Very Late Recurrences (≥ 3 years) of Atrioventricular Nodal Reentrant Tachycardia: Electrophysiologic Characteristics of Index and Repeat Procedures

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Introduction: Catheter ablation is an effective strategy for atrioventricular nodal reentrant tachycardia (AVNRT). However, the very late (> 3 years) recurrences of AVNRT after initially successful ablation are not well elucidated before. We sought to explore the electrophysiologic characteristics of very late recurrence after ablation for AVNRT.

Methods: From 1991 to 2018, a total of 3311 patients (mean age: 48.7 ± 17.4 years; 1328 male [40.1%]) receiving catheter ablation for AVNRT were investigated. Baseline characteristics, the recurrent status, and detailed electrophysiological parameters during index and repeat procedure were extracted for analysis.

Result: After 128.7 ± 58.1 months of follow-up, 65 patients (2.0%) underwent repeat ablation for recurrent AVNRT, including very late recurrences in 17 (0.5%). The incidence of transient AV node injury is significantly higher in patients with late recurrences (5.9%) than those without recurrences (1.9%) but lower than those with early recurrences (12.5%, P<0.001). (Table 1) In addition, patients with recurrent AVNRT undergoing repeat catheter ablation, those with late recurrences had significantly longer AH interval (99.1±23.4ms vs. 82.2±20.4ms, P<0.01) and more need of intravenous isoproterenol and/or atropine for induction (88.2% vs. 62.5%, P=0.03) when compared with the index procedure. (Table 2)

Conclusion: Recurrent AVNRT can occur 3 years later after initially successful ablation. Patients with late recurrence had distinct electrophysiologial features from those early recurrence of AVNRT during index and repeat procedure.