The Number of Diagnostic Features in Patients with Atopic Dermatitis Correlates with Dryness Severity

Sir,

Atopic dermatitis (AD) is a common multifactorial disease that seems to affect around 5–15% of children from industrialized countries (1–3). Dermatologists have little difficulty in most cases in making a firm diagnosis, but the diagnostic criteria for AD proposed by Hanifin & Rajka in 1980 (4) represented a major step forward in ensuring some degree of uniformity of AD subjects in subsequent clinical studies. The criteria contain the presence of 3 out of 4 basic features plus 3 or more minor features of 23 suggested (Table I).

There have also been many different attempts to measure and record AD disease activity, but there is no general agreement about which techniques should be used (5). A new system for scoring of dryness, recently proposed by Serup (6), follows some of the principles of the PASI score for the overall assessment of psoriasis. This study was designed to illustrate if the number of minor diagnostic features present in patients with AD was correlated to the severity of skin dryness measured by the new scoring technique.

Table I. *Diagnosis of atopic dermatitis in accordance with the Hanifin & Rajka criteria (4). Fifty patients were examined and the number manifesting the particular criteria is given. The number of patients for whom no data was obtained is given within parentheses*

Features	No. of patients manifesting the criteria
Basic features (3 or 4 are required):	
1. Pruritus	48
2. Typical morphology and distribution: flexural lichenificant or linearity in adults. Facial and extensor involvement in infants and children	45
3. Chronic or chronically relapsing dermatitis	50
4. Personal or family history of atopy	39
Minor features (at least three features are required):	
1. Xerosis	47
2. Ichthyosis/palmar hyperlinearity/keratosis pilaris	26 (5)
3. Immediate (type I) skin test reactivity	24 (16)
4. Elevated serum IgE	10 (33)
5. Early age of onset	40
6. Tendency towards cutaneous infections	13
7. Tendency towards non-specific hand or foot dermatitis	35
8. Nipple eczema	13
9. Cheilitis	34
10. Recurrent conjunctivitis	8
11. Dennie-Morgan infraorbital fold	4
12. Keratoconus	0
13. Anterior subcapsular cataracts	0
14. Orbital darkening	11
15. Facial pallor/facial erythema	14 (1)
16. Pityriasis alba	11 (4)
17. Anterior neck folds	4
18. Itch when sweating	29
19. Intolerance to wool and lipid solvents	37 (1)
20. Perifollicular accentuation	10 (13)
21. Food intolerance	20
22. Course influenced by environmental/emotional factors	35
23. White dermographism/delayed blanch	14

MATERIALS AND METHODS

Patients and AD diagnosis

Fifty patients with atopic dermatitis known to the Dermatology Department in Uppsala were recruited (38 women and 12 men), with a mean age of 32 years (range 18–55 years). All were Caucasians. A majority of the patients treated their disease mainly with topical corticosteroids and moisturizers daily or occasionally.

The patients were examined by a dermatologist who recorded a positive or negative response to the Hanifin & Rajka criteria (4) (Table I) on a standard record form. Not all of the minor criteria were examined by the dermatologist. Some of the information (e.g. minor feature nos 3 and 4) were taken from the patient journal or from the patient medical history (no. 12). If no information on these features could be obtained, no further examination of the patient was performed.

Scoring of dryness

The dermatologist also made a clinical assessment of dry skin/irritation in accordance with a newly proposed system for dry skin and ichthyosis, a system which combines intensity of clinical signs and extent of body surface affected. The degrees of scaling, roughness, redness and cracks (fissures) were scored on a categorical scale on five levels, 0–4, where 0 is absent and 4 is extreme. The entire body was examined and the area involved in 4 body regions was determined (head and neck, 10% of total area, upper extremities; 20% of total area, trunk; 30% of total area, and lower extremities; 40% of total area). The sum of the severity scores was multiplied by the area affected in percent in each body region, and by summarizing these figures the dry skin area and severity index (DASI) is obtained (maximum 1600 points).

RESULTS

Clinical examination of atopic patients showed a positive relationship between the number of minor features in the diagnosis of AD and the severity of the dryness. In Fig. 1 the regression

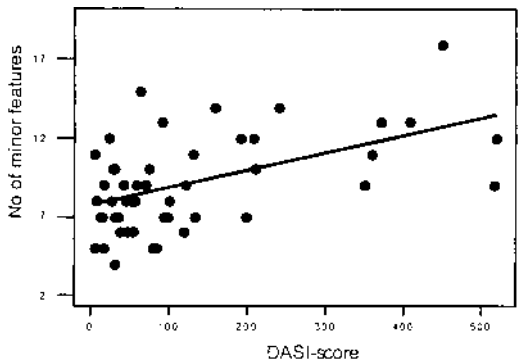

Fig. 1. Linear regression of the number of minor features and DASI score ($n=50$). Spearman non-parametric correlation coefficient is 0.44 ($p=0.0015$).

plot of the number of minor diagnostic features and DASI score is shown. The Spearman non-parametric correlation coefficient is 0.44 ($p = 0.0015$). It can be seen from Table I that some features are more common than others, e.g. almost all of the patients had xerosis and were intolerant to wool and organic solvents.

