Attention-deficit/hyperactivity disorder-related symptoms improved with allergic rhinitis treatment in children.

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Abstract

BACKGROUND:
Increased prevalence of attention-deficit/hyperactivity disorder (ADHD) in children with allergic rhinitis (AR) has been reported. Our previous study showed that children with untreated AR had higher ADHD scores than did the controls.

OBJECTIVE:
This prospective follow-up study aimed to investigate whether elevated ADHD scores in children with AR could be decreased by AR treatment.

METHODS:
Sixty-eight children with AR (age range, 6-14 years) and who were drug naive were enrolled and evaluated by AR symptom score, ADHD symptom scores, and computerized continuous performance test, before and after AR therapy, which included nonpharmacologic intervention, oral antihistamines, and topical steroids. Thirty-one age-matched controls and 13 children with pure ADHD were also enrolled for comparison. The relationship between the AR and ADHD score change was analyzed by a partial correlation test, and univariate and multivariate linear regression models were applied to investigate possible predictors for the improvement of ADHD scores by AR treatment.

RESULTS:
AR symptom scores in children with AR decreased significantly after treatment (p < 0.001), and their ADHD scores also decreased significantly (p < 0.001). An improved AR symptom score was positively correlated with improved detectability (rp = 0.617, p = 0.001) and commission error (rp = 0.511, p = 0.011). Significant predictors for the improvement of ADHD scores included age, AR drugs, AR subtypes, and multiple atopic diseases (ps < 0.05).

CONCLUSION:
Higher ADHD scores in children with AR compared with healthy controls decreased significantly with AR treatment. For children with AR and borderline ADHD symptoms, who do not meet full ADHD diagnostic criteria, we recommend initially treating their AR and monitoring improvement of ADHD symptoms.