

## APCU 22 HIGH BURDEN RVOT PVC IN AN ATHLETE; A DILEMMA TO ABLATE OR RECONDITION THE HEART?

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**Introduction** Premature Ventricular Contraction (PVC) is a pattern seen on daily basis in ECGs which always puts physicians in a dilemma what and when to intervene. PVCs tend to occur in minority of the athletes, we should plan for 24 Hours Holter monitoring to further quantify the burden and to understand the morphology if there are more than 2 PVCs on a standard 10 second ECG.

**Case Presentation** A 32 year old healthy asymptomatic soldier was referred to us for cardiac assessment prior to overseas mission. He is a fit built gentleman with unremarkable physical examination with a resting ECG showing ectopic atrial rhythm, frequent PVCs in bigeminy pattern; likely Anterior (Free wall) RVOT PVCs. Exercise Stress Test negative at high workload, PVC disappear at low workload with no recurrence at high workload suggestive of benign RVOT PVC. Echocardiogram reveals features of Athletes' Heart (ASE 2014), no evidence of cardiomyopathy, good LV systolic function and normal diastolic function. Incidental findings of Congenital Quadricuspid Aortic Valve (QAV) Type B (Hurtwitz and Robert's classification with Trivial AR. 24 hours Holter came back with a PVC burden >15% with episodes of Non-Sustained VT.

**Case Discussion** The morphology of PVC carries an important diagnostic and prognostic value. In athletes, the presence of premature ventricular contractions (PVCs) can be a benign finding or indicative of underlying cardiac pathology. Root PVCs, originating from the root of the heart's ventricles, may present more frequently in individuals with high athletic training due to increased vagal tone and heightened cardiac output. While often asymptomatic and benign in this context, persistent or symptomatic PVCs necessitate careful evaluation to rule out potential structural heart disease. Based on his Holter results given that he is asymptomatic throughout but him being an active military personal the need for ablation is still considerable.

**Conclusion** It is important to differentiate morphologies of PVC for accurate diagnosis and further evaluate PVC burden to rule out catastrophic cardiac conditions.

## APCU 23 RECURRENT TYPICAL SLOW FAST AVNRT LEADING TO TACHYCARDIA INDUCED CARDIOMYOPATHY SYNDROME

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**Introduction** Atrioventricular nodal re-entrant tachycardia (AVNRT) is the most common regular Paroxysmal Supraventricular Tachycardia. Although generally considered a benign arrhythmia in majority of the cases, recurrent AVNRT in elderly can lead towards tachycardia-induced ventricular dilation and dysfunction.

**Case Presentation** 84-year-old gentleman with underlying Type 2 Diabetes Mellitus, CKD Stage 4 and Bronchial Asthma with infrequent episodes of palpitation since the age of 50 was

referred for continuation of care in November 2022. He has good functional status with NYHA Class 1. His baseline ECG revealed SR with HR 60bpm with bifascicular block. His Echo showed preserved LV systolic function with EF 52%. In February 2023, he first presented with sudden onset of palpitation. A diagnosis of SVT with aberrancy with HR 140bpm was made likely Typical Slow Fast AVNRT with aVL notch and pseudo s wave in Lead 2. Adenosine rhythm strip confirmed the diagnosis of dual nodal tachycardia with PR jump and AV nodal echo. Trop T and NT-Pro BNP were negative. He opted for medical therapy. Since then, he had 3 monthly visits with similar diagnosis. His functional status started to reduce to NYHA Class 2. In June 2024, upon our re-assessment, noted his NT-Pro BNP was raised to 3023pg/mL. Echo revealed EF of <30%. HF GDMT was initiated and referral for ablation was made.

**Discussion** Tachycardia-Induced Cardiomyopathy Syndrome (TICS) is characterized by reversible ventricular dilation and systolic dysfunction due to sustained or frequent supraventricular or ventricular arrhythmias. It is usually associated with atrial arrhythmias and frequent ventricular ectopy. However, association of AVNRT with TICS has only been reported in the literature as case reports as most of AVNRT is well tolerated in young patient. However, in regards of advanced age, multiple co-morbid and degenerative conductive disease, incident of AVNRT leading to TICS can be underdiagnosed.

**Conclusion** Although long term complication is rare with AVNRT, with advance age and degenerative conductive disease, recurrent episodes of AVNRT might lead to TICS. Thus in this situation, vigilant follow-up and re-evaluation are required. Ablation and optimization of HF GDMT remains the mainstay of treatment with this complication.

## APCU 24 QFR-GUIDED PCI FOR INDETERMINATE LESIONS APPEARS TO HAVE BETTER ONE-YEAR OUTCOMES

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**Background** This study explores the impact of QFR guidance angioplasty and the subsequent 1-year outcomes in patients with intermediate coronary artery lesions.

**Objectives** The primary objective of this study was to evaluate the effectiveness of Quantitative Flow Ratio (QFR) guidance in influencing clinical outcomes in patients with intermediate coronary lesions undergoing angioplasty. Specifically, the study aimed to assess the target vessel's failure (TVF) at one year, which includes acute coronary syndrome (ACS), cardiac death, and ischemia-driven target vessel revascularization (TVR). The secondary objectives were total mortality, including cardiac death and non-cardiac death.

**Material and Methods** This study was conducted over one year, from January 1 to July 31, 2023, and included all patients undergoing coronary angiography. The patients were divided into three arms during the study: medical therapy after QFR reading, QFR-guided PCI, and PCI without QFR. One-year outcomes were then determined for target vessel failure, defined as an acute coronary syndrome (ACS), cardiac death, and ischemia-driven target vessel revascularization