Multimodality imaging in the diagnosis of caseous calcification of mitral annulus

Imagerie multimodalité dans le diagnostic d’une calcification caséeuse de l’anneau mitral

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Received 26 February 2012; received in revised form 26 March 2012; accepted 2 April 2012
Available online 21 December 2012

A 78-year-old woman was admitted to our outpatient clinic with shortness of breath. Her medical history revealed hypertension, diabetes mellitus and hyperlipidaemia. Physical examination was unremarkable except for apical 2/6 systolic murmur. Two-dimensional transthoracic echocardiographic (2D TTE) apical four-chamber and two-chamber views showed a hyperechogenic mass around the region of the posterior mitral annulus and mild mitral regurgitation (Fig. 1A and B, arrow; Video 1A). Full-volume three-dimensional transthoracic echocardiography (3D TTE) after cropping the left and right ventricle walls revealed a mass arising from the posterior mitral valve annulus (Fig. 1C). Full-volume 3D TTE after cropping the left and right atrium walls showed a mass extending into the left atrium (Fig. 1D). To clarify this pathology, we performed cardiac computed tomography (CT) and magnetic resonance imaging (MRI). A non-contrast axial CT image demonstrated a hyperdense mass at the base of the posterior mitral valve (Fig. 1E). Axial steady-state free-precession MRI showed a hypointense mass (Fig. 1F). T1 black-blood (Fig. 1G), T2 black-blood (Fig. 1H) and late gadolinium enhancement (LGE) MRI images (Fig. 1I) for mass characterization confirmed the diagnosis of caseous calcification. LGE is particularly interesting in the diagnosis as it shows very unique peripheral enhancement of the mass. Caseous calcification of mitral annulus (CCMA) is a rare form of mitral annular calcification that is most commonly seen in the posterior mitral annulus. CCMA is a benign lesion, so it is important to make a differential diagnosis from a tumour, thrombus,
Caseous calcification of mitral annulus

Figure 1. Two-dimensional TTE apical (A) four-chamber and (B) two-chamber views showed a hyper-echogenic mass around the region of posterior mitral annulus. C. Full-volume three-dimensional TTE after cropping the left and right ventricle walls revealed a mass arising from the posterior mitral valve annulus. D. Full-volume three-dimensional TTE after cropping the left and right atrium walls showed a mass extending into the left atrium. E. A non-contrast axial CT image demonstrated a hyperdense mass at the base of the posterior mitral valve. F. Axial steady-state free precession MRI showed a hypointense mass. G. T1 black blood, (H) T2 black blood and (I) late gadolinium enhancement MRI confirmed the diagnosis of caseous calcification. LA: left atrium; LV: left ventricle; RA: right atrium; RV: right ventricle. The arrow indicates caseous calcification of mitral annulus; the asterisk indicates the interatrial septum.

cyst or abscess, which would require very different management. For this reason, we should perform the full spectrum of non-invasive cardiac imaging modalities in the diagnosis of CCMA.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.acvd.2012.04.006.