VIA MEDICA

CASE REPORT

Cardiology Journal
2012, Vol. 19, No. 3, pp. 317–319
10.5603/CJ.2012.0056

ISSN 1897–5593

A giant pericardial cyst in an unusual localization

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Abstract

Pericardial cysts are rareand benign lesions of the heart. They are usually asymptomatic and incidentally diagnosed on chest X-ray. Most are located at the right cardiophrenic angle. Life--threatening complications may be infrequently encountered. We report the case of a 54 year--old male with acute coronary syndrome and a pericardial cyst in an unusual localization. (Cardiol J 2012; 19, 3: 317–319)

Key words: pericardial cyst, computed tomography

Introduction

Pericardial cysts are rare, benign and mostly congenital lesions. They represent 5–10% of all mediastinal masses [1]. Their commonest localization is the right cardiophrenic angle, and most are incidentally diagnosed [1, 2].

Although most pericardial cysts are attached to the parietal pericardium along the border of the right side of the heart, usually at the right costophrenic angle, around a quarter of them occur along the border of the left side of the heart, with 8% projecting into the posterior or anterior superior mediastinum [2]. The cysts range in diameter from 1 to 15 cm or more. They commonly appear multilocular externally. However, although the cyst lining is occasionally trabeculated, most cysts are unilocular. They contain clear yellow fluid and occasionally communicate with the pericardial sac. The wall of the cyst is composed mainly of collagen and scattered elastic fibers and is lined by mesothelial cells. Although these mesothelial cells usually form a single layer, foci or hyperplastic mesothelial cells are occasionally encountered. Rarely, foci of calcification and accumulations of lymphocytes and plasma cells are present.

Here we report the case of a 54 year-old male presenting with acute coronary syndrome and incidentally diagnosed pericardial cyst on the left side of the heart.

Case report

A 54 year-old male was admitted with chest pain at rest of one hour's duration. His previous cardiac history was unremarkable. Electrocardiogram showed significant ST segment elevation at precordial leads accompanied by reciprocal changes at inferior derivations. Bedside echocardiographic examination found severe hypokinesis of the anterior wall apart from the basal segment, with an ejection fraction of 45%. Admission creatine kinase--MB and cardiac troponin-T values were 42 U/L and 0.10 ng/mL, respectively. Chest X-ray displayed a globular mass localized at the left hemitorax.

Since the patient was admitted out of hours (4a.m.) and the primary percutaneous transluminal

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Received: 09.10.2010 Accepted: 07.01.2011

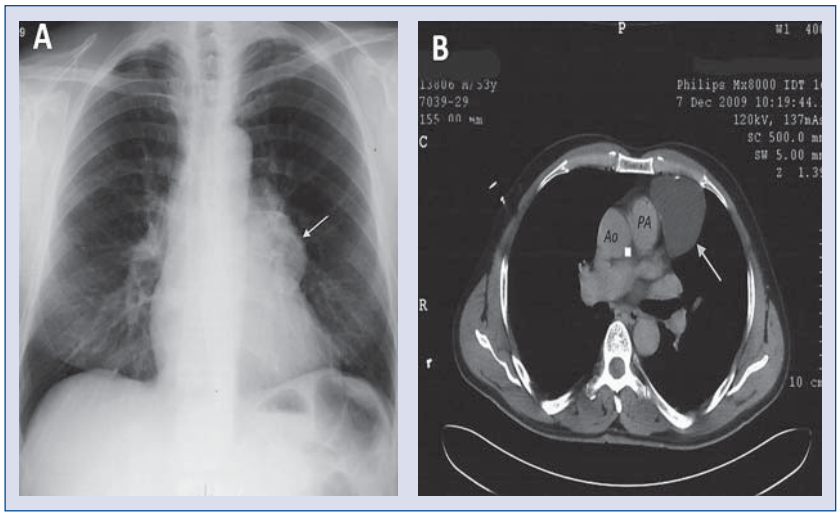

Figure 1. Chest X-Ray (**A**) and thorax computed tomography images (**B**) demonstrating pericardial cyst (arrow); Ao — aorta; PA — pulmonary artery.

