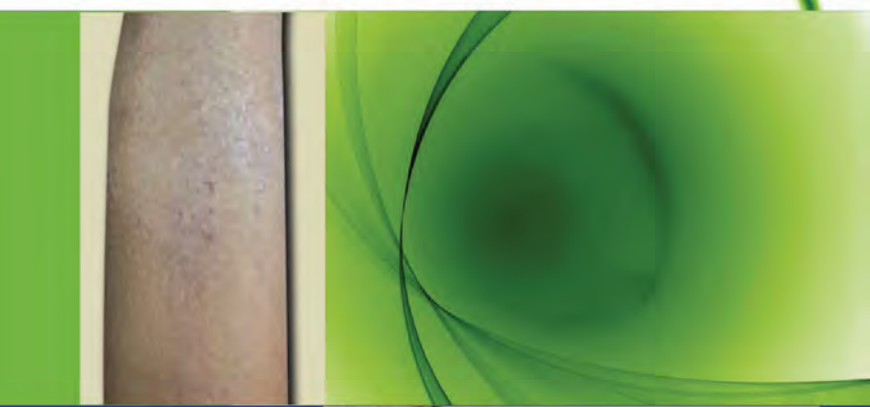
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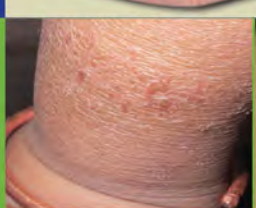
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Atopic Dermatitis









Satish Udare

Foreword
Hemangi Jerajani

JAYPEE

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CHAPTER

3

Clinical Manifestations of Atopic Dermatitis

Pranjal Ahire, Satish Udare

Atopic Dermatitis (AD) is a chronic, itchy, fluctuating disease, typically begins during infancy with age of onset of 2–6 months in majority of patients, but it may occur at any age. It is one of the most common skin disorders in developed countries, affecting approximately 20% of children and 1–3% of adults.[1]

It is slightly more common in boys than girls.[2] It presents with range of common clinical features enlisted in Table 3.1.

The diagnosis of AD based on constellation of signs and symptoms.

There is no laboratory "gold standard" for the diagnosis of AD.

Hanifin and Rajka for the first time proposed a systematic approach towards the standardization of the diagnosis of AD by incorporating three major/basic and 23 minor features. They suggested that a diagnosis of AD can be established if three of the major and three of the minor criteria are present.[3]

MAJOR/BASIC FEATURES

- Pruritus
- *Typical morphology and distribution:* Flexural lichenification or linearity in adults, facial and extensor involvement in infants and children
- Chronic or chronically-relapsing dermatitis
- Personal or family history of atopy (asthma, AR, AD).

Pruritus in AD is main cardinal symptom, and is essential for diagnosis. and the disease was described as 'itch that rashes' it is severe, episodic, mainly in night and disturbs patient and surrounding people, caretakers and results in poor QOL.

Table 3.1: Clinical features of atopic dermatitis

- Pruritus
- Macular erythema/papules/papulovesicles on face and extensors in infants and young children Fig 3.1
- Eczematous lesions with crusting Fig 3.2
- Lichenification in flexural areas in older children (Figs 3.3 to 3.5)
- Excoriations Fig 3.6
- Secondary infections Fig 3.7
- Dryness of skin Fig 3.8
- Chronic or chronically-relapsing dermatitis. (Fig 3.9)

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Fig. 3.1: Facial lesions in infant



Fig. 3.2: Eczematous lesions with crusting on legs

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The itch leads to more inflammation, more scratching, more thickening and lichenification and continues the cycle—the so called 'itch scratch cycle'. Most patients are compulsively scratching without their knowledge and exacerbate their disease. The typical morphology consist of acute, subacute or chronic eczematous rash. Acute eczema shows signs of acute inflammation mainly vesiculation, oozing, erythema and crusting which is mainly seen in infantile phase (Fig. 3.1), in subacute stage the vesiculation is less but scaling, crusting and thickening of skin becomes evident. Chronic form mainly seen in childhood and adult phase. The skin shows lichenification with increased skin markings, few scratch marks and crusting.

