Asymptomatic Pericardial Hydatid Cyst

İnci Fıratlı, M.D., Ayşe Özer, M.D., Nilgün İncesoy, M.D., Çengizhan Türköglü, M.D., Sergülen Dervişoğlu, M.D., Bingür Şönmaz, M.D., Muzaffer Öztürk, M.D.

1Institute of Cardiology, Istanbul University, Istanbul, Turkey, 2Cerrahpaşa Medical Faculty, Istanbul University, Department of Pathology, Istanbul, Turkey

Abstract. Cardiac involvement is rare in hydatid disease, but it carries a significant risk of potentially lethal complications. Cardiac hydatid cysts are mostly intramyocardial. Pericardial hydatid cysts without myocardial involvement are much less frequent. Cardiac imaging techniques, particularly two-dimensional echocardiography, are more useful in the detection of cardiac cysts. We present an incidentally detected, asymptomatic, pericardial hydatid cyst.

Introduction

Hydatid cyst disease is endemic in sheep-raising countries, but cardiac involvement is rare, occurring in less than 2% of cases [1]. In Turkey, in a series of 600 pulmonary hydatid cysts, the heart was involved in only four patients [2]. When cardiac involvement occurs, it is mainly myocardial. Although cardiac hydatid cyst is rare, it has a significant risk of serious, sometimes life-threatening complications. Presented is the case of an asymptomatic pericardial hydatid cyst that was detected incidentally.

Case Report

A 64-year-old woman with a five year history of effort angina was hospitalized for rest angina occurring for the previous three days. Physical examination was unremarkable Electrocardiogram showed left bundle bunch block. On chest X-ray the cardiothoracic ratio was 0.55, and in frontal and lateral projections a smooth, round, marginally calcified heterogeneous radiodensity of 4 cm in diameter was seen over the left hemidiaphragm behind the lower left lung lobe (Fig. 1). Two-dimensional echocardiography revealed a 4 x 4 cm cystic mass with peripheral calcification behind the heart (Fig. 2).

Because hydatid cyst disease is endemic in Turkey, a complement-fixation test and Casoni skin test were done, and both were positive. Abdominal ultrasonography and chest and abdominal computed tomography excluded the presence of extracardiac cysts. On chest computed tomography, the cardiac cyst was identified as a marginally calcified heterogeneous mass of 5 cm diameter located behind the heart at the left atrioventricular sulcus (Fig. 3).

Since angina persisted despite intensive medical treatment, coronary revealed three-vessel disease with moderate left ventricular dysfunction. A 4 x 5 cm marginally calcified, avascular, cystic mass was identified in the inferior surface of the heart (Fig. 4).

The patient was operated on for aortocoronary bypass grafting. At operation a 4 x 5 cm calcified cyst was detected on the inferior surface of the left ventricle (in front of the vena cava). The cyst was opened, and a thick fluid consisting of necrotic material was evacuated. The histological examination of the cyst contents revealed cellular debris, occasional inflammatory cells, and scattered calcified scolices and hooklets. This confirmed the diagnosis of hydatid cyst (Fig. 5). The postoperative period was uneventful, and the patient was discharged in good condition.

Discussion

Pericardial hydatid cyst without myocardial involvement is infrequent. In an echocardiographic and surgical review of 15 patients with cardiac hydatid disease admitted in two Spanish hospitals between 1981 and 1987, pericardial cysts were present in only three [3]. Of these, two had single and one multiple pericardial cysts. All patients in this series showed extracardiac involvement.

The clinical picture of cardiac hydatid disease depends on the location and size of the cyst and the presence of complications. The most lethal complication is the rupture of the cyst. Rupture into the pericardium may lead to acute pericarditis and eventually to chronic constrictive pericarditis,
whereas rupture into the cardiac chambers or great vessels may result in systemic or pulmonary emboli. On the other hand, the contact of the cyst contents with the blood stream or an organic cavity may produce an anaphylactic reaction to the proteins in the fluid, resulting in profound, fatal collapse [1,3].

In Oliver's [3] series, in the patients with pericardial cysts, the clinical presentation was pericardial chest pain and effusion in one, anaphylactic shock in another, and superior vena cava syndrome in the patient with multiple cysts. Two-dimensional echocardiography revealed superior vena cava compression in the patient with superior vena cava syndrome and left atrial compression in a second patient.

Our patient with single pericardial cyst without extracardiac involvement presented with chest pain that was ischemic in nature. Anginal chest pain occurs in patients with intramyocardial cysts [3,4,5]. In our patient, chest pain was due to significant coronary atherosclerosis and was relieved after coronary surgery.

In cardiac hydatid cyst disease, chest roentgenogram shows an abnormal cardiac silhouette, but this may be inadequate for identifying cyst location. Two-dimensional echocardiography, computed tomography, and magnetic resonance imaging are valuable noninvasive techniques used for detection and localization of cardiac cysts [3]. Among these two-dimensional echocardiography remains the technique of choice for the evaluation of cysts with regard to appearance, location, and relation to adjacent cardiac and vascular structures. Echocardiographic findings show a good correlation with clinical syndromes. Two-dimensional echocardiography is a useful tool for directing surgical approach [3,6,7]. Angiography plays a definitive role in these cases.