The antiarrhythmic efficacy of H1 — histamine receptor blocker quifenadine in children with frequent extrasystoles

Larisa Balykova, Makarov Leonid, Oleg Soldatov, Yuri Soldatov, Nataliya Shekina

Medicine Institute, National Research Ogarev Mordovia State University, Saransk, Russian Federation

Objective. To determine safety and efficacy of quifenadine versus amiodarone in children with premature beats (PB).

Methods. 84 patients (mean age 10.4 ± 3.8 yrs) with frequent (> 10000 during 24 h) ventricular (n = 45) and supraventricular (n = 39) PB were randomized 1:1 to quifenadine (1–3 mg/kg/day, n = 54) or amiodarone (8–10 mg/kg/day, n = 30) arms. The therapeutic efficacy was evaluated by 24-hour Holter monitoring at 2–4 and 9–12 weeks of treatment.

Results. Complete antiarrhythmic effect (PB < 50% from baseline) has been achieved in 23/54 (43%) of quifenadine-treated patients, which was less than in amiodarone groupe (24/30, 80%, p = 0.02). Quifenadine was mostly beneficial in children with supraventricular PB and/or bradycardia. Quifenadine therapy led to moderate QTc interval prolongation without exceeding of clinically meaningful values. The side effect incidence in quifenadine group (drowsiness and headache) was significantly lower (2%) than in amiodarone group (40%, p < 0.05). In case of lack of quifenadine and amiodarone alone effect, combination therapy was used (quifenadine 1–2 mg/kg/day and amiodarone 4–6 mg/kg/day). The combination therapy showed complete antiarrhythmic effect in 10/12 (83%) of patient without significant QT prolongation or sinus node depression (probably due to quifenadine anticholinergic properties). The only side effect was thyroid dysfunction (8,3%) in this group.

Conclusion. The obtained data have shown quifenadine antiarrhythmic activity in children with premature beats. Quifenadine with amiodarone combination led to decrease antiarrhythmic side effects incidence while maintaining it therapeutic efficacy.