**ATRIAL FIBRILLATION IS A CHRONIC INFLAMMATORY STATE:**

**A SUPPORT TO THE THEORY**

**U.N. Srivatsa**, J. Rogers

UC Davis Medical Center, Sacramento, CA, USA

Background: Atrial fibrillation (AF) has been associated with acute inflammation, post operative states and intensive care settings. Colchicine has been effective in reducing post operative AF. Case reports of left atrial tachycardia and AF with sarcoidosis, are found in literature, however a direct benefit of anti-inflammatory therapy for AF has not been shown. We summarize a case presenting initially with AF, later diagnosed to have sarcoidosis.

Results: A 39 yrs old Caucasian male presented with AF two years ago. After a trial of anti-arrhythmic agents, he underwent ablation. Within six months, he had recurrence of AF, and had syncope. He developed atypical RBBB and LPHB which persisted over time, found to have sinus arrest on event monitor requiring a pacemaker. As chest X-Ray revealed lung infiltrates, he underwent further testing with CT scan and endo-bronchial biopsy, revealing multiple granulomas with pathological confirmation. He was treated with prednisone, when tapered developed recurrence of AF. Trial of antiarrhythmic agents had no improvement of AF, and hence was restarted on prednisone. When he showed improvement in AF burden, further aggressive agents including hydroxychloroquine and methotrexate were introduced sequentially causing reduction of AF burden.(Fig1).He has developed mild cardiomyopathy and non sustained VT, hence upgraded to ICD and is being followed closely. This is a unique patient, where a clear association of AF, sinus nodal and His Purkinje conduction system disease have been associated with sarcoidosis and improvement of AF burden is demonstrated with anti-inflammatory management.

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4

3

2

1

Fig 1: Log of AF duration over the course of anti-inflammatory treatment

1. Off Prednisone after initial treatment.
2. Prednisone 20 mg
3. Prednisone 5 mg once daily, plaquenil 200 mg twice daily
4. Prednisone 40 mg every other day and plaquenil 200 mg twice daily
5. Plaquenil 200 mg bid
6. Methotrexate 5 mg everyday and plaquenil 200 mg bid