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CLINICAL PROFILE OF ATOPIC DERMATITIS IN BENIN CITY, NIGERIA.

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ABSTRACT

Objective: To study the clinical presentation and management problems of atopic dermatitis in Benin City, Nigeria.

Design: A 15-year retrospective study from May 1985 to April 2000.

Setting: Dermatology clinics of the University of Benin Teaching Hospital, Benin City, Nigeria.

Subjects: All new cases of atopic dermatitis presenting to the clinic during the study period.

Results: 594 patients suffering from atopic dermatitis, representing 7.92% of new dermatological cases were seen during the study period. There was a slight male preponderance; the male to female ratio was 1.2: 1. Most patients were below 30 years of age with the peak incidence in the 0 9-year age group, with most presenting in the first six months of life. Forty-six percent of the patients had a positive family history of atopy, while 73% also had other atopic disorders. The clinical patterns seen were infantile, childhood and adult forms, which is in keeping with reports from other parts of the world. Precipitating factors were most often obscure; however, high temperatures and humidity were the most common aggravating factors. The important problems encountered were misuse of topical medications, oral antibiotics, anti-fungal drugs and a high follow-up default rate.

Conclusion: The clinical characteristics of atopic dermatitis in our study population were similar to the pattern in other parts of the world. There is need for increased awareness of its importance as a cause of morbidity especially in children.

Keywords: Atopic dermatitis, Clinical profile, Nigeria. *(Accepted 23 February 2007)*

INTRODUCTION

Atopic dermatitis is an important manifestation of the atopic diathesis [1]. It is a chronic or chronically relapsing cutaneous disease characterized by acute, sub acute and/or chronic lesions always associated with pruritus and a lowered itch threshold, which predisposes the patient to secondary lesions from rubbing, scratching and infection [1-3]. Atopic dermatitis often begins in the first six months of life, but may present at any age and the clinical presentation differs with age. There is a complex interaction of inflammatory cells involving mast cells, lymphocytes, and infiltrating leucocytes orchestrated by a cytokine profile that has been identified with the T- Helper Type 2 lymphocyte [4]. Most individuals with atopic dermatitis have elevated serum IgE levels and elevated tissue and serum levels of eosinophil derived cationic proteins, suggesting that eosinophils may play an important role in the pathogenesis of the lesions[5,6]. The impact of Bacterial infection on allergic inflammation presents a clinical paradox. Recent studies suggest that the effect of bacterial infections on potentiating or ameliorating allergic inflammation may be dependent on the timing of the bacterial infection in relationship to either the inception of allergy in infancy or to the progression of the established allergic phenotype. Thus, bacterial infections in early life might prevent the inception of allergic phenotype in a genetically predisposed child[7,8], whereas bacterial infections in individuals who already have established allergic inflammation may aggravate it[9].Topical corticosteriods are the mainstay of treatment, however, recent advances in understanding the immunopathogenesis of atopic dermatitis has led to the development of novel forms of therapy.

Worldwide, atopic dermatitis causes significant morbidity, especially in the paediatric age group. Though reports have been few, earlier studies in our population had noted an increasing importance of endogenous dermatitis among our populace [10-12]. The aim of this study is to describe the clinical

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characteristics of atopic dermatitis and the related management problems as seen over a fifteen-year period in an urban dermatological practice based in Benin City, Nigeria.

