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CLINICAL IMAGE

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Follow-up CMR in a case of Loeffler endocarditis

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Abstract

The typical finding of hypereosinophilic syndrome (Eosinophilic myocarditis) in the delayed enhancement (DE) cardiac magnetic resonance (CMR) is the "double V" sign, which includes (a) normal myocardium, (b) thickened enhanced endomyocardial layer, and (c) overlying apical thrombus. Corticosteroids may result in significant improvement of myocardial involvement.

KEYWORDS

cardiac magnetic resonance imaging, eosinophilic myocarditis, hypereosinophilic syndrome, loeffler endocarditis

1 | CASE PRESENTATION

Hypereosinophilic syndrome resulting in eosinophilic myocarditis characterized as more than six months of continuous eosinophilia > 1500 cells per-micro liter resulting in organ dysfunctions and cardiac involvement. Cardiac magnetic resonance (CMR) imaging has a pivotal role in the diagnosis and treatment follow-up of Eosinophilic myocarditis.

A 27-year-old man diagnosed, with Loeffler endocarditis one year ago. The first CMR examination showed significant biventricular enlargement and systolic dysfunction, diffuse subendocardial delayed enhancement (DE), and obliteration of apices by thrombus. The patient was initially treated with 1000 mg loading dose of intravenous methylprednisolone followed by 50 mg of prednisolone and therapeutic dose of heparin and warfarin overlap after two days. Fifteen days after commencing treatment, eosinophilia and CRP returned to normal, and the dose of prednisolone and warfarin gradually reduced. After 11 months, for better evaluation of ventricular function and response to treatment the patient referred for CMR. Interestingly, the second CMR examination revealed significant improvement in LV function, accompanied by the resolution of apical thrombus and delay enhancement.

2 | DISCUSSION

Eosinophilic myocarditis or Loeffler's syndrome is defined as persistent unexplained eosinophilia > 1500 cells per-microliter for at least six months, in association with organ dysfunctions attributable to eosinophilic infiltration.[1]

CMR morphologic features are apical obliteration of the ventricle associated with enlarged atrium. The common DE pattern is the "double V" sign, which includes (a) normal myocardium, (b) thickened enhanced endomyocardial layer, and (c) overlying apical thrombus.

Glucocorticoid treatment resulted in clinical and biopsy-proven improvement of myocardial damage, as seen in our case.[2]

Question: What are the characteristic CMR findings in late gadolinium enhancement imaging?

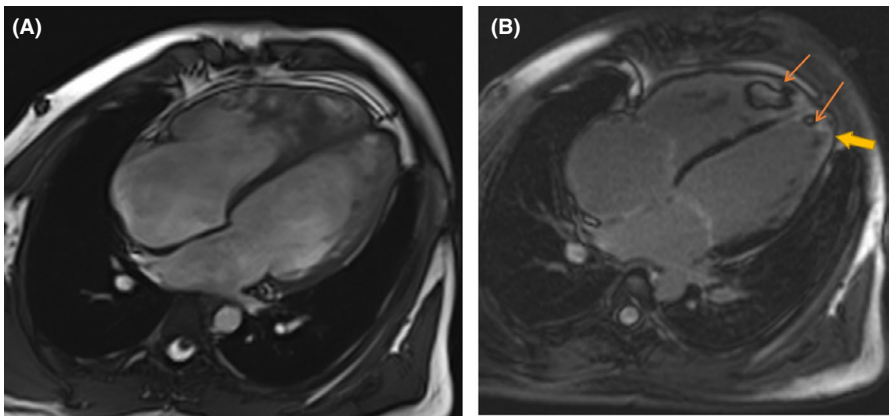

FIGURE 1 CMR before treatment. A, Cine sequence, 4 chamber view shows atrial enlargement, apical clot formation, and ventricular enlargement. B, Late gadolinium sequence reveal subendocardial fibrosis (thick arrow) and biventricular apical clots (narrow arrow)

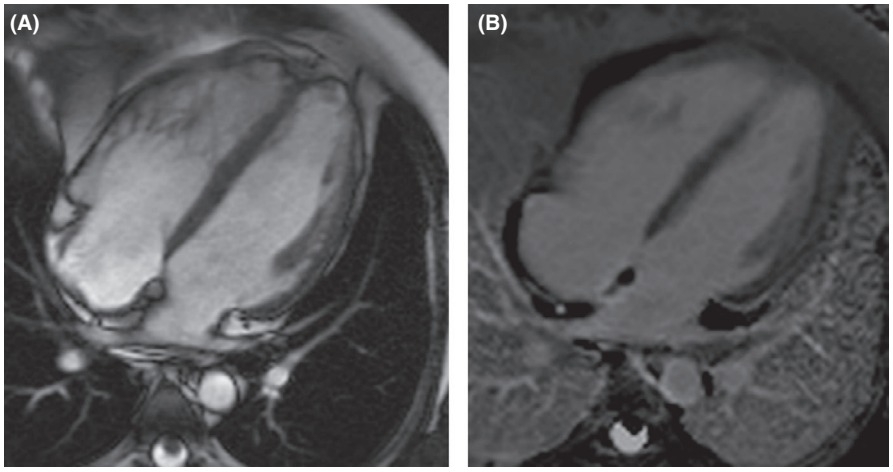

FIGURE 2 CMR after treatment. A, Cine sequence, 4 chamber view shows decrease in atrial size, ventricular volume, and resolution of apical clot. B, Late gadolinium sequence reveal resolution of subendocardial fibrosis and apical clots

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CONFLICT OF INTEREST

None declared.

AUTHOR CONTRIBUTION

Dr Bahareh Jahanshahi: contributed to the writing of the manuscript, Dr Nahid Rezaeian: contributed to the data collection, and Dr Sanaz Asadian: contributed to the critical revision of the article.

ETHICAL APPROVAL

This study has ethical approval from the ethics committee of Rajaie Cardiovascular Medical and Research Center, Iran University of Medical Sciences, Tehran, Iran.

DATA AVAILABILITY STATEMENT

All data are available in terms of request.

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