Effect of buspirone hydrochloride on dispersion of ventricular repolarization in patients with anxiety and depressive disorders and ischemic heart failure

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Objectives: The purpose of the study was to investigate the effect of buspirone hydrochloride on QT interval dispersion (ΔQT) in patients with chronic heart failure (CHF) of ischemic etiology with anxiety and depressive disorders.

Methods: 102 patients (65 males, 37 females; mean age 67.4 ± 9.5) NYHA II-IV were randomized in the study. All the patients were prescribed buspirone hydrochloride 10 mg t.i.d. due to anxiety and depressive disorders. All the patients had II-III functional classes of angina, 67 of them (65.7%) had history of myocardial infarction. Randomized patients received standard CHF and coronary heart disease therapy. Informed consents were signed before the study initiation. Exclusion criteria were history of mental disorders, significant impairment of cognitive functions, alcohol/drug abuse, other psychoactive drug intake, severe concomitant pathology. Initially and in 3 months of buspirone hydrochloride intake rest ECG was recorded in 12 standard leads, 50 mm/s and QT (ΔQT) and QTc (ΔQTc) dispersions were calculated by the standard technique ($\Delta QT = QT_{max} - QT_{min}$, $\Delta QTc = QTc_{max} - QTc_{min}$). Statistical data processing was carried out by using the program Statistica 8.0. Data was reported as mean $\pm$ standard deviation. The significance of differences was determined by Student's t-test.

Results: Initially mean ΔQT and ΔQTc were 41.5 ± 13.0 ms and 36.0 ± 9.8 ms, respectively. At re-examination mean ΔQT was 43.9 ± 14.8 ms ($p > 0.05$), and ΔQTc -37.5 ± 10.9 ms ($p > 0.05$). Thus, indices of ventricular repolarization dispersion before and after 3 months of buspirone hydrochloride intake had no statistically significant differences.

Conclusion: Buspirone hydrochloride treatment did not lead to an increase in dispersion of ventricular repolarization in the patients with ischemic CHF.

KEYWORDS: QT interval dispersion, buspirone hydrochloride, chronic heart failure, depressive disorders.

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