

**Population-based long term outcome of pediatric catheter ablation of common supraventricular tachycardias in patients without structural heart disease**

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**Introduction:** Catheter ablation is the preferred treatment method of common SVT not only in adults, but also in children and adolescents. Long term follow-up data on pediatric patients is still incomplete. **Methods:** A catheter ablation registry was created in November 1997 when pediatric ablation procedures were started in our institution. A single pediatric centre covers the whole country with a population of 5.4 million people. Based on the registry, long term follow-up data were collected with a questionnaire and from charts with 98% coverage. Patients with congenital heart malformations were excluded from this analysis except those with trivial defects.

**Results:** 296 patients underwent catheter ablation, and 269 (91%) were successfully ablated in 1-3 procedures. 66% had an accessory pathway (AP), 31% atrioventricular nodal reentrant tachycardia (AVNRT) and 3% atrial tachycardia. The success rates were 89%, 93% and 71%, respectively.

Serious complications were rare: one patient had complete AV block needing pacemaker and one patient had a haemopericardium needing drainage. Before introducing cryoablation in 2005, five patients had temporary second degree AV conduction block, all of which resolved by time. The median follow-up time was 4.8 years (1.0-12.6 yrs).

The recurrence rate after successful ablation was 7.8% (21 patients). Ten of the recurrences occurred several years after the procedure. In addition, two patients have had atrial fibrillation and one a focal atrial tachycardia as young adults after an ablation procedure as a child; two procedures were performed for AVNRT and one for AP. After ablation procedure, eight patients (3 %) complained of higher exercise-induced heart rate than before the procedure.

**Conclusions:** Long term outcome of pediatric catheter ablation of supraventricular tachycardia is excellent with a low complication rate. Recurrence rate was 7.8% in our patients with a median follow up of 4.8 years. Half of the recurrences occurred late, several years after the initial procedure.