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Hydatid cyst of the interventricular septum – A rare cause of heart block

Bhagwati Pant^{a,*}, Ananthakrishnan Ramesh^b, Raja Selvaraj^a^a Department of Cardiology, JIPMER, Puducherry, India^b Department of Radiodiagnosis, JIPMER, Puducherry, India

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1. Introduction

Human echinococcosis is a zoonotic disease caused by larval forms (metacestodes) of the cestodes of the genus *Echinococcus*. Most commonly affected organs are liver and lungs. Cardiac hydatid disease is rare, accounting for 0.02%–2% of all hydatid infestations in humans [1,2]. Left ventricle (60%) is the most common location for hydatid cysts in heart, followed by the right ventricle (15%), the interventricular septum (9%), the left atrium (8%), the right atrium (4%), and interatrial septum (2%) respectively [3]. The normal maturation of the cyst usually take from one to five years [4]. We report a rare case of a multiloculated hydatid cyst in the basal part of interventricular septum presenting as complete heart block.

1.1. Case

We report a case of a 38 year old female who presented with dyspnea on exertion, giddiness and easy fatigability for 1 month. Electrocardiogram (ECG) showed complete heart block (CHB) (Fig. 1, upper panel). Echocardiography showed a cystic mass of size 4.5×4.3 cm with internal septations in the basal interventricular septum (IVS) (Fig. 1, left lower panel). The cyst was protruding into the right ventricular (RV) cavity and causing mild obstruction of both left and right ventricular outflow tracts. Computed tomogram (CT) of the chest confirmed the presence of a multiloculated cyst in the interventricular septum (Fig. 1, right lower panel). Chest x-ray,

ultrasound abdomen and CT scan of thorax and abdomen ruled out liver or lung involvement. Patient was started on Albendazole pre operatively. Under cardiopulmonary bypass, RV free wall was opened and cyst cavity was accessed. All scolices and daughter cysts were removed (Fig. 2). An epicardial pacing lead was inserted and connected to temporary pacemaker. Tissue analysis of intra operative sample confirmed it to be hydatid cyst. Patient continued to be pacemaker dependent postoperatively. So a dual chamber pacemaker was inserted on 5th post-operative day. Patient was discharged on oral Albendazole and was doing well at two months follow up.

2. Discussion

Echinococcosis is an endemic parasitic tissue infestation caused by larva of *Echinococcus granulosus*. Carnivorous animals (Dogs) are the definitive hosts, while sheep is an intermediate host. Common accidental hosts are humans. Initial stages of infections are asymptomatic as the growth is slow, later as the cysts enlarges, symptoms like dyspnea, chest pain, palpitations commonly arises due to the compression of the surrounding structures like conduction pathways or by the extension of cysts causing obstruction of the left or right ventricular outflow tract [5,6].

Echocardiography is a reliable investigation to diagnose hydatid cyst with high sensitivity [7]. Computed tomographic and magnetic resonance imaging are complementary tools to diagnose multivesicular cyst, exact size, extension of the cyst and for the pre operative evaluation before surgical excision.

In our patient, we made the diagnosis by transthoracic echocardiography, which was confirmed by CT/MRI evaluation. Diagnosis of Cardiac hydatid cysts entails early surgery to prevent catastrophic complications, it is considered safe and has satisfactory results. Drug therapy with mebendazole or albendazole is mandatory to prevent recurrences. Our patient is rare case of multiloculated cardiac hydatid cyst of interventricular septum presenting as complete heart block.

3. Conclusion

Isolated Echinococcosis of heart is a rare condition which may

* Corresponding author. Department of Cardiology, JIPMER, Dhanvantri Nagar, Puducherry, 605006, India.

E-mail address: drbhagwatipant@gmail.com (B. Pant).

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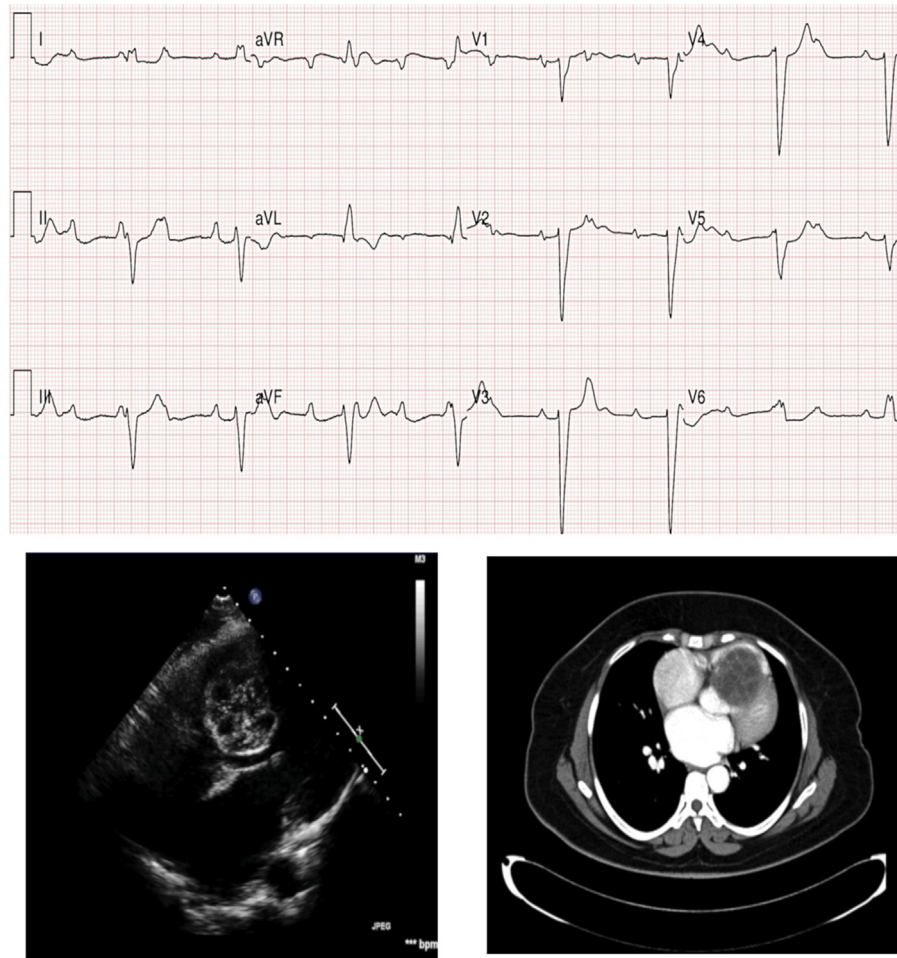


Fig. 1. Top panel shows ECG with Complete heart block. Left lower panel shows Transthoracic echocardiography showing multiloculated cyst in the basal part of interventricular septum in apical four chamber views. Right lower panel shows Computed tomography imaging showed a cyst of size 4.69×4.5 cm from mid to basal IVS with multiple septa consistent with hydatid cyst.



Fig. 2. Daughter cysts after excision; histopathological tissue analysis confirmed it to be hydatid cyst.

present as atrioventricular block in the absence of other organ involvement. Echocardiography can reliably diagnose the condition, which can be confirmed by CMR. Surgical resection with Albendazole therapy remains the mainstay of treatment.

Disclosures

None for any of the authors.

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