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PREFRONTAL DYSFUNCTIONS AND TEMPERAMENT IN PATHOLOGICAL OBESITY - THE RESULTS OF NEUROPSYCHOLOGICAL, TEMPS-A AND GENETICS STUDIES

A. Borkowska^{1,2}, A. Tretyn³, M. Golebiewski³, M. Bielinski¹, H. Akiskal⁴

¹*Clinical Neuropsychology, Nicolaus Copernicus University Collegium Medicum, Bydgoszcz,* ²*Medical Psychology, Medical University, Lodz,* ³*Institute of Biology, Nicolaus Copernicus University, Torun, Poland,* ⁴*International Mood Center, University of California, San Diego, USA*

In this study the performance on Wisconsin Card Sorting Test (WCST) in relation to the polymorphism of serotonin system genes - 5HT2A, 5HT2C, 5HTT, temperament using TEMPS-A scale in relation to the intensity of depression on Beck Depression Scale were evaluated in 150 subjects with pathological obesity, BMI>40. For assessment prefrontal dysfunction the WCST, and for 5 dimensions of temperament (depressive, cyclothymic, hyperthymic, irritable and anxious) the TEMPS-A scale were used. The results of WCST and TEMPS-A were compared with the results of healthy sex, age and education matched controls.

Subjects with obesity obtained significant worse results on WCST than controls. The results of TEMPS-A scale show the high prevalence of irritable and depressive temperament in patients group. Female patients show highest prevalence of depressive and anxious temperament, while males the irritable and hyperthymic temperament. The medium or serious intensity of depression was found in 50% of cases. The intensity of depressed symptoms correlated with depressive temperament in female. Interesting results were obtained in the case of 5HT2C: a known polymorphism (-759C>T) could not explain the banding pattern observed. It is possible that we have found a novel polymorphism that strongly correlates with obesity.

The results obtained show highest prevalence of depression, specific temperamental picture and prefrontal dysfunctions in patients with pathological obesity which may be related to the polymorphisms of serotonin and dopaminergic system genes and possible association of the obesity with the new polymorphism of 5HT2C gene.