The role of cardiac magnetic resonance on the diagnosis of recurrent myocarditis

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Topic(s):
Cardiac Magnetic Resonance

Citation:

Introduction: Recurrent myocarditis has been rarely reported in adults. Cardiac magnetic resonance has an important role in the diagnosis by providing noninvasive myocardial tissue characterization, greatly helping in establishing the initial diagnosis and in the subsequent presentations with recurrence of symptoms, and to guide treatment.

Clinical case: The authors report a clinical case of a 41 years-old male patient. Personal history of acute myocardial infarction ten years before. At the time a coronary angiography was performed revealing occlusion of the distal anterior descendent artery and an hypoplastic circumflex artery with origin on right coronary sinus; no revascularization was performed. On the day before hospital admission, the patient was diagnosed with an acute tonsillitis and medicated with an antibiotic therapy. He was admitted to the emergency department due to symptoms of chest pain with irradiation to left arm, without worsening with inspiration. Urgent electrocardiogram showed sinus rhythm, 63 bpm, elevation of ST-segment with superior concavity in leads DII, DIII, V5 and V6. Blood analysis revealed elevated C-reactive protein 164 mg/L without leukocytosis and hs troponin I 18471 pg/ml, which went up to 30380 pg/ml. Transthoracic echocardiogram revealed non-dilatated left ventricle, preserved global systolic function, apical hypokinesis, without others relevant findings. A coronarography was performed, revealing the same findings described above. Based on clinical history and the results of the complementary diagnostic exams, it was hypothesized to be an acute myocardial infarction versus myocarditis. A cardiac magnetic resonance was performed, which revealed an area of myocardial oedema on the lateral wall and focal areas of intramural and subepicardial late enhancement on apical segments and medium segment of anterior, lateral and inferior walls, without relation with coronary vascularization, compatible with the diagnosis of myocarditis. It was also described intramural and subepicardial fibrosis. Attending to these new findings, the diagnosis of acute myocardial infarction of ten years before was changed to myocarditis.

Conclusion: With this clinical case we pretend to highlight the role of cardiac magnetic resonance in the diagnosis of myocarditis, versus myocardial infarction, mainly when the diagnosis is dubious. Although almost all the patients recover from a myocarditis, one third of biopsy-proven myocarditis patients will progress to dilated cardiomyopathy, congestive heart failure and various kinds of arrhythmias, which leads to question the existence of clinical and imagological predictors of recovery and the prognosis of those who do not recover.
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