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ASSOCIATION OF THE BRAIN-DERIVED NEUROTROPHIC FACTOR (BDNF) GENE POLYMORPHISMS WITH EARLY-ONSET AND FEMALE SCHIZOPHRENIA IN THE CHINESE POPULATION

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Background: Brain-derived neurotrophic factor (BDNF) gene may be involved in the pathogenesis of schizophrenia by virtue of its effects on neurotransmitter systems that are dysregulated in psychiatric disorder. The common functional polymorphism Val66Met (or rs6265) within the BDNF gene has been reported to be associated with age of onset in schizophrenia. We investigated the relationship between BDNF polymorphisms rs6265 and rs11030101 and early-onset schizophrenia in the Chinese population.
Subjects and methods: The tag single nucleotide polymorphisms (tag SNPs) rs11030101 and rs6265 in the BDNF gene were genotyped in 360 early-onset schizophrenics and 399 controls subjects. Single nucleotide polymorphism association and haplotype analysis were performed.
Results: There were significant differences in allele and genotype frequencies between patient and normal control subjects for rs11030101 ($\chi 2=5.130407$, df=1, p=0.023553; $\chi 2=6.121$, df=2, p=0.047). No statistically significant differences were found in allele or genotype between patient and normal control subjects for rs6265. Stratification of the study by gender of the samples yielded significant evidence for an association with the polymorphisms rs11030101 in female population (genotype-wise: $\chi 2=7.758$, df=2, p=0.021).
Conclusions: Our study indicates that the BDNF play major roles in the susceptibility to early-onset and female schizophrenia in the Chinese population.

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