

Outcome of children and adolescents undergoing invasive testing for asymptomatic Wolff-Parkinson-White preexcitation

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Introduction: Results of a risk stratification strategy in asymptomatic WPW preexcitation in the young were evaluated.

Methods: 85 consecutive pts with a WPW pattern undergoing from 10/2000 to 8/2011 an invasive EP study for risk stratification were studied. All were without antiarrhythmic medication and had persistent preexcitation during exercise. Potentially dangerous accessory pathway (AP) properties were defined as follows: antegrade effective refractory period (AP ERP) ≤ 250 ms, shortest preexcited RR interval during atrial fibrillation/rapid atrial pacing (SPERRI) ≤ 250 ms or inducible AV reentrant tachycardia (AVRT).

Results: Age at evaluation was median 14.9 (IQR 12.5 – 16.6) yrs (<18 yrs in all). Structurally normal heart was present in 82 pts, hypertrophic cardiomyopathy in 3 pts. A single manifest AP was found in 81 pts, two APs in 4 pts. At least one risk factor was present in 35/89 APs (39.3 %) at baseline and in additional 14/89 (15.7 %) after isoproterenol: rapid antegrade conduction in 36/89 (Table) and inducible AVRT in 25/89 APs. Ablation was performed in 40/49 potentially dangerous APs (81.6 %) and was deferred in 9/49 (18.4 %) because of proximity to the AV node. In addition, 23 low risk APs were ablated based on patient/parental decision.

Conclusions: Using a currently accepted risk stratification strategy including isoproterenol challenge, 55 % of the evaluated clinically asymptomatic APs exhibited either rapid antegrade AV conduction or AVRT inducibility. Safe ablation (remote from AV node) could be performed in 81.6 % of these APs. (PK and JJ were supported by a grant of the Internal Grant Agency of Ministry of Health of the Czech Republic NT 12321-3/2011)

AP properties (N=89)	baseline	isoproterenol
AP ERP median (IQR)	295 (270-320)	270 (248-290)
SPERRI median (IQR)	295 (256-330)	240 (230-283)