

Image in cardiology

Regression of severe left ventricular hypertrophy

Regresión de hipertrofia ventricular izquierda grave

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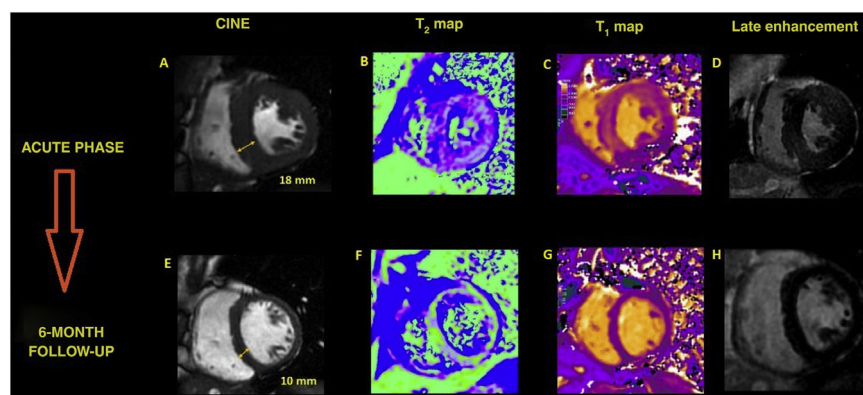


Figure 1.

We describe the case of a 25-year-old man admitted to hospital due to spontaneous subarachnoid hemorrhage that rapidly progressed to cardiogenic shock. The patient had elevated cardiac enzymes and depressed ST segment in the lower and precordial leads. Emergency echocardiography showed a nondilated left ventricle with severe systolic dysfunction (left ventricular ejection fraction [LVEF], 15%) secondary to general hypokinesia that was more pronounced in the basal segments. Consequently, cardiomyopathy was suspected due to inverted stress. The patient's clinical progress was favorable during the first week, with LVEF recovery. The study was completed with cardiac magnetic resonance imaging on hospitalization day 10, revealing severe concentric hypertrophy in the cine sequences (figure 1A), with normal LVEF despite severely impaired longitudinal contraction. Parametric maps showed diffusely elevated T₁- and T₂-weighted values (figure 1B: T₂, 56–57 ms; normal value [NV], < 50 ms; figure 1C: T₁, 1402 ms; NV, 1207 ± 54 ms) and a high extracellular volume (ECV) fraction (35%; NV, < 30%). The images also showed diffuse and very faint intramyocardial late gadolinium enhancement (figure 1D). These findings indicated generalized myocardial edema consistent with stress cardiomyopathy; however, acute myocarditis and underlying hypertrophic cardiomyopathy were also considered. Surprisingly, 6-month follow-up cardiac magnetic resonance showed complete regression of the hypertrophy (figure 1E), normalization of the T₂- (figure 1F: T₂, 44–46 ms) and T₁-weighted segments (figure 1G: T₁, 1207 ms) as well as of extracellular volume (28%), plus complete absence of late gadolinium enhancement (figure 1H). In conclusion, serial cardiac magnetic resonance imaging can greatly aid the differential diagnosis of stress cardiomyopathy, which may be confused with other similar clinical entities.

The patient gave consent for publication of his case study and scientific dissemination of the cardiac MRI images.

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AUTHORS' CONTRIBUTIONS

All authors contributed equally to the discussion and text of this case study.

CONFLICTS OF INTEREST

None.

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