

Caseous calcification of the mitral annulus assessed by multimodality imaging

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Abstract

Physicians may not be familiar with caseous calcification of the mitral annulus. It can therefore easily be mistaken for other conditions including tumors. In the appropriate clinical context, by using multimodality imaging, a correct diagnosis can be made, and patient concern or even unnecessary surgery can be avoided.

KEYWORDS

caseous calcification, imaging, myocardial mass

A 81-year-old woman with hypertension presented with shortness of breath. Transthoracic echocardiography (TTE) revealed a mass adjacent to the posterior mitral valve leaflet. Magnetic resonance imaging (MRI) and computed tomography (CT) were subsequently performed (Figure 1). Imaging findings were consistent with caseous calcification of the mitral annulus (CCMA).

CCMA is a rare variant of mitral annular calcification with central necrosis. Histopathology may show amorphous eosinophilic acellular debris with a pale appearance (eg, “cheese like”). CCMA has been associated with hypertension and end-stage renal disease. Abnormal calcium phosphate metabolism has been described in its pathogenesis.¹

Differential diagnosis includes cardiac tumors, thrombus, myocardial abscess, and vegetations.¹

Cardiologists may be unfamiliar with CCMA, and limited acoustic windows in TTE can be a limitation. In our case, primary cardiac tumor was a differential diagnostic consideration. Therefore, it was decided to perform MRI. Our patient was subsequently discussed in a multidisciplinary setting, where CCMA was suggested. CT was then performed to confirm the diagnosis, showing characteristic peripheral calcifications.²

Our patient experienced mild complaints of shortness of breath, most likely unrelated to the CCMA mass. In addition, as there was no mitral regurgitation or clinical evidence of embolic complications, she was treated conservatively.

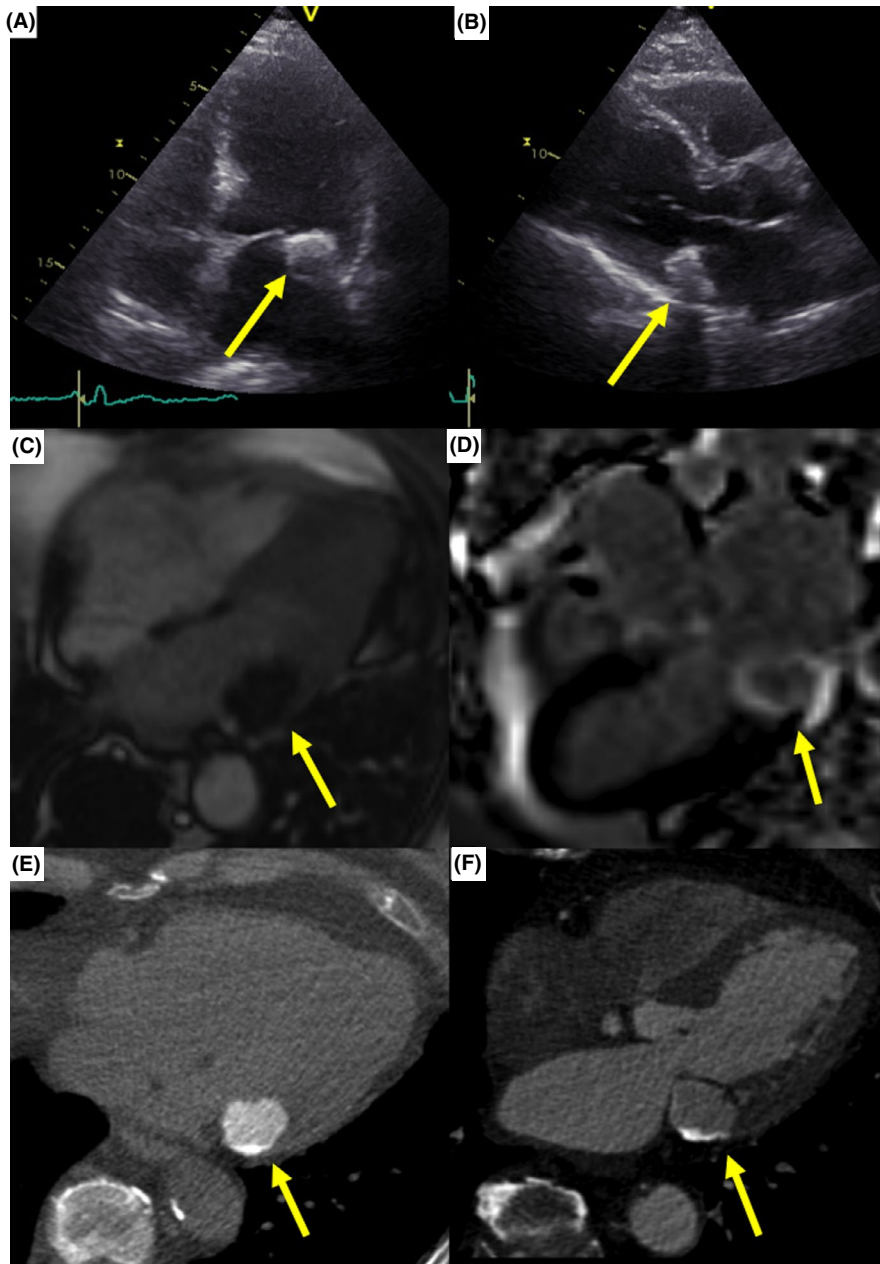


FIGURE 1 Transthoracic echocardiography revealed a hyperechoic mass adjacent to the posterior mitral valve leaflet (A, B). Cardiac MRI showed a semilunar mass with low signal intensities, most consistent with calcium (C). Delayed enhancement images showed peripheral rim enhancement (D) which may be confusing but is thought to reflect a fibrous cap. The central core showed no enhanced (D). CT showed a hyperdense mass in the area of the posterior mitral valve annulus with even denser peripheral calcifications. The central density within the mass (E) is thought to reflect caseous necrosis (E, unenhanced CT image; F, contrast-enhanced CT image)

CONFLICT OF INTEREST

None declared.

AUTHOR CONTRIBUTIONS

MLS: involved in conception and design, manuscript preparation; PRMD and DK: involved in conception and design, manuscript review.

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