Recurrent and unresectable pericardial hydatid cyst

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Abstract
We present a case of a 57-year-old man with an unresectable hydatid cyst located in pericardium. He was operated but cysts were unresectable. Echocardiography, computed tomography and magnetic resonance imaging were inadequate to determine the resectability of cyst.

Key words: Echinococcosis, parasites, pericardium

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INTRODUCTION

Cardiac hydatidosis is an uncommon disease and comprise 0.5% to2% of all hydatid cyst cases (1,2). Pericardial location of a cyst is very rare. Imaging techniques are important in diagnosis and planning of the treatment. We report a case with unresectable pericardial hydatid cyst (PHC). In this case, imaging procedures were inadequate. to show the unresectability of cyst.

CASE REPORT

A 57-year-old male with a three years history of dyspnea was hospitalized for chest pain and palpitation occurring for the previous fifteen days. He had incompletely operated due to PHC in our hospital seventeen years ago. The histopathologic analysis was confirmed the diagnosis of hydatid cyst. Results of serological studies were negative. A detailed medical history revealed that a right thoracotomy was done in a different center with the diagnosis of lung cyst .

On physical examination, the vital signs were normal. Respiratory sounds were diminished on the lower part of the right lung. No cardiac signs were noted. Serologic tests for hydatidosis were negative. The electrocardiogram showed normal sinus rhythm with right bundle block.

On chest X-ray, elevation of the left hemidiaphragm, deformation of the left cardiac silhouette and right pleural thickening were observed. Transthoracic echocardiography (TEC) showed cystic masses compressing right ventricular chamber were located inside the pericardial cavity. The pericardium was identified as calcified behind the left ventricle. Spiral computed tomography (CT) of the chest revealed cystic masses in the pericardium and a calcified heterogeneous lesion located behind the left ventricle (Figure 1). Magnetic resonance (MR) imaging of the chest also demonstrated the triloculated pericardial hydatid cyst (Figure 2). The patient was diagnosed as recurrent PHC with the presence of a history of hydatid cyst.

The patient was operated by median sternotomy without extracorporeal circulation (ECC) after 3 weeks treatment with albendozole. Cyst with lobulated surface located in anterior and posterior part of the heart, and were palpated to be very hard and they had thick pericyst adherent to the mediastinal structure and heart. Exploration and removal of the cysts were not possible because of serious adhesions which could not sectioned. and no cleavage between myocardium and cysts. The operation was completed with pericardial window formation. The patient did well and remains asymptomatic.

DISCUSSION

2-10 % of cardiac HC disease occurs in the pericardium (1,3). Clinical presentation of PHC may range between asymptomatic to life threatening conditions and sudden death. Symptoms depend on size, location and involvement of neighboring structures. The three main symptoms that may reveal an uncomplicated cyst are chest pain, dyspnea, and palpitations. In patients with PHCs, the most frequent causes of chest pain are the compression of coronary vessels and adjacent organs and tissues or the rupture of HCs (1,3).

TEC, CT, and MR imaging can show the cystic nature of the mass and its relationship to the cardiac chambers.

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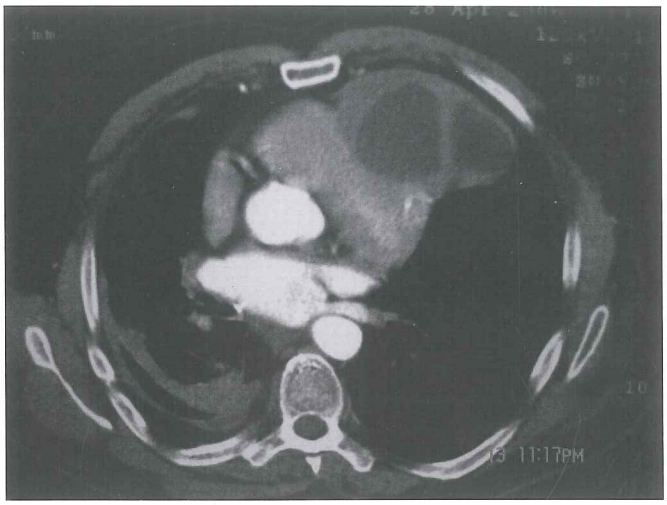

Figure 1: Spiral CT of the chest revealed cystic masses related to the supero-anterior aspect of the right and left ventricle, and right pleural thickening with minimal effusion.

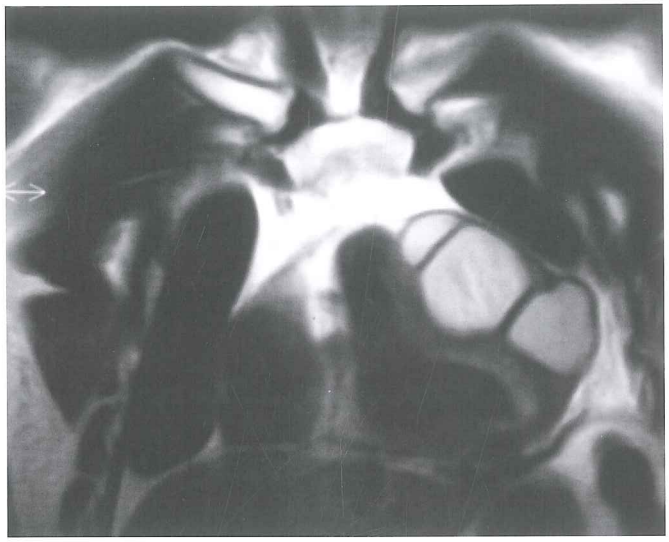

Figure 2: FFE T1 weighted MR imaging of the chest demonstrated the triloculated pericardial hydatid cyst extending from the level of the main pulmonary artery to down, in front of the right and left ventricular cavity with external compression.

TEC may be inadequate to define the cyst and its relationship to adjacent structures (1,4,5). CT scan is better than TEC, as it can distinguish solid tumors such as myxomas or fibromas from watery tumors and intracavitary thrombosis, by measuring the densities and injecting contrast material (1,6). MR imaging shows a global view of the preoperative cardiac anatomy with high contrast between flowing blood and soft tissue (7,8).

Even if its therapy is controversial, surgical removal with or without ECC in patients with recurrent multiple cysts should be considered because of the high risk of associated complications such as rupture, tamponade and anaphylactic shock (9,10). However, removal of the cysts was not possible because of serious adhesions between myocardium, mediastinum and cysts. The possibility of removing all the cysts under ECC without any complication seemed impossible due to severity of the adhesions .

In the presence of a history of operated PHC, because of modern imaging procedures, any cardio pericardial mass could be easily diagnosed as a hydatid cyst. In deciding and choosing technique of operation, the localization, number and size of cysts, the severity of the pericystic inflammation, fibrosis and adhesions between pericardium and the adjacent organs are important. Serious pericardial adhesions is frequent in cases of the ruptured cyst (1). The serious adhesions in our patient were probably due to ruptured cysts during incomplete and atypical resection of them in the first operation. But, TEC, CT and MR imaging were not efficient for determining the severity of adhesions in our patient.

This patient represents an unusual case because unresectable hydatid recurrence was in pericardium. In patients with recurrent pericardial HC, possibility of multiple adhesions and fibrosis between pericardium and adjacent organs should be kept in mind.

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