Allergic Disorders and Attention Deficit Disorder in Children

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It has been suggested that children with attention deficit disorder-hyperactivity (ADDH) are likely to show allergic disorders, and that both ADDH and allergic disorders may share a common biological background. In a large sample of children from the general population we found no association between parent, teacher, and self-reports of ADDH behaviors and a history of allergic disorders (asthma, eczema, rhinitis, and urticaria) at ages 9 or 13 years. Similarly, reports of ADDH behaviors at age 13 years were not related to level of atopic responsiveness by skin test or serum IgE levels. Our findings call into question the hypothesis that there is a relationship between ADDH and allergic disorder.

Roth, Beyreiss, Schlenzka, and Beyer (1991) have recently reported a significant association between the atopic disorder eczema and attention deficit disorder-hyperactivity (ADDH). In their sample of 81 children from an outpatient dermatology clinic, inattentive, disruptive, and restless behaviors were more often reported by parents compared with a control sample of predominantly nonpatients. These findings are in accord with the informal observations of Colquhoun and Bunday (1981) who reported a history of...
atopic disorder and/or chest and ear infections in about 80% of 214 hyperactive children in a parent "support group." Egger, Carter, Graham, Gumley, and Soothill (1985) have reported a similar association between allergy and ADDH. In their sample of 76 overactive children who took part in a dietary intervention, over 40% had a history of asthma, hay fever, or eczema, while a similar percentage showed atopic response to allergens. On the other hand, Mitchell, Aman, Turbott, and Manku (1987) found no relation between ADDH and a history of asthma, eczema, allergies, and family history of atopy assessed by a parent questionnaire, in their sample of 48 children recruited from the general community.

The relationship between ADDH and allergic disorders is of interest because of the unproven hypothesis that both share a common biological background. In a longitudinal study of the health, development, and behavior of a sample of New Zealand children, information has been collected regarding symptoms of eczema, urticaria or hives, rhinitis, and asthma (Jones, Sears, Holdaway, Hewitt, Flannery, Herbison, & Silva, 1987). Atopic response to allergens via skin tests and serum immunoglobulin E (IgE) levels have also been assessed (Sears, Burrows, Flannery, Herbison, Hewitt & Holdaway, 1991; Sears, Herbison, Holdaway, Hewitt, Flannery, & Silva, 1989). At the same time, measures of ADDH have been gathered in the course of this longitudinal study (McGee, Williams, & Silva, 1985). Consequently this provided an opportunity to examine the relationship between allergic disorder and inattentive and hyperactive behaviors, in a large sample from the general population.

METHOD

Subjects

The sample consisted of those children enrolled in the Dunedin Multidisciplinary Health and Development Study, a longitudinal investigation of members of a cohort born in Dunedin's Queen Mary Hospital from April 1, 1972, to March 31, 1973. Full details concerning the sample are provided by Silva (1990). In summary, 1,037 children were enrolled in the study at age 3, and have subsequently been followed up at two yearly intervals to age 15; the most recent assessment was at age 18 (1990–1991).