Clinical and Electrophysiological Characteristics of Idiopathic Ventricular Tachycardia in Children

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**Purpose:** We performed this study to know the mechanism, the outcome of RF ablation and prognosis of the pediatric patients with VT.

**Methods and Results:** The 50 children (mean 11.5 ± 3.5 years) with monomorphic VT without any structural heart disease were enrolled in this study. The VT originated from the right ventricle (RV) in 30 patients (pts), and left ventricle (LV) in 20 pts. The VTs were induced by exercise in 19 pts (63%) of the RVVT, and 9 pts (45%) of the LVVT, and by programmed ventricular stimulation in 14 pts (47%) of the RVVT, 7 pts (35%) of the LVVT. The mechanism of the VT was suspected to be triggered activity in 12 pts (40%), automaticity in 13 pts (43%), and re-entry in 5 pts (17%) of the RVVT, whereas it was 2 pts (10%), 8 pts (40%), and 10 pts (50%) of the LVVT, respectively. In 3 pts with VT, a non-verapamil sensitive re-entry was documented. Radiofrequency ablation was performed in 43 pts, and 31 pts (72%) were successfully ablated.

**Conclusions:** Mechanism of the idiopathic VT in children was various, but triggered activity in LVVT was very few. In some pts with idiopathic VT, a non-verapamil sensitive re-entry was documented, which was more common in pts with ischemic heart disease or cardiomyopathy.

**Keywords:** idiopathic ventricular tachycardia, monomorphic ventricular tachycardia