

Background:

- Sarcoidosis is a granulomatous disease caused by an immunological response and affects multiple organs, predominantly the lung and the lymph glands.
- Isolated cardiac sarcoidosis (ICS) without other organ involvement is a rare entity with unknown prevalence rate.
- We present a case of a 59-year-old male who presented with symptomatic hemodynamically unstable ventricular tachycardia found to have ICS.

Case

A 59-year-old male without any past medical history was airlifted from a ship cruise after an episode of hemodynamically unstable ventricular tachycardia (Figure 1, likely posterior fascicular). Patient was chemically cardioverted with amiodarone to a sinus rhythm with accompanied ST depression in the inferior and lateral leads and ST elevation in lead AVR (Figure 1). He was medically treated presumably for type 1 NSTEMI prior to transfer to a tertiary center ED.

Upon arrival at the emergency department (ED), he was otherwise hemodynamically stable. There were no other pertinent positives or negatives on history and/or physical. Repeat EKG in the ED showed resolution of ST changes. Troponin peak was notable at 4.51ng/mL. Transthoracic echocardiogram revealed preserved ejection fraction without regional wall motion abnormalities and a bicuspid aortic valve with calcific moderate stenosis. Coronary angiogram showed mild non-obstructive coronary artery disease. Electrophysiology was consulted at the time who recommended cardiac MRI to evaluate for evidence of late gadolinium enhancement (LGE) prior to possible ablation consideration for fascicular VT. Cardiac MRI revealed two foci of LGE at the apex and basal septum of the left ventricle in a non-coronary distribution concerning for sarcoidosis (Figure 2). Cardiac PET was ordered which demonstrated metabolic activity in the apex of the left ventricle corresponding to LGE noted on cardiac MRI consistent with cardiac sarcoidosis (Figure 3). Patient underwent ICD placement for secondary prevention and steroid therapy was deferred due to logistical patient follow-up issues. He was discharged on a calcium channel blocker for treatment of fascicular VT in otherwise stable condition.

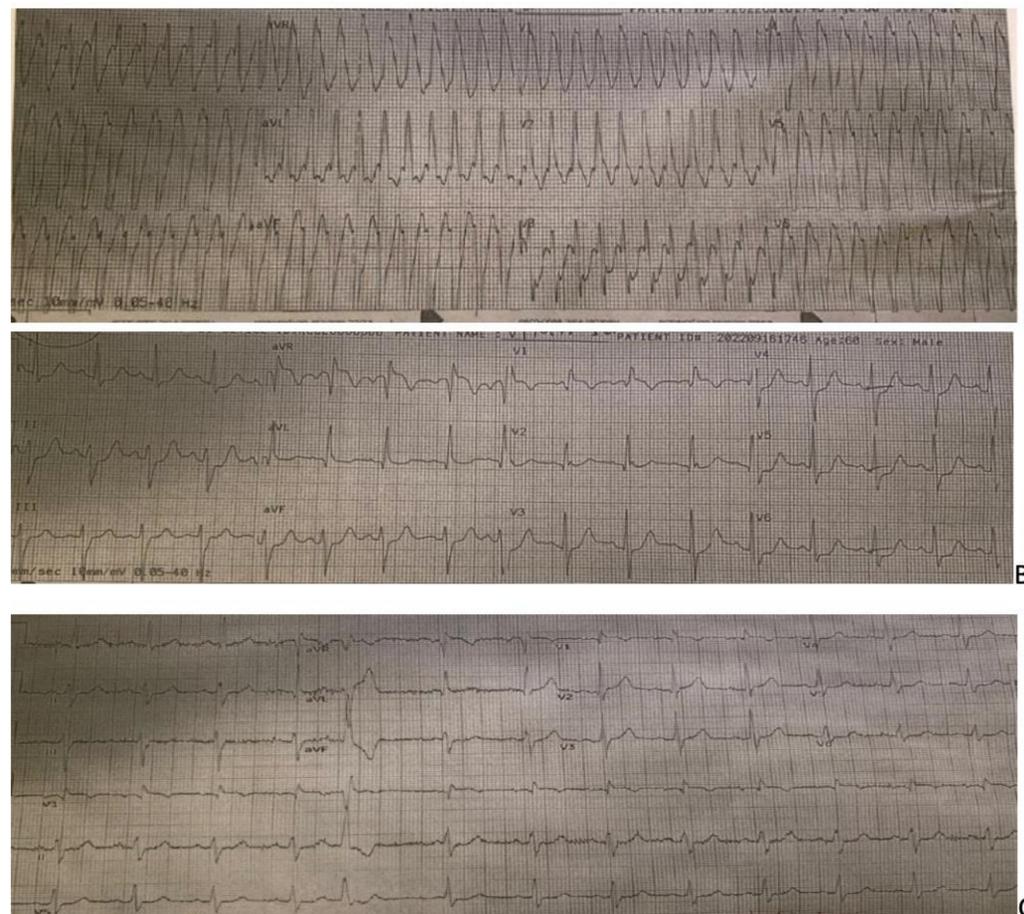


Figure 1. Electrocardiogram (EKG) demonstrating a wide complex tachycardia, likely posterior fascicle ventricular tachycardia (left anterior fascicular pattern with right bundle branch block) (A). EKG post- chemical cardioversion with amiodarone illustrating ST elevation in avR and ST depressions in the inferior and lateral leads (B). EKG on presentation to emergency room with complete resolution of ST segment changes (C).

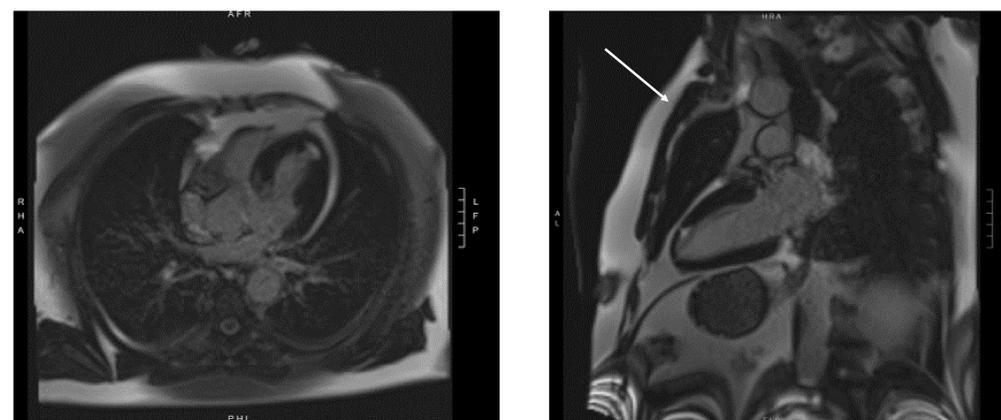


Figure 2. Cardiac MRI demonstrating LGE at the apex (white arrow).



Figure 3. Cardiac Positron Emission Tomography (cPET) illustrating increased FDG uptake in the basal septum region representing focal inflammatory phase of cardiac sarcoidosis.

Conclusion:

Patients with isolated CS have clinical features that are comparable to SCS; however isolated CS has higher rate of cardiac death, hospitalization for heart failure, or fatal ventricular arrhythmias. We present a case of a 59-year-old with ICS presenting as posterior fascicular VT. Further research is needed in terms of diagnosis and management of ICS.