PATIENTS AND METHODS

Patients presenting to the Dermatology unit of the University of Benin Teaching Hospital with a diagnosis of atopic dermatitis over a fifteen-year period (May 1985 to April 2000) formed the basis of the study. The authors examined the patients and established the diagnosis. The diagnosis of atopic dermatitis was based on clinical criteria, consisting of a combination of major characteristics such as pruritus, personal or family history of atopy, chronic or chronically relapsing dermatitis with typical morphology and distribution; flexural lichenification and linearity in adults, facial and extensor involvement in infants and young children. Other features that were considered included xerosis, ichthyosis, cheilitis, early age of onset, hand and foot dermatitis, infraorbital folds, anterior subcapsular cataracts, nipple dermatitis, keratoconus, erythroderma, susceptibility to infections *et cetera* [13,14]. Similar skin diseases such as *Tinea corporis* and lichen planus were excluded by mycological culture and histopathological examination of skin biopsy specimens. Where indicated, skin swabs for bacterial culture and sensitivity testing were also carried out. Demographic data, details of clinical lesions and precipitating/aggravating factors were recorded during the history taking and physical examination. Management of the patients involved the use of topical corticosteriods, oral antihistamine, systemic corticosteriods in very severe cases and antibiotics where indicated. The patients were also advised on the care of the skin in order to avoid excessive desiccation and eliminate aggravating factors. The patients were followed up initially at monthly intervals and later at six or eight weekly intervals depending on their response to therapy.

RESULTS

Between May 1985 and April 2000, the Dermatology unit of the University of Benin Teaching Hospital, Benin City, Nigeria, managed a total of 594 patients who had atopic dermatitis, representing 7.9% of all new dermatology consultations. There were 319 males and 275 females, giving a male to female sex ratio of 1.2 to 1. It was seen mainly in those below 30 years of age with the peak incidence in the first decade of life (38.21%), where the age of onset in majority of cases was in the first six months of life. The incidence of atopic dermatitis decreased progressively with increasing age (Table 1). Forty-six percent of the patients had a positive family history of atopy, while 73% of them also had other atopic diseases.

In infancy, the lesions were commonly found on the extensor surfaces of the limbs, trunk and face, with sparing of the nasolabial skin, while in older children and adults the lesions are virtually confined to the flexures; neck, antecubital and popliteal fossae, with occasional involvement of the hands and feet (Table 2). Precipitating factors were obscure in most cases and there was no causal relationship to any occupation or psychological stress. High temperatures and humidity, as well as infections contribute to acute exacerbations of the disease. Secondary bacterial infection was commonly due to staphylococcus aureus.

Suppression of clinical symptoms was achieved with topical corticosteroids such as hydrocortisone and betamethasone creams in combination with oral antihistamines in most cases. However, a few required systemic corticosteriods, usually long-acting preparations such as Triamcinolone acetonide given intramuscularly at monthly intervals in the clinic and tailed off over a 6 to 12 month period. Systemic antibacterial agents such as erythromycin and amoxicillin were also given when indicated. As they grew older, many of the infants became free of symptoms while the disease is characterized by frequent flare-ups in those who present in later childhood or adulthood.

Problems encountered in the management of these patients include; misuse of topical medications, oral antibiotics and antifungals prior to and even after commencing treatment in the dermatology clinic, a high follow-up default rate after initial improvement in symptoms and the use of irritant soaps that sometimes worsen the disease.

Table 1: **Age And Sex Distribution**

	Gender			
Age (years)	**Male**	**Female**	**Total**	**(%)**
0 - 9	125	102	227	(38.21)
10 - 19	74	52	126	(21.21)
20 - 29	44	53	97	(16.32)
30 - 39	39	36	75	(12.63)
40 - 49	26	28	54	(9.10)
> 50	11	4	15	(2.53)
TOTAL	**319(53.7)**	**275 (46.3)**	**594**	**(100)**

Table 2: **Distribution Of Lesions**

Age (years)	n	Site of involvement Face X(%)	Extensor surface of limbs x(%)	flexures x(%)
0-9	227	102(45)	98(43)	77(34)
10-19	126	13(10)	36(29)	126(100)
20-29	97	0(0)	22(23)	97(100)
30-39	75	0(0)	6(8)	75(100)
40-49	54	0(0)	13(24)	54(100)
>50	15	0(0)	-(0)	15(100)

