Background: Atrial arrhythmias are common in cardiac sarcoidosis (CS). Whether atrial arrhythmias are provoked by inflammation without established structural disease is unknown. The temporal relationship between atrial arrhythmias and other CS manifestations is unknown.

Objective: To determine the incidence of atrial arrhythmias in patients with CS and the timing of atrial arrhythmias relative to the onset of high grade heart block (HB), ventricular arrhythmias/sudden death (VA), and heart failure (HF).

Methods: Patients at Duke University Medical Center (2000-2020) with CS by Heart Rhythm Society and/or Japanese Circulation Society criteria were included if they had at least one episode of sustained tachyarrhythmia of atrial origin, captured on 12-lead ECG, ambulatory monitor, or cardiac implantable electronic device.

Results: Of 98 CS patients, 47 (48%) had atrial arrhythmia(s), including atrial fibrillation (AF) in 32 (68%), atrial flutter in 3 (6%), atrial tachycardia in 7 (15%), and other supraventricular tachycardias in 5 (11%). Mean age at diagnosis was 49 ± 18 years, 16 (34%) were women, and 27 (57%) had pulmonary sarcoid. At atrial arrhythmia onset, 22 (47%) were on immune suppression. Atrial arrhythmia preceded all major traditional CS manifestations (HB, VA, or HF) in 10 patients (10% of CS cohort), with median time to diagnosis of HB, VA, or HF of 10.8 months (25th, 75th percentile 2.9, 21.0) (Figure). In this group, left atrial diameter was 3.2 ± 0.5 cm (8 patients) and 7/10 had ≥2 common AF risk factor. Mortality was 14.9% in CS patients with atrial arrhythmias and 5.7% in those without atrial arrhythmias (P = 0.13).

Conclusion: Atrial arrhythmias are the first cardiac manifestation in a subset of CS patients. Active surveillance for possible CS should be considered in young individuals with incident atrial arrhythmias in the absence of traditional risk factors, particularly in those with known extracardiac sarcoid.

Guiding Catheter Ablation Combined with Left Atrial Appendage Occlusion Procedure by Fluoroscopy with or Without Transesophageal Echocardiography Achieved Comparable Outcomes

Zhongyuan Ren MS and Dongdong Zhao

Background: Several studies published the safety and efficacy of performing catheter ablation (CA) combined with left atrial appendage occlusion (LAAC) guided by transesophageal echocardiography (TEE). However, intra-procedural TEE monitoring could be difficult as some patients are intolerant.

Objective: To compare safety and efficacy of guiding CA combined with LAAC by digital subtraction angiography (DSA) with or without TEE.

Methods: From February 2019 to December 2020, 138 patients with non-valvular atrial fibrillation (AF) underwent CA combined with LAAC procedure were consecutively included, and two cohorts were built according to intra-procedural guidance (DSA or DSA with TEE). Periprocedural and follow-up outcomes were compared to investigate the feasibility and safety between the two cohorts.

Results: Of 98 CS patients, 47 (48%) had atrial arrhythmia(s), including atrial fibrillation (AF) in 32 (68%), atrial flutter in 3 (6%), atrial tachycardia in 7 (15%), and other supraventricular tachycardias in 5 (11%). Mean age at diagnosis was 49 ± 18 years, 16 (34%) were women, and 27 (57%) had pulmonary sarcoid. At atrial arrhythmia onset, 22 (47%) were on immune suppression. Atrial arrhythmia preceded all major traditional CS manifestations (HB, VA, or HF) in 10 patients (10% of CS cohort), with median time to diagnosis of HB, VA, or HF of 10.8 months (25th, 75th percentile 2.9, 21.0) (Figure). In this group, left atrial diameter was 3.2 ± 0.5 cm (8 patients) and 7/10 had ≥2 common AF risk factor. Mortality was 14.9% in CS patients with atrial arrhythmias and 5.7% in those without atrial arrhythmias (P = 0.13).

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