

### RFA of tachyarrhythmias in children of one year old

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**Objective:** It is known that RFA is the only available treatment of small children with drug refractory tachyarrhythmias. The aim of our abstract is to show our experience of RFA of tachycardias in small children.

**Materials:** Twelve RFA of tachyarrhythmias were performed to children of 1-12 months old in our clinic during last five years. The minimum age of effective RFA is 48 days, the minimum weight is 3,8 kg. Tachycardia was first disclosed in three children antenataly. Tachycardia was incessant in 8 cases and paroxysmal in 4 cases. The presence of arrhythmogenic cardiomyopathy and also ineffectiveness of antiarrhythmics combinations were the indications for RFA performance in all cases.

**Results:** Five children had WPW syndrome. Localization of accessory pathway: left posterior (n=2), left anterolateral (n=2) and right posteroseptal (n=1). In all cases of left sided localization of accessory pathway an approach into the left atrium was carried out through the patent foramen oval. Seven children had intra-atrial tachycardia. Localization of atrial ectopic focuses was determined in the area of right atrial auricle basis (n=2), in the area of right atrial anterior wall (n=3), in the area of His band (n=1), in the area of the patent foramen oval (n=1). Navigation mapping was performed to three children with intra-atrial tachycardia. The first RFA attempt was in two children at the age of one month, but the procedure was ineffective. Antiarrhythmic therapy had temporary effect, and at the age of 4-5 months RFA of accessory pathway and right atrial ectopic tachycardia was successfully performed. Intra- and postoperative complications were not observed. According to the Echo data reduction of atrium sizes, increase of left ventricle contractile function were marked in 5-10 days ( $p<0,05$ ). Total RFA effectiveness in children till one year old is 100%. Follow-up was from one month to five years. Tachycardia relapses were not disclosed. According to Echo, pathology was not discovered.

**Conclusion:** RFA is an effective and safe method of tachyarrhythmia treatment including infants. All children of early age with hemodynamic instability, drug refractory should be turned to specialized centers, having RFA experience at the given age.