ORIGINAL CONTRIBUTIONS

A CLINICO - EPIDEMIOLOGICAL STUDY OF ATOPIC DERMATITIS

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This study was undertaken to assess the clinicoepidemiological profile of our patients with atopic dermatitis and to determine the application of Hanifin and Rajka's major and minor criteria in them. A total of 106 patients were examined. The mean age of onset was 10.74 years. 72.64% patients had a personal history and 83% patients had a positive family history of an atopic diathesis. The mean cutaneous surface area involved was 9.68%. Hanifin and Rajka's major criteria were seen in most of the cases and were useful discerners of the diagnosis of atopic dermatitis. Of the minor criteria, xerosis, periorbital darkening, Dennie Morgan's fold, emotional factors, pityriasis alba, intolerance to synthetics/wool, and intolerance to foods were noted to be useful clinical pointers (in descending order of frequency) in the diagnosis of atopic dermatitis.

Key words : Atopic dermatitis, Epidemiology, Criteria

Introduction

A large number of terms have been used to describe atopic dermatitis (AD) and as the diagnostic criteria have not been uniform, the figures for the incidence of AD vary widely as reported in the literature. There are various complex evaluation systems in vogue to evaluate atopic dermatitis. Hanifin and Rajka have done pioneering work on atopic dermatitis and proposed major and minor criteria for its diagnosis.[1] Various authors have subsequently reviewed these criteria.[2] However most available clinico - epidemiological studies on the subject deal with or have been conducted in white population groups and in an environment different altogether from our Indian set up. Kanwar and Dhar have been the pioneers in India and hold the view that patients in North India manifest a milder version of atopic dermatitis. This study was undertaken with a view to assess the epidemiological projecte of our patients with atopic dermatitis and to determine the application of Hanifin and Rajka's major and minor criteria in them.

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Materials and Methods

The present study was carried out at the Command Hospital Airforce, Bangalore. A total of 106 patients were examined of whom 62 were females and 44 were males. All these patients had presented with skin ail-

ments or pruritus being the commonest presenting complaint. In all cases, a detailed history with particular emphasis on personal/family history of asthma, atopic dermatitis and allergic rhinitis was elicited together with a thorough general, physical and systemic examination;and a detailed dermatological examination was carried out. The "rule of nine" was applied to map out the extent of body surface involvement. The patients were also subjected to E.N.T., dental, ophthalmological and psychiatric evaluations. Routine blood, urine and stool investigations were done. Depending on the nature of the condition, procedures like skin scrapings and nail clipping for evidence of fungus, pus for culture/antibiotic sensitivity and skin biopsies were undertaken.

Results

In this study, 46.22% of the cases belonged to the <12 years age group and 10.38% were adolescents (12-18yrs) Adults (>18 yrs) constituted 4.40% of the patients. The male : female ratio showed no significant differences in the children and in adolescents. Females predominated in the adult age group with an overall mean M:F ratio of 1:1.4. The mean age of onset was 10.74 years and the average duration of complaints prior to presentation was 3.9 years. Seventy - seven (72.64%) patients had a personal history of an atopic diathesis of whom 59 (76.62%) had allergic rhinitis, 20 (25.97%) had attacks of asthma and 14 (18.18%) had both allergic rhinitis and asthma. Twenty four (22.64%) patients had a history of childhood eczema, and 83% patients had a positive family history of an atopic diathesis. Seasonal variations in their dermatitis was observed in 52.8% of patients. 71.4% worsened in winters while in 25%, a flare - up was noticed in the summer months. Recurrent cutaneous bacterial infections were seen in 1.8% patients. Intoler-

Table I - Major criteria : Incidence and comparison

Major criteria	Present Study (%)	Rudzki et al (%)
Pruritus	100	100
Typical morphology	88	91.7
Personal/family history	83	80.1
Chronic/ relapsing course	70	100

