

Sağ Ventrikül Duvarına Yerleşimli Dev Kardiyak Kist Hidatik: Olgu Sunumu

GIANT HYDATID CYST LOCALIZED IN RIGHT VENTRICLE WALL: CASE REPORT

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Özet

Ekinokokkozis dünyadaki bazı yerleşim birimlerinde ciddi bir sağlık problemi oluşturmaktadır. Kardiyak tutulum oldukça nadir olmasına karşın, erken tanı ve tedavi önemlidir. Sağ ventriküle yerleşimli 18 yaşındaki erkek olguda cerrahi uyguladığımız dev bir kardiyak kist hidatik olgusunu sunuyoruz.

Anahtar kelimeler: Ekinokokkozis, kardiyak, kist hidatik

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Summary

Echinococcosis is a serious health problem occurring in some geographical region of the world. Although cardiac involvement is rare, early diagnosis and treatment of this situation is important. We present a case of 18-year-old man who underwent an operation because of a giant cardiac hydatid cyst localized in right ventricular wall.

Keywords: Echinococcosis, cardiac, hydatid cyst

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Introduction

Echinococcosis is an important health problem in some regions of the world. Although cases are found sporadically in western countries, most of those occur in immigrants from areas where echinococcosis is endemic [1]. Cardiac involvement is rare in hydatid disease, but it carries a significant risk of potentially lethal complications. We report the case of a 18-year-old man who had a giant cardiac hydatid cyst localized in the right ventricle wall and who underwent an operation.

Case Report

A 18-year-old man was admitted to our clinic with dyspnea and chest pain. The patient had no notable medical history. No abnormality was found on physical examination. All routine blood tests were normal. On electrocardiography, we saw no conduction disorder or ischemia. The chest radiography demonstrated a normal cardiac image. Transthoracic echocardiography (TTE), however, revealed a 62 x 92 mm round, cyst-like structure localized in the right ventricular wall, filling almost entirely the cavity of the right ventricle, and minimal pericardial effusion localized on the posterior wall of the left ventricle and anterior wall of the right ventricle (Figure 1). Cardiac magnetic resonance imaging (MRI) confirmed a hydatid cyst, which was 80 x 60 mm in diameter. Serologic tests were positive for hydatid cyst and abdominal



Figure 1. Transthoracic echocardiographic appearance of the right ventricle cyst (Parasternal short axis).
IVS = interventricular septum; LV = left ventricle;
PE = pericardial effusion; RV = right ventricle

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Figure 2. Operative view of the right ventricular cyst showing the multiple daughter cysts.



Figure 3. Operative view of the giant right ventricular cyst.

ultrasonography was normal. The patient underwent operation for the cardiac hydatid cyst. After induction of general anesthesia with an approach via a median sternotomy, standard cardiopulmonary bypass was initiated under mild hypothermia (28 °C), and the heart was arrested with the isothermic blood cardioplegic solution. We reached the cyst via the right ventricular wall incision, then sterilized it by injecting 20% hypertonic saline solution into the cystic cavity. After aspirating the cystic material, the cyst was opened and a lot of multiple daughter cysts were seen. These cysts were removed and the cavity was washed with a hypertonic saline solution (Figure 2,3). There was no connection between the cyst lumen and the right ventricular cavity. The cystic cavity was closed with capitonage technique. The cystic material was examined histopathologically, which confirmed the surgical observation of hydatid cyst. Postoperative period was uneventful, and the patient was discharged from the hospital on the 6th postoperative day. We prescribed albendazole to prevent recurrence. On the echocardiographic evaluation 3 months after operation, we did not observe any cardiac problems.

Comment

Echinococcosis is a tissue infestation, which is caused by the larva of *Echinococcus granulosus* [2]. Adult helminthes mature in the intestinal mucosa of the final host who have eaten the uncooked meat containing cyst from the intermediate host. Larvae reach the myocardium through the coronary circulation. The intestinal lymphatic, thoracic duct, upper and lower vena cava, large intestine and haemorrhoidal veins may also be the pathway. Cardiac involvement through the pulmonary veins has also been reported [1,3,4]. Cardiac involvement is rare in hydatid disease, accounting for only 0.5% to 2% of all hydatid infestations [2,5]. However, such involvement, carries a

significant risk of potentially lethal complications. Growth is slow in the myocardial tissue and the cardiac hydatid cyst is asymptomatic in the early stages so it may be tolerated for years [6]. The diagnosis is difficult because of the long latency between infection and manifestation of the disease and because symptoms are non-specific. The clinical presentation of cardiac hydatid disease is variable, simulating coronary artery disease, valvular heart disease, pericarditis, and bronchopneumonia [7]. Our case also was presenting with the complaints similar to findings of coronary artery disease and heart valve disease.

The distribution of echinococcosis in the heart depends on the blood supply of that part of the heart. The left ventricle, the part of the heart that has the most abundant blood supply, is involved most frequently 55-60% [1,5]. The right ventricular myocardium is involved in 15% [1].

Computerized tomography and MRI are all valuable non invasive techniques for the diagnosis of hydatid cyst. Echocardiography is also non-invasive, easily performed and has high sensitivity for detecting intracardiac cysts. Thus echocardiography is helpful for operative planning and diagnosis of complications due to hydatid cyst such as ventricular outflow tract obstruction, valve dysfunction, pericarditis or congestive heart failure [1,2,7]. In our patient, we made the diagnosis by TTE, confirmed by MRI and serologic tests. Serologic tests are a helpful supplement, but false negative results are possible [1].

Because there is still no medical treatment for cardiac cysts, surgical excision remains the only remedy. Fortunately, cystectomy is associated with a high rate of complete recovery [1,7]. When hydatid cyst is going to be removed, it is usually sterilized before enucleation by injection or instillation of 2% formalin, 0.5% silver nitrate solution, 20% hypertonic saline solution, 1% iodine solution or 5 % cetimide solution [1,2]. We sterilized the cyst before enucleation by injecting 20% hypertonic saline solution into it. Albendazole can be used as

supportive therapy for surgery, to decrease recurrence incidence [8]. We used albendazole to prevent recurrence, but some instances of recurrence have been reported in patients treated with albendazole [1].

In conclusion, the treatment of hydatid cyst disease is surgical and should not be delayed. Gentle manipulation of the heart minimizes the risk of lethal complications, such as rupture and embolization. Surgical results are generally satisfactory, and complete recovery is obtained in the most of the patients.

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