



A PECULIAR CASE OF MULTIPLE CARDIAC ECHINOCOCCOSIS IN A JUVENILE PATIENT

Dr. Arpit Mittal

Senior Resident, Department Of Pediatrics, Pt. B.D. Sharma PGIMS, Rohtak.

Dr. Parul Gupta*

Senior Resident, Department Of Radiation Oncology, Pt. B.D.Sharma PGIMS, Rohtak. *Corresponding Author

ABSTRACT

Cardiac hydatid cyst is a rare presentation of hydatid disease. Presence of cardiac hydatid cyst in pediatric age group is even rare due to long incubation period and slow growing nature of cyst. We discuss an 11-year-old female child with multiple cardiac cysts presenting with cardiogenic shock that was diagnosed with the aid of echocardiography and computerized tomography of chest. Patient remains asymptomatic after surgical treatment followed by oral albendazole therapy.

KEYWORDS : Cardiac Hydatid Cyst, Childhood, Echinococcosis, Surgery.

INTRODUCTION:

Hydatid disease, also known as Echinococcosis is human infection caused by *Echinococcus granulosus*. Hydatid disease most commonly involves liver (60%) and lungs (20%) but it can involve any organ. Cardiac echinococcosis (CE) incidence is reported to be less than 2 percent of total incidence of echinococcosis^{1, 2}. Presence of CE in pediatric patient is even rare. We are presenting case of 11-year-old female child presenting with multiple cardiac echinococcosis that resolved completely after surgical treatment.

CASE REPORT:

An 11-year old female presented with complaints of high-grade fever and difficulty in breathing for 1-day. Physical examination revealed tachycardia, tachypnea with respiratory distress and low blood pressure (BP). Pallor was present along with hepatosplenomegaly. Complete blood count revealed microcytic hypochromic anemia with marked eosinophilia. Cardiac enzymes and biochemical analysis were within normal range. Postero-anterior chest radiograph showed normal pulmonary appearance however there was abnormal convexity along right border of heart. Lateral view chest radiograph revealed a retrosternal mass. Electrocardiography (ECG) findings were unremarkable. A transthoracic echocardiogram revealed mass in the right atrium. Contrast enhanced computerized tomography scan (CECT) revealed a well-defined cystic lesion in the antero-superior mediastinum showing daughter cysts within. The cyst was causing compression of superior vena cava and right atrium with extension within SVC lumen. It was also causing compression of right ventricle. There was another small cyst in lumen of right atrium along with a tiny cyst in the wall of left ventricle. Abdominal ultrasonography did not reveal any lesion in liver or other viscera. After initial stabilization patient was planned for surgery with provisional diagnosis of cardiac hydatid cyst. Cyst fluid was aspirated and total cystectomy was performed. Histologic examination confirmed the diagnosis of hydatid cyst. Postoperative period was uneventful. Tablet albendazole was commenced at a dose of 15 mg/kg/day post operatively for 8-weeks. Patient was asymptomatic at 6-month follow up and repeat CECT chest revealed no residual lesion.

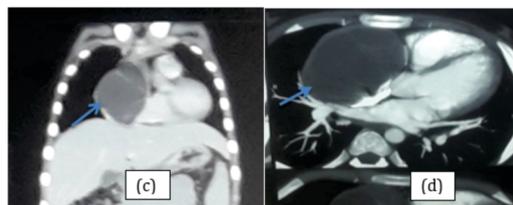
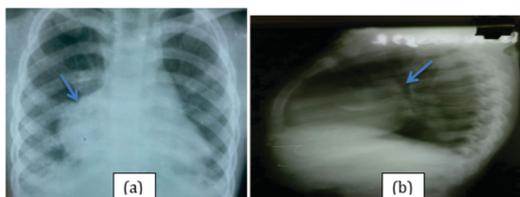


Image (a) showing abnormal convexity along right heart border. Image (b) showing retrosternal mass in x-ray lateral view. Image (c) coronal section CT chest and (d) axial section CT angiography showing mediastinal and intracardiac cystic lesion.

DISCUSSION:

Cardiac involvement in Hydatid disease is very rare. Most of the reports in the recent literature concern adult patients. An epidemiologic study from Benghazi³ showed that only 11.7% of patients were less than 10 years old. Low incidence in pediatric age group can be attributed to long incubation period and very slow growing nature of hydatid cyst. Growth of hydatid cyst is reported to be less than 1 centimeter per year. CE is usually asymptomatic until the cyst has grown to large dimension. Clinical presentation of CE depends upon number, size, site and complications of cyst. CE most commonly involves left ventricular myocardium, which is two-three times more commonly involved than right ventricle. It rarely involves interventricular septum, atrium and pericardial cavity.^{4,8} Rupture of intracavitary cyst can lead to pulmonary embolization. Intracardiac cyst may lead to valve destruction. Involvement of pericardium may lead to pericarditis and pericardial effusion. Compression by cardiac cyst may lead to cardiac tamponade and cardiogenic shock. Chest radiography, echocardiography, computerized tomography (CT) and magnetic resonance imaging (MRI) aids in diagnosis. Presence of viable cyst in heart is an indication for surgery.⁹ Post operatively albendazole may help in prevention of recurrence.

A high index of suspicion should always be kept. Medical management alone is not effective in case of cardiac hydatid cyst and surgery should always be performed even in case of asymptomatic viable CE. Further studies are required to prove efficacy of post-operative antihelminthics in prevention of recurrence.

REFERENCES:

1. Perez-Gomez F, Duran H, Tamames S, Perrote JL, Blanes A. Cardiac echinococcosis: clinical picture and complications. *Br Heart J*. 1973;35(12):1326-31.
2. Polat P, Kantarci M, Alper F, Suma S, Koruyucu MB, Okur A. Hydatid disease from head to toe. *Radiographics*. 2003;23(2):475-94.

3. Dar FK, Taguri S. Epidemiology and epizootiology of hydatidosis in the Libyan Jamahiria, and recommendations for a program of surveillance and control of the disease. *Garyounis Med J.* 1979;2:11-5.
4. Maroto LC, Carrascal Y, López MJ, Forteza A, Pérez A, Zavanella C. Hydatid cyst of the interventricular septum in a 3.5-year-old child. *Ann orac Surg.* 1998;66(6):2110-11.
5. Di Bello R, Menedez H. Intracardiac rupture of hydatid cyst of the heart. A study based on three personal observations and 101 cases in the world literature. *Circulation.* 1963;27:366-74.
6. Vassiliki Malamou-Mitsi, Lina Pappa, Theodore Vougiouklakis, Dimitrios Peschos, Nikolaos Kazakos, George Grekas, et al., Sudden death due to an unrecognized cardiac hydatid cyst, *Forensic Sci.* 47 (5) (2002) 1-3.
7. Macedo AJ, Magalhães MP, Tavares NJ, Bento L, Sampayo F, Lima M. Cardiac hydatid cyst in a child. *Pediatr Cardiol.* 1997 May-Jun; 18(3):226-8.
8. Fiengo L, Bucci F, Giannotti D, Patrizi G, Redler A, Kucukaksu DS. Giant cardiac hydatid cyst in children: case report and review of the literature. *Clin Med Insights Case Rep.* 2014;7:111-16.
9. Kaplan M, Demirtas M, Cimen S, Ozler A. Cardiac hydatid cysts with intracavitary expansion. *Ann Thorac Surg.* 2001 May;71(5):1587-90.