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**Antegrade conduction improvement with fast atrial pacing during radiofrequency ablation of atrioventricular nodal re-entrant tachycardia to predict slow pathway conduction disappearance**

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**Topic(s):**
Supraventricular Tachycardia (non-AF) - Treatment

**Citation:**

Background: It has been reported that complete abolition of the slow pathway (SP) was associated with shortening of the effective refractory period of the fast pathway (FP), and AH interval shortening. Radiofrequency (RF) ablation of SP is usually performed in sinus rhythm (SR) while monitoring the occurrence of a slow junctional rhythm (JR). However JR may be absent, may not preceed disappearance of SP conduction and this technique is still associated with a residual risk of complete atrioventricular (AV) block (0.5-1 %).

Purpose: To monitor anterograde conduction improvement during RF delivery with fast atrial rate pacing (group A) compared to a historical control group (B) conventionally ablated during SR.

Methods: Consecutive patients (pts) admitted for AV nodal reentrant tachycardia (AVNRT) ablation were included. Proximal coronary sinus (CS) pacing was set to a value constantly yielding antegrade SP conduction, while monitoring the AH interval on the hissian catheter. The SP potential was identified using conventional electroanatomical methods. The number of unsuccessful JR-associated RF (UJARF) deliveries was analyzed in group B.

Results: 10 pts per group were included (59 ± 9 y). Typical AVNRT was induced in all (cycle length 328 ± 52 ms). During ablation, CS pacing was performed at 405 ± 80 ms. A mean 30 ms AH shortening was observed during the successful RF application in 5 pts (Fig A). In the other 5 pts, a transition from 3:2 or 4:3 Wenckebach (maximal AH 240 ± 100 ms) periods to a 1:1 conduction (AH 160 ± 15 ms) was seen during the successful pulse (Fig B). A 13 ± 5 % of AH interval shortening was measured between baseline AH in SR (86 ± 17 ms) and at the end of the procedure (64 ± 15 ms). All pts were successfully ablated with complete absence of inducibility, jump nor echo beat after SP ablation, despite isoproterenol infusion. The mean number of UJARF was 2.4 in group B, whereas AH shortening during ablation was constantly predictive of SP disappearance in all pts. After a follow-up of 6 months, no recurrences were noticed in group A, versus 1 in group B (p = 0.3).

Conclusion: Fast atrial pacing during RF delivery allows direct visualization of SP conduction disappearance. This new method seems effective and potentially safer than the conventional one.
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