

Atopic dermatitis in Sri Lanka — a study of 50 consecutive patients

D N Atukorala¹ and L C Perera²

Sri Lanka Journal of Dermatology, 1995, 1, 9-11

Summary

50 consecutive patients with atopic dermatitis presenting at the dermatology clinics at the Lady Ridgeway Children's Hospital were studied. The age of onset of the disease was less than 1 year in 20% and less than 5 years in 84% of the children. The chief aggravating factor in our patients was hot weather and sweating (64%). Food played only a marginal role as an aggravating factor (12%). The patterns of distribution of the disease agreed with established clinical patterns. The face was involved in 100% of the patients under one year and the extensors of the lower limbs in all those under 3 years. The commonest stigmata of atopic dermatitis in our children was pityriasis alba (52%) and the Dennie-Morgan fold (24%). A relationship between the duration of breast feeding and the onset and severity of atopic dermatitis could not be established. A quick and ready method of assessing the extent and severity of atopic dermatitis, an 'atopic score' is suggested.

Introduction

Atopic dermatitis is a fairly common condition and is primarily a disease of children. The estimates in the general population vary from 3 to 20%¹. The incidence in children under 5 years was found to be 3.1% in a British study². The age of onset of the disease is usually between 2 and 6 months³. By the first year of life 60% of the patients are affected and 85% within the first 5 years⁴. Breast feeding has been shown to have some relative protective effect, though this is controversial⁵.

No previous study of atopic dermatitis has been reported from Sri Lanka. This study attempted to delineate the clinical features, aggravating factors, the ages of onset, and the associated features of atopic dermatitis in a group of our patients. An attempt is made to find any relationship between the duration of breast feeding and the onset and severity of atopic dermatitis.

Materials and methods

50 consecutive patients with atopic dermatitis presenting at the dermatology clinics at the Lady Ridgeway Children's Hospital, Colombo, between the

period April to October 1987 were included in the study. The criteria for the diagnosis of atopic dermatitis were those of Hanifin and Lobitz⁶.

The parents were questioned regarding the symptoms, the age of onset, aggravating factors, a family or patient history of features of atopy, and the pattern and duration of breast feeding. A clinical 'atopic score' was given for each patient. This was an assessment based on the degree of itching, the area of diseased skin as judged by using cardboard templates on areas of the skin affected, and the severity. There have been other scoring systems devised^{7,8}. These are still to be evaluated and established as reproducible, sensitive and quick. The scoring system suggested (Table 1) is a quick clinical assessment of atopic severity and extent, which could be used in a busy clinic set up.

Table 1. 'Atopic score' of severity and extent

| | | |
|----------------------|---------------------------------|----|
| A. <i>Itching</i> - | Itching admitted on questioning | 1 |
| | Itching as a primary complaint | 2 |
| | Itching seen at examination | 3 |
| B. <i>Extent</i> - | 25 sq cms or less | 1 |
| | 25 - 50 sq cms | 2 |
| | 50 - 100 sq cms | 3 |
| | 100 sq cms or more | 4 |
| C. <i>Severity</i> - | Itching only | 1 |
| | Dry lesions | 2 |
| | Excoriation | 3 |
| | Infected or lichenified | 4 |
| | Total A x B x C (Maximum) | 48 |

Results

Of the patients 29 were males and 21 females. The ages at presentation to the clinic and the ages of onset of the disease were noted (Table 2). The age of onset of the disease was determined by questioning the parents. The duration of breast feeding was related to the age of onset of the symptoms (Table 3) and to the extent and severity of the disease as judged by the atopic score (Table 4).

