The Most Common Dermatological Findings In Atopic Dermatitis

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Abstract

Background: Atopic dermatitis (AD) is a common, chronic, relapsing, itchy, skin condition occurring in patients with a personal or family history of atopy. It varies widely in clinical presentation at different ages and places.

Objective: To determine the most common minor dermatological findings in patients with atopic dermatitis.

Patients and Methods: This descriptive study was done at Al-Imamain Alkadimain Teaching Hospital, out patient clinic of dermatology from 2nd of January 2014 to the 1st of May 2014. The study involved 136 patients,73 of them were males and 63 were females; their ages ranged from 1 to 20 years. All patients were diagnosed clinically by a dermatologist according to Hanifin and Rajka major and minor criteria of AD. All the patients were subjected to a questionnaire including the identifying data and examined for the skin manifestations of the disease.

Results: Atopic dermatitis affect males 73(53.7%) more than females 63(46.3%). Age of the patients ranging from 1 to 20 years with a mean of 7.80 ±5.23SD, mostly affecting the age group less than 10 years 70.6 %, family history of atopy was positive in 69.8%. The most common dermatological manifestation was xerosis affecting 88 patients (64.7%) followed by face pallor, or erythema in 64 patients (47%) and hand dermatitis in 63 patients (46.3%). Most common sites involved by dermatitis were face in 84 patients (61.7%) followed by hands in 63 patients (46.3%).

Conclusion: Atopic dermatitis (AD) has a wide spectrum of dermatological manifestations. Xerosis is the most common minor skin findings of AD & icthyosis was the least common. Many conventional minor features were found, but some occurred less frequently.

Key words: Atopic Dermatitis, Clinical Features, Criteria.

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Introduction

Atopic dermatitis (AD) is a common, chronic, inflammatory, itchy, skin condition occurring in patients with a personal or family history of atopy. Atopic dermatitis was the most frequently seen dermatosis in children of all age groups[1]. And the onset is most common between 3 and 6 months of age, with approximately 60% of patients developing the eruption in the first year of life and 90% by 5 years of age[2]. The causes of atopic dermatitis are varied. Both a genetic predisposition and numerous trigger factors play an important part in the first manifestation and in exacerbations of the disease [3].

It varies widely in clinical presentation. Since there is no simple and also no complicated laboratory procedure to reach a

diagnosis of atopic dermatitis, different sets of clinical criteria have been developed for the purpose of making the diagnosis uniformly in different studies as well as in different study centers. The most commonly used are Hanifin and Rajka's set of diagnostic features, which have major and minor clinical criteria to be fulfilled in order to establish a diagnosis of atopic dermatitis.

The diagnosis of atopic dermatitis using the Hanifin and Rajka criteria requires that patients have at least 3 of the 4 major criteria and 3 of the 23 minor criteria [4].

Hanifin and Rajka diagnostic criteria for atopic dermatitis (AD) Major criteria: must have three or more of: pruritus, typical morphology and distribution (flexural lichenification or linearity in adults or facial and extensor involvement in infants and children), chronic or chronically-relapsing dermatitis and personal or family history of atopy (asthma, allergic rhinitis, atopic dermatitis). Minor criteria; should have three or more of: xerosis, ichthyosis, palmar hyperlinearity, keratosis pilaris, immediate (type 1) skin-test reactivity, raised serum IgE, early age of onset, tendency toward cutaneous infections, tendency toward non-specific hand or foot dermatitis, nipple eczema, cheilitis, recurrent conjunctivitis. Dennie-Morgan infraorbital fold, keratoconus, anterior subcapsular cataracts, orbital darkening, facial pallor or facial erythema, pityriasis alba, anterior neck folds, itch when sweating, intolerance to wool and lipid solvents, perifollicular accentuation, food intolerance, course influenced by environmental or emotional factors and white dermographism or delayed blanch [5].

Minor cutaneous features are important in atopic dermatitis (AD) because they are related to the ethnic or genetic background and to the etiopathogenesis of the disease other than atopic allergy. In addition, they can be used as auxiliary diagnostic criteria in patients with uncertain major features [6].

Our aim was to identify those of Hanifin's and Rajka's minor criteria that are most frequent in a sample of Iraqi patients with atopic dermatitis.

Materials and Methods

Descriptive study was done at Al-Imamain Alkadimain Teaching Hospital, out patient clinic of Dermatology from 2nd of January 2014 to the 1st of May 2014 .

The study involved 136 patients their age ranged from 1- 20 years with a mean of 7.80 years . All patients were diagnosed clinically by a dermatologist according to Hanifin and Rajka major criteria of AD.

Our purpose was to identify those of dermatological minor criteria that are most frequent which include: xerosis, ichthyosis, keratosis pilaris, cutaneous infections, hand or foot dermatitis, Dennie-Morgan infraorbital fold, facial pallor or erythema and pityriasis alba.

All the patients were subjected to a questionnaire including the identifying data (name, sex, age, personal or family history of atopy) and examined for the skin sites involved and the minor criteria of the disease.

Statistical analysis

SPSS program (version 20) was used for computerized statistical analysis. Categorical variables (e.g. sex, family history, clinical manifestations and sites) were expressed by frequency and percentage. Continuous variables like age were presented by mean and standard deviation (SD).

