

Paternal and Maternal Atopic Dermatitis Have the Same Influence on Development of the Disease in Children

Sir,

Atopic dermatitis (AD) is a chronic, inflammatory skin disease that usually occurs in a familial pattern. In this study, we observed a large number of adult patients with AD in order to determine the influence of paternal and maternal AD on the development of the disease in children.

PATIENTS AND METHODS

A total of 285 adult patients (123 men and 162 women) with AD who married non-atopic persons and had at least one child have been seen in our outpatient clinic over the past 8 years (1990–97). All had moderate to severe disease. A personal history of respiratory atopy was obtained in 137 (48%) of the 285 patients. All patients fulfilled the diagnostic criteria of Hanifin & Rajka (1).

In the 285 families with unilateral AD parentage, there were 582 children (290 boys & 292 girls) who were 1 year old or more. Younger children were excluded, because it is often difficult to distinguish between infantile AD and infantile seborrhoeic dermatitis in early infancy (2).

We asked each patient, on the first visit to our clinic, about the history of atopic diseases (AD, asthma and allergic rhinitis) in the spouse and the children. On the second consultation, we made the same inquiry and confirmed the atopic family history.

We examined the prevalence of AD children in the 285 families with unilateral AD parentage. We then examined the prevalence of AD children in the 123 families with AD fathers and non-atopic mothers. The results were compared with the prevalence of AD children in the 162 families with non-atopic fathers and AD mothers. Differences between the groups were calculated using the chi-square test.

RESULTS

Of the 582 children in the 285 families of unilateral AD parentage, 334 (57%) had a history of AD. The prevalence of AD was 59% in the boys and 56% in the girls. There was no sex difference in the development of the skin disease.

In the 123 families with AD fathers and non-atopic mothers, there were 244 children (25 aged 1–3 years, 98 aged 4–12 years and 121 aged 13–22 years), of whom 58% had a history of AD.

In the 162 families with non-atopic fathers and AD mothers, 338 children (43 aged 1–3 years, 119 aged 4–12 years and 176 aged 13–25 years) were observed. Of the 338 children, 57% had a history of AD.

Thus, there was no difference in the prevalence of children

with AD between the families of paternal AD and the families of maternal AD.

DISCUSSION

Our findings are in accordance with the view that the mode of inheritance of AD is autosomal dominant (3).

The prevalence of children with AD was the same if the father or mother had AD. Others have shown that AD in the mother has a higher risk (4, 5). The true reasons for the difference in opinion are not clear. One possibility is that our study examined descendant family history of AD, while previous studies examined ascendant family history of AD. Since females tend to show more interest in skin appearance than males, women may remember episodes of skin problems, such as eczema in their childhood, more frequently than do men. Subsequently it is only natural that the mothers of children with AD in the previous studies showed a higher incidence of AD history than did the fathers.

In summary, in this hospital data on moderately or severely affected fathers and mothers with AD, we were unable to demonstrate a maternal effect on the development of AD in the offspring.

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