

Caseous calcification of the mitral annulus: a neglected lesion mimicking intracardiac mass

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A 72-year-old woman with a medical history of hypertension, hyperuricemia, dyslipidemia and a transient ischemic attack was referred to our department due to a casual disclosure of an intracardiac mass during a transthoracic echocardiography. Transesophageal echocardiography confirmed the diagnosis, demonstrating a spheroid mass with echo-dense smooth borders with a heterogeneous echo density attached to the posterior mitral valve leaflet (*Figure 1*). There was trivial mitral regurgitation with no functional stenosis, the left ventricle was hypertrophic with both normal dimensions and 60% ejection fraction. Computed tomography scan of the chest without enhancement showed the calcified intracardiac mass, measuring 1.5 x 1.4 cm near the mitral commissure and the posterior leaflet (*Figure 2*).

A cardiac magnetic resonance imaging (CMRI) was requested to complete the diagnostic evaluation. CMRI showed in the T1 and T2 sequences a hypointense mass attached to the mitral annulus (*Figure 3*), whereas in the perfusion sequence, no contrast penetration was detected in the mass and in the late enhancement, only a certain grade of peripheral enhancement was found.

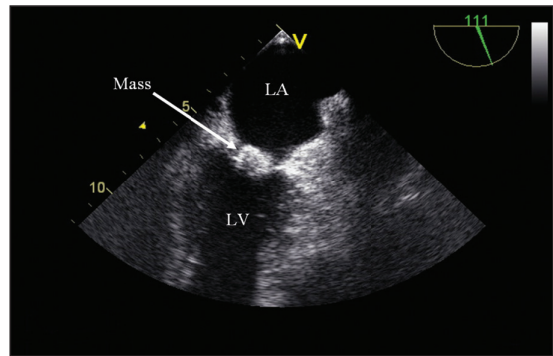


Figure 1 - Transesophageal echocardiography showing a round, echodense, calcified mass attached to the posterior mitral valve leaflet (white arrow). LA = Left atrium; LV = left ventricle.

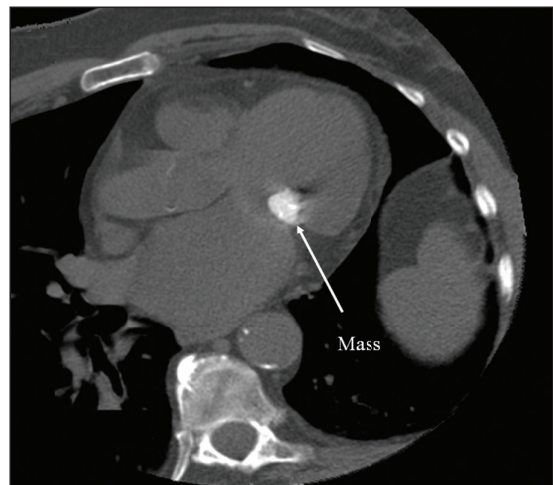


Figure 2 - Noncontrast computerized tomography image showing a calcified mass in the posterior commissure of the mitral valve.

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The anatomic location and cardiac magnetic resonance signal of the mass were therefore associated with a diagnosis of mitral annular caseous calcification, but taking



Figure 3 - Cardiac magnetic resonance image (horizontal long-axis) showing a hypo-intense mass (arrowed) in the posterior mitral annulus.



Figure 4 - Intraoperative image showing the incised calcification of the posterior mitral annulus and the creamlike mixture that was drained from the inside.

into consideration the history of a previous transient ischemic attack, we decided to perform surgery. During surgery, performed with the institution of a cardiopulmonary bypass, no intracardiac mass was detected, but an important smooth mitral annular calcification. The calcification was incised and a creamlike mixture with a “toothpaste-like” texture was drained from the inside (*Figure 4*). Histological examination revealed that this material was amorphous, acellular and calcific with a chronic inflammatory reaction, confirming the caseous calcification diagnosis.

Caseous calcification of the mitral valve is a rare form of mitral annular calcification, it's a degenerative disorder common in the elderly, in particular women, that typically affects the posterior annulus (1). Although cerebral embolization has been reported in association with caseous calcification (2), this disorder carries a benign prognosis but may mimicked cardiac tumor (benign or malignant), vegetation or calcified thrombus (3, 4); therefore a punctual differential diagnosis is required with utilisation of complementary imaging techniques to secure the benign character of the lesion.

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