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Mitral Annulus Caseous Calcification: Not A Conundrum with Cardiac Computerized Tomography

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A 58-year-old woman with atrial fibrillation was referred for mitral valve replacement due to mitral valve mass on echocardiography. Transesophageal and transthoracic echocardiography showed an echogenic, round mass attached to the basal portion of the posterior mitral valve, mild degeneration of both mitral leaflets and moderate mitral regurgitation. Cardiac computerized tomography (CT) was planned to further assess the mass and its relationship with the mitral apparatus. Cardiac CT showed densely calcified caseous thickening of the mitral annulus that was measured 32 x 13 mm and encircling the posterior mitral annulus which protruded towards the posterior leaflet without disruption of the mitral apparatus. The heart team assessed the patient with integrated findings of transesophageal echocardiography and cardiac CT and decided to manage conservatively.

Although mitral annulus calcification is frequent in older population, caseous calcification of the mitral annulus is rare and detected fewer than 0.07% of patients with echocardiography[1]. Its mass-like appearance and coarse calcifications may pose a diagnostic challenge in echocardiography which may result in initial misdiagnoses as thrombus, vegetation or tumoral lesions. Cardiac CT is a superior tool to assess the calcific nature of the mass and demonstrate its location and relationship with the mitral annulus. The correct diagnose is of importance as surgical management of caseous mitral calcification may result in mitral annular disruption during surgery.

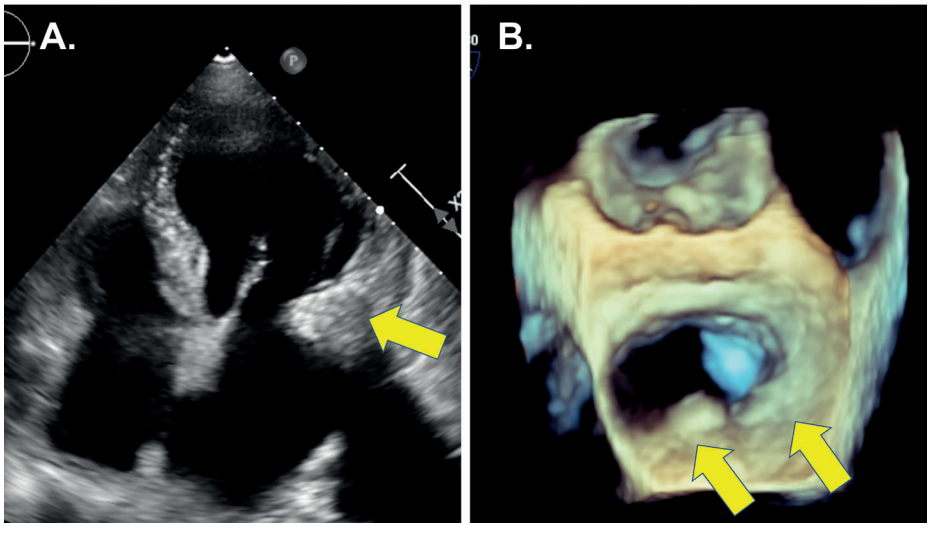

Figure 1. 4 chamber TTE **(A)** and 3D-TEE **(B)** images show a hyperechoic lesion with (arrow) acoustic shadowing protruding towards the posterior mitral valve.

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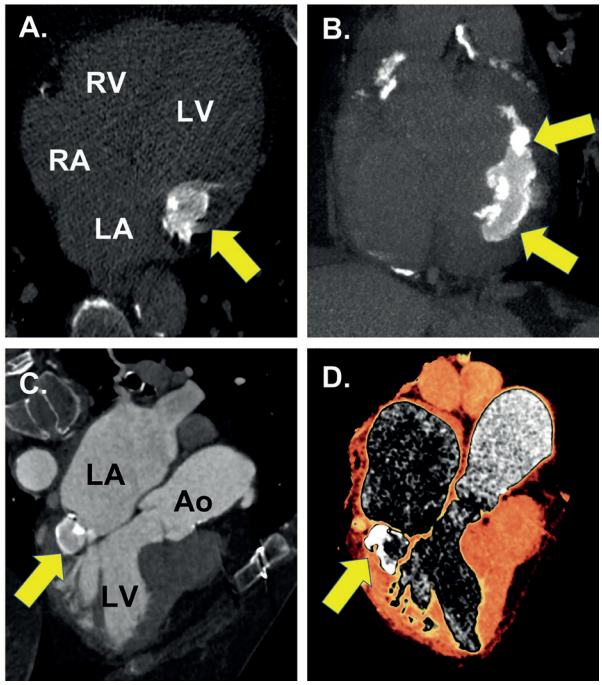

Figure 2. 4 chamber **(A)** and short axis **(B)** nonenhanced cardiac computerized tomography images show a densely calcified lesion (arrows) in the mitral annulus. 3 chamber image of contrast enhanced computerized tomography **(C)** and volume rendered reformatted **(D)** images demonstrate that the lesion protrudes towards posterior mitral valve.

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