A Rare Case of Cardiac Sarcoidosis Presenting as Cardiogenic Shock

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BACKGROUND

Sarcoidosis is a systemic inflammatory disorder leading to non-caseating granulomas in affected organs. Approximately 5% of these patients are diagnosed with cardiac involvement manifesting as arrhythmia, conduction system disease, and heart failure.

CASE DESCRIPTION

A 30-year-old Caucasian male with a past medical history of anxiety presented with 10 days of progressive dyspnea on exertion, orthopnea, lower extremity edema, and upper respiratory tract symptoms. He is an avid hiker and was in his usual state of health prior to presentation. He was tachycardic and hypotensive on presentation with an exam consistent with volume overload. ECG showed sinus rhythm with a left bundle branch block (LBBB). High sensitivity troponin peaked at 35.5 pg/ml and BNP was 1631pg/mL on admission. CT chest showed extensive infiltrates with multinodular-like opacities, bilateral pleural effusions and left ventricular (LV) dilation. Transthoracic echocardiogram showed an EF < 15% with severe LV dilation and diffuse hypokinesis. He was admitted to the intensive care unit and was initiated on an aggressive diuretic regimen.

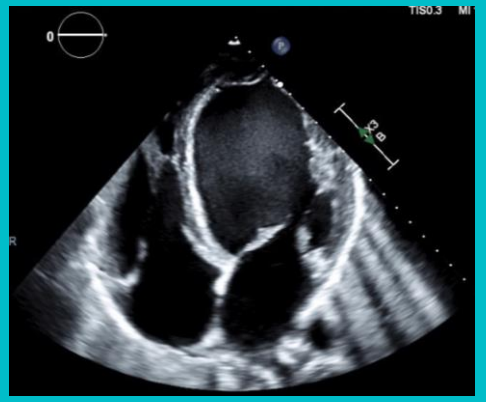

Figure 1: Severely dilated left ventricle by 2D transthoracic echocardiogram

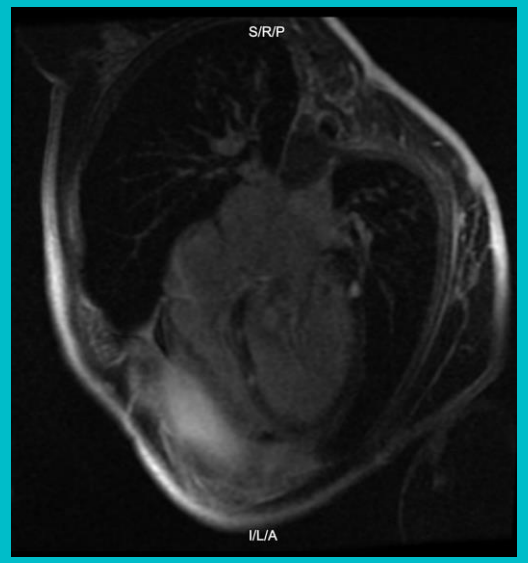

Figure 2: Cardiac MRI demonstrating diffuse patchy and variable late gadolinium enhancement (some subendocardial,mid-myocardial, and transmural) distribution most consistent with myocardial involvement of sarcoidosis.

DECISION MAKING

Given his acute presentation with recent viral illness, there was concern for myocarditis. Right heart catheterization showed elevated right and left sided heart pressures and a cardiac index of 1.7L/min/m^2. An endomyocardial biopsy was obtained and showed myocardium with no pathologic change and was not suggestive of myocarditis or infiltrative disease. A cardiac MRI was obtained and demonstrated patchy and variable late gadolinium enhancement (LGE) consistent with cardiac sarcoidosis, thus high dose steroids were initiated. His congestive heart failure was managed with diuresis and guideline-directed medical therapy. Given his reduced EF, LBBB, and extent of LGE, a biventricular pacemaker/defibrillator was implanted prior to discharge given risk of arrhythmia.

CONCLUSION

Endomyocardial biopsy and cardiac MRI should be considered and obtained in a timely fashion when evaluating for the etiology of an acutely presenting cardiomyopathy. Some of these etiologies, including fulminant myocarditis and sarcoidosis, require rapid diagnosis confirmation and early treatment to best minimize morbidities.