Cardiac Sarcoidosis Presenting as Heart Block

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A 47-year-old man without prior cardiac disease presented with lightheadedness, nausea, and fatigue while golfing. The initial 12-lead ECG demonstrated a first-degree atrioventricular delay, a transthoracic echocardiogram revealed normal myocardial thickness and left ventricular function, and stress nuclear imaging studies showed no ischemia; however, atrioventricular block was noted during the stress test. Within 2 months, complete heart block with junctional escape rhythm (Figure 1) developed. Laboratory testing that included thyroid studies and Lyme titers was unrevealing. Magnetic resonance imaging demonstrated 2 focal regions of late gadolinium enhancement (Figure 2) in a pattern suggestive of cardiac sarcoidosis. Subsequently, the patient underwent electrophysiological study with voltage mapping of the right ventricle (Figure 3). The low-voltage region along the inferoseptal basal aspect of the interventricular septum was targeted for diagnostic biopsy (Figure 4). This confirmed the diagnosis of cardiac sarcoidosis, and a dual-chamber implantable cardioverter-defibrillator was implanted for pacing support and primary prevention of sudden cardiac death.

Cardiac involvement is present in sarcoidosis in ~25% of patients, with onset of cardiac symptoms in their third to fourth decade of life. The focal granuloma formation interrupts the cardiac conduction system in one third of symptomatic patients and predisposes the patient to malignant ventricular arrhythmias.1 Cardiac sarcoidosis is a consideration in the younger patient with conduction abnormalities without obvious origin.

Disclosures

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Reference

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