intervention team was not on hand to perform mechanical reperfusion in a timely fashion (i.e. the expected door-to-balloon time minus the expected door-to-needle time was greater than one hour), he underwent thrombolytic treatment despite the fact that thrombolytic therapy may carry a very high risk without knowing the nature of the lesion. However, the chest X-ray done before the thrombolytic treatment and serial bedside echocardiographic examinations showed no evidence of fluid accumulation in the pericardial space during the in-hospital course. Diagnostic angiography performed one day after the successful thrombolytic therapy showed severe three-vessel disease and the patient underwent surgery ten days later. A giant cystic lesion with the dimensions of 65 × 47 mm located between the right ventricular outflow tract and left ventricular anterior wall was found on computed tomography (Fig. 1). The pericardial cyst was excised during a bypass operation. It was a macroscopically simple pericardial cyst with serous fluid and microscopically benign cystic lesion including microscopic timic tissue (Fig. 2). The in-hospital course of the patient was uneventful, and he was discharged five days later.

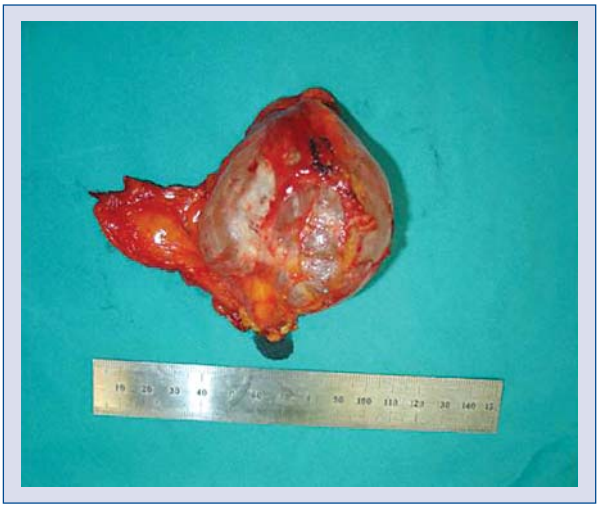

Figure 2. Macroscopic view of the cyst.

Discussion

Congenital pericardial cysts are uncommon; they range in diameter from 1 to 15 cm or more. They are the second commonest type of primary mediastinal cyst after bronchial cysts. Three quarters of patients are asymptomatic and cysts are detected incidentally on chest roentgenograms, usually at the right cardiophrenic angle [3]. The absence of symptoms at the time of diagnosis is a good prognostic sign. However, patients may be admitted to hospital with symptoms of chest discomfort or pain, cough, dyspnoea, or palpitation due to compression of the heart [3–5].

Life-threatening complications including cardiac tamponade, obstruction of right main stem bronchus, cyst infection with cardiac or large vessel erosion and sudden death can be encountered [1, 2]. Cardiac tamponade generally occurs due to intra-pericardial rupture of the cyst. There is no report of malignant transformation. Other reported complications include right ventricular outflow

obstruction, pulmonary stenosis, atrial fibrillation, and congestive heart failure [1–3].

Asymptomatic patients may be medically followed. Treatment options include excision by thoracotomy and percutaneous aspiration with injection of a sclerosing agent such as ethanol [1, 2, 4]. Indications for surgical resection of pericardial cysts include large size, symptoms, patient request, suspected malignancy, and prevention of complications [1, 2, 5]. Although our patient was asymptomatic, surgical excision was planned due to the large size of the cyst and the need for coronary bypass surgery. Concurrent bypass surgery and cyst excision was carried out successfully.

Conclusions

In conclusion, pericardial cysts are rare and benign lesions of the pericardium. Most are congenital and asymptomatic. Treatment is needed when symptoms or complications occur and the management of those patients should be performed in the light of clinical characteristics.

Conflict of interest: none declared

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