Image in cardiology

Acute myocarditis: phenocopy of apical hypertrophic cardiomyopathy

Miocarditis aguda: fenocopia de miocardiopatía hipertrófica apical

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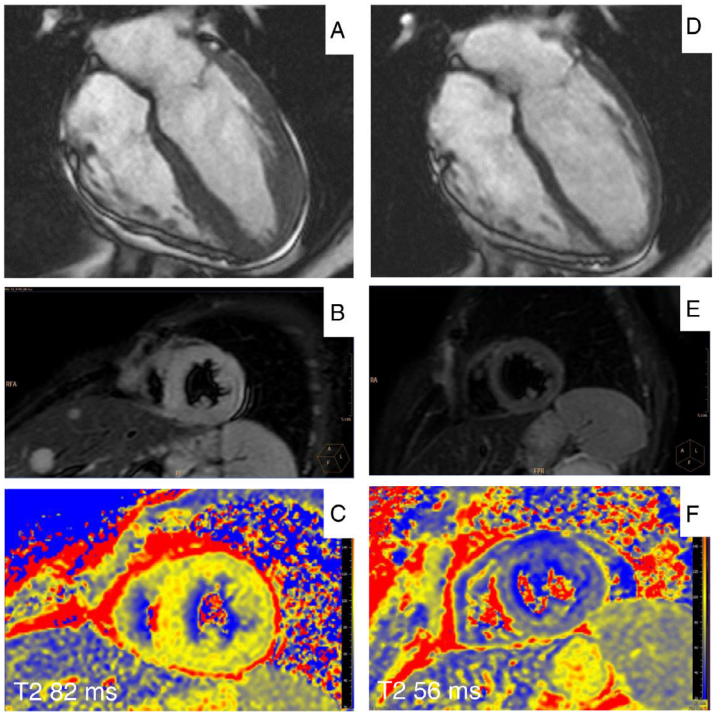

Figure 1.

We present the case of a 49-year-old woman with recurring high-grade non-Hodgkin lymphoma and exercise-induced dyspnea, who was assessed for suspected apical hypertrophic cardiomyopathy following detection of symmetric negative T-waves in the anterior precordial leads in the ECG. Magnetic resonance imaging (steady-state free precession sequences) showed predominantly apical concentric left ventricular hypertrophy (figure 1A). Of note in the T_2 weighted-Short Tau Inversion Recovery (T2w-STIR) sequences was a hyperintense signal (signal intensity ratio, 4), consistent with diffuse myocardial edema (figure 1B). Multiparametric tissue characterization enabled diagnosis of acute myocarditis with 2 major criteria according to the modified Lake-Louise criteria of 2018: increased T_2-weighted relaxation time of 82 ms in the mid level (regional normal value, 52 $\pm$ 4 ms) (figure 1C) and native T_1-weighted relaxation time of 1.281 ms (regional normal value, 995 $\pm$ 36 ms), with elevated extracellular volume of 32%. There was no late gadolinium enhancement.

A new magnetic resonance study was performed after immunotherapy with chimeric antigen receptor-T cell (CAR-T cell), revealing normalization of the wall thickness in the 17 left ventricular segments (figure 1D, end-diastolic cine sequence) and absence of signs of myocardial edema, with normalization of the T2w-STIR sequences (figure 1E) and parametric maps (figure 1F, mid-level T_2 map).

This is the first published case of myocarditis associated with tumor relapse manifesting as transient left ventricular hypertrophy of apical predominance with *ace of spades* morphology, resembling cardiomyopathy. Such a presentation is associated with the possibility of diagnostic error. The case illustrates the importance of tissue characterization with multiparametric techniques for an appropriate diagnosis.

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