



## CARDIAC HYDATIDOSIS

## Cardiovascular

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## ABSTRACT

Hydatid disease is a parasitic infection caused by tapeworm Echinococcus. It has a worldwide distribution, but it is endemic in certain geographic locations. Hydatid disease can almost involve any body organ. However, cardiac involvement is exceedingly rare. We report the case of young girl presenting with chest pain and shortness of breath. She had a history of renal hydatid cyst for which she underwent surgical resection. After thorough investigation, she was found to have a hydatid cyst involving the left ventricular wall. The patient's family refused surgical management, and she had received medical treatment in the form of albendazole which showed dramatic improvement in her condition. This case shed light on the importance of having a high index of suspicion for this condition, particularly in those patients with a history of hydatid cysts in other organs.

## KEYWORDS

Hydatid Disease, Cardiac Hydatid Cyst, Albendazole, Echinococcosis.

## INTRODUCTION

Hydatid disease is a zoonosis parasitic infection caused by Echinococcus granulosus, E. multilocularis, or E. vogeli. Dogs and cats are primary carriers of this parasite. Human can be infected as an intermediary carrier when eat unwashed or uncooked vegetables or swallow the parasite eggs. Embryo of the parasite inserts into blood circulation from intestine and can involve every organ (1). This infection commonly involves liver through portal vein, but if embryos bypass the liver, they reach the lungs via the inferior vena cava. They can also involve other organs like heart. The frequency of cardiac involvement is lesser than 2% (2, 3). Intracardiac tumors, congenital cysts and aneurysms are in differential diagnosis of this lesion (4, 5). Left ventricle is the most common site of cardiac involvement (1).

The diagnosis of cardiac hydatid disease is based on the combination of clinical suspicion, serologic tests and cardiac imaging. Echocardiography is highly sensitive and specific in diagnosis of hydatid cysts (6) and positive serological tests can help the diagnosis of this disease.

Here we introduce a rare case of hydatid cyst with cardiac involvement and discuss the important points about the disease.

## Case Presentation

A 28-year-old man presented with complaints of gradual onset precordial chest pain since 2 months and 2d echo demonstrated a large extracardiac lobulated cystic mass compressing the LV posterolaterally with size of 9.2 cm x 9.6 cm.

CECT thorax showed multiple hydatid cysts with daughter cysts within, in the anterior mediastinum (7 cm x 6 cm x 5.3 cm) and left lateral pericardium (12 cm x 11 cm x 10 cm), compressing the LV posterolateral wall on one side and extending up to the left lateral chest wall with compression of left lingula and lower lobe of left lung without any signs of rupture.

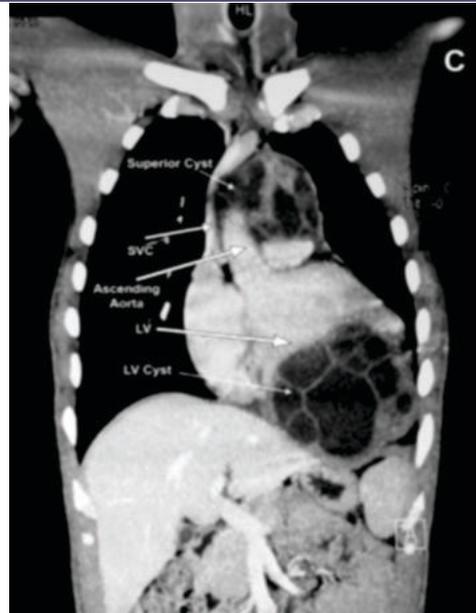
Albendazole 400mg bd was given for 21 days prior to surgery as patient was vitally stable and had no signs of infestation in other organs.

As the cyst was adherent to the LV posterior wall, cystectomy was planned with midline sternotomy

After sternotomy, a superior cyst was found to be firmly adherent to the SVC and aorta, and completely surrounding the MPA.

Surgery was performed on CPB and all daughter cysts were removed and washed with 3% hypertonic saline and margins were marsupulated.

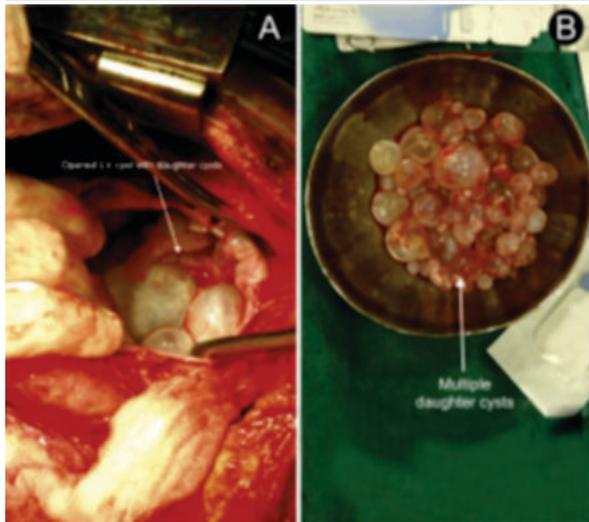
Patient had an uneventful postop course and Postop CECT showed no residual cysts.



Preop



Postop



#### DISCUSSION :

Diagnosis usually arises from high clinical suspicion due to a vague clinical scenario. Cardiac hydatid cyst may present with dyspnea, cough, atypical, or nonspecific precordial pain and nonspecific symptoms. Chest pain occurs because of compression of the coronary artery due to the cyst. 2D echo aids our clinical suspicion of hydatid cyst but CECT/MRI is imperative.

Cardiac hydatid cyst may present with potentially lethal complications such as pericardial tamponade, acute pericarditis due to cyst rupture into pericardial cavity or may end up causing pulmonary embolism or anaphylaxis, if the cyst ruptures into ventricular cavity.

Surgical excision is the preferred treatment even if it is an incidental finding and the patient is asymptomatic. Excising the cyst with the patient on cardiopulmonary bypass is recommended.

The contents of the cyst must be entirely aspirated and the germinative membrane removed. A 20% hypertonic saline solution is one of the few effective, relatively nontoxic protoscolicidal agents. This solution destroys protoscolices by creating a significant osmotic gradient. We have also used this solution to wash out the remaining cavity. It is prudent to place solution-soaked sponges in the pericardial cavity during the operation to prevent local dissemination.

Albendazole therapy (400 mg twice daily) is typically prescribed for at least 4 days preoperatively and for 4 to 12 weeks postoperatively.

#### CONCLUSION :

Cardiac echinococcosis is uncommon. Because of the risk of rupture, its spontaneous course is dangerous. Its clinical signs are diverse, frequently latent, and deceptive. Non-invasive imaging techniques that can reveal certain symptoms greatly aid in the diagnosis. MRI reveals the precise anatomical location and nature of the external and internal structures, whereas CT best reveals the wall calcification.

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