SIGNIFICANCE OF POSTUROGRAPHY AND SENSORIMOTOR CHRONOMETRY IN PATIENTS WITH PARKINSON'S DISEASE

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Introduction: Yet, little is known regarding the significance of posturography and sensorimotor chronometry, especially the using of their indices as biomarkers for Parkinson's disease (PD).

Aims: To investigate whether the posturography and sensorimotor chronometry have a significance in patients with PD, in particular for the purposes of the screening and monitoring of the disease.

Methods: Parkinsonian patients were thirty-five adults (mean age 61.24±12.74 years, range 12 - 89 years). As control groups served thirty-four patients with Essential tremor (mean age 59.71±12.60 years, range 11 - 86 years) and thirty-four healthy individuals (mean age 27.14±9.17 years, range 17 - 37 years). Using an original machine-methodic complex the equilibrium stability during open and closed eyes with Romberg’s sign derivation, and the central and motor times of symmetrical ballistic, controllable, complex, serial and alternating movements with the asymmetry coefficients derivation, are investigated. We applied ANOVA-test, correlation and simple as well multiple regression analyses. A detailed comparative group analysis was performed.

Results: The performed differential comparative analysis of the investigated parameters of the overall motor coordination status revealed that the most informative (p< 0.05) factors (in descending series of the informativeness) were as follows: 1.Equilibrium stability during closed eyes with differential informativeness 0.95. 2.Motor and central times of the complex movement with differential informativeness 0.90; Similar (p< 0.05) groups in conformity with the investigated nosological groups were obtained.

Conclusions: The results we obtained showed that the both posturography and sensorimotor chronometry may have an implication (p< 0.05) for screening and monitoring of PD.