¹ *Consultant Dermatologist, National Hospital of Sri Lanka, Colombo.*

² *Medical Officer in Charge Out Patient Department, Lady Ridgeway Children's Hospital, Colombo.*

Table 2. Age of onset atopic dermatitis

| Age of onset | No. of patients | Percentage |
|--------------|-----------------|------------|
| < 1 yr | 10 | 20% |
| 1 - 2 yrs | 12 | 64% |
| 2 - 3 yrs | 9 | |
| 3 - 5 yrs | 11 | |
| > 5 yrs | 8 | 16% |

Table 3. Age of onset and the duration of breast feeding

| Age of Onset | Breast feeding | | | | |
|--------------|----------------|------|------|------|------|
| | < 1yr | 1-2y | 2-3y | 3-5y | > 5y |
| < 6 months | 6 | 2 | 2 | 6 | 4 |
| > 6 months | 4 | 10 | 7 | 5 | 4 |

Table 4. 'Atopic score' and the duration of breast feeding

| Atopic score | Breast feeding | | |
|--------------|----------------|---------------------|------------------------|
| | Mild (1-10) | Moderate (11-20) | Severe (20 & above) |
| < 6 months | 7 | 6 | 7 |
| > 6 months | 8 | 14 | 8 |

The age at examination and the distribution of lesions at time of presentation were noted (Table 5). Pruritus was a marked feature in all our patients. The face, especially the cheeks, was involved in all our patients under 1 year. The dermatitis was of a dry erythematous, scaly nature. The extensors of the lower limbs were involved in all patients under 3 years of age. Flexures of the upper and lower extremities were involved from 3 years onwards.

Table 5. Distribution of lesions at different ages of presentation

| Age of Presentation | < 1yr | 1-2yr | 2-3yr | 3-5yr | > 5yr |
|-------------------------|-------|-------|-------|-------|-------|
| Number of patients | 4 | 10 | 7 | 12 | 17 |
| Distribution of lesions | | | | | |
| Face | 4 | 1 | 2 | - | 1 |
| Lower Extr (ext) | 4 | 10 | 7 | 9 | 2 |
| Upper Extr (ext) | 1 | 2 | 1 | 1 | 1 |
| Flexures | - | - | 1 | 2 | 16 |
| Hards | 3 | 2 | 1 | 1 | 1 |
| Feet | 2 | 3 | 2 | 1 | 1 |

The presence of associated features of atopy was noted (Table 6). Pityriasis alba 54% was the commonest, and occurred not only on the face, but also on the upper trunk and shoulders. Of the aggravating factors hot weather and sweating was the most prominent (Table 7).

Table 6. Associated features of atopic dermatitis

| Feature | No of pts. | Percentage |
|--------------------|------------|------------|
| Pityriasis alba | 27 | 54% |
| Dennie morgan fold | 12 | 24% |
| Icthyosis | 4 | 8% |
| Hyperlinear palms | 4 | 8% |

Table 7. Aggravating factors

| | No of patients | Percentages |
|------------------------|----------------|-------------|
| Hot weather & sweating | 32 | 64% |
| Infections | 8 | 16% |
| Food substances | 9 | 18% |
| Cold | 3 | 6% |
| Drugs | 1 | 2% |

Discussion

The onset of the disease in the first year (20%) was much lower than in previous studies⁴. However by the age of 5 years the percentage incidence was the same as in other series. The reason for this is not clear and the numbers in our study are too small to draw a conclusion. However all our mothers had breast fed their infants, until about 3 months of age. Breast feeding continued for 3 months has consistently shown a relative protective effect on the onset of atopic dermatitis⁵. How long the protection lasts is not clear, though some studies show that the protection lasts many months after stopping breast feeding^{9,10}. It is interesting to speculate whether the delay in onset of atopy in our children was due to the initial 3 months of breast feeding. However our study did not show any correlation between the duration of breast feeding, beyond this 3 month period and the age of onset of atopic dermatitis (Table 3). Six children breast fed for less than 6 months developed symptoms in the first year, but 4 children breast fed for longer than 6 months had symptoms at the same age. Four children breast fed for less than 6 months developed symptoms only after 5 years of age. There was no correlation between the duration of breast feeding and the atopic score too (Table 4).

