

T102C and 1438 G/A Polymorphisms of the Serotonin 2A Receptor Gene in Etiology and Course of ADHD

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ABSTRACT The aim of this study was to investigate the -1438A>G and T102C polymorphisms of serotonin 2A (5-HT2A) receptor gene frequencies in patients with ADHD compared with a healthy control group, and to determine the effects of these polymorphisms on the course and outcome of ADHD. Fifty adolescents and young adults diagnosed with ADHD in childhood (between 1994 and 2001) were included in this study. The patients were followed in the Child and Adolescent Psychiatry Department of Gazi University Medical Faculty for 7–14 years, and they completed this follow-up period. The control group consisted of 50 adolescents and young adults who were healthy both physically and mentally. In adolescence and adulthood, a diagnosis was reached after a semi-structured interview based on the DSM-IV criteria. A genetic evaluation was carried out using the Polymerase Chain Reaction method. 50 adolescents and young adults (39 males, 11 females; age range 16–25 years) who were diagnosed with ADHD during childhood (age range at the time of diagnosis 6–10 years) and 50 healthy adolescents and young adults (33 males, 17 females; age range 16–25 years) were evaluated. In adolescence and adulthood, the diagnosis of ADHD remained in 44 (88%) of the cases, whereas six (12%) were in remission after the 7–14-year follow-up.* No significant difference in the frequency of CC, CT and TT genotypes of T102C polymorphism ($\chi^2=1.629$, $p=0.44$) and AA, AG and GG genotypes of -1438A>G polymorphism ($\chi^2=0.065$, $p=0.96$) was found between the ADHD and control groups. No significant difference was found between ADHD patients with CC, CT, or TT genotypes in terms of the outcome of the illness ($\chi^2=0.114$, $p=0.94$). Similarly, there was no difference between ADHD patients with AA, AG, and GG genotypes in terms of the outcome ($\chi^2=0.530$, $p=0.76$). No significant association between -1438A>G and T102C polymorphisms of the 5-HT2A receptor gene and ADHD was found in the present study. No significant effect of these two polymorphisms on the outcome of ADHD in adolescence was detected. The results of this study do not support a role for the serotonergic system in the development and course of ADHD.