Ventricular Tachycardia is Commonplace in Pacemaker Patients with AV Block

Seth Goldbarg

Introduction: Ventricular tachycardia is often associated with sudden cardiac death. With the advent or remote monitoring for pacemakers, episodes of VT are readily reported to pacemaker monitoring centers, raising awareness of this arrhythmia in the pacemaker population. Several deleterious effects of right ventricular pacing have been previously reported, but the incidence of VT in patients receiving chronic RV pacing has not been defined. Our study investigated the incidence of ventricular arrhythmias in remotely monitored pacemaker patients with high grade AV block.

Methods: We examined 12 months of remote transmission data from our pacemaker patients whose indication for pacing was high degree AV block and who receive >90% ventricular pacing. We assessed the prevalence and frequency of ventricular tachycardia in these patients, and noted clinical events or actions taken. We also assessed demographics and comorbidities and recorded the most recent LVEF when available.

Result: Of 386 patients with remotely monitored permanent pacemakers, 114 (29.5%) had high degree AV block with ventricular pacing greater than 90%. Thirty-eight patients had high degree AV block and ventricular tachyarrhythmia, representing 33% of the patients with >90% ventricular pacing. As expected, all patients with recorded high ventricular rates had ventricular tachycardia. No episodes of ventricular fibrillation were noted. Three patients (7.9%) had LVEF <35%, two of whom underwent upgrade to CRT. Two patients (5.2%) had episodes of sustained ventricular tachycardia; one patient died of a nonarrhythmic cause and the other was lost to followup. 47% of patients with VT had concomitant sustained atrial arrhythmias.

Conclusion: Nonsustained ventricular tachycardia seen on remote monitoring is relatively common in patients with pacemakers for high grade AV block, and should prompt review of left ventricular function.