Sequential Change in Atrial Low Voltage Area and Recurrent Atrial Tachyarrhythmias in Isolated Cardiac Sarcoidosis: A Case Report

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**Introduction**: Patients of cardiac sarcoidosis (CS) generally cause ventricular dysfunction, ventricular arrhythmias and atroventricular block. However atrial arrhythmias occur some of the cases.

**Methods**: none

**Result**: We report 46 year-old female who presented for complete atrioventricular block with AF in September 2016. Pacemaker implantation was immediately performed. Due to the finding of thinning of ventricular septum, CS was suspected. Gadolinium enhanced cardiac MRI showed late gadolinium enhancement in ventricular septum. However, positron emission tomography (PET) showed no abnormal uptake in myocardium. Myocardial biopsy was negative for CS, and there were no specific findings of sarcoidosis in other organs. Therefore the diagnosis of CS was not confirmed. Catheter ablation (CA) for persistent AF was performed in March 2017. However, AF and atrial tachycardia (AT) recurred, and 2nd session of CA was performed in April 2018. Low voltage area in the atrium spread compared to that of 1st session. Left ventricular function was gradually reduced, and cardiac resynchronization therapy was performed in June 2018. AT recurred and 3rd session of CA was performed in December 2018. Low voltage area in the atrium further spread compared to former sessions. PET scan was repeated, which revealed strong uptake in myocardium, and she was diagnosed as isolated CS by Japanese Cardiac Society Guidelines, and immunosuppressive therapy was initiated.

**Conclusion**: CS can involve the atrium, and we report informative case of sequential change in low voltage area in the atrium, and recurrent atrial tachyarrhythmias which were suspected to be due to isolated CS.