Association of pediatric allergic rhinitis with the ratings of attention-deficit/hyperactivity disorder.


Abstract

BACKGROUND:
Allergic rhinitis (AR) is currently the most prevalent allergic disease in children and adolescents.

OBJECTIVE:
Surveys conducted by population-based studies of East Asia revealed an increased prevalence of behavioral disorders in patients with AR. Thus, in this study, we explored the prevalence of attention-deficit/hyperactivity disorder (ADHD) in pediatric patients with AR.

METHODS:
A total of 333 children (6-12 years of age) with AR and a total of 322 age-matched controls were included in this study. An otorhinolaryngologist diagnosed all AR cases and evaluated the severity of the disease. Skin-prick test results for 18 major allergens, Paediatric Rhinoconjunctivitis Quality of Life Questionnaire (PRQLQ), Child Behavior Checklist (CBCL), and Swanson, Nolan, and Pelham version IV (SNAP-IV) scores were recorded.

RESULTS:
In total, 320 age-matched controls and 323 children with AR completed the study. With respect to the Total Nasal Symptom Score and the PRQLQ, the condition of the experimental group was more serious than that of the controls. The scores on the hyperactivity/impulsivity and inattention subscales, which evaluate ADHD symptoms, and those on the CBCL subscales were significantly higher in patients with AR than in the controls (all p values were <0.01). From the results of the Pearson correlation, we deduced that there were significant positive correlations between the AR-related data and each subscale of the CBCL and SNAP-IV in the AR group. Moreover, two basic characteristics (males and environmental exposure to tobacco smoke) present significant positive and age showed a significant negative correlations affect ADHD symptom in both the AR group and the control group. Also, in the "pure AR" group, hierarchical regression analyses were performed to determine the subtests of the PRQLQ, which are significant predictors of SNAP-IV and CBCL.

CONCLUSIONS:
Apart from AR per se, the possible comorbidities of impulsivity and inattention are important when managing children with AR. It is essential to evaluate the symptoms of ADHD in children and adolescents with AR.