CASE REPORT

Asymptomatic Huge Cardiac Hydatid Cyst Located in the Interventricular Septum

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Abstract

The cardiac involvement of hydatid cyst, which is rarely seen, with the location of asymptomatic huge cyst in the interventricular septum (IVS) is an extraordinary condition. We report an isolated cardiac hydatid cyst located in the IVS in an 18-year-old man diagnosed incidentally by transthoracic echocardiography. Cardiac magnetic resonance imaging confirmed a mass lesion of 47×74 mm in diameter located at the base of IVS. The cystic content and its germinative membrane were resected and the cavity was applied under cardiopulmonary bypass. Postoperative course was uneventful and the patient was discharged on the 6th postoperative day, with oral albendazole therapy.

Keywords: Cyst. Echinococcosis. Echinococcus. Cardiopulmonary Bypass. Ventricular Septum. Magnetic Resonance Imaging.

INTRODUCTION

An isolated cardiac hydatid cyst is very rarely seen. The diagnosis of hydatid cyst can be difficult because of nonspecific variable symptoms depending on the location and the size of the cyst. Cardiac hydatidosis should be suspected in patients with nonspecific symptoms, especially in endemic areas with high occurrence of hydatid infestation. The myocardium of the left ventricle (LV) is more frequently involved, reaching two-three folds more than the right ventricle (RV), with much less involvement of the interventricular septum (IVS)[1].

CASE REPORT

An 18-year-old man was referred to a cardiologist for routine cardiac evaluation before attending to the national army recruitment college. He did not show any symptoms of cardiac pathology and did not have history of any health problem. Physical examination was normal. Chest X-ray and electrocardiogram (ECG) were normal. Laboratory analysis revealed negative indirect hemaglutination test for hydatid cyst. Transthoracic echocardiography (TTE) revealed a normal ejection fraction and normal valvular functions with a huge cystic mass within the IVS, leading to partial outflow obstruction of both ventricles (Figure 1A). For detailed identification of the cyst, transesophageal echocardiography was performed. A multiloculated huge cystic mass settled at the base of the IVS was detected (Video 1). Cardiac magnetic resonance imaging (MRI) scan confirmed a well-bordered fluid-filled sac containing daughter cysts within the IVS measuring 47×47×74 mm in diameter (Figure 1B). No other cystic lesion was detected in thoracical, abdominal, and cranial scanning by computed tomography (CT).

The patient underwent surgery under cardiopulmonary bypass. A bulging mass between the RV and LV on the epicardial surface was observed on every heart beat, which indicated the...
Hydatid cyst is an endemic parasitic disease, mostly occurring in livestock keeping countries. Ingested parasitic larvae migrate through the intestinal mucosa and are mainly carried to the liver by the portal venous circulation[1]. Larvae reach the left side of the heart via coronary circulation and the inflammatory response to the presence of parasitic involvement creates an adventitial pericystic layer. Echinococcosis infrequently occupies the myocardium and account for only 0.5%-2% of all hydatid infestations[1]. Hydatid cyst of IVS, which has different characteristics from right-sided cysts, is the one with infrequent location of cardiac involvements[2]. The presentation of hydatid cyst ranges from asymptomatic to sudden death[1]. As it was seen in our case, it may remain silent and is diagnosed incidentally. The clinical picture of the cardiac cyst depends on the location, number of cysts, age, size, and involvement of adjacent structures within the heart. In some cases, left ventricular free wall or pericardial located cysts can be diagnosed easily by simple routine tests, such as an abnormality of the cardiac silhouette on chest X-ray or ECG abnormality imitating left ventricular aneurysmal dilatation[3]. Indirect hemagglutination test is specific and a sensitive serologic diagnostic test for hydatid disease with negative result does not exclude the diagnosis.
Unless the pathology is inoperable, all patients who have cardiac hydatid cyst, including asymptomatic patients, should undergo surgery to prevent life-threatening catastrophic complications, such as rupture, anaphylaxis, systemic or pulmonary embolization, arrhythmias, pericardial tamponade, and cardiogenic shock\cite{4}. Total excision of the cyst is the best treatment and complete closure of the cyst cavity by plication is mandatory without leading any structural defect. This surgical closure of hydatid cyst has proven to have good results as reported before\cite{2,4}.

**CONCLUSION**

In conclusion, early diagnosis and urgent surgical intervention are essential even in asymptomatic patients to prevent possible life-threatening catastrophes.

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