A 44-year-old previously healthy man presented with progressive shortness of breath on exertion. Chest x-ray showed clear lung fields, but dense calcification was noted within the cardiac silhouette. Sixty-four–detector row cardiac computed tomographic angiography revealed diffuse calcific infiltration of the left ventricular (LV) myocardium, which also involved the papillary muscles and mitral chordal apparatus (Figure 1 and online-only Data Supplement Movie I). Calcific infiltration was most notable in the apical, lateral, and septal free walls. The right ventricle was spared except for contiguous involvement of the calcific process at the mid portion of the interventricular septum. The LV systolic function was severely depressed, with a volumetric calculated ejection fraction of 20%. Transesophageal echocardiography (online-only Data Supplement Movie II) similarly demonstrated diffuse calcification affecting the mitral chordal apparatus and LV myocardium with noninvolvement of the mitral annulus and mitral leaflets. On laboratory analysis, serum parathyroid hormone, calcium, creatinine, and glucose levels were within normal limits. No hypereosinophilia was noted by complete blood count. Endomyocardial biopsy of the LV was performed for histopathological evaluation of the calcific process. The extensive calcification of the LV myocardium was well visualized in the catheterization laboratory (Figure 2). Yellow-white sections of tissue were obtained by biopsy, and histological analysis showed fragments of dense collagenous tissue covered by thickened endocardium and myocyte hypertrophy but no evidence of malignancy. Congo red stains for amyloid were also negative. On the basis of the pathological findings and the irregularly shaped calcific cardiac mass demonstrated by computed tomographic angiography, the patient was diagnosed with calcified amorphous tumor (CAT) of the heart (Figure 3). Surgical excision was avoided because of the extent of calcific infiltration, and he was referred to be evaluated for possible heart transplantation.

Cardiac CAT is a rare nonneoplastic cardiac mass that mimics malignancy and causes symptoms due to obstruction or embolization of calcific fragments. In the present case, the diffuse calcific infiltration was associated with congestive heart failure symptoms. Surgical excision is the treatment of choice in suitable candidates and can be curative. Postoperative recurrence of CAT has been reported, and patients should be followed vigilantly.

Disclosures

None.

References


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The online-only Data Supplement, which contains movies, can be found at http://circ.ahajournals.org/cgi/content/full/117/e171/DC1.

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Figure 2. X-ray fluoroscopy showed extensive calcification of the left ventricle during endomyocardial biopsy with cardiac biopctome.

Figure 3. Three-dimensional reconstruction image of calcific mass by cardiac computed tomographic angiography.
Calcified Amorphous Tumor of the Heart
H.H. Ho, J.K. Min, F. Lin, S.C. Wong and G. Bergman

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