

NEW APPROACHES TO PREDICTION OF TREATMENT OUTCOME IN MENTAL PATIENTS USING BACKGROUND NEUROBIOLOGICAL DATA

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Hheavy social-economic burden of mental disorders and rather high percent of non-responders determine the need of multidisciplinary approaches to investigation of brain mechanisms of this severe illness for optimization of its treatment. One of the ways for such optimization is early individual prediction of therapeutic response. Brief review on EEG predictors of treatment outcome in terms responder/non-responder will be presented. As well, the innovative author's approach to quantitative individual prediction of treatment outcome in patients with delusional disorders conditions in the frames of paranoid schizophrenia will be described. Correlation and regression analyses of quantitative clinical scores (by PANSS scale), resting EEG spectral parameters and some immunological parameters have been performed in patients with manic-delusional and hallucinatory-delusional conditions in the frames of paranoid schizophrenia. Neurobiological data obtained before the beginning of syndrome based treatment course (at visit 1) were matched with clinical scores of the same patients at the stage of remission establishment after treatment course (at visit 2). The multiple linear regression equations were created which contained only 3 to 4 (from 80) initial EEG parameters and one of four immunological parameters. These mathematical models allowed predicting from 65% to 87% of PANSS scores variance after treatment course (at visit 2). Deviation of predicted PANSS scores values in patients of the control group from their real values at visit 2 varied from 5% to 24% for different PANSS scales, and was significantly lower than permitted deviation. The data obtained emphasize the role of neurophysiological inhibition deficit and of processes of neuroinflammation and neuroplasticity in pathogenesis of manic-delusional and hallucinatory-delusional conditions, and may be used practically for elaboration of methods of individual prediction of syndrome based treatment efficiency in patients with paranoid schizophrenia.

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