Late-gadolinium enhancement in cardiac sarcoidosis

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A 65-year-old man was emergently admitted to our hospital for the evaluation of loss of consciousness. Electrocardiography showed sustained monomorphic ventricular tachycardia with heart rate of 215 b.p.m., which was treated with immediate cardioversion. Echocardiography revealed thinning and reduced motion of inferoseptal wall (Panel A, Supplementary material online, Video S1). Coronary angiography showed no stenosis or obstruction. Cardiac magnetic resonance imaging revealed thinning and reduced motion of inferoseptal wall (Supplementary material online, Video S2) and epicardial hyperenhancement from base to apex of the left ventricular septum, inferior wall and right ventricle (Panel B: short-axis view, Panel C: four-chamber view). Endomyocardial biopsy confirmed non-caseating granulomas with Langhans giant cells (Panel D). We diagnosed him with cardiac sarcoidosis. He underwent implantation of an implantable cardioverter-defibrillator and has been treated with prednisolone.

Cardiac magnetic resonance imaging, especially with the use of late gadolinium enhancement, is a useful modality to diagnose cardiac sarcoidosis and more than twice as sensitive for cardiac involvement as current consensus criteria of modified Japanese Ministry of Health guidelines. The location of hyperenhancement in cardiac sarcoidosis tends to be varied; however, there is a predilection for the basal or mid-ventricular septum in the majority of the cases. Hyperenhancement reflects myocardial damage, which is reported to be associated with future events of ventricular arrhythmia and poor outcome.

Supplementary material is available at European Heart Journal online.