

# Journal of Atrial Fibrillation



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# Supraventricular Tachycardia with Irregular Ventricular-Atrial Intervals and Ventriculo-Atrial Block

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#### Abstract

The patient was a 68-year-old female with recurrent paroxysmal, regular narrow QRS complex tachycardia. We observed complete VA conduction block, during tachycardia in our patient. A characteristic feature of our patient is the noticeable irregular atrial and ventricular rates. We considered that possible mechanism of this tachycardia was atrioventricular nodal reentrant tachycardia (AVNRT) with retrograde complete type block in the upper common pathway.

# Case

The patient was a 68-year-old female with recurrent paroxysmal, regular narrow QRS complex tachycardia despite treatment with metoprolol. Baseline surface electrocardiogram was normal, intracardiac intervals revealed an HV interval of 44 ms. The tachycardia cycle length was 380 ms, and earliest retrograde atrial activation at the His bundle catheter. We observed complete ventriculo-atrial (V-A) conduction block, during tachycardia in our patient (Figure 1). A characteristic feature of our patient is the noticeable irregular atrial and ventricular rates. We considered that possible mechanism of this tachycardia was atrioventricular nodal reentrant tachycardia (AVNRT) with retrograde complete type block in the upper common (Figure 2). We observed slow accelerated junctional pathway rhythm arise during radiofrequency energy delivery. The narrow complex tachycardia was not inducible after the radiofrequency ablation. The possible mechanisms for supraventricular tachycardia with VA dissociation include automatic junctional tachycardia, tachycardia with concealed nodoventricular, or nodofascicular pathway as the retrograde limb and atrioventricular nodal reentrant tachycardia.<sup>2</sup> Sarrias-Merce et al. described the narrow QRS complex tachycardia with faster ventricular rate than atrial rate (V-A block) which is a rare variant of AVNRT with retrograde block in the upper common pathway.3 The electrophysiological characteristics of the upper common pathway defined in patients with various types of V-A block in AVNRT. An upper common pathways were reported

#### Key Words:

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of patients with complete VA conduction block during AVNRT.<sup>4</sup> Successful elimination of tachycardia by radiofrequency ablation in the inferoseptal right atrium at the level of the coronary sinus ostium, where no His bundle potential was recorded, provides strong evidence that the tachycardia was AVNRT as opposed to intra-hisian reentry. Distinct features of our case are the markedly irregular atrial and ventricular rates, without an apparently relationship at first view.

In summary, markedly irregular atrial and ventricular rates, without an obvious relationship at first glance should bring to mind retrograde V-A block of upper common pathway.

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