Co-existance of atrioventricular nodal re-entrant tachycardia and idiopathic left ventricular tachycardia

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Introduction: Simultaneous occurrence of supraventricular tachycardia and ventricular tachycardia is a rare phenomenon named as double tachycardia. In clinical practice, Atrioventricular Nodal Re-entrant Tachycardia (AVNRT) and idiopathic left ventricular tachycardia (ILVT) are electrocardiographically indistinguishable because AVNRT sometimes conduct with a right bundle branch block causing wide complex tachycardia similar to ILVT.

Methods: A 34 year old male presented with palpitation and presyncope which was associated with electrocardiographic evidence of frequent ventricular extra systoles, and episodes of non-sustained ventricular tachycardia originated from left fascicular region. Subsequently, he underwent VT stimulation and comprehensive SVT study. Both atrial extra stimulation and ventricular stimulation induced AVNRT and ILVT with two distinct cycle lengths and electrophysiological characteristics.

Result: The patient was symptomatically improved after successful radiofrequency ablation of both ILVT and AVNRT simultaneously.

Conclusion: Dual atrioventricular nodal physiology appears to be associated with ILVT. Therefore, it is worthwhile to undergo a complete electrophysiological evaluation in patients with ILVT.