ACQUIRED PERICARDIAL CYST WITH UNCOMMON COMPLICATIONS: CASE REPORT AND LITERATURE REVIEW

MAHMOUD ASHOUR, FRCS; MANSOUR AL-NoZHA, FRCP(Lond); IAMES BEECHAM, MD, FCAP, MIAC

CONGENITAL pericardial cysts constitute 7% of all mediastinal masses. Since acquired cysts and their complications, such as spontaneous rupture and presentation with hemoptysis, are rarely reported, we elect to report the present case of pericardial cyst that had a number of unusual features, notably the location of the cyst, gross and microscopic pathology, and clinical symptomatology.

Case Report

A 40-year-old woman presented to a local Riyadh hospital complaining of a single episode of hemoptysis. Following the discovery of a smooth, rounded mass with a calcified wall along the left cardiac silhouette on the chest radiograph, the patient was referred for further evaluation to the cardiology unit with a presumptive diagnosis of left ventricular aneurysm. Past medical history indicated that for the past four years, she had experienced intermittent, non-exertional, retrosternal chest pain. The pain, stabbing in nature, radiated to the left arm and lasted approximately 20 minutes. Since a diagnosis of angina was determined, the patient was given anti-anginal medical therapy, yet she obtained no relief from the pain. She denied chronic cough, sputum production, or smoking. She also had received medical treatment for pulmonary tuberculosis 20 years previously.

Upon examination, the cardiovascular and respiratory systems were found to be unremarkable. Chest radiography showed a rounded mass with a calcified wall along the left cardiac silhouette with clear lung fields (Figure 1). Computed tomography (CT) of the mediastinum confirmed the presence of a large, non-enhancing, rounded cyst overlying the antero-lateral aspect of the left ventricle with a prominently calcified wall.

FIGURE 1. Chest radiograph showing a calcified rounded mass along the left cardiac border.

(Figure 2). Rest electrocardiogram findings showed nonspecific T wave changes in leads I, 11, III, avL, avF, V5 and V6. The exercise electrocardiogram examination showed no evidence of ischemic changes, and the echocardiographic examination showed the left ventricular diameter to be significantly reduced. In addition, a large echo-free space, antero-lateral to the left ventricle, was found. Neither a cardiac catheterization nor a resting multi-gated angiography (MUGA)
scan showed any evidence of left ventricular aneurysm or coronary artery disease. Peripheral blood examination revealed a normal leukocyte count of 8 x 10^9/L (normal, 5 to 11 x 10^9/L) with a left shift having 26% band neutrophils (normal, up to 5%), an elevated erythrocyte sedimentation rate (ESR) of 52 mm/h (normal, 0 to 20 mm/h), and a negative serology for hydatid disease. Bronchoscopic examination demonstrated the bronchial tree to be entirely patent with normal appearing bronchial mucosa throughout.

At left thoracotomy, a large intrapericardial cyst was found. The cyst was bilobular with the large superior portion covered by a smooth pericardium and the small inferior portion covered by a thickened pericardium with an extensive yellowish nodule which was densely adherent to the lingular segment of the left upper lobe. Approximately 10 cc of thick, yellow material leaked freely from the underlying cyst as the lingula was dissected free, and approximately 100 cc of greenish-yellow paste-like material without hydatid membrane or tumor tissue was evacuated from the cyst.

The wall of the cyst was thick, fibrotic, and densely calcified. Histologic examination of the wall revealed dense fibrous tissues with wide areas of calcification, focal ossification, and centrally amorphous material containing cholesterol crystal formation. There were no mesothelial cells lining the inner surface of the wall. Chronic inflammation included moderate lymphocyte infiltration, lipid-laden macrophages, and foreign body-type giant cells. Acute inflammation was seen on the outer surface of the wall. Both histologic examination and tissue cultures of the contents of the cyst showed no evidence of specific granuloma, acid fast bacilli, or other pathogens.

Postoperatively, the patient had a good recovery and was asymptomatic when seen a year later in the clinic.

**Discussion**

This case of pericardial cyst is unusual in a number of features, notably the location of the cyst, gross and microscopic pathology, and clinical symptomatology. The following discussion describes the usual features and clinical course of pericardial cyst and contrasts the unusual features of the case presented. A pathophysiologic mechanism conforming to the unusual clinical presentation of the presented case is proposed.

Congenital pericardial cysts are usually seen in the right anterior cardiophrenic angle.2 The location of the present cyst is unusual since it was found to abut the left cardiac border. Beginning with 1929, 13 cases have been reported to be in this location.3 Characteristically, a congenital pericardial cyst grossly consists of a thin-walled, unilocular cyst filled with clear fluid. A synonym for this type of cyst is spring water cyst.4 On the contrary, the fluid in the presented case was the greenish-brown paste-like material, and it may have possibly been organized blood. The extensive yellowish nodule of the pericardium, overlying the inferior portion of the cyst, was most probably related to a previous rupture of the cyst with inspissation of its contents. The spontaneous rupture of pericardial cysts has been reported in two cases only.5,6 There have been no cases found in the literature documenting intrapericardial cysts rupturing into the pericardial cavity, as in this case. Perhaps the obliteration of the pericardial cavity by the fibrous adhesions may have caused the rupture to occur in such a fashion. Inflammatory changes of pericardial cysts, as in the presented case, do not usually occur in congenital cysts.7 In our patient, the chronic inflammation of the cyst may explain the elevated ESR and the observed left shift of the peripheral blood neutrophils. The calcification in our presented case is unusual with only two similar cases reported in the literature.8,9 Sporadic os...