Article: 0593
Topic: EPW17 - e-Poster Walk Session 17: Cognitive Neuroscience

Qt Interval in Patients with Ischemic Stroke with or Without Cognitive Impairment

D. Matei[1], V. Constantinescu[2], C. Corciova[1], C.D. Popescu[2]

[1]Faculty of Biomedical Engineering Biomedical Sciences, Grigore T.Popa University of Medicine and Pharmacy, Iasi, Romania ; [2]Faculty of General Medicine Department of Neurology, Grigore T.Popa University of Medicine and Pharmacy, Iasi, Romania

Introduction: Ischemic stroke can lead to heart injury via dysfunction of the autonomic nervous system. QT intervals on electrocardiography (ECG) are susceptible to autonomic influences and their prolongation was associated with increased mortality after stroke.

Aims: We aimed to study QT intervals in patients with ischemic stroke in chronic phase with and without cognitive impairment.

Methods: ECGs were recorded in 50 patients with ischemic stroke. QT interval corrected for heart rate (QTc), QT dispersion (QTd), and QT interval variability (QTIV) were measured. The QTVI was calculated as the logarithm of the ratio between the variances of the normalized QT and RR intervals. Using Mini Mental State Examination and Hachinski`s ischemic scale we identified vascular dementia (VaD) in 17 patients. Twenty age-matched healthy subjects were examined for comparison.

Results: We identified QTc, QTd prolongation in patients with ischemic stroke. Comparing patients with ischemic stroke vs. VaD, QTc (412 ±75.2 ms vs 456± 115 ms, $p<0.01$) and QTd (64±14ms vs 154±69 ms, $p<0.0001$) were more prolonged in VaD. QTVI were generally increased in ischemic stroke patients compared with healthy subjects ($p<0.05$) but the differences with high statistical significance level were found in VaD patients ($p<0.001$). We found correlation between QTd, QTVI, hypertension, diabetes, arrhythmia and cognitive impairment.

Conclusion: Prolongation of QT intervals and increased QTVI occurs frequently after ischemic stroke but most significant changes were found in patients with cognitive impairment. Early detection of cognitive impairment in stroke patients provides better prevention of possible dementia.

Keywords: ischemic stroke, QT interval, vascular dementia

https://doi.org/10.1016/S0924-9338(15)30472-7 Published online by Cambridge University Press