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A Retrospective Study of Cardiac Echinococcosis Patients Admitted in Tertiary Care Hospital of Central India

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Abstract: ***Hydatid disease is parasitic infestation caused by Echinococcus granulosus. It is most often found in the liver (60-70%) and lung (20-30%). Isolated cardiac involvement is rare and occurs in only 0.02-2% of cases. In this retrospective study we collected data of all patients who were admitted in Department of cardiology from January 2012 till January 2017 at our institute (a tertiary are hospital). Objectives were to study the patient profile suffering from cardiac hydatid cyst,study the presenting symptoms of patients of cardiac hydatid cyst and the pattern of location of cardiac hydatid cyst.Cardiac echinococcosis though uncommon is not rare. Our country is endemic for hydatid disease. Life threatening complications such as anaphylaxis and embolisation into pulmonary and systemic sites can occur hence cardiac echinococssis should be ruled out as cause of cystic lesion in heart. Maximum number of patients in our study belong to age group 20-40yrs.80% patients were female. All the patients were hailing from rural area. Right ventricule was most common site for cardiac echinococcosis. Chest pain was commonest presenting symptom. Spleen, Liver & Lung involvement were seen in 1 patient each. All patients in our study had surgical excision with adjuvant treatment with oral albendazole (10mg/kg/day) which is the standard therapy for cardiac hydatid cyst.***

Keywords: Cardiac hydatid cyst,Percutaneous Aspiration of cyst contents-infusionofscolicidal agents and reaspiration (PAIR)

1. Introduction

Hydatid disease is parasitic infestation caused by Echinococcusgranulosus.It is endemic in developing countries.It is most often found in the liver (60-70%) and lung (20-30%). Isolated cardiac involvement is rare and occurs in only 0.02-2% of cases.We are presenting a retrospective study of cardiac echinococcosis patient admitted in tertiary care hospital of central India.

2. Objectives

1) To study the patient profile suffering from cardiac hydatid cyst.
2) To study the presenting symptoms of patients of cardiac hydatid cyst.
3) To study the pattern of location of cardiac hydatid cyst.

3. Materials & Methods

In this retrospective study we collected data of all patients who were admitted in Department of cardiology from January 2012 till January 2017 at our institute (a tertiary are hospital).Information about age, gender,address,presenting symptom, ECG, Chest X ray, Echocardiography, Cardiac CT scan findings, location of cardiac hydatid cyst, operative notes &post-operative course of all patients were studied.

4. Results & Analysis

Table 1: Age wise distribution of study population (n=5)

Age group (in years)	*Number of patients*	*Percentage of patients*
<20	01	20
20-40	03	60
40-60	01	20
>60	00	00
Total	05	100

Maximum number of patients 60%(03/05) belong to age group 20-40yrs.Minimum age of admission was13 years & maximum age was 43 years.

Table 2: Gender wise distribution of study population (n=5)

Gender	*Frequency*	*Percentage*
Male	01	20
Female	04	80
Total	05	100

It is evident that 80% were female &20% of patients were male.

Table 3: Demographic profile of study population (n=5)

Demography	*Frequency*	*Percentage*
Rural	05	100
Urban	00	00
Total	05	100

All the patients were hailing from rural area.

Table 4: Distribution of patients according to symptoms of presentation

Symptoms	*Frequency*	*Percentage*
Cough	02	40
Dyspnoea	02	40
Chest pain	03	60
Syncope	00	00
Palpitations	01	20
Fever	01	20
Abdominal Pain	01	20
Incidental Finding	01	20

Chest pain was commonest presenting symptom 60% (03/05) followed by cough &dyspnoea.

Table 5: Location of Cardiac hydatid cyst

Site of cardiac hydatid cyst	*Frequency*	*Percentage*
Right Atrium	01	20
Right Ventricle	03	60
Left Atrium	00	00
Left Ventricle	01	20
Interventricular septum	00	00
Pericardium	01	20

Right ventricular location was the commonest location for cardiac hydatid cyst.

Table 6: Extracardiac sites of involvement of hydatid cyst in patients (n=5)

Site	*Frequency*	*Percentage*
Lung	01	20
Liver	01	20
Spleen	01	20
Other site	00	00

Spleen, Liver & Lung involvement were seen in 1 patient each.

5. Discussion

Hydatid disease is a zoonotic infection caused by larval stages of dog tapeworms belonging to the genus Echinococcus.All patients in our study were hailing from rural areas (Table 3). 80% of patients were female & 20% of were male in our study (Table 2).Humans are an accidental intermediary host, although most often found in the liver (60-70%) and lung (20-30%), hydatid cysts can occur in any organ or tissue. In our study spleen, liver & lung involvement was seen in 1 patient each (Table 6). Involvement of the heart can occur from the systemic or pulmonary circulation or as direct extension from adjacent structures.{1}Isolated cardiac involvement is rare and occurs in only 0.02-2% of cases.{2}They most commonly affect the left ventricle (55% - 60%), but also the right ventricle, left atrium (8%), pulmonary artery, pericardium (7% - 8%) & the interventricular septum (5% - 9%).(3)In our study Right ventricular (3/5) location was most common for cardiac hydatid cyst (Table 5).Left ventricle, right atrium & pericardial location were seen in 1 patient each (Table 5).

Clinical presentation of cardiac echinococcosis depends on the size and location of the cyst. In the early stages of the disease, it can be asymptomatic and may be discovered incidentally. The symptoms and signs of cardiac echinococcosis (if present) are extremely variable. Non-specific features such as weight loss, fever &dyspnea are likely to be the presenting symptoms.{4}"Mild, recurrent non-specific chest pain is the most common complaint, which may be due to an episode of partial rupture into the pericardium, with resultant pericarditis".{5}In our study Chest pain was commonest presenting symptom (3/5) followed by cough &dyspnea (2/5) (Table 4). Fever, palpitation,abdominal pain & incidentally detected cyst were seen in 1 patient each (Table 4).

When the interventricular septum is involved, disturbances in rhythm and haemodynamics, conduction blocks and features of right or left ventricular outflow tract obstruction can occur. Angina, valvular dysfunction and pulmonary hypertension, depending upon the location of the lesion, have also been reported. Complications such as anaphylaxis and embolisation into pulmonary and systemic sites can occur. Early diagnosis of this condition is crucial to avoid these complications. Occasionally, these cysts have been reported to cause coronary artery compression. {6}

2D ECHO &magnetic resonance imaging are currently the best diagnostic modalities to demonstrate a cardiac hydatid cyst.In all 5 patients of the study cardiac hydatid cyst was suspected by 2D echocardiography and confirmed on cardiac CT scan. All patients in our study had surgical excision with adjuvant treatment with oral albendazole(10mg/kg/day)which is the standard therapy for cardiac hydatid cyst.{7}Percutaneous Aspiration of cyst contents-Infusionofscolicidal agents and Reaspiration (PAIR) has not been used for cardiac echinococcosis{8}.

6. Conclusion

Cardiac echinococcosis though uncommon is not rare. Our country is endemic for hydatid disease. Life threatening complications such as anaphylaxis and embolisation into pulmonary and systemic sites can occur hence cardiac echinococossis should be ruled out as cause of cystic lesion in heart.Maximum number of patients in our study belong to age group 20-40yrs.80% patients were female.All the patients were hailing from rural area. Right ventricule was most common site for cardiac echinococcosis. Chest pain was commonest presenting symptom. Spleen, Liver & Lung involvement were seen in 1 patient each.All patients in our study had surgical excision with adjuvant treatment with oral albendazole (10mg/kg/day) which is the standard therapy for cardiac hydatid cyst.

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