Cardiac sarcoidosis presented with syncope and high degree atrioventricular block

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Background: Cardiac sarcoidosis can be incidentally diagnosed by clinical findings like syncope due to high degree atrioventricular (AV) block, heart failure, sudden cardiac death. Pathologic confirm of noncaseating granuloma is gold standard of diagnosis.

Case: A 81-year-old man visited emergency room with syncope. 12-lead electrocardiogram showed high degree AV block (Figure 1A). He admitted to cardiology department and a temporary pacemaker was placed. He had a history of rectal cancer and a neck node biopsy was performed in 2016 while being screened for rectal cancer. Neck lymph node biopsy revealed granulomatous lymphadenopathy with solid granulomas compatible with sarcoidosis. Also, pulmonary sarcoidosis was highly suspected by chest computed tomography, so his doctor recommended lung biopsy and treatment for sarcoidosis, but the patient refused it and has since lost follow-up. In situations where the cardiac involvement of systemic sarcoidosis is highly suspected, the patient underwent echocardiography, cardiac magnetic resonance imaging (CMR) and endomyocardial biopsy. Echocardiography showed hypokinesia of left ventricular (LV) panseptum with relatively thinner wall thickness of LV basal septum (Figure 1B). CMR showed basal septal wall thinning and late gadolinium enhancement (Figure 1C). Although endomyocardial biopsy did not show typical noncaseating granulomatous changes, we diagnosed cardiac sarcoidosis by clinical features and image findings with prior pathology from neck node biopsy. A dual-chamber implantable cardioverter-defibrillator (ICD) was implanted for primary prevention of sudden cardiac death. The patient has started high-dose oral steroid treatment and will be followed up on an outpatient clinic.

Conclusions: Patients with cardiac sarcoidosis have high risk of sudden cardiac death due to conduction block and ventricular tachyarrhythmias. The consensus recommendation to implant a dual-chamber ICD whenever permanent pacing is needed seems appropriate and reasonable.

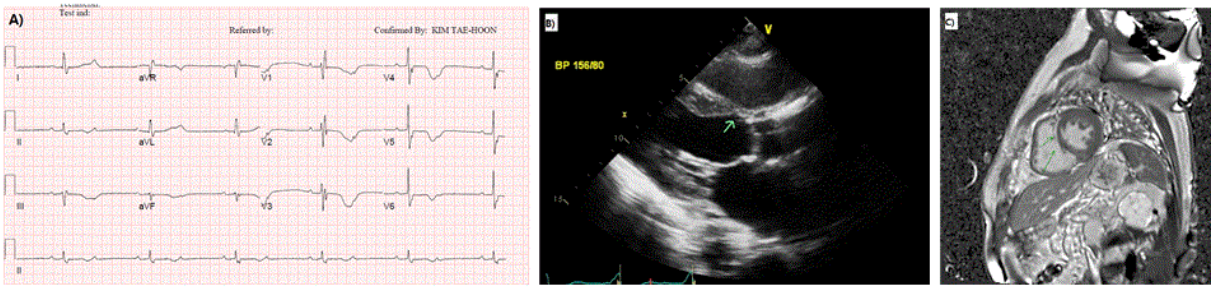

Figure 1. A) 12-lead electrocardiogram: 2:1 AV block, **B)** Echocardiography: Thinner wall thickness of LV basal septum, **C)** Cardiac MRI: basal septal wall thinning and late gadolinium enhancement