

16. An Unusual Treatment to Reduce Atrial Fibrillation Burden

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Body

A 93 years old woman diagnosed with paroxysmal atrial fibrillation (AF) on 17/4/2019, diabetic mellitus, chronic kidney disease stage 3b, hypertension, giant cell arteritis (GCA) and hypothyroidism was presented with one day history of chest pain and palpitation. Her last paroxysm of AF was 16 months ago. She usually had one episode of AF per year lasted less than 12 hours. Her ECG showed atrial fibrillation with fast ventricular response, heart rate of 130 bpm. She went to sinus pause of 8 seconds probably due to high vagal tone during passing motions. She subsequently underwent dual chamber pacemaker (PPM) implantation with ventricular lead at left bundle area. Her CRP was 5mg/L. Her echocardiogram showed normal left ventricular ejection fraction of 55%. The implantation was uneventful and she was discharged. She was readmitted 3 days post PPM implant with palpitation and fever 37.9C. ECG showed atrial fibrillation with fast ventricular response 126 bpm. This was complicated by acute decompensated heart failure requiring intravenous diuretic. Her AF burden was incessant despite IV amiodarone and b-blocker. She was also treated initially with antibiotics. CRP was elevated 65 mg/L and continued to increase despite escalation of antibiotic but procalcitonin was 0.08 ug/L. Extensive infectious workup was negative and there was no sign of inflammation at her PPM site. Repeat echocardiogram showed normal left ventricular ejection fraction. Myocardial perfusion scan showed normal perfusion, calcium score scan noted a small pericardial effusion. FDG PET scan was suggested to rule out mild myopericarditis but family declined due to patient's advanced age. It was thought that an acute inflammatory response following implantation of PPM precipitated the AF with a background of GCA and hence patient was treated with increased dosage of prednisolone of 20mg. Patient went to normal sinus rhythm 24 hour after one dose of increased prednisolone, haemodynamic improved and was subsequently discharged.

It is well known that GCA is an independent predictor of AF after adjusting for multiple risk factors. Few cases of GCA causing myocarditis and only 1 which included cardiac positron emission tomography and magnetic resonance imaging data. Although the patient did not have cMRI nor FDG PET scan to rule out myocarditis due to her advanced age, this report illustrates the temporal relationship of systemic inflammation to AF burden and highlights the need for anti-inflammatory pharmacological intervention to reduce AF burden and improve haemodynamic of patient.



Temporal relationship between CRP (mg/L) and AF burden(per 24 hours)