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Criteria for Atopic Dermatitis in a Chinese Population

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Clinical and laboratory findings were collected from 372 Chinese patients with atopic dermatitis. Based on the data and previous study on the criteria, the authors suggest two basic features and six groups of minor features which were categorized by the possible underlying pathogenic factors; genetics, immunology and pharmacophysiology for the diagnosis of atopic dermatitis. ***Key words: Atopic dermatitis; Criteria; China.***

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Atopic dermatitis (AD) is not uncommon in the Chinese, the prevalence of infantile eczema is 16.5%, and AD is 8.3 per thousand in 7–14 year schoolchildren. The features for diagnosis of AD are at present generally based on the guidelines which were proposed by Hanifin and Rajka (1). In order to investigate if the features for the diagnosis also fit patients with AD in the Chinese, we have studied 372 patients with AD, and controls including patients with other skin diseases without atopy, and normals from kindergartens or schools.

MATERIAL AND METHODS

The clinical and laboratory data collected were as follows (2):

Males predominated, male to female ratio was 1.5:1.

Onset of eruption was in 72.2% of the patients at the age of less than one year and in 91% less than the age of 12 years.

Personal respiratory atopy occurred in 59.1% of the cases. Asthma was present in 52.4%. Allergic rhinitis was obvisouly increased with age. The onset of allergic rhinitis was later than that of asthma.

Family history of atopy including three pedigreed generations was present in 73.1% of the cases.

Eczematous eruption was up to 98% within 2-year-old patients. Lichenification increased with age from 2% to 94% in patients older than 12 years.

Sites of predilection were different at different ages. Forehead (70.7%), ears (68.3%) in addition to cheeks (56.1%) in infants, extensor surfaces of the legs (52.9%) and popliteal fossa (50%) in childhood, and popliteal fossa (52.8%) in adolescents–adults were noticed.

In addition to the major features, some of the minor features such as xerosis, ichthyosis, palmar hyperlinearity, facial pallor, periorbital darkening, hand dermatitis (AD in hand dermatitis group 3.9% vs. population surveyed 0.8%, $p<0.001$), perifollicular accentuation (AD 63.3% vs. nonAD 19.7%, $p<0.001$) were statistically significantly increased in AD. We did not find a significant increase in features like anterior subcapsular cataract, cheilitis, geographic tongue, infraorbital fold, keratoconus, keratosis pilaris, nipple eczema, pityriasis alba, or pompholyx.

The serum IgE was increased significantly, and more prominent in AD with respiratory allergy.

The numbers and function of T cells were markedly lowered, and the number of sm-Ig bearing lymphocytes were increased significantly.

The white dermographism, acetylcholine delayed blanch test and negative histamine test were significantly marked compared with those of the nonatopic individuals.

COMMENT

Recently Svensson (3) listed the significant symptoms and signs of AD. In his group of $p<0.001$, it was 100% compatibility with our significant findings, such as xerosis, serum hyper IgE, personal and family history of atopy. In the groups of $p<0.01$ and $p<0.05$, 60% and 50% of the items were compatible with ours respectively. So the features of AD are similar in both races, the minor differences exist due to genetic and environmental influences. Based on our and previous studies of clinical and laboratory findings on AD, we simplified basic features and categorized minor features by the possible underlying pathogenic associations.

BASIC FEATURES

1. Pruritus, chronic or chronically relapsing dermatitis
   a. Inflammatory eczematous lesions on the face and extensor surfaces of limbs in infants and children
   b. Lichenification of flexural and extensor surfaces of limbs in adolescents and adults.
2. Personal or family history of atopy (asthma, allergic rhinitis, atopic dermatitis).

MINOR FEATURES

1. Genetic associations
   a. Early age of onset (< 12 years of age)
   b. Xerosis/ichthyosis/palmar hyperlinearity
2. Immunologic associations
   a. Associated with type I reaction: allergic conjunctivitis/food intolerance/immediate skin test reactivity/ eosinophilia/elevated serum IgE
   b. Associated with immune defect: tendency toward cutaneous infections/impaired cell-mediated immunity
3. Pharmaco-physiologic associatons
   a. Facial pallor/white dermographism/acetylcholine delayed blanch
   b. Periorbital darkening/perifollicular accentuation/tendency towards nonspecific hand and foot dermatitis.

If two basic features are fulfilled or the first basic features and three minor features (one point from each a or b item) are present, the diagnosis can be accepted. Three minor features imply that at least two possible underlying pathogenic factors are involved.

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