

## Case Report

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# Pericardial Hydatid Cyst in Oblique Sinus, Obstructing All Pulmonary Veins: A Rare Presentation

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Hydatid cyst of the heart is an uncommon presentation of hydatidosis. We present a case of pericardial hydatid cyst in pericardial oblique sinus with extension to posterior wall of left atrium (LA), occluding all pulmonary vein ostia in a 35 year-old female with progressive dyspnea and severe orthopnea.

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## INTRODUCTION

Hydatid disease is a parasitic infection caused by *Echinococcus granulosus* which is characterized by cystic lesions in the liver, lungs and rarely in other parts of the body (1). Cardiac involvement is seen in 0.2 to 5 % of all cases of human hydatidosis (2, 3). Our case is one of the uncommon examples of cardiac hydatid cyst with obstruction of all pulmonary veins in posterior left atrium (LA) wall.

## CASE SUMMARIES

A 35-year-old female patient presented with progressive dyspnea and orthopnea worsening from one year ago. She had a previous history of systemic hydatidosis with multiple cysts in the lungs, mediastinum and brain for which she had undergone multiple surgical procedures.

For the first time, resection of mediastinal cysts was performed through median sternotomy 9 years ago. Then

after 5 years in 2007, chest CT-scan showed multiple multiloculated cysts with size of 20 to 45 mm at borders of pericardium around great vessels and posterior to LA and a large hydatid cyst with size of 35 mm at posterior basal segment of left lower lobe. The lung cyst was removed with thoracotomy.

Enzyme-linked immunosorbent assay (ELISA) test with IgG against purified Antigen B from hydatid cyst fluid was positive at all times.

Because of convulsions, brain CT-scan was done that showed two cystic lesions in right frontal and occipital lobes for which she had to undergo right-sided craniotomy in 2010.

In December 2011, she developed worsening progressive dyspnea. New spiral chest CT-scan with contrast showed multiple cystic masses in all parts of mediastinum surrounding aortic arch suggestive of hydatid cysts. The largest one with size of 35×34 mm was in posterior mediastinum causing compression on LA.

Lung parenchyma was normal. Spiral abdominal and pelvic CT-scan with contrast was normal.

In June 2012, she had worsening disabling dyspnea and orthopnea. Spiral chest CT scan showed multiple cystic masses in anterior and middle mediastinum. The largest one was located posterior to LA that was suggestive of pericardial hydatid cyst which in comparison with previous CT showed no significant change except for its compressive effect on posterior LA wall (Figure1).

The patient had remote history of contact with dogs. She was taking Albendazole 400 mg twice daily since 4 years ago. Physical examination was unremarkable.

Transthoracic and transesophageal echocardiography was performed that showed large obstructive mass in posterior wall of LA with size of 3.7×2.8 cm completely obstructing all pulmonary vein ostia suggestive of large hydatid cyst in posterior wall of LA (Figure 2). The interatrial septum showed patent foramen ovale (PFO) with diameter of 2.5 mm. All pulmonary veins had been obstructed with large posterior LA mass.

Due to the large size of the mass and obstructive effect on pulmonary veins, she underwent re-operation for pericardial mass resection in July 2012. Post-operative diagnosis was hydatid cyst within pericardium between aorta, superior vena cava (SVC) and pulmonary artery and in oblique sinus with extension to the posterior wall of LA (Figure 3).

Post-operative course was uneventful and she was discharged on the 7<sup>th</sup> post-operative day on Albendazole 400 mg twice daily with complete resolution of orthopnea.

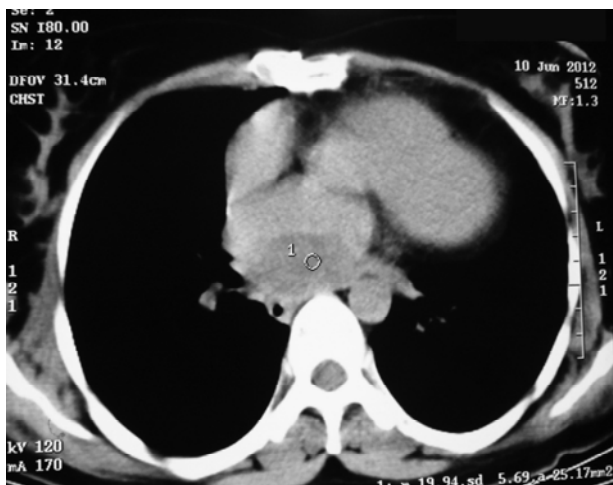


Figure 1. Chest CT scan showing cyst in the posterior wall of LA and pericardium



Figure 2. Transesophageal echocardiography shows large multilobular mass in posterior LA wall with obstruction of all pulmonary vein ostia



Figure 3. Resected specimen showing large hydatid cyst with multiple daughter cysts

## DISCUSSION

Hydatid disease of the heart is uncommon (2, 4). In the heart, the left ventricle is the most common location (46%) for hydatid cyst, followed by the right ventricle (21%), interventricular septum (19.3%), right atrium (9.7%), left atrium (1.6%) and sinus of valsalva (1.6%). Pericardium involvement has also been rarely reported (3).

Patients with cardiac hydatid cysts are usually asymptomatic, although the clinical presentation varies depending on the location, size and integrity of cardiac cysts. Patients may present with other symptoms due to mechanical interference with cardiac function stimulating

coronary artery disease (CAD), arrhythmias, conduction disturbances, pericarditis, peripheral or pulmonary emboli or as in our case with pulmonary congestion due to obstruction of all pulmonary veins and the resultant exaggeration of dyspnea with exercise or in supine position like in mitral valve disease or left ventricular failure.

Serological diagnosis of cardiac hydatidosis is unreliable, since despite high specificity, the sensitivity in intact cysts is low.

Echocardiography, computed tomography and magnetic resonance imaging are the imaging modalities for detection of cardiac hydatidosis (5).

Surgical excision remains the treatment of choice for cardiac hydatid cyst, with adjuvant oral Albendazole therapy to reduce the size of the cyst and prevent recurrence (6).

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