Image in cardiology

Cardiac Amyloidosis and Pacemakers: Could Devices Delay Diagnosis?

Amiloidosis cardiaca y marcapasos: ¿los dispositivos podrían retrasar el diagnóstico?

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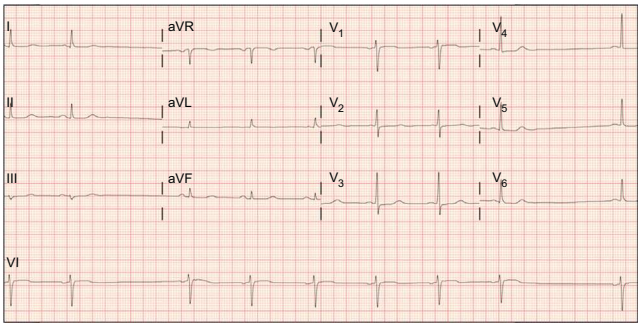

Figure 1.

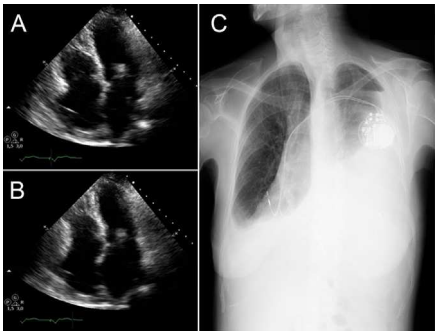

Figure 2.

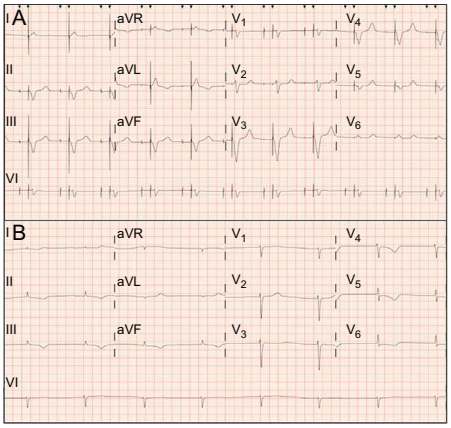

Figure 3.

A 77-year-old woman had undergone dual-chamber pacemaker implantation in 2011 due to symptomatic sinus node dysfunction. An electrocardiogram taken at that time showed indications of being prone to low voltages in limb leads (Figure 1). The patient was admitted in 2012 for heart failure, with an electrocardiogram showing dual chamber pacemaker pacing and an echocardiogram showed normal systolic function and left ventricular thickness (Figures 2A and B). The pacemaker was checked, revealing an increase (> 99%) in the percentage of atrioventricular pacing. The patient was admitted again in 2013 for heart failure with refractory bilateral pleural effusion with diuretic therapy, requiring thoracentesis (with negative pleural fluid cytology for malignancy) (Figure 2C). During this stay, we decided to reprogram the pacemaker (Figure 3A) to avoid pacing from the right ventricle, in case this was the cause of the heart failure; then, we obtained pacing readouts consistent with infiltrative disease, ie, low voltage in limb leads and poor precordial lead R-wave progression (Figure 3B).

Given the heart failure with preserved ejection fraction and the above-mentioned electrocardiogram, the patient was examined to rule out cardiac amyloidosis; finally, she was diagnosed with IgGλ multiple myeloma with amyloid-positive subcutaneous fat staining. Chemotherapy was initiated but was ineffective, and the patient died 2 months later.

We would like to highlight the electrocardiographic masking caused by these devices in this patient, hiding data consistent with storage disease, resulting in delayed diagnosis and worse prognosis.

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