Table II - Minor criteria : Incidence and comparison

Minor criteria	Present study (%)	Rudzki et al (%)
Xerosis	72	85.2
Hyperlinear palms/k.p.	00	52.8
Type 1 skin test reac	ND	66.8
Elevated serum IgE	ND	65.7
Early onset (<5years)	34.9	82.9
Cutaneous Infections	5.6	65.3
Hand/Foot Dermatitis	9.4	81.9
Nipple eczema	00	23.1
Cheilitis	7.6	56.9
Rec. conjunctivitis	6.6	24.5
Dennie - Morgan fold	63.2	78.1
Keratoconus	00	14.3
Orbital darkening	78.3	53.4
Facial Pallor/Erythema	00	NR
Pityriasis alba	36.8	20.8
Anterior neck folds	0.95	75.2
Itch when sweating	18.9	77.6
Intolerance to fabrics	18.9	71.3
Perifollicular accent	3.7	NR
Food Intolerance	12.3	74.4
Emotional factors	58.5	68.4
White dermograph	4.7	84.2

ND : Not done
NR : Not reported

ance to various food items was noticed in 12.26% of patients. Psychological stress perpetuated or exacerbated atopic dermatitis in 58.5% patients.

An examination of the various systems revealed findings in 14.1% patients of whom 40% were seen to have asthma. The mean cutaneous surface area involved was 9.68%. A Dennie-Morgan fold was observed in 63.2% of patients in this study: 1.9% had infra/retro-auricular fissures. Periorbital darkening was seen in 78.3%, pityriasis alba in 36.8% , anterior neck folds in 0.95%, lip lick dermatitis in 7.6% and alopecia areata in 7.5% . No cases of nipple eczema and palmar hyperlinearity were seen nor was any association with psoriasis noticed. Shiny, ridged and pitted nails were seen in percentages of 35.8 13.2 and 8.5 respectively and a bald tongue was noticed in 2.8% patients.

Discussion

In 1935, Hill and Sulzberger described the evolutionary stage of AD as infantile eczema (birth to 2 years) childhood eczema (2 to 12 years) and adult form (after 12 years).[5] In the present study there was no significant sex distribution in the children and adolescents while in the adults, a female preponderance was seen. The mean age of onset of the disease was noticeably higher. The variations in this study from other studies may be because most other clinico epidemiological studies on atopic dermatitis revolve around the paediatric population while 43.40% of our patients were adults.

The incidence of a personal history of atopy in this study (72.64%) was on the higher side as compared to that cited in the literature and the discrepancy with Kanwar and Dhar's figures from North India may be attributed to a regional variation.[6]

A higher incidence of atopy in the patients families is probably because of larger family sizes in India and this phenomenon has been noticed by Uehara who states that the involvement is less in a nuclear family and vice versa.[7]

Our findings corroborate well those of Kanwar and Dhar in that synthetics and winters exacerbate AD.[4]

Unlike the general consensus in the literature, the incidence of cutaneous bacterial infections in our patients is low. No cases of warts or molluscum contagiosum were seen in contrast to the findings of other authors.[8,9]

Numerous authors have reported incidences of food intolerance in atopic dermatitis ranging between 10 and 60%.[10,11] The present study correlates with the findings of these observers albeit in the lower range. While it is inconsistent with the observations of Kanwar and Dhar in that the latter have not found exacerbations in atopic dermatitis attributable to food item(s).[4]

The commonly implicated food items in this study were eggs, milk, groundnuts and citrus fruits which are in tandem with the findings of most observers. In addition, fish and cereals were implicated.

Psychic stress played a major role in the exacerbation perpetuation of atopic dermatitis in our patients comparing well with the

views of Kissling et al and of the psychiatric manifestations, the 3 most frequently occurring findings were restlessness, anxiety and aggression.[12]

Xerosis was the commonest cutaneous morphological finding and the distribution of lesions resembled the classical pattern described . Hanifin and Rajka's 4 major criteria (pruritus, typical morphology, personal/family history of atopy and a chronic/chronic relapsing disease) were seen in most of the cases and were useful discerners of the diagnosis of atopic dermatitis. (Table I). Of the minor criteria, xerosis, periorbital darkening, Dennie-Morgan's fold, emotional factors, pityriasis alba, intolerance to synthetics/wool, and intolerance to foods were noted to be useful clinical pointers (in descending order of frequency) in the diagnosis of atopic dermatitis. (Table II).

In conclusion, our statistics show a milder affliction of atopic dermatitis and confirms the view held by Kanwar and Dhar that atopic dermatitis is milder in an Indian population as compared to western literature. However, the present study should be interpreted in the light of it encompassing a select population group based largely in South India and a standardised multicenter study involving the various regions and communities in India is required with the view of establishing our own criteria to suit the Indian patients suffering from atopic dermatitis.

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