Cardiac magnetic resonance imaging of noncompaction cardiomyopathy

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Figure 1 Cardiovascular magnetic resonance images demonstrating enlargement and thinning of the midventricular and apical segments, together with prominent trabeculation. Diastolic four-chamber view (A) and two-chamber view (B) of a high-resolution cine sequence

Cardiovascular magnetic resonance (CMR) imaging was performed in a 31-year-old patient who was referred for further workup of recently diagnosed dilated cardiomyopathy. The CMR imaging study (Figures 1A and 1B show a diastolic four-chamber view and a two-chamber view of a high-resolution cine sequence, respectively) demonstrated enlargement and thinning of the midventricular and apical segments, together with prominent trabeculation (left ventricular end-diastolic volume 381 mL, left ventricular end-systolic volume 216 mL and ejection fraction 43%). The ratio of noncompacted to compacted wall was 3.6 at the midventricular level and 6.3 at the apex, with a cut-off value of less than 2.3 (1). Findings were consistent with a diagnosis of previously undetected left ventricular noncompaction cardiomyopathy.

The clinical presentation of noncompaction cardiomyopathy includes depressed systolic function and heart failure (2,3). Recent data (1,4) suggest that CMR imaging might improve the diagnosis of noncompaction due to its increased image quality and visualization of the entire left ventricle. A diagnosis of noncompaction cardiomyopathy

has important implications because of the need for familial screening and follow-up studies for potential progressive left ventricular dilation and dysfunction.

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