Giant Left Atrium With Calcified Walls and Thrombus in a Patient With an Old, Normally Functioning Ball-in-Cage Mitral Valve Prosthesis

Bogdan A. Popescu, MD, PhD; Ioana Lupescu, MD, PhD; Serban Al. Georgescu, MD, PhD; Carmen Ginghină, MD, PhD

A 64-year-old woman was admitted for dyspnea at rest and orthopnea. She had a mitral valve Starr-Edwards prosthesis implanted in 1975 for rheumatic mitral valve disease and was in permanent atrial fibrillation ever since. Chest x-ray (postero-anterior view) showed a massively enlarged cardiac silhouette with a cardiothoracic index of 0.90 and calcified contours of the right heart border, extending almost to the right lateral wall of the chest (Figure 1). Widening of the tracheal bifurcation angle was also clearly apparent in this x-ray. The lateral projection identified the grossly dilated cavity with calcified walls as being the left atrium (LA) (Figure 2). Transthoracic echocardiography showed a giant LA (12/13 cm; area of 127 cm²) with hyperechogenic walls, mostly occupied by thrombus (Figure 3; Movie I of the online-only Data Supplement). Prosthesis function was normal with a mean gradient of 6 mm Hg and a short pressure half-time. Severe global left ventricular systolic dysfunction (Movie II of the online-only Data Supplement) and severe pulmonary hypertension (systolic pulmonary artery pressure estimated at 85 mm Hg) were diagnosed.

Figure 1. Chest x-ray, postero-anterior view shows severely increased cardiothoracic index, calcifications visible along the cardiac contour, almost reaching the right lateral thoracic wall. There is severe widening of the tracheal bifurcation angle, well-delineated by the calcified left atrial walls, and the ball-in-cage mitral valve prosthesis is clearly visible.

Figure 2. Chest x-ray, lateral view, delineates the borders of the left atrial cavity and shows significant posterior displacement of the esophagus.

Figure 3. Transesophageal echocardiography was performed to rule out any structural mitral valve prosthesis damage.
CT scan confirmed the severity of LA dilation and the extent of LA wall calcifications (Figure 4), finding no masses in the lungs or mediastinum. The International Normalized Ratio was in the therapeutic range, and no coagulation abnormalities were found. The patient refused any further investigation. She was treated conservatively and her symptoms improved mildly on diuretics, digoxin, and anticoagulants, being discharged 8 days after admission.

Giant LA is always the result of rheumatic heart disease. It usually implies primary rheumatic involvement of LA walls as a part of rheumatic pancarditis, and atrial fibrillation is always present. Calcification of LA walls of such an extent is very rare, as is the coexistence of a very large LA thrombus with an old and normally functioning ball-in-cage mitral valve prosthesis.

Disclosures
None.

Reference
Giant Left Atrium With Calcified Walls and Thrombus in a Patient With an Old, Normally Functioning Ball-in-Cage Mitral Valve Prosthesis

Bogdan A. Popescu, Ioana Lupescu, Serban Al. Georgescu and Carmen Ginghina

Circulation. 2010;122:e579–e580
doi: 10.1161/CIRCULATIONAHA.110.984203

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://circ.ahajournals.org/content/122/24/e579