Late Gadolinium Enhancement in Non-Compaction Cardiomyopathy

To the Editor:

The European Society Cardiology of currently considers the non-compaction cardiomyopathy as an un-classified cardiomyopathy.[1] It is characterised by the presence of numerous and prominent trabeculations together with deep intertrabecular recesses in a portion of the ventricular wall, principally at the lateral, and apical level, as a result of a congenital anomaly of the endomyocardial development.[2] Its clinical presentation is variable, from asymptomatic cases to severe heart failure; other manifestations of the disease include ventricular arrhythmias and systemic embolism. Cardiac Magnetic Resonance Imaging (CMR), because of its high spatial resolution, makes it possible to determine a precise diagnosis of this entity. We present a case of a 44-year-old patient that was diagnosed with dilated idiopathic cardiomyopathy with normal coronaries and moderate dysfunction of the left ventricle that was remitted for a CMR with suspicions of NCC. A Holter study showed frequent episodes of nonsustained ventricular tachycardia, with a maximum oxygen consumption of 14 mL/kg/min. The CMR carried out with a 1.5 Tesla magnet (Figures 1 and 2, images from the gradient echo and after administering the contrast) showed the anatomic characteristics representative of this entity, as well as a late enhancement of subepicardium and intramyocardial gadolinium in the anterior and septum areas, with an ejection fraction of 35%. The relevance of the CMR in the diagnosis of this cardiomyopathy has been shown previously; however, the role of the gadolinium late-enhancement has not been completely clarified.[3] Other authors have described it as an index of scar tissue; a possible correlation between the extension and localisation of the enhancement with the clinical evolution of these patients has been considered, although the number of cases described in existing literature is low.[4,5] In addition, the prognosis of the NCC is controversial, and there are still no defined criteria for high risk. CMR studies may provide a great amount of information regarding this complex and still partially unknown entity, not only as a diagnostic tool, but also as an indicator of its prognosis. More follow-up and longer series of patients are needed to understand not only the natural history of non-compaction cardiomyopathy, but also the role that the gadolinium late-enhancement may play regarding this entity.

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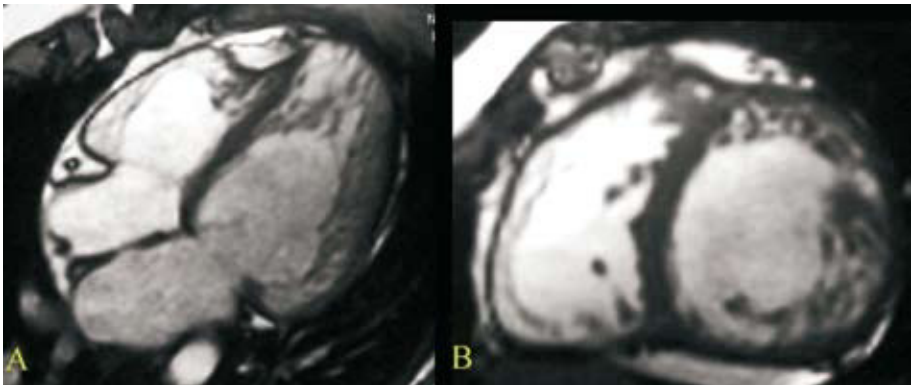

Figure 1. Gradient echo sequences (4 chamber and 2 chamber where a dilated left ventricle fulfilling non-compaction criteria is observed.

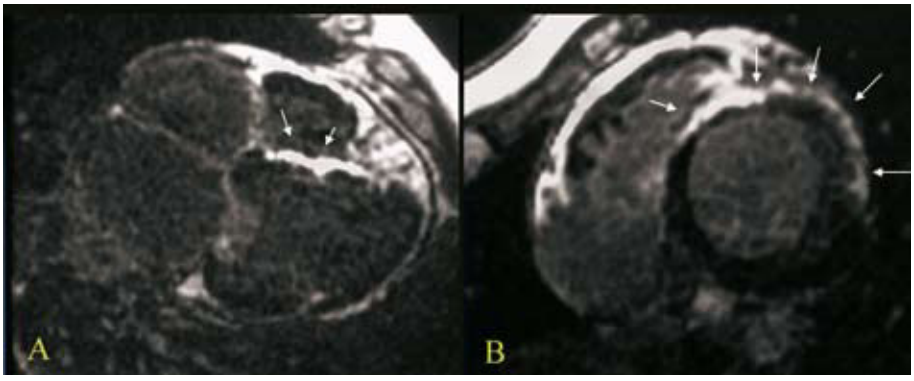

Figure 2. After administering the contrast, gadolinium late-enhancement is observed in the anterior and septal subepicardial and intramyocardial areas (arrows).

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