Cystic mediastinal mass

CASE PRESENTATION

A 32-year-old woman with no other medical history presented with 1-month history of fever, weight loss and dyspnoea. On examination she had elevated jugular venous pressure and tachycardia. Her chest X-ray posterioranterior view (figure 1A) showed a rounded mass in the right cardiophrenic angle obscuring the right atrial margin, producing a 'silhouette' sign. Echocardiography showed a large cystic mass with thickened pericardium, lateral to the right atrium, causing right atrial compression (figure 1B). CT image of the chest showed a cystic lesion compressing the right atrium with thickened pericardium (figure 2A). There were no other lesions found in the lungs or other organs. Laboratory tests showed elevated erythrocyte sedimentation rate (ESR: 96 mm/hour) and C reactive protein (CRP: 32 mg/L). Excision of the mass with partial pericardiectomy was done. Intraoperatively, there was a cyst with thickened pericardial wall and thick yellowish brown fluid. Histopathology of the tissue is shown in figure 2B.

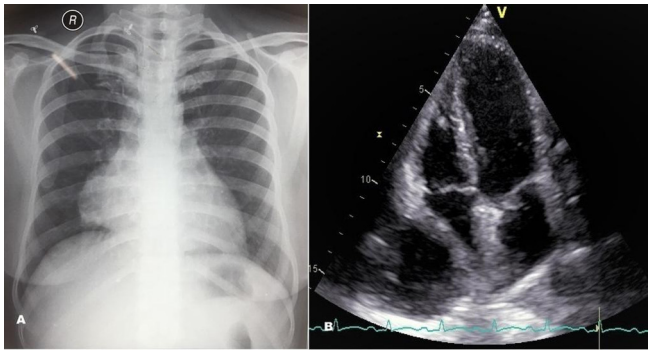

Figure 1 (A) Chest X-ray posterioranterior view showing a rounded mass in the right cardiophrenic angle. (B) Transthoracic echocardiography apical four-chamber view showing the cystic mass.

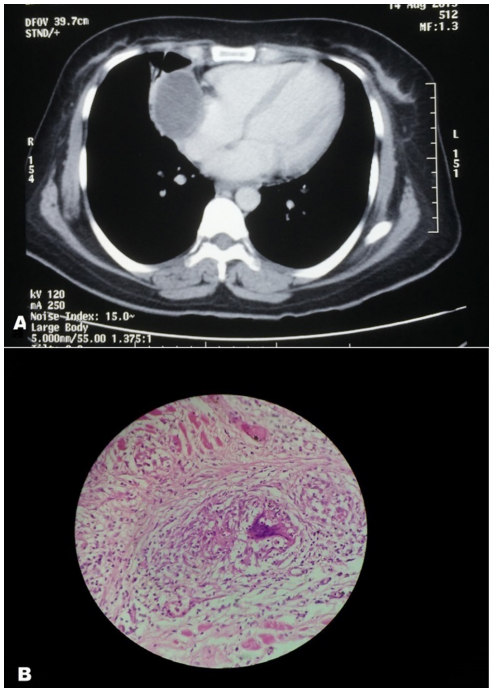

Figure 2 (A) CT of the chest sagittal view showing cystic lesion compressing the right atrium with thickened pericardium. (B) Histopathology specimen of the pericardial tissue.

QUESTION

What is the diagnosis and what should be the management strategy?

A. Congenital pericardial cyst and no further evaluation required.
B. Features are suggestive of tuberculous pericardial cyst and needs treatment with antituberculosis regimen.
C. Features suggestive of pericardial hydatid cyst and requires treatment with albendazole.
D. Features are suggestive of viral pericarditis with encysted effusion.

CORRECT ANSWER: B

A cystic mass in the right cardiophrenic angle is usually a pericardial cyst. They are usually congenital and very rarely acquired. Acquired cysts are most often inflammatory, caused by bacterial infection mainly tuberculosis, echinococcosis, trauma and cardiac surgery.[1 2] Symptoms are due to compression of adjacent structures, including the cardiac chambers.

Fever, elevated ESR and CRP point to inflammatory aetiology in this case. The histopathology examination of the excised pericardium shows granulomas with epithelioid cells and occasional giant cells (figure 2B). A tuberculin skin test was strongly positive, and PCR of the pericardial tissue for *Mycobacterium tuberculosis* was also positive. She was treated with a 6-month antituberculosis regimen for extrapulmonary tuberculosis.

Congenital pericardial cyst is unlikely as it is often incidentally detected and does not have features of inflammation. They are usually called 'spring water cysts' because of the presence of thin, transparent cyst wall and crystal clear fluid content within the cyst.[3]

Pericardial hydatid cyst is extremely rare. The most common site of cardiac echinococcosis is the myocardium, mostly the left ventricle.[4] Multiloculated cysts, cysts in other organs, eosinophilia and positive serology for echinococcus are features of hydatid cyst.

Viral pericarditis is unlikely as there were well-defined granulomas in the histological specimen.

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