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ASSOCIATION STUDY OF TRYPTOPHAN HYDROXYLASE-2 GENE IN SCHIZOPHRENIA AND ITS CLINICAL FEATURES IN CHINESE HAN POPULATION

C. Zhang, Z.Z. Li, Y. Shao, Y.R. Fang
Shanghai Mental Health Center, Shanghai Jiao Tong University School of Medicine, Shanghai, China

Introduction: Schizophrenia is a chronic and severe mental illness which is characterized by the development of various detrimental clinical features, and its etiology still remains unknown. Based on the evidence from neurobiological and pharmacological research, dysfunctions in central serotonergic transmission may be involved in the development of schizophrenia. Tryptophan hydroxylase 2 (TPH2), a newly identified isoform of tryptophan hydroxylase (the rate limiting enzyme in the biosynthesis of serotonin), regulates the brain-specific serotonin synthesis.
Objectives: To further clarify the role of TPH2 in the development of schizophrenia.
Aim: We performed a case-control study to examine the association of the TPH2 gene with schizophrenia and its clinical features.
Methods: We genotyped three putative functional polymorphisms (rs4570625, rs7305115 and rs4290270) within the gene and carried out a case-control study consisting of 304 schizophrenia patients and 362 healthy subjects. The severity of psychotic symptoms was assessed using the Positive and Negative Syndrome Scale (PANSS).
Results: The frequencies of genotypes and alleles of rs4570625, rs7305115 and rs4290270 did not differ significantly between schizophrenic patients and controls. However, the PANSS positive symptom subcore was significantly associated with rs4570625 (P=0.022).
Conclusion: These results suggest that rs4570625 of TPH2 may play an important role in the development of positive symptoms in Han Chinese schizophrenic patients.

https://doi.org/10.1016/S0924-9338(11)73239-4 Published online by Cambridge University Press