

P-1233 - CTLA-4 AND CD28 GENE POLYMORPHISM WITH RESPECT TO FRONTAL LOBE FUNCTIONS IN SCHIZOPHRENIA

D.Frydecka, A.Beszlej, L.Karabon, E.Pawlak, A.Kiejna

¹Department of Psychiatry, Wrocław Medical University, ²Department of Experimental Therapy, Institute of Immunology and Experimental Therapy, Polish Academy of Sciences, Wrocław, Poland

Introduction: Genetic factors that modulate the immune response have been implicated as risk factors both for schizophrenia as well as for cognitive impairments (endophenotypes of schizophrenia). Regulation of immune response is mediated by two related receptors: CD28 is a major co-stimulator, whereas CTLA-4 performs negative regulatory functions. Balance of immune response depends on the expression of these regulatory molecules due to their genes polymorphisms.

Aim: The study was carried out to investigate the association between polymorphisms of two genes: CTLA-4 (49A/G, -319C/T, CT60 A/G) and CD28 (+17C/T) and frontal lobe functions in patients with schizophrenia.

Methods: 118 patients diagnosed with schizophrenia (ICD-10) and 352 controls were included in the study. Frontal lobe functioning was assessed by Trail Making Test (TMT) and Stroop Test (SCWT).

Results: There was no significant difference in distribution of genotypes between patients and controls in the polymorphisms of *CTLA-4* gene, but in polymorphism of *CD28* gene ($p=0,0007$). With respect to +17C/T *CD28* gene polymorphism there was a trend level difference in performance on TMT: C allele carriers performed worse than T allele carriers ($p=0,054$), suggesting weaker executive control function.

Conclusions: Our data support a role of *CD28* +17 C/T gene polymorphisms for the predisposition to schizophrenia. Among patients the distribution of genotypes of *CD28* gene polymorphism is similar to that found in patients with autoimmune disorders such as: early onset type 1 diabetes and Behçet's disease. Additionally, +17C/T *CD28* gene polymorphism might be considered as a risk factor for cognitive impairment in schizophrenia.