

Poster presentation

The 2A and the 1B serotonin receptor genes as candidate genes of suicidal behavior

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Background

Several lines of evidence suggest that suicidal behavior has a genetic component. Low serotonergic activity is associated with suicidal behavior. Alterations in binding kinetics of 2A (HTR2A) and 1B (HTR1B) serotonin receptors are reported postmortem in the brain of suicide victims compared with nonsuicides. So, HTR2A and HTR1B genes are the main candidate genes of suicidal behavior. The aim of our investigation is to examine the relationships of attempted suicide with A-1438G polymorphism of HTR2A gene and G-861C polymorphism of HTR1B gene.

Material and Methods

Genotype and allele frequencies of these polymorphisms in 188 suicide attempters and 272 healthy voluntaries were examined by polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP).

Results

We have found significant differences in the HTR2A genotype ($\chi_2 = 7.28$, $p = 0.0021$) and allele ($\chi_2 = 5.21$, $p = 0.0028$) distribution between suicidal group and controls. There was significant increase of A allele (OR = 1.36, 95% CI = 0.04–1.79) and decrease of genotype GG (OR = 0.6, 95% CI = 0.38–0.95) in group of suicide attempters in comparison with controls. Significant differences were also found in the HTR1B genotype ($\chi_2 = 10.91$, $p = 0.005$) and allele ($\chi_2 = 9.39$, $p = 0.003$) between two comparable groups. Genotype GG (OR = 1.9, 95% CI = 1.26–2.89) and allele G (OR = 1.58, 95% CI = 1.17–2.14) are risk (OR = 1.9, 95% CI = 1.26–2.89) for suicide attempts.

Discussion

This study suggests that these polymorphisms may contribute to suicidal behavior.