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FREQUENCY OF PROLONGED QTc IN CHILDREN AND ADOLESCENTS HOSPITALIZED FOR PSYCHIATRIC DISORDERS: A NESTED CASE-CONTROL STUDY

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Background: The rate-corrected Q-T interval (QTc) prolongation is a risk factor for sudden death and may be produced by antipsychotic drugs.

Objective: To determine the frequency and psychopharmacological correlates of baseline prolongation of QTc in a large pediatric cohort.

Methods: The QTc was measured on the electrocardiograms obtained on 811 children and adolescents (404 males and 407 females, mean age: 15.5±2.4 years) consecutively evaluated in the admissions unit of a psychiatric hospital. Each patient with QTc > 440 msec was age- and gender-matched with 5 patients with QTc < 420 msec. The psychiatric diagnoses and psychotropic treatment of patients with prolonged QTc and control subjects were compared in univariate and logistic analyses.

Results: QTc duration was > 440 msec (mean 454±10 msec, range 442-481 msec) in 16 patients (1.97%; 95% confidence interval (CI): 1.17%-3.25%). The 80 control subjects had a mean QTc of 391±21 msec. The groups were similar with regard to the proportion of patients on antipsychotics (43.8% vs. 40.8%, p=0.78) and chlorpromazine equivalents (165.5±109.7 mg vs. 167.6±217.8 mg, p=0.98). Logistic regression identified schizophrenia as the only psychiatric predictor of baseline QTc prolongation (odds-ratio: 6.17, 95% CI: 1.24-30.69, p=0.042).

Conclusions: In a large cohort of children and adolescents with psychiatric disorders, baseline QTc prolongation was infrequent and, at most, of moderate severity. The findings argue against performing electrocardiograms prior to the initiation of antipsychotics in all patients from this age group.