Senile Cardiac Amyloidosis: Magnetic Resonance Enhancement Atypical Pattern and Usefulness of Scintigraphy/SPECT

Amiloidosis senil cardíaca: patrón atípico de realce por resonancia magnética y utilidad de la gammagrafía/spect

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An 84-year-old patient is admitted to hospital due to an episode of atrial fibrillation and de novo heart failure. Color Doppler echocardiogram reveals left ventricular remodeling, with biventricular systolic function in the lower normal limit. Cardiac magnetic resonance imaging shows moderate left and right atrial dilation with mildly reduced global left and right ventricular function (EF: 50% and 46%, respectively), no pericardial or pleural effusion, and diffuse late gadolinium enhancement 10 minutes after contrast injection, predominantly at the basal intramyocardial and subepicardial segments and at the atrial level (non-ischemic pattern), compatible with presumptive diagnosis of cardiac amyloidosis. (Figure 1). The usual pattern consists in general and subendocardial enhancement (not involving the coronary territory, as in cardiac ischemia). (1) There are other patterns that could be associated with disease progress, where a patchy, localized or transmural pattern (2) is observed as in the case presented here.

Due to magnetic resonance findings, a 99m Tc pyrophosphate/SPECT cardiac scintigraphy was requested. Anterior and posterior projection whole body images as well as cardiac selective (anterior, left anterior oblique and left lateral) images were acquired 60 and 180 minutes post-injection. SPECT cardiac images were also obtained at 180 minutes. In the 60- and 180-minute post-injection planar and SPECT images, an increased and diffuse tracer retention in the myocardium is observed, compatible with amyloidosis. (3) (Figure 2)

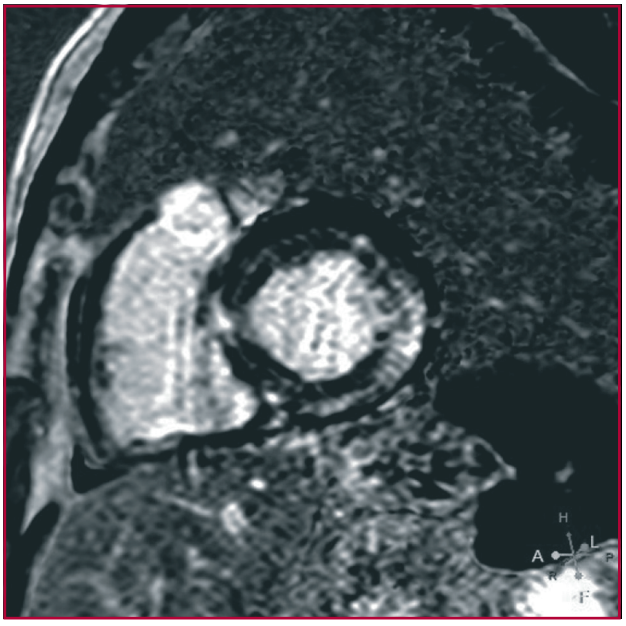

Fig. 1. Late enhancement sequence 10 minutes after gadolinium injection, performed in atrial fibrillation rhythm. Intense intramyocardial and subepicardial enhancement (hyperintense zones) is observed at the basal myocardial level (non-ischemic pattern).

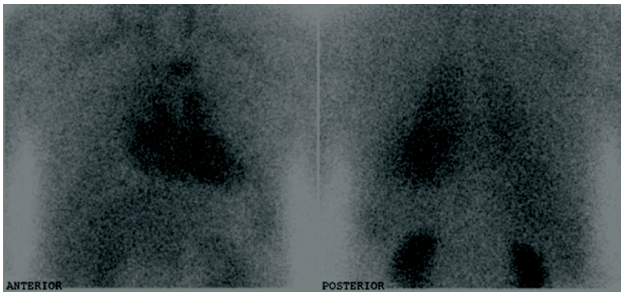

Fig. 2. 99m Tc pyrophosphate/SPECT cardiac scintigraphy, with intense tracer myocardial retention, compatible with amyloid deposits.

Conflicts of interest

None declared (See authors' conflicts of interest forms on the website/ Supplementary Material).

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