

Calcium Pseudo-Mass: What to Expect from New Imaging Techniques

El calcio como simulador de masa: ¿qué nos ofrecen las nuevas técnicas de imagen?

ALBERTO MARTÍNEZ MARTÍNEZ, JADE GARCÍA ESPINOSA, FRANCISCO MIRAS AZCÓN

The images correspond to a 75-year-old female patient with a history of ischemic heart disease, who was admitted to her reference hospital for heart failure. An echocardiography suggested a myxoma at the level of the posterior mitral annulus, so she was referred to our center to complete the study and consider cardiac surgery.

Initial screening echocardiography showed a 3 x 2 cm mass at the level of the posterior mitral annulus protruding into the left atrium, which appeared to be a myxoma. Transesophageal echocardiography provided additional information on location and composition, showing high echogenic thickening of the posterior annulus, consistent with severe annular calcification (Figure 1 A). Computed tomography scan images (Figure 1 B) were useful to detect calcium, and showed a calcified nodular lesion with a less dense thin peripheral annulus, and calcification of the posterior margin of the mitral valve, suggestive of caseoma. Given the differential diagnosis of myxoma vs. caseoma, a cardiac magnetic resonance imaging (CMR) was performed for better tissue characterization, which completed the diagnosis showing a hypointense nodular image in the steady-state free-precession (SSFP) (Figure 1 C) and double inversion recovery (IR) T1-weighted (Figure 1 D) sequences, and a hypointense image with hyperintense annulus in double IR-T2-weighted sequence, with no significant functional impact on the posterior mitral cusp in SSFP cine sequences. These findings allowed tissue characterization of the mass, confirming the diagnosis of posterior mitral annulus calcification with liquefaction necrosis.

Caseous calcification of the mitral annulus –also known as “caseoma” or liquefaction necrosis, is a rare finding described as a form of periannular calcification. Echocardiography may suggest its diagnosis, and additional imaging techniques can be useful to confirm it. The differential diagnosis with tumors or abscesses is necessary given its pseudo-mass appearance.

In this instance, the use of imaging techniques complementary to transthoracic echocardiography –particularly CMR– enabled the characterization and appropriate diagnosis of the mass as caseous calcification of the mitral annulus, ruling out surgery as therapeutic option.

Conflicts of interest
None declared.

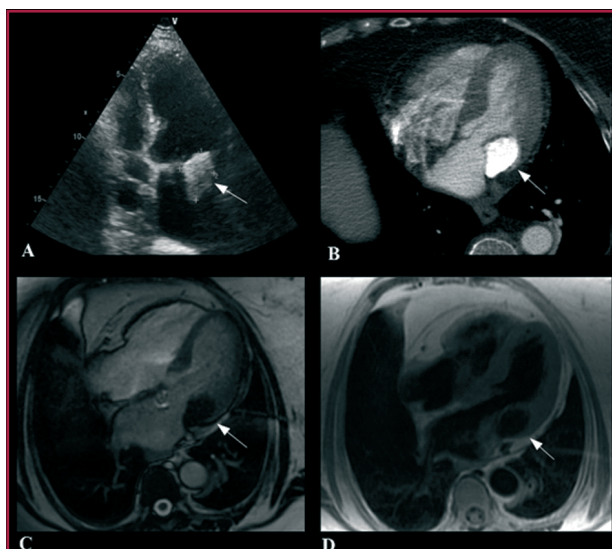


Fig. 1. **A.** Transesophageal echocardiography showing high echogenic thickening in all the posterior area of the mitral valve annulus, consistent with severe annular calcification. **B.** Computed tomography scan (Figure 1 B) showing a calcified nodular lesion with a less dense thin peripheral annulus, and calcification of the posterior margin of the mitral valve, suggestive of caseoma. **C** and **D.** Magnetic resonance in steady-state-free-precession (SSFP) and double inversion recovery (IR) T1-weighted sequences showing a hypointense nodular image with well-defined contours in the mitral valve annulus, consistent with caseoma.

REFERENCES

1. Martínez de Alegría Alonso A, Delgado Sánchez-Gracián C, Fernández Pérez G, Peña Gil C. Necrosis licuefactiva del anillo mitral. *Radiología* 2010;52:157-61.
2. García-Ibarrondo N, Lang R. Caseous calcification of the mitral annulus, a rare echocardiographic finding. *Rev Esp Cardiol* 2011;64:828-31. <http://doi.org/cv8wrt>
3. Martínez de Alegría A, Rubio-Álvarez J, Baleato-González A. Caseous calcification of the mitral annulus: A rare cause of intracardiac mass. *Case Rep Radiol* 2012;2012:596962. <http://doi.org/s2p>