Association between RELN Gene Polymorphisms and Attention Deficit Hyperactivity Disorder in Korean Children

Ho Jang Kwon, Won-Cheol Jang, Myung Ho Lim

Open Access:

Abstract

Objective
Attention deficit hyperactivity disorder (ADHD) is common disorder of the school-age population. ADHD is familial and genetic studies estimate heritability at 80–90%. The aim of the present study was to investigate the association between the genetic type and alleles for RELN gene (rs736707, rs2229864, rs362746, rs362726, rs362691, rs1062831, rs607755, and rs2072403) in Korean children with ADHD.

Methods
The sample consisted of 180 ADHD children and 159 control children. We diagnosed ADHD according to DSM-IV. ADHD symptoms were evaluated with Conners' Parent Rating Scales and DuPaul Parent ADHD Rating Scales. Blood samples were taken from the 339 subjects, DNA was extracted from blood lymphocytes, and PCR was performed for RELN Polymorphism. Alleles and genotype frequencies were compared using the chi-square test.

We compared the allele and genotype frequencies of RELN gene polymorphism in the ADHD and control groups.

Results
This study showed that there was a significant correlation among the frequencies of the rs736707 (OR=1.40, 95% CI=1.03–1.90, p=0.031) of alleles of RELN, but the final conclusions are not definite.

Conclusion
Follow up studies with larger patient or pure subgroups are expected. These results suggested that RELN might be related to ADHD symptoms.