Cardiac Magnetic Resonance Imaging in Amyloidosis

To the Editor:

We present a case that illustrates the usefulness of cardiac magnetic resonance (CMR) in amyloid heart disease. A 71-year-old woman with diabetes went to the emergency room for syncope of 2 months' evolution, with 2-3 daily episodes but no focal neurological deficits. The examination revealed pallor of the skin and mucosa and a grade II/VI apical systolic murmur. Blood pressure and heart rate in decubitus and standing position were 130/70 mm Hg and 68 bpm, and 80/40 mm Hg and 74 bpm, respectively. The rest of the examination was normal.

The analyses indicated normochromic, normocytic anemia; elevated urea, creatinine, and sedimentation rate; hypoalbuminemia, hypergammaglobulinemia with monoclonal peak; elevated immunoglobulin G, and enlarged lambda chains in serum and urine.

Figure 1. Inversion-recovery sequence after administration of a gadolinium-DTPA bolus, 4-chamber view. Diffuse myocardial thickening and diffuse subendocardial gadolinium enhancement are observed, mainly in the lateral wall of the left ventricle.
regurgitation or pericardial effusion, possibly because they were mild or had not yet appeared at the time.

Cardiac magnetic resonance can provide more complete information for the diagnosis of this entity. In addition to the morphological findings described on echocardiography, amyloid deposits specifically affect the gadolinium kinetics in the blood and myocardium. Following gadolinium administration, there is greater shortening of the subendocardial T1 and a larger difference between subendocardial T1 and blood; hence a cut-off point can be established with good diagnostic accuracy. In addition, there is a typical pattern of diffuse late subendocardial enhancement, which reflects the greater infiltration of amyloidosis in the subendocardium with expansion of the extracellular space.  

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Letters to the Editor

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