Clinical vignette

Atrial pathology in cardiac amyloidosis: evidence from ECG and cardiovascular magnetic resonance

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A 59-year-old man presented with chest pain and single-vessel coronary disease on angiography. Left ventricular function was normal with mild hypertrophy. He was treated for coronary disease but represented 18 months later with biventricular heart failure. There had been a striking ECG evolution: ST-segment change; reduced QRS amplitude; increased P-wave width and amplitude; and progressive increase in PR interval (196–276 ms) (Panel A). Echocardiography now demonstrated a grossly hypertrophied, ‘sparkling’, left ventricle (Panel B) and Doppler evidence of restrictive cardiomyopathy. Cardiac magnetic resonance imaging (Panel C) revealed widespread, diffuse enhancement with contrast on inversion recovery sequences, including both atria, in keeping with an infiltrative cardiomyopathy such as amyloid. Left ventricular function was poor (ejection fraction 23%), with severe hypertrophy and bone marrow biopsy a plasma cell dyscrasia. Progression of the disease was rapid, with improvement in coronary vascular remodeling and endothelial function in patients with normal or mildly diseased coronary arteries. Arterioscler Thromb Vasc Biol 2000;20:737–743.