Result

According to result of present study, atopic dermatitis affects males 73(53.7%) more than females 63(46.3%), but statistical analysis not revealed significant differences as shown in table (1).

Table (1): Distribution of patients according to the gender.

Gender	Number	Percentage	
Male	73	53.7%	P value= 0.391
Female	63	46.3%	
Total	136	100%	

The result of table 2 show that most affected age group is less than 10 years 70.6%of patients.

Table (2): Distribution of patients according to the age.

Age (years)	Number	Percentage	
Less than 5	48	35.3%	P. value >0.001
5-10	48	35.3%	
11-15	13	9.6%	
More than 15	27	19.8%	
Total	136	100%	

Family history of atopy was positive in 69.8% of patients. All the 136 patients100% having the 3 major criteria of atopic dermatitis namely:
itching, chronicity and the typical morphology &distribution according to the age. The most common dermatological manifestation was xerosis affecting 88patients (64.7%)followed by face pallor and or erythema in 64 patients(47%), hand dermatitis in 63 patients(46.3%), Denni-morgan fold 36.7%, pitryasis alba (22%), peri orbital darkening (16.9%), cutaneous infection (14.7%), keratosis pilaris (11.7%)& lastly icthyosis (5.8%) (Table 3).

Table (3): Distribution of patients according to the clinical features.

Clinical features	**Number**	**Percentage**	
Xerosis	88	64.7%	P value>0.001
Face pallor and/ or Erythema	64	47 %	
Hand dermatitis	63	46.3%	
Denni-morgan fold	50	36.7%	
Pitryasis alba	30	22 %	
Peri orbital darkining	23	16.9%	
Infection	20	14.7%	
Keratosis pilaris	16	11.7%	
Icthyosis	8	5.8%	

Most common sites involved by dermatitis were: face in84 patients (61.7%), hands in 63 patients (46.3%), flexors (34.5%), extensors (32.3%), anticubital and popletial fossa (18.3%) and lastly trunk (12.5%) As show in table 4.

Table (4): Distribution of patients according to the site.

Site	Number	Percentage	
Face	84	63.7%	P value>0.001
Hands	63	46.3%	
Flexors	47	34.5%	
Extensors	44	32.3%	
Anticubital&popletial fossa	25	18.3%	
Trunk	17	12.5%	

Discussion

Regarding the age of the patients we found that the majority of patients (70.6%) below the age of 10 years. A similar result (70.2%) from a study in Ethiopia [7] &another study from India [8] shows a (83%) for children aged 2-10 years. These percentages were expected in this age group as it involves both the infantile and childhood stages of the disease.

Concerning the sex of the patients, there is a slight male predominance (53.7%) of our patients were males and (46.3) were females. Another studies also shows a male predominance (65%males versus 35% females) in India [8], 51.4% males versus 48.6% females in China[9], 50.4% males versus 49.6% females in Ethiopia [7].

Regarding the family history of atopy it was positive in 69.8%of our patients. A study from China[9] shows a percent of 61.4%,&a series of studies from India shows a variable percentages (65%)[10], (42.3%)[11], (36%)[12] and (33.34%)[13]. This may be explained by the fact that atopic dermatitis is one of a triad of atopic diathesis (asthma ,atopic dermatitis and allergic rhinitis), that is why they considered it one of the major criteria of diagnosis.

Minor criteria are important in many times for the diagnosis of atopic dermatitis when the major criteria are uncertain. We compare our results with other studies from other countries. Xerosis is the most common finding in our study 64.7%, other studies in Sweden[14] 100%, in Polony [15] 96%, in Nigeria [16] 71% and in Bangladesh[17] 43.8%.This may be attributed to difference in humidity &heating methods as well as to the type of the skin.

Facial erythema is present in a 47%, a similar result from study in Sweden 54% but quite different from a study in Bangladesh 1.9%. Hand eczema affecting 46.3 % of our patients while in Sweden 28% and in Bangladesh 9%.This may be attributed to washing and cleaning attitudes &using of irritants and medical soaps.

Denni-morgan fold present in 36.7%, which is lower than study from Nigeria (49.2%) and Bangladesh (39.5%). Pityriasis alba is present in 22%, in Bangladesh (14.3%) and in Singapore [18] (3%).

Infection present in 14.7%, which is lower than others: Bangladesh (80%), Nigeria (32%) and Singapore (22%).This may be due to poor hygiene and low socioeconomic states in these countries. Other findings such as Keratosis pilaris and icthyosis present in a small percentage like other studies from Bangladish and Singapore; while other studies considered them non specific. Other studies reveal other findings not present in the original criteria like scalp scaling& infra auricular fissuring [19][20].

The most common sites involved with dermatitis were face(61.7%)&hands(46.3%).Another study from India[12] shows a high percentage of face involvement(76.8%),while another study from the same country showing(25%)[9],this may be explained by the age of sample

patients as the face is a common site of involvement in infants. Hand involvement is high as it regarded one of the criteria to diagnose atopic dermatitis.

In conclusion, the most common minor dermatological criteria were xerosis, facial erythema and hand eczema. Many conventional minor features were found, but some occurred more frequently &some occurred less frequently than in other countries, which may be attributed to ethnicity, environmental factors, skin type and others.

Further studies will be required to confirm these differences in features of atopic dermatitis and their explanations. Diagnostic criteria need modification, with deletion of some of the present features and addition of newer ones.

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