Cardiac Sarcoidosis Mimicking Arrhythmogenic Right Venticular Dysplasia.

Ross Biggs DO
Lehigh Valley Health Network, Ross.Biggs@lvhn.org

Brijesh Patel MD
Lehigh Valley Health Network, brijesh.patel@lvhn.org

Matthew W. Martinez MD
Lehigh Valley Health Network, matthew_w.martinez@lvhn.org

Matthew McCambridge MD
Lehigh Valley Health Network, Matthew.Mccambridge@lvhn.org

Susan Kim MD
Lehigh Valley Health Network, Susan.Kim@lvhn.org

See next page for additional authors

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Authors
Ross Biggs DO, Brijesh Patel MD, Matthew W. Martinez MD, Matthew McCambridge MD, Susan Kim MD, and Norman Marcus MD

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Arthymogenic right ventricular dysplasia (ARVD) and cardiac sarcoidosis (CS) are uncommon causes of VA and increase the risk for sudden cardiac death. Both diagnoses are far distinct from each other, but they can be confused if a diagnosis is made and alternative diagnoses are not thoroughly considered. We present the case of a 66 year-old male who presented to our hospital in monomorphic ventricular tachycardia due to CS mistaken as ARVD.

CASE REPORT

A 66 year-old white male presented to our Emergency Department (ED) with abrupt onset of dyspnea, palpitations and lightheadedness. In the ED, he was found to be in non-sustained monomorphic ventricular tachycardia he had electric cardioversion, which resulted in normal sinus rhythm.

Initial laboratory workup came back normal and cardiac catheterization ruled out ischemia. However, on initial ECG he was noted to have an epsilon wave in V1, a QRS of 140 and T-wave inversions in V1-V5. Subsequently, an echocardiogram showed preserved left ventricular function, no valvular heart disease but a markedly dilated and severely reduced right ventricle systolic function. The patient was treated with intravenous amiodarone and an implantable cardioverter defibrillator (ICD) for secondary prevention of VAs.

Since the patient had known pulmonary nodules, cardiac sarcoidosis was still in our differential diagnosis. Therefore, we obtained a fluorodeoxyglucose (FDG)-positron emission tomography (PET) computer tomography (CT), which noted uptake within multiple, patchy parenchymal pulmonary nodules with concurrent, nearly diffuse left ventricular and patchy right ventricular myocardial uptake. Findings are consistent with cardiac sarcoidosis, so steroids were initiated. To monitor response on steroids, a repeat FDG-PET CT was performed. It was notable for persistent cardiac nodules with concurrent, nearly diffuse left ventricular and patchy right ventricular myocardial uptake after mycophenolate therapy was initiated.

On follow up FDG-PET CT imaging, the patient demonstrated drastic improvement in FDG uptake with improving pulmonary uptake. Given his refractory disease and ICD shock, 500mg twice daily of mycophenolate was added to his 40mg of prednisone daily.

Unfortunately, despite the improvement in active inflammation within the pulmonary parenchyma, as well as left and right ventricular myocardium (Figure 3b and Supplemental Figure 2b). Initially, echocardiogram showed nearly complete resolution of RV dysfunction, but secondary, moderate tricuspid regurgitation. We also noted tricuspid annular dilation with secondary, moderate tricuspid regurgitation.

Final diagnostic workup included a cardiac MRI with cine images and functional assessment with cardiac MRI, which ruled out ischemia, congenital heart disease, cardiomyopathies (such as hypertrophic cardiomyopathy), drugs, electrolyte imbalance, and infiltrative diseases as the cause of concern. We also noted tricuspid annular dilation with secondary, moderate tricuspid regurgitation.

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