DISCUSSION

According to the diagnostic criteria proposed by Hanifin & Rajka, at least 3 out of 23 proposed minor criteria need to be present in order to obtain the diagnosis AD. The findings in the present study suggest that patients fulfilling a larger number of criteria exhibit a more severely affected skin than those with a positive response to a few, i.e. the number of minor criteria could be a marker of AD severity.

REFERENCES

1. Schultz Larsen F, Diepgen T, Svensson Å. The occurrence of atopic dermatitis in North Europe: an international questionnaire study. J Am Acad Dermatol 1996; 34: 760 – 764.
2. Williams HC, Burney PGJ, Hay RJ, Archer CB, Shipley MJ, Hunter JJA, et al. The UK Working Party's diagnostic criteria for atopic dermatitis. I. Derivation of a minimum set of discriminators for atopic dermatitis. Br J Dermatol 1994; 131: 383 – 396.
3. Rothe MJ, Grant-Kels JM. Atopic dermatitis: an update. J Am Acad Dermatol 1996; 35: 1 – 13.
4. Hanifin JM, Rajka G. Diagnostic features of atopic dermatitis. Acta Derm Venereol (Stockh) 1980; Suppl 92: 44 – 47.
5. Finlay AY. Measurement of disease activity and outcome in atopic dermatitis. Br J Dermatol 1996; 135: 509 – 515.
6. Serup J. EEMCO guidance for the assessment of dry skin (xerosis) and ichthyosis: clinical scoring systems. Skin Res Technol 1995; 1: 109 – 114.

Accepted March 4, 1998.

Marie Lodén[1,2], Anna-Carin Andersson[2] and Magnus Lindberg[2]
[1]ACO Hud AB, Box 542, SE-182 15 Danderyd and [2]Department of Dermatology, University Hospital, Uppsala, Sweden.

Treatment of Acne Vulgaris with Colchicine

Sir,
During the treatment with colchicine of patients with Behçet's disease and Familial Mediterranean Fever, we noticed that two patients who also had acne vulgaris showed a significant improvement of their acne without receiving any other medication. This observation led us to carry out a trial to investigate the effectiveness of colchicine in acne vulgaris. According to our knowledge, there is no reported case of the use of colchicine for the treatment of acne in the medical literature. Twenty-two patients (14 women, 8 men, age range 17 – 38 years) with acne resistant to antibiotic treatment were treated with colchicine. In all cases but one, the acne had started at an early age. The skin manifestations included comedon, pustules and nodules. Four cases had nodular cystic acne and 2 had acne congolobata. A daily dose of 1 mg colchicine was given for a duration of 2 months. All patients improved by up to 70%, and this improvement was more marked in those with cystic nodular acne with severe inflammation. No significant side effects of colchicine were observed. No other treatments were given. Most patients showed a relapse after the colchicine was stopped. The only exceptions to this were two patients, one with Behçet's disease and one with Familial Mediterranean Fever, whose colchicine treatment had to be continued. They are still in remission.

It is not clearly known how colchicine exerts its anti-inflammatory effect. However, colchicine prevents the recruitment of PMN cells, interferes with microtubular functions, inhibits the expression of adhesion molecules and prevents the migration of white blood cells across vessel walls. Considering the increasing number of reports regarding the numerous resistant organisms caused by overuse of antibiotics, it seems logical that anti-inflammatory drugs like colchicine should be considered as a new replacement for classic antibiotic treatment of acne. This treatment could then be continued with local anti-acne medication. We are currently studying alcohol-based colchicine solution for local use.

REFERENCES

1. Levy M, Spino M, Read SE. Colchicine: a state-of-the-art review. Pharmacotherapy 1991; 11: 196 – 211.
2. Aram H. Colchicine in dermatologic therapy. J Dermatol 1983; 22: 566 – 569.

Accepted March 12, 1998.

S. J. Sadjadi MD[1] and M. Moshir MD
Departments of [1]Internal Medicine and [2]Dermatology, Rasool Akram Hospital, Iran University of Medical Sciences and Health Services, Niayesh St., P.O. Box 14455-364, Tehran, Iran.