

**Electrophysiological properties of the atrioventricular node, slow and fast pathway in children at long term follow up after slow pathway radiofrequency catheter ablation**

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The slow pathway radiofrequency ablation (RFA) is effective method of treatment in children with atrioventricular nodal reentrant tachycardia (AVNRT).

The aim of our study was to evaluate anterograde conduction, fast and slow pathway electrophysiological properties in children before and after slow pathway RFA, to determine the efficacy and safety of this method.

**Material and methods.** Noninvasive transesophageal electrophysiological investigation was performed in 32 patients (mean age 16.6 (2.5) years) at the follow up period (mean duration 3.2 (1.7) years) after the slow pathway RFA.

**Results.** The slow pathway function was observed in 24 patients at the follow up period, and in 28 patients after atropine sulfate. No one had paroxysms due to AVNRT.

Atrioventricular node conduction decreased significantly at the follow up to 147.9 (28.3) bpm versus the preablation 190.2 (31.4) bpm,  $p < 0.001$ . The atrioventricular node effective refractory period (ERP) prolonged significantly at the follow up to 347.9 (80.6) msec versus the preablation 251.3 (39.7) msec,  $p < 0.001$ . Slow pathway ERP prolonged significantly at the follow up to 406.3 (123.4) msec in comparison with preablation 321.8 (53.8) msec,  $p = 0.001$ . Fast pathway ERP prolonged at the follow up to 481.2 (132.9) msec in comparison with preablation 408.0 (60.4) msec,  $p = 0.03$ . The prolongation of the slow pathway ERP was more significant than the fast pathway,  $p < 0.001$ .

**Conclusion.** Anterograde conduction, ERP of atrioventricular node, slow and fast pathway changed significantly after long term follow up. RFA of slow pathway is effective and safe method of treatment AVNRT with preservation of dual atrioventricular nodal physiology.