Multimodality imaging of an old organized hemopericardium

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A 79-year-old man with a history of a 25 mm St Jude mechanical aortic valve replacement underwent routine surveillance transthoracic echocardiography (TTE). An incidental finding of a pericardial mass was noted. Figure 1A shows the subcostal TTE view of the pericardial mass indicated by arrows. Saline contrast administration revealed no direct communication of the mass with right-sided cardiac chambers. Figure 1B shows the echodense border of the mass (short arrows), with adjacent acoustic shadowing into the right atrium suggesting calcification within the mass. The calcification was subsequently confirmed by chest x-ray findings (multiple arrows and arrowheads in posteroanterior and lateral views of Figures 1C and 1D). Cardiac magnetic resonance

(CMR) imaging confirmed a pericardial mass. Coronal balanced steady-state free precession (Figure 1E) and T2-weighted turbo spin echocardiography images (Figure 1F) showed heterogeneous signal intensity (arrows), with areas of signal void related to the calcification. There was no evidence of fatty infiltration or delayed enhancement of this pericardial mass. These features were most consistent with an organized, calcified hemopericardium.

The rare development of an organized pericardial hematoma has been described in relation to blunt trauma, hemorrhagic pericarditis, myocardial or arterial rupture, aortic dissection, anticoagulation and previous cardiac surgery (1-3). Patients with old pericardial

Figure 1) LA Left atrium; LV Left ventricle; RA Right atrium

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Received for publication June 30, 2009. Accepted July 9, 2009

hematomas can be asymptomatic, as in the present patient, or have symptoms related to constrictive pericarditis or hemodynamic compromise secondary to compression of adjacent cardiac chambers (3). Although pericardial disorders are often initially evaluated by TTE, CMR imaging is useful for further characterization of pericardial masses (4). The precise localization of the mass, three-dimensional assessment of its size, infiltration of surrounding structures, presence of pericardial and/or pleural effusions, signal intensity and degree of delayed enhancement on cine CMR images can help differentiate pericardial masses (4). Organized pericardial hematoma is a rare cause of pericardial mass. The clinical history of cardiac surgery along with complementary information provided by multimodality imaging, including CMR, allow for an accurate, noninvasive diagnosis.

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