The patterns of distribution of the disease agreed with established clinical patterns¹ (Table 5). As would be expected the face was involved in 100% of children under 1 year. The flexural involvement occurred after 3 years of age, and especially after 5 years. The extensors of the lower limbs was a common feature and occurred in all our patients under 3 years of age. This, though a feature of infantile atopy was a very marked feature in our patients.

Of the associated stigmata of atopy the commonest noted was pityriasis alba (54%) (Table 6). This was seen not only on the face and shoulders, but extensively on the trunk and upper arms. The association of this extensive pityriasis alba has been previously reported in atopics¹¹. A high incidence of this association as been found in other studies too¹². Icthyosis and hyperlinear skin markings, seen in 4 of our patients, are common features of atopy¹², and is often found together¹³. Though the Dennie Morgan fold has usually been found in later stage of atopy¹ 12 of our patients demonstrated this sign some even prior to 3 years of age.

Exacerbations of atopic dermatitis may be triggered by environmental factors, psychic stress, exposure to airborne and food allergens and intercurrent infections¹. The main aggravating factor among our patients was hot weather and sweating (64%). Thermal, gustatory, emotional and exercise induced sweating often provokes an itch in atopics¹⁴. Alterations in humidity and temperature are also known to exacerbate the dermatitis¹⁵. Parents attributed exacerbations to food in 8 patients. This was to a wide variety of food items such as eggs, tomato, vinegar, beef and mango. No intradermal, RAST or provocation tests were done. The incidence of food allergy tends to be overestimated and has varied from 10 to 60%^{1,16}.

References

1. Sehgal VN, Jain S. Atopic dermatitis: Clinical criteria. *Int Journal of Dermatol* 1993; **32**: 628-637.
2. Walker RB, Warin RP. Incidence of atopy in early childhood. *British Journal Dermatol* 1956; **68**: 182-183.
3. Svensson B, Edman B, David Moller H. A diagnostic tool for atopic dermatitis based on clinical criteria. *Acta Derm Venereol (supp)* (stockh) 1985; **114**: 33-40.
4. Rajka G. Atopic dermatitis In: Rook A ed. Major problems in dermatology. London: WB Saunders 1975: 2.
5. Atherton DJ. Breast feeding and atopic eczema. *British Medical Journal* 1983; **287**: 775-776.
6. Hanifin JM, Lobitz WC. Newer concepts of atopic dermatitis. *Arch Dermatol* 1977; **113**: 663-670.
7. Concensus report of the European task force on atopic dermatitis. Severity scoring of atopic dermatitis: *The SCORAD index Dermatology* 1993; **186**: 23-31.
8. Bahmer FA, Schafer J, Schufert H-J. Quantification of the extent and severity of atopic dermatitis: The ADASI score. *Arch Dermatol* 1991; **127**: 1239-40.
9. Mathew DJ, Taylor B, Noman AP, Turner MW, Soothill JF. Prevention of eczema. *Lancet* 1977; **I**: 321-324.
10. Saarinen UM, Kajosaari M, Backman A, Slimes MA. Prolonged breast feeding as a prophylaxis of atopic disease. *Lancet* 1979; **ii**: 163-166.
11. Zaynoun ST, Aftimos BG, Tenekjan KK. Extensive pityriasis Alba, A histological, histoclinical and ultrastructural study. *British Journal Dermatol* 1983; **108**: 83-90.
12. Kanwar AJ, Dhar S, Kaur S. Evaluation of minor clinical features of atopic dermatitis. *Paediat Dermatol* 1991; **8**: 114-116.
13. Uehara M, Hayashi S. Hyperlinear palms. *Arch Dermatol* 1981; **117**: 490-491.
14. Moller H. Clinical aspects of atopic dermatitis in childhood. *Acta Derm venereol (stockh)* 1981; **95**: 25-28.
15. Rajka G. Atopic dermatitis. Correlation of environmental factors with frequency of relapses. *Int Journal Dermatol* 1986; **25**: 301-304.
16. Burton JL. Diet and Dermatology. *British Medical Journal* 1989; **298**: 770-771.