

### **Acute Effectiveness of RF Ablation for Idiopathic Ventricular Arrhythmias in Children**

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The idiopathic ventricular arrhythmia (IVA) in children is a rare disease with benign clinical outcome but there is still some risk of congestive heart failure, syncope or sudden death. The RF ablation has been widely used for supraventricular tachycardia treatment in children, but limited data exist on this therapy for idiopathic ventricular tachycardia in children.

Among 505 children ablation procedures 30 were done for idiopathic ventricular arrhythmias in our Institute. Children were qualified for ablation if they have symptomatic ventricular arrhythmia or the number of ventricular beats exceed more than 30% of total QRS complexes in Holter ECG. Based on the clinical charts the early effectiveness data were collected. We analyzed the recurrence of arrhythmia within 24 hours after procedure in Holter monitoring.

There were 30 pts (15 girls and 15 boys) with IVA. The mean age at the procedure was 14 years 2 months (ranged from 21 months to 18 years). All children had normal heart anatomy. Fourteen were symptomatic (palpitations, syncope and aborted sudden death-1 pts), 3 pts with RV and 11 with LV arrhythmia. Thirteen children had runs of ventricular tachycardia with mean heart rate 160/ (ranged 130-195/), 17 pts had ventricular extrasystole with the number of ventricular beats from 30-70% (mean 40%) of rhythm in Holter monitoring. The procedures were done with CARTO system, under general anesthesia in 8 pts, in local in 22pts. The origin was: RVOT 10 pts, RV 3 pts, LVOT 3 pts, LV 8 pts and fascicular tachycardia 6 pts. At the end of procedure ablation was successful in 24 (80%) children, failed in 6 pts (20%). In Holter ECG done after 24 hours 17 pts (57%) were still free of arrhythmia, 5 (17%) had less than 5% of arrhythmia. All ablation done for fascicular and LVOT tachycardia were successful. In 8 (26%) children IVA was still present: RVOT-3pts, RV-1pts and LV - 4pts. There were no complications.

In 74% of our children with IVA RF ablation was highly effective in early observation, although the recurrence rate within 24 hour after procedure was 6%. RF ablation for idiopathic ventricular arrhythmia is safe procedure.