Figure 1 : Atopic dermatitis lichenified lesions

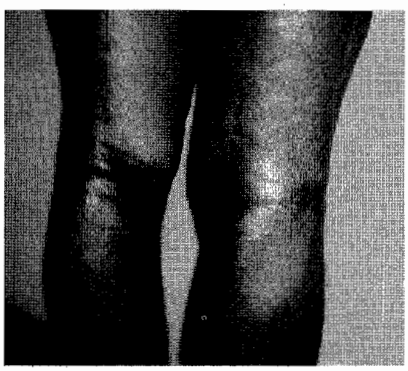


Figure 2: Atopic dermatitis acute lesions

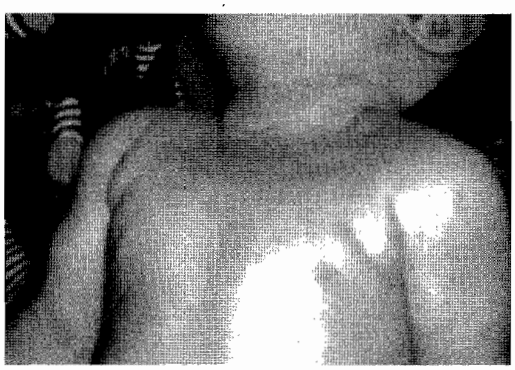
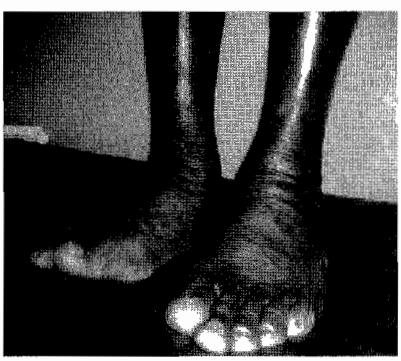


Figure 3: Atopic dermatitis chronic lesions



DISCUSSION

The incidence of atopic dermatitis in this study of 7.9% is higher than that from an earlier study in a similar setting in Nigeria, which had an incidence of 3.1% [11]. More recent studies of the disease in the country emphasize this trend [12]. The increasing importance of atopic dermatitis as a cause of morbidity in Nigeria may be the result of increasing urbanization and environmental degradation. The parallel improvement in level of education of the populace and healthcare, leading to better personal hygiene and a reduction in the prevalence of infective dermatosis may be a contributing factor [10]. In this study there was a slight male preponderance and the clinical course of the disease and distribution of lesions were similar to that described from other parts of the world [13-16].

The disease is usually more severe in childhood, where it is responsible for a higher incidence of absenteeism from school amongst the pediatric age group. The major features of atopic dermatitis found in this study were persistent pruritus, a chronic or chronic relapsing dermatitis with typical distribution; facial and extensor involvement in infants and young children, and flexural lichenification and linearity in adults. Other features seen were xerosis, ichthyosis, Dennie-Morgan infraorbital folds, increased susceptibility to bacterial infections (especially Staphylococcus aureus), and other atopic disorders such as bronchial asthma and allergic rhino conjunctivitis.

In addition to drug treatment with corticosteroids such as hydrocortisone and betamethasone creams in combination with oral antihistamines, it is important to explain to the patient and family members the chronic nature of the disease; this increases compliance to treatment and reduces default from follow-up. Also, in the case of school age children, an explanatory letter to the school administrator on the non-contagious nature of atopic dermatitis will help

reduce the attendant problems at school. Education should be focused on prevention of exacerbating factors as well as treatment of secondary bacterial infection aspects of therapy [17]. In this study, many patients had partial response to treatment because of the relapsing nature of the illness, some however, especially the infants, had a complete clearance of symptoms as they became older.

New therapies for atopic dermatitis, such as the use of allergen immunotherapy, interferon-gamma, topical tacrolimus and pimecrolimus, phosphodiesterase inhibitors, and Chinese herbal medicine are now under development [18-22]. Though most of these new therapies are still investigational, they hold a lot of promise towards a better control of the disease.

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