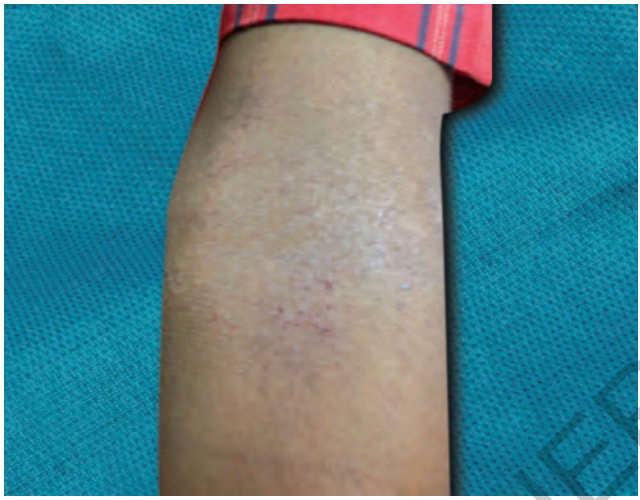


Fig. 3.3: Lichenification in antecubital fossae

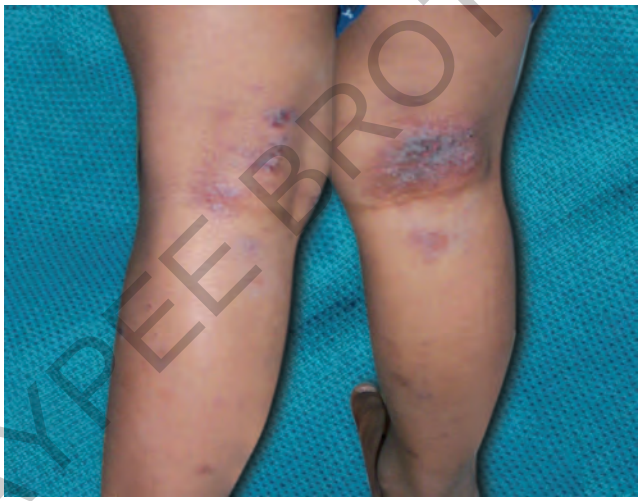


Fig. 3.4: Lichenification in popliteal fossae

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The disease has relapsing nature and may present intermittently with acute spread with papulovesicular eruptions all over body but sometimes erupts preferentially only in specific areas.

MINOR OR LESS-CHARACTERISTIC FEATURES

- Xerosis (Fig. 3.8)
- Ichthyosis (Fig. 3.10) palmar hyperlinearity (Fig. 3.11), keratosis pilaris (Fig. 3.12)
- Immediate (type 1) skin test reactivity
- Elevated serum IgE



Fig. 3.5: Lichenification on ankle area



Fig. 3.6: Excoriations

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- Early age at onset
- Tendency towards cutaneous infections (especially *S. aureus* and herpes simplex)/impaired cell-mediated immunity (Fig. 3.13)
- Tendency towards nonspecific hand or foot dermatitis (Fig. 3.14)
- Nipple eczema (Fig. 3.15)
- Cheilitis (Fig. 3.16, 3.17)
- Recurrent conjunctivitis
- Dennie–Morgan infraorbital folds (Fig. 3.18)
- Keratoconus



Fig. 3.7: Secondary infections



Fig. 3.8: Dry scaly skin of legs

- Anterior subcapsular cataracts
- Orbital darkening
- Facial pallor/facial erythema
- Pityriasis alba (Fig. 3.19)
- Anterior neck folds (Fig. 3.20)
- Itch when sweating
- Intolerance to wool or lipid solvents
- Follicular accentuation and dermatitis (Fig. 3.21, 3.22)
- Food intolerance
- Course influenced by environmental/emotional factors
- White dermographism/delayed blanch.

