P01-200 - DAT1 GENE POLYMORPHISM AND PEFROMANCE IN MODIFIED STROOP INTERFERENCE TEST IN CHILDREN WITH ADHD AND HEALTHY CONTROLS

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Objectives: Polymorphisms in dopamine transporter gene (DAT1) has been associated with ADHD in previous studies. Some data point also to the role of DAT1 gene in cognitive functions, such as attention, affecting ADHD phenotype.

Methods: Two hundred five children with diagnosis of ADHD (187 boys, 18 girls; age 10.9±2.7) and 155 healthy controls (80 boys, 75 girls; age 10.3±2.3) were recruited. DAT rs463379 SNP intron polymorphism was genotyped. Both (unmedicated for 48 hours) patients and healthy controls were assessed with modified Stroop Interference Test (SIT).

Results: Due to low number of patients with CC genotype, in analysis we combined CC and GC genotypes. In patients GG compared to CC + GC genotype was associated with lower number of errors in part A ST (2.5±3.3 vs. 4.1±4.7; p=0.01). In part B of SIT, controls and patients with GG performed better (made less errors) than individuals with GC and GG genotypes; respectively (0.4±0.7 vs. 0.5±0.9 vs. 1.3±1.0; p=0.02); (1.0±1.4 vs. 2.0±3.3; p=0.03). Part C of SIT was performed better (less errors and shorter time) in patients with GG genotype vs. patients with other genotypes, respectively (139.9±48.0 vs. 166.2±67.6; p=0.009); (6.8±5.6 vs. 10.1±8.5; p=0.009).

Conclusions: We observed association between polymorphism in intron of DAT1 gene and performance in SIT. GG genotype of rs463379 SNP may be related to better cognitive functioning (better inhibition) in patients with ADHD. This may suggest the role of inhibition as intermediate variable between genotype and clinical picture of ADHD.

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