
COMPARATIVE STUDY OF P50 SUPPRESSION, PPI AND ANTISACCADE MEASURES IN FIRST EPISODE AND CHRONIC SCHIZOPHRENIA PATIENTS

A. Kirenskaya¹, A. Tkachenko¹, D. Samylkin¹, Z. Storozheva¹

¹Laboratory of Clinical Neurophysiology, Serbsky National Research Centre for Social and Forensic Psychiatry, Moscow, Russia

Objectives. The aim of the study was to compare P50 suppression, prepulse inhibition (PPI) and antisaccade (AS) measures in first episode and chronic schizophrenia patients to assess the predictive validity and progressive changes of selected parameters.

Methods. Unmedicated first-episode (15 subjects) and chronic (15 subjects) schizophrenia patients participated in the study. The patients' symptomatology was rated with the Positive and Negative Syndrome Scale (PANSS). Control group included 21 healthy subjects.

P50 suppression and acoustic startle prepulse inhibition (PPI) were estimated according to standard protocols (Olincy et al., 2010; Calkins et al., 2007). In AS task subjects had to look as quickly as possible at the horizontal mirror position of the peripheral target. Saccade and contingent negative variation (CNV) parameters were evaluated.

Results. Higher PANSS scales values were found in chronic patients compared to first episode ones. Both patients' groups displayed significantly reduced P50 suppression ($p < 0,001$) and prepulse inhibition deficit at 60 ms lead interval ($p < 0,05$) compared to controls. Patients of both groups exhibited increase in the correct AS latency and larger number of errors in AS task compared to controls ($p < 0,05$). The pronounced decline of CNV amplitude in frontal regions was found in chronic patients only (*Group x Area interaction*, $p < 0,05$).

Conclusion. Results of the study corroborate the evidences of P50, PPI and AS measures predicting validity. The CNV analysis revealed pronounced prefrontal cortex dysfunction in chronic patients only. These data are compatible with the hypothesis of progressive brain changes in schizophrenia.