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Case Report

Large Cardiac Hydatidosis Bulging As a Mass to Pericardium- Case Report

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Abstract

A 47-year-old man presented as a dyspnea and fatigue. A transthoracic echocardiography (ITE) performed to assess valvar heart disease and left ventricular (LV) function showed a large hydatid cysts in the inter ventricular septum bulging to posterior of heart and compressing its overlying muscle as whitish round mass. The patient underwent elective surgery by evacuation of septal hydatid cysts from posterior inter ventricular aspect of septum and capitonnage of cavity. His postoperative course was uneventful. Post-operative albendazole for prophylaxis of procedures were recommended. The patient was scheduled for regular follow-up, to check for any recurrences or late complications.

Introduction

Echinococcal infestation is endemic in animal husbandry provinces of the Iran, notably in the central and western part of Iran (1). Cardiac echinococcosis is rare, and its incidence in body organs involvement is 0.5% to 2% of all hydatid infestations in human beings (2). The most common site of hydatid cysts of the heart related to its huge

muscle mass of LV with its abundant blood supply. Involvement of the inter ventricular septum (IVS) bulging to posterior inter ventricular aspect of both ventricle is rare and can cause symptoms arising from rupture to pericardium, complete heart block or left or right bundle branch block. Diastolic dysfunction of

RV or LV occurred by obliteration of effective end diastolic volume of ventricles (3).

We report here an interesting case of cardiac hydatidosis presenting as dyspnea and palpitation. This case report is unique because however cardiac hydatidosis itself is a rare entity; but its location in the septum and bulging to posterior aspects of both ventricles is still very rare. In fact, there are no case reports in the literature regarding as a septal hydatid cyst bulging to pericardium as whitish mass.

Case report

A 47-year-old man presented with dyspnea and palpitation of two months duration in Imam Ali Hospital, Kermanshah, Iran in June 2011. No other sign and symptom of cardiovascular disease were present. His pulse rate was 110 bpm, blood pressure was 130/89 mm Hg and oxygen saturation was 98% on ambient air. Heart sounds were normal, and chest auscultations of lungs were clear. ECG revealed normal sinus rhythm and no any type heart block was observed. A transthoracic echocardiography (TTE) revealed well-defined, cystic lesions consistent with hydatid cysts seen as a mass in inter ventricular septum compressing overlying muscle posteriorly and bulging to pericardium (Fig.1, 2). This cystic mass compromised LV and RV diastolic volume. However, LV function was normal without any regional wall-motion abnormality.

The patient scheduled for open cardiac surgery. Median sternotomy was done.

Cardio pulmonary bypass (CPB) with aortic and bi caval cannulation was established and SVC and IVC were snared. Hypertonic saline soaked pad was spread around the pericardium and cyst to minimize the risk of dissemination in case of an accidental spillage of hydatid fluid. One large cyst of about 6-7 cm diameter with multiple daughter cysts removed surgically (Fig. 3). The cyst was evacuated from its scolex daughter cysts and capitonnage was done by 4/0 proline sutures. One

mediastinal chest-drainage tube was placed. Chest was closed in layers after securing hemostasis. His postoperative recovery was good without any complications patient was scheduled for a regular follow-up once every 4 months over a period of 1 year, in order to check for any recurrences or late complications. After one year follow up, the patient complained dyspnea on exercise and echocardiography revealed severe TR. Next plane was tricuspid replacement in near future.

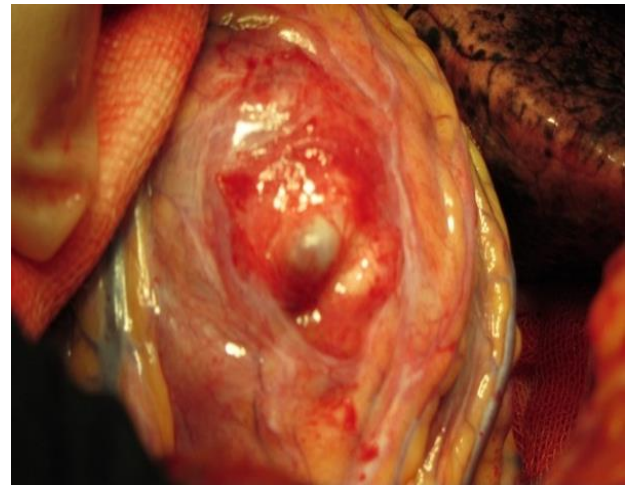


Fig. 1: Intra operative view of hydatid cyst to pericardium (black arrow)



Fig. 2: Transthoracic echocardiography: apical four-chamber view showing large cyst in IVS and compromising the LV and RV cavity



Fig. 3: Exhibits gross view of external layer of hydatid cyst or ectocyst

Discussion

Hydatid disease has been known since the time of Hippocrates and is described as a 'liver full of water'. *E. multilocularis* was identified by Leuckart (4) and, during the early to mid 1900s, the more distinct features of *E. granulosus* and *E. multilocularis*, their life cycles and how they cause disease were more fully described as more and more people began researching and performing experiments and studies.

The overall incidence of heart *Echinococcus* infection is 0.2-2% of human disease however overall prevalence of disease in human is 4 person in 1000000. Humans are an intermediary host, although 80-100 of cases found in the liver, and lung hydatid cysts can occur in any organ or tissue (5). Involvement of the heart can occur through inferior vena cava to right atrium and directly to right atrial wall or trans septally through inter atrial septum to left atrium or inter ventricularly to left ventricle or remains in intra septum. Another way is through pulmonary artery to lung and from pulmonary vein to systemic circulation or intra heart cavity any part of the heart structure likes atria, ventricles and vein and artery can be involved but inter ventricular septal involvement with bulging to posteriorly to peri-

cardium is exceedingly rare and careful literature evaluation revealed no cases (6). The prevalence of involvement of left and right atrium is 4% of heart structure involvement (7). Sensitivity of serologic test is low and do not correspond to the calcification change changes of the disease (7).

Transthoracic echocardiography, CT-scan, and magnetic resonance imaging are the most important tools for diagnosis and follow up of the patient. Intra cavitory cyst rupture is the most dangerous sequel of heart echinococcosis (8). Incidence of intra cardiac perforation is between 20-40% and after cyst perforation 75% of the patients die from septic shock or embolic complications (8, 9). Heart is only organ that can be treated by surgery however others organ may be treated both by chemotherapy and surgical manipulations, in the case of heart echinococcosis it is impossible to administer anti helminthic medicines prior to surgery due to the risk of cyst wall destruction and rupture. In addition, the results of surgical treatment of heart echinococcosis are better than the conservative strategy only. On the other hand, there have been described major surgical implications from rupture, with systemic or pulmonary embolization, pericardial dissemination, purulent inflammation, and sepsis (10).

The present unusual and exceedingly case exemplifies that one has to keep hydatid cyst in the differential diagnosis of a mixed echogenic mass in interventricular septum on echocardiography that bulging to pericardium that may complicated by intra pericardial or intra cavity perforation.

Conclusion

In view of the rarity of inter ventricular septum, bulging of HC to pericardium may be associated with compressing and thinning of the overlying muscle and may ruptured to intra cardiac chamber or pericardial cavity and caused serious outcome as results of emboli and anaphylaxis's shock.

Acknowledgements

The authors declare that there is no conflict of interests.

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