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Fig. 3.9: Chronic relapsing lesions on legs

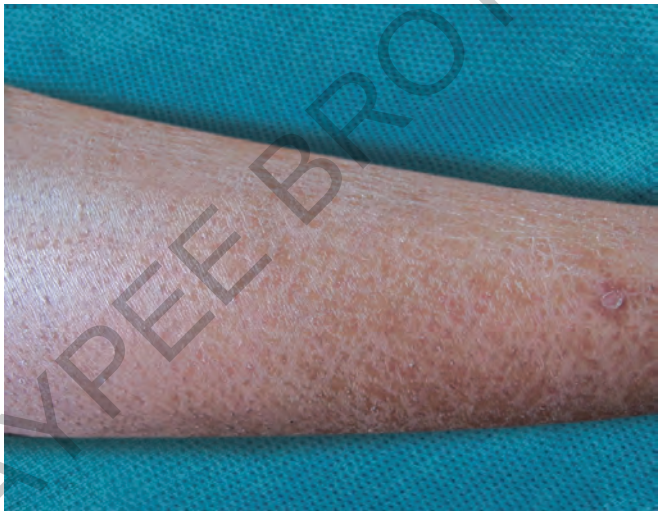


Fig. 3.10: Ichthyosis

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Atopic Diathesis consists of presence of AD, allergic rhinitis and asthma.

Atopic march refers to natural history of atopic or allergic manifestations characterized by typical sequence of clinical symptoms and conditions that occur in certain age period and persist over a number of years. Atopic dermatitis affect infants and young children frequently, asthma affects older children and pollen allergy predominantly affects adolescents. This characteristic sequence of events is known as "atopic march". Some of the features become prominent whereas others diminish or disappear over a period of time. Usually symptoms of AD precede allergic rhinitis or asthma.[4]



Fig. 3.11: Palmar hyperlinearity



Fig. 3.12: Keratosis pilaris



Fig. 3.13: Impetigo in child around mouth

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Fig. 3.14: Hand dermatitis at the tip of fingers



Fig. 3.15: Nipple eczema



Fig. 3.16: Cheilitis

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Fig. 3.17: Cheilitis



Fig 3.18: Dennie–Morgan fold

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Atopic dermatitis is intensely pruritic condition, itching precedes the appearance of lesions hence, it is described as "itch that rashes".

Atopic Dermatitis can be divided into 3 stages: Infantile AD, occurring from 2 months to 2 years of age; childhood AD, from 2 to 10 Years, and adolescent/adult AD.

Pruritus is the major feature in all three stages.

INFANTILE AD

It occurs from 2 months to 2 years of age. Around fifty percent of cases of AD are seen in first year of life. Lesions in infancy

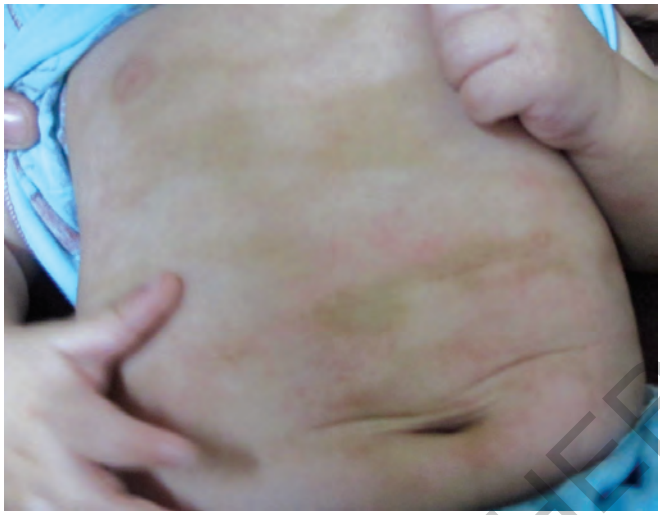


Fig 3.19: Pityriasis alba



Fig. 3.20: Invovement of anterior neck fold

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usually start on face (Fig. 3.23) but they may involve other areas also (Fig. 3.24). Usually infantile AD begins as erythema and scaling of cheeks which later extends to involve scalp, neck, and forehead, wrists[11] and extensor extremities[12] when the child starts crawling. Diaper area is usually spared.[14] Also spared areas are nose and paranasal areas giving the so called "headlight sign". Lesions consist of erythema, papules which are intensely pruritic with exudates, crusting, secondary infection[15] due to chronic rubbing and scratching. Eyelid dermatitis sets in later age which may lead to classic Dennie Morgan fold (Fig. 3.18).[16] The course of disease is chronic and fluctuating, varying with

