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Meeting abstract

2058 Asymmetrical mitral annulus calcification mimicking cardiac tumour: a cardiovascular magnetic resonance study

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Introduction

Asymmetrical mitral annulus calcification (MAC) could mimick cardiac tumour. We describe the typical anatomical location and magnetic resonance signal characteristics of MAC. Asymmetrical tumor-like mitral annulus calcification (MAC) is a rare degenerative disorder compared with the common symmetrical MAC often seen in the elderly, particularly in women and in patients with renal failure. Asymmetrical MAC appears as a homogenous echodense mass on echocardiography except in the caseous type where there is a central echolucency. MAC appears as solidly calcified lesion on cardiac computed tomography (CT) or as a peripherally calcified lesion with uncalcified centre in caseous lesions. MAC is often incidentally detected on cardiovascular magnetic resonance (CMR) or as part of referral for further assessment of cardiac mass detected on other imaging modalities.

Purpose

In this study, we described the CMR characteristics of MAC.

Methods

Six patients (all female, mean age 70 ± 11 years) with MAC underwent a CMR study for further evaluation of suspect left ventricular mass identified by echocardiography (n = 3, one patient has breast cancer) or incidentally seen during routine CMR despite a negative echocardiogram (n = 3). Cine imaging using steady state free precession sequence, T2- and T1-weigthed sequences, as well as early and late myocardial inversion recovery sequence following intravenous gadolinium-contrast administration were used in all patients. Cardiac computed tomography (CT), transthoracic or transesophagel echocardiography was carried out in all 6 patients to confirm the diagnosis.

Results

In all cases, CMR identified MAC mass. All patients had cardiac CT or repeat echocardiography which confirmed the CMR diagnosis. Asymmetrical MAC appeared as a rounded, immobile lesion, typically located beneath the inferior aspect of the posterior mitral leaflet with variable degree of restriction of the motion of the leaflet, as observed in all 6 patients. The size of the lesions varied from 9 × 7 mm to 24 × 27 mm. The MAC lesions incidentally seen on CMR tend to be small in size and missed by echocardiography. On multispectral analysis the MAC lesions were hypointense on all sequences used. In two patients, the CMR signal within the lesion was not homogenous and cardiac CT and echocardiography confirmed the presence caseous MAC.

Conclusion

MAC presented typical anatomical location and magnetic resonance signal characteristics that helped to reach the correct diagnosis. MAC should be considered among the differential diagnosis of cardiac masses, especially if located around the mitral valve.