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CASE REPORT:

Cardiac and Pericardiac Hydated Cyst

Ali Raza Uraizee , Ahmed Ali

ABSTRACT:

Pericardial hydatid disease or echinococcosis is a rare complication of Echinococcus granulosus infection. Cases with cardiac hydatid cyst disease are uncommon, being approximately 0.5-2% of all cases. Most cardiac hydatid cysts are located in the interventricular septum or left ventricular wall. Pericardial location is very rare. Only few cases of pericardial location have been reported; isolated pericardial hydatid cysts are especially extremely rare. Patients with a pericardial hydatid cyst are usually asymptomatic. We are reporting case of a 19 year old man with pericardial hydatid cyst who presented with chest pain and cough. Early diagnosis and immediate treatment can save the patient's life in most of the cases. Traditionally, the diagnosis is made with two-dimensional trans-thoracic echocardiography, chest X-Ray and CT scan. The most appropriate therapeutical option for a hydatid cyst is surgical removal of the cystic mass.

INTRODUCTION:

Cardiac and pericardial echinococcosis a clinical puzzle:

In some parts of the world, echinococcosis remains a serious health problem. Although sporadic cases have been identified in western countries, most cases are found in immigrants from endemic areas. Pericardial echinococcosis is extremely rare. The incidence, even in countries where it is endemic, is less than 2 percent. Most cases can easily be diagnosed, and treatment can be achieved with simple surgery. However, some cases may be misdiagnosed and echinococcosis may be the unexpected etiology for some patients.

CASE REPORT: 19 year old man presented with cough and chest pain since 1 month. On physical examination he was found stable. His BP was 110 /70 mm of Hg, pulse was 77/ min, and maintaining Oxygen saturation of 99%. Respiratory examination parameters were normal. His Chest XRAY revealed a pericardial Abscess and CT scan confirm the diagnosis of a pericardial cyst on the left site (Fig I). Hem agglutination test revealed significantly high titer. Preoperatively a large cyst was found. Through Right Thoracotomy excision of a large cyst was done that was found to adherent to right middle lobe of the lung and Pericardium and wedge resection of right middle lobe was done. His subsequent surgical coarse course was uneventful.

Fig I: CT scan images of Cardiac and pericardiac Hydatid Cyst

Department of Thorasic Surgery, Liaquat National Hospital, Karachi, Pakistan.

DISCUSSION:

Hydatid cyst of pericardium represents only 0.5-2% of total systemic hydatid cyst[7]. Echinococcus hydatid disease is endemic to areas of the world with tropical climates. Echinococcal eggs are ingested by humans through contaminated foods and close contact with infected animals. The organism reaches the liver through the portal circulation after ingestion into the human GI tract. In 1% of cases, the organism can invade into myocardial tissue through the coronary circulation or through pulmonary cyst rupture into the pulmonary veins. Areas of cardiac involvement include the left ventricle (60%), right ventricle (10%), pericardium (7%), pulmonary artery (6%), and left atrial appendage (6%), with rare involvement of the interventricular septum (4%) [3].

Pericardial hydatid cysts are a rare complication of *Echinococcus* infection in humans[1, 2]. It remains a public health, economic, and social problem in many animal raising countries. Cardiac and pericardial involvement is usually diagnosed late during adulthood because of the long latency between the infection and presentation of the disease and because symptoms are non-specific[2].

The diagnosis of pericardial echinococcosis is difficult. Clinical presentation depends on size, number, and location of the cysts and the presence of complications. Patients may be asymptomatic or having non-specific complaints such as fever, chest pain, weakness, and eruptions. Prior history of hydatid disease can facilitate the diagnosis of cardiac cysts.

The disease may manifest with anaphylactic shock due to cyst rupture into the bloodstream, systemic hydatid embolism, hydatid pulmonary embolism, valve obstruction, mitral regurgitation secondary to papillary muscle involvement, atrioventricular conduction defects, arrhythmias, pericarditis with effusion, and cardiac tamponade due to sudden cyst rupture into pericardial space[2,8]. Pericardial Hydatid Cyst can also mimic Acute Coronary Syndrome[6, 7]. The presence of eosinophilia (25% cases)[3], is a very useful complementary finding but it is nonspecific. Chest X-ray film often shows abnormal shape of the heart shadow, or sometimes a calcified spherical mass. Echocardiography is often the first and frequently the only required imaging modality to establish the diagnosis[1,2,3]. CT scanning, MRI, and TEE with harmonic capabilities may help to better visualize the cyst with its septa, the surrounding tissue, and to exclude co-existing hydatid locations. Features of hydatid disease include calcification and separation of the membrane from the wall, septations, daughter cysts, and ruptured cysts. Although serologic tests are commonly used, echocardiography is more sensitive than serologies when isolated cardiac echinococcosis is suspected. Indirect hem agglutination and ELISA tests are sensitive for hepatic cases (85–98%), less sensitive for lung involvement (50–56%), and poorly sensitive for other organ involvement (25–56%)[3].

The treatment of cardiac echinococcosis begins with antiparasitic medications, but frequently requires complete surgical removal of the cyst. Albendazole and mebendazole have been used in patients with small and uncomplicated cyst[1,3]. However, treatment with these medications results in cyst disappearance in only 30% of cases[3]. Most patients require total surgical excision as definitive treatment. During surgery, care must be taken to avoid rupture of the cysts and prevent metastatic disease. Therefore, surgery is undertaken after three to four days of therapy with albendazole or mebendazole[3]. Oral albendazole therapy should be used to reduce size of cyst and to prevent recurrence[7].

In current case, key of successful treatment was early diagnosis and management. As medical therapy was unable to completely cure cyst, so surgery was done and patient recovered completely from the disease.

CONCLUSION: The awareness and suspicion of cardiac hydatidosis will facilitate its diagnosis so echinococcosis hydatid cyst should be included in the differential diagnosis of cystic lesions of heart and pericardium.

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