



A new single-nucleotide mutation (rs362719) of the reelin (*RELN*) gene associated with schizophrenia in female Chinese Han

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ABSTRACT. Reelin is an extracellular signaling protein that plays an important role in the development of the central nervous system. Post-mortem studies have shown lower reelin protein levels in the brains of patients with schizophrenia and bipolar disorder compared with controls. Genetic studies have also shown that mutations in the reelin gene (*RELN*) increase the risk for schizophrenia and bipolar disorder. We evaluated whether an *RELN* gene variant, rs362719, which has been associated with increased susceptibility to bipolar disorder, is also associated with susceptibility to schizophrenia. We included 405 Chinese Han schizophrenia patients and 390 controls in our study. The polymorphism was genotyped by PCR and RFLP methods. We found a significant difference in allele frequency distribution ($P < 0.05$) between schizophrenia patients and controls. The frequency of the A allele was significantly higher in schizophrenia patients than in healthy controls.

The effect of SNP rs362719 on allele distribution was significant in female ($P < 0.05$) but not in male participants ($P = 0.473$). Besides the gender factor, demographic and clinical characteristics of the rs362719 genotype groups were also analyzed using the chi-square test, but no significant differences were found. We conclude that rs362719 of the *RELN* gene is associated with susceptibility to schizophrenia in Chinese Han, possibly through a gender-specific mechanism. Further studies will be needed to confirm this genetic risk factor for schizophrenia.

Key words: Schizophrenia; Bipolar disorder; *RELN*; Polymorphism