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# RADIOFREQUENCY CATHETER ABLATION OF PAEDIATRIC IDIOPATHIC LEFT VENTRICULAR TACHYCARDIA BY P POTENTIAL MAPPING UNDER SINUS RHYTHM

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**Objective** To investigate the feasibility and effectiveness of P potential mapping in radiofrequency catheter ablation (RFCA) of paediatric idiopathic left ventricular tachycardia (ILVT) in difficult to be induced or uninducible case during operation for the sake of general anaesthesia.

**Methods** Clinical materials of 55 children diagnosed as ILVT with 1 month~ 4 years' history of tachycardia attack were summarised. 12 lead ECGs of tachycardia all show right bundle branch block with left deviation of electrical axis. No organic heart diseases were detected by auxiliary examinations. (1) P potential mapping under sinus rhythm was performed in 30 children: ablation catheter was guided to mid posterior part of left ventricular septum (1/2 of connection line between ventricular apex and aortic root) under x-ray during sinus rhythm. P potential was detected as potential with high frequency and low amplitude occurring before V wave, and it was regarded as ablation target. (2) Activation sequence mapping was performed in 25 children (control). The study compared success rate and recurrence rate of these two mapping methods.

**Results** P potential mapping under sinus rhythm was performed in 30 children and tachycardia was not induced in 4 of them. RFCA were performed in all of them, with success rate 100% (30/30). Activation sequence mapping was performed in 25 children (control) and tachycardia was not induced in 2 of them. RFCA were performed in 23 with success rate 100% (23/23). During follow-up period (range 3 months to 13 years, average  $9.24 \pm 2.15$  years), recurrence rate of P potential mapping group is 3.3% (1/30), significantly lower than that of activation sequence mapping group 13.0% (3/23). All recurrent cases were cured after the second RFCA procedure. Left anterior fascicular block was not detected in any of these patients' ECG done after RFCA procedures.

**Conclusion** P potential mapping with guidance under x-ray in radiofrequency catheter ablation (RFCA) of paediatric idiopathic left ventricular tachycardia (ILVT) is safe and simple with high success rate and low recurrence rate, and should be regarded as the first choice of mapping method in RFCA of paediatric ILVT. Left bundle branch and left anterior fascicular branch were not injured during RFCA procedures.