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IMAGES IN CARDIOLOGY

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Cardiac amyloid by cardiovascular magnetic resonance

A 45-year-old Afro-Caribbean man presented with a 1-year history of progressive fatigue, myalgia, chest pain and dyspnoea. A physical examination was normal. There were non-specific precordial ST- and T-wave changes by ECG and mild biventricular hypertrophy and diastolic dysfunction with pseudo-normalised left ventricular filling by echocardiography. Cardiovascular magnetic resonance (CMR) demonstrated reduced long-axis function and global left ventricular subendocardial delayed enhancement suggestive of cardiac

amyloid (panels A, B). Because of the CMR findings, a right ventricular biopsy was performed (panel C), which confirmed cardiac amyloid, with κ light chains on immunostaining. Initial serum electrophoresis results were equivocal, but over the subsequent months, a clear monoclonal band developed. Together with a bone marrow trephine, the final diagnosis was of IgG κ -secreting plasma cell dyscrasia presenting as cardiac amyloidosis. Treatment was started with thalidomide-based chemotherapy with a view to consideration of cardiac

transplantation before an autologous bone marrow stem cell transplant.

This case illustrates the clinical utility of contrast CMR and demonstrates that the recognition of specific patterns of CMR myocardial delayed enhancement may guide diagnostic procedures, here leading to a rapid diagnosis of cardiac amyloid.

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