CARDIAC SARCOID IDENTIFIED AS THE ROOT CAUSE OF RECURRENT VENTRICULAR TACHYCARDIA

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Introduction :

Cardiac sarcoidosis can have grave consequences if not identified and treated early. It is especially difficult to detect initially because it typically presents as palpitations, syncope, symptoms of congestive heart failure and sudden cardiac death which are very common manifestations of other cardiac diseases themselves. The cause of sarcoidosis remains unknown and cardiac involvement in the course of the disease is about 5%. Occult involvement is much higher (> 20%). Although the prevalence of cardiac sarcoidosis is not rare, we present this case to raise awareness among physicians to be more vigilant of this disease while evaluating patients with extracardiac sarcoidosis and also those who have other isolated cardiac symptoms. We present a case of syncopal attack the cause of which was identified to be cardiac sarcoidosis.

Case Description:

A 58 year old male with past medical history of hypertension came to our emergency room following an episode syncope preceded by sweating and palpitation. On physical exam, he was diaphoretic, confused, followed by pulseless, he received one dose of amiodarone followed by cardioversion x1 for ventricular tachycardia. EKG showed ST- elevation in aVR with diffuse ST segment depression. As we were concerned about left main coronary artery occlusion, immediate cardiac catheterization was done and he received another dose of amiodarone. His coronary arteries were found to be normal with normal Left ventricular function. The patient was kept on amiodarone drip and EP was consulted for recurrent ventricular tachycardia. Cardiac MRI was obtained that revealed mid-myocardial fibrosis of the basal, mid and inferior septum, with near transmural fibrosis of the distal right ventricular free wall and apex. These findings most likely suggested cardiac sarcoidosis in the setting of pulmonary sarcoidosis. Pulmonary finding on MRI were mediastinal and hilar lymphadenopathy with perihilar opacities. ICD was implanted, started on immunosuppressive therapy to reduce progression of LV dysfunction. Patient was subsequently stabilized with no further occurrence of ventricular tachycardia. He was started on immunosuppressants to prevent progression of his symptoms.

WBC	5.9	6.2
RBC	4.67	5.05
HGB	! 12.9	14.1
HCT	! 38.1	42.2
TROP...	! 10.200	! 0.123
BNP	! 408.0	

Fig 1: **Labs showing elevated Troponins and BNP**

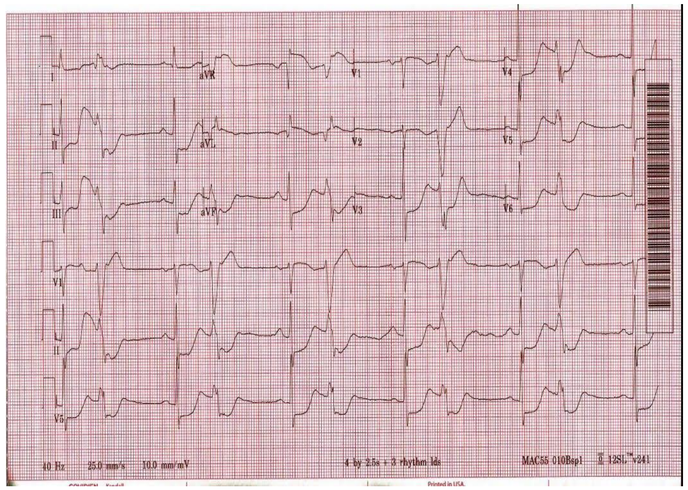
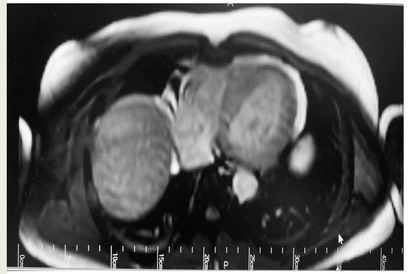


Fig 2**: EKG suggesting acite STEMI and QT prolongation**



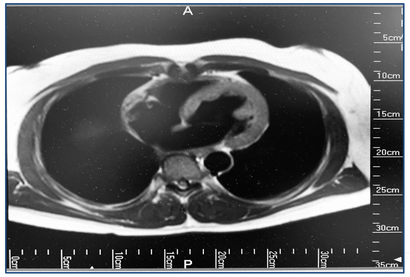


Fig 3**: Cardiac MRI showing growth suggestive of sarcoidosis along the LV wall**

Discussion:

Cardiac sarcoidosis is a chronic granulomatous inflammation that can virtually affect any part of the heart i.e epicardium, pericardium or myocardium leading to a dynamic range of symptoms. Most deaths in cardiac sarcoidosis are related to arrhythmia or conduction defects. However there are reports that the incidence of isolated cardiac sarcoidosis are substantial. They may only present with non-specific signs commonly associated with coronary artery diseases, resulting in the sarcoid being overlooked. It is difficult to establish a confirmatory diagnosis of cardiac sarcoidosis due to a low yield of tests such as cardiac biopsy. The key to identifying the disease relies heavily on imaging techniques such as cardiac magnetic resonance imaging and 18F-fluorodeoxyglucose positron emission tomography scans. Early detection and treatment is vital as the granuloma spreads quickly and may lead to progressive heart failure, arrhythmias and ultimately result in death. Massive granulomatous inflammation accounted for death in almost 25% of individuals.

References:

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