventricle, 9x11 cm cyst in the right hepatic lobe and 11x8 cm cyst in upper pole of the right kidney (Fig. 1). Transthoracic echocardiography (TTE) was performed. Cyst's characteristics were; 3.79x2.04 cm in diameter, round, thin walled, lying straight to right ventricular apex. Serologic analysis confirmed the diagnosis. *E. granulosus* IgG was positive at 1/640 in the IFA test. Treatment with albendazole, 15 mg/kg/day (4 weeks treatment, 2 weeks non-treatment periods) and praziquantel, 50 mg/kg/day (unique dose for a month) was started and patient was referred to surgical clinic for surgery. The patient was discharged after percutaneous aspiration of hepatic and renal cysts on the 35th day of the treatment. The 10th month's TTE (Video 1-4. See corresponding video/movie images at www.anakarder.com) and computed tomography (Fig. 2) showed absence of the initial left ventricular hydatid cyst. Medical treatment was continued for one year and there was no radiological recurrence in the follow-up controls.

Discussion

Hydatidosis remains endemic in countries where farm animals are raised, particularly in the Mediterranean and Middle-East regions; Australia, South America, and tropical countries (4). The most frequent locations of hydatid cysts in human beings are the liver (52-77%), the lungs (9-44%), spleen (2-3%), kidney (1-2.5%), brain and heart (0.5-2%) (5). Although, cardiac involvement is uncommon, larvae reaches the myocardium through the coronary and pulmonary circulation and may result in cyst formation. Cardiac involvement depends on blood supply of the region. The left ventricular is most frequently involved with 55-60% ratio (6). Our case's cyst was also located in the left ventricle. Clinical manifestations of cardiac hydatidosis vary widely from asymptomatic to life-threatening conditions, such as angina, arrhythmias, syncope, valve dysfunction, pericardial reaction, pulmonary-systemic emboli, hypertension, anaphylactic reactions, depending on the cysts number, size, location, complications and involvement of surrounding structures (5). Our present case had nonspecific symptoms such as abdominal pain and cough.

Based on such clinical variety, diagnosis is difficult. Serologic tests, TTE, computed tomography, magnetic resonance imaging are helpful for diagnosis of cardiac hydatid disease. Although computed tomography and magnetic resonance imaging show details of cyst's localization and internal structure, transthoracic echocardiography remains the most reliable imaging method in the diagnosis of cardiac involvement and in locating cysts within the cardiovascular system (7). We diagnosed our patient's cardiac hydatid cyst with serological tests, computed tomography and TTE.

The definitive treatment of cardiac echinococcosis is surgical extraction of the cyst. Due to the possibility of dangerous complications, such as rupture into cardiac structures or pericardium and consequent sudden deaths (5). After surgical treatment, albendazole or albendazole-praziquantel combination are widely used to prevent the recurrence of cysts. The postoperative medical treatment should be continued at least for 6 months (8). Follow-up period should be as longer as possible to diagnose recurrence. In our present case, combined medical treatment was started because of the multiple organ involvement, and cardiac cyst disappeared after medical treatment.

Conclusion

The early and correct diagnosis of cardiac hydatid cyst is important. It is essential to consider cardiac echinococcosis in patients from endemic regions in the differential diagnosis. In case of refusal of surgical treatment, medically inoperable patients and surgical high risks (because of the critical localization of the cyst), medical treatment is an available alternative treatment technique.

Video 1-4. Transthoracic echocardiography views of an absence of the initial left ventricular hydatid cyst

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Native mitral valve causing left ventricular outflow tract obstruction in an adult with Ebstein's anomaly

Ebstein anomalili bir erişkinde sol ventrikül çıkış yolunda tıkanmaya neden olan doğal mitral kapak

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Introduction

Ebstein's anomaly is a rare congenital heart disease of the tricuspid valve which is characterized by the adherence of septal and posterior

leaflets to the underlying myocardium, apical displacement of the functional annulus, dilatation of the atrialized portion of the right ventricle, redundancy, fenestrations, and tethering of the anterior leaflet, dilatation of the true tricuspid annulus (1, 2). Mitral valve anomalies are more common than expected in this congenital disease compared with the general population (3). Accessory mitral valve causing left ventricular outflow tract (LVOT) obstruction has also been reported in a patient with Ebstein's anomaly (4). We present a case of Ebstein's anomaly with LVOT obstruction due to native mitral valve which we think is first in the literature.

Case Report

A 42-year-old woman applied to our hospital with a exercise-induced syncope attack. We detected atrial fibrillation with a rapid ventricular rate. We learned from the history that Ebstein's anomaly had been diagnosed and the atrial septal defect had been surgically closed 15 years ago. Any operative treatment for tricuspid valve had not been done. She had been experiencing palpitation, exercise dyspnea, dizziness with exercise for 10 years. Atrial fibrillation with a rapid ventricular rate had been detected one year ago and she had been using verapamil 240 mg per day for this reason. We stopped verapamil and administered amiodarone instead. Soon afterwards normal sinus rhythm was obtained.

On the physical examination, a grade 2/6 mid-systolic murmur over the aortic focus, a grade 3/6 pan-systolic murmur over the left sternal border and a grade 2/6 pan-systolic murmur over the apex of the heart were auscultated. The initial 12-lead electrocardiogram (ECG) showed atrial fibrillation with a rapid ventricular rate (Fig. 1a). After the administration of the amiodarone therapy, the ECG showed normal sinus rhythm, a short PR interval and the delta waves (Wolff-Parkinson-White syndrome) (Fig. 1b). Chest radiogram revealed an increased cardiothoracic ratio. Transthoracic echocardiography demonstrated downward displacement of the septal leaflet (about 1.5 cm) of the tricuspid valve with advanced tricuspid regurgitation, intact interatrial septum, and systolic pulmonary artery pressure of 35 mmHg. The right chambers of the heart were dilated (Video 1. See corresponding video/movie images at www.anakarder.com).

In addition, the enlargement and redundancy of the mitral leaflets and chordae, a moderate and eccentric mitral regurgitation were seen. Two-dimension and color Doppler echocardiogram clearly revealed the mitral anterior leaflet causing LVOT obstruction (Video-See corresponding video/movie images at www.anakarder.com). A pressure gradient of 67.5 mmHg at rest was measured in LVOT (Fig. 2).

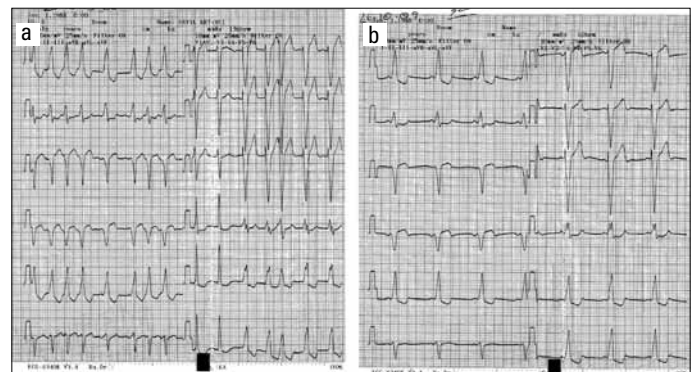


Figure 1. a) Electrocardiogram showing atrial fibrillation with a rapid ventricular rate, b) Electrocardiogram showing normal sinus rhythm, a short PR interval and the delta waves (Wolff-Parkinson-White syndrome)