

Premature Ventricular Contractions, Nonsustained Ventricular Tachycardia, and Accelerated Idioventricular Rhythm

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Ventricular ectopic beats are very common and may be identified during outpatient or inpatient telemetry monitoring either due to symptoms of palpitations or as an incidental finding. In most cases, ventricular ectopy, presenting as premature ventricular contractions (PVCs), nonsustained ventricular tachycardia (NSVT), and accelerated idioventricular rhythm (AIVR), is asymptomatic and does not require specific treatment. While most commonly benign when presenting in patients with structurally normal hearts and normal ECGs, these ventricular arrhythmias can rarely be associated with structural heart disease and a risk of sudden death.

PREMATURE VENTRICULAR CONTRACTIONS AND NON-SUSTAINED VT

PVCs are very common and can be due to enhanced automaticity, triggered automaticity, or reentry. PVCs are often sensitive to sympathetic stimulation and can be a sign of increased sympathetic tone, myocardial ischemia, hypoxia, electrolyte abnormalities, or underlying heart disease. During myocardial ischemia or in association with other structural heart disease, PVCs can be a harbinger of sustained ventricular tachycardia (VT) or ventricular fibrillation (VF).

The electrocardiogram (ECG) characteristics of the arrhythmia are often suggestive of whether structural heart disease is present. PVCs with smooth uninterrupted contours and sharp QRS deflections may suggest an ectopic focus in relatively normal myocardium, whereas broad notching and slurred QRS deflections may suggest a diseased myocardial substrate. The QRS morphology