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TRYPTOPHAN HYDROXYLASE 2 (TPH2) GENE IN BIPOLAR I DISORDER IN THE ROMANIAN POPULATION

M. Grigoroiu-Serbanescu[1], C.C. Diaconu[2], S. Herms[3], J. Vollmer[3], C. Bleotu[2], M.M. Noethen[3,4], S. Cichon[3]

[1]Psychiatric Genetics Research Unit, Alexandru Obregia Psychiatric Hospital, [2]Institute of Virology, Bucharest, Romania, [3]Department of Genomics, Life & Brain Center, [4]Institute of Human Genetics, Rheinische Friedrich- Wilhelms University, Bonn, Germany

Objective: Since the discovery of the tryptophan hydroxylase 2 gene (TPH2) several studies reported association of TPH2 genetic variation with bipolar I disorder (BPI). Our objectives were to replicate in the Romanian population the recently described association of a rare functional SNP (rs17110563) and of a haplotype covering the 5' region of TPH2 with BPI (Cichon et al., 2008) and to investigate the influence of the phenotypic traits age-of-onset, family history and parent-of-origin", defined according to clinical criteria, on the degree of association between TPH2 and BPI.
Method: Sixteen TPH2 SNPs were genotyped in a Romanian sample of 198 BPI patients and 180 controls screened for psychiatric disorders. Statistical analysis of the data was performed with Haploview3.32 and FAMHAP.

Results: The functional SNP rs17110563 (encoding a Pro206Ser substitution) was present in Romanian BPI patients and absent in controls. SNPs located in the 5'-region (rs11178997, rs11178998, rs7954758), significantly associated with BPI in German patients were not associated with BPI in Romanian patients at single-marker level, but gave evidence for association at haplotypic level in a subgroup of patients with paternal transmission of BPI. Evidence for association was identified between haplotypes located in the 3'-region of TPH2 and BPI in the overall sample as well as in the subgroups of familial cases, the subgroup with paternal transmission, and the subgroup with AO≤25 years.

Conclusion: Our data provide support for the involvement of TPH2 in the etiology of BPI.
Reference: Grigoroiu-Serbanescu M et al, Psychiatric Genetics, 2008.

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