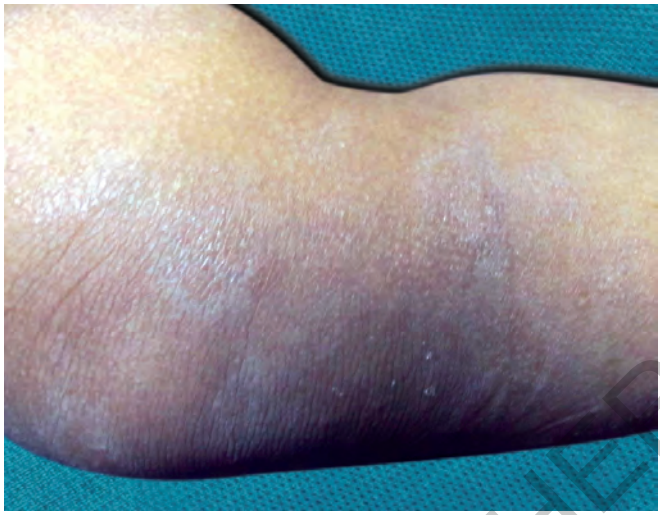


Fig. 3.21: Follicular dermatitis

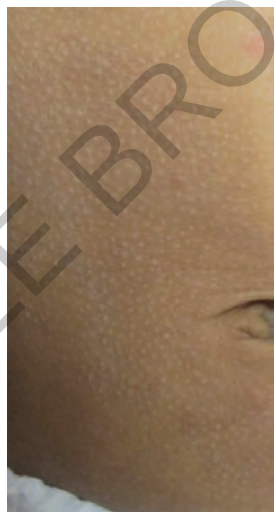


Fig. 3.22: Follicular dermatitis

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respiratory infections, immunizations, teething, emotional upsets, climatic changes. Infantile phase persists till the end of second year. Other associated features are mentioned later.

CHILDHOOD AD

In childhood AD lesions tend to be more of lichenified and less exudative. This stage is seen 18–24 months of age till puberty. It involves flexural areas like antecubital fossae, popliteal fossae, flexors of wrists, ankles, sides of neck with characteristic



Fig. 3.23: Infantile eczema—lesions on face

reticulate pigmentation of "atopic dirty neck" (Figs 3.25). Axillae are involved infrequently and axillary involvement may be a marker of seborrheic dermatitis. Pruritus is important feature and most clinical features are secondary to chronic rubbing and scratching. There is 'itch-scratch-itch' vicious cycle which leads to lichenification of lesions. Excoriated papules are seen scattered over exposed areas. Pruritus is sometimes severe to disturb sleep of a child leading to poor scholastic performance and psychological disturbances.

Adolescents and adult AD–adult AD begins after puberty and lesions are localized, erythematous, scaly papules, exudative and lichenified (Fig. 3.26). It affects antecubital and popliteal fossae, front and sides of neck, around eyes (Fig. 3.28), forehead and other areas in adolescents (Fig. 3.29). In adults, lesions are localized and may involve hands, nipple and eyelid eczema (Figs 3.18 to 3.25 and 3.27). The hands and fingers are involved frequently with fissures on overlying finger joints, scaling on palms and adjoining fingers (apron sign) (Figs 3.30 to 3.31).[2,6] Sometimes lesions may generalize (Fig. 3.33) with accentuation in flexures. Lesions may be scaly erythematous papules, lichenified or prurigo-like papules (Figs 3.34 and 3.35). Lesions are often excoriated papules, coalesced to form plaques and hyperpigmented in darker skin types (Fig. 3.36). Pruritus often increases in evenings. Flares of AD may be related to acute emotional upsets, stress, anxiety and depression.[5]

Atopic dermatitis in adults improves with age and less common after middle age, but dry skin, exacerbation with specific allergens and environmental condition persists. Photosensitivity (Fig. 3.37), exacerbation (Fig. 3.34) of lesions

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Atopic Dermatitis

Salient Features

- Provides short notes on essentials of atopic dermatitis
- Covers most of the basic aspects of the disease
- Covers all essential aspects of the disease, but everything might have not be covered
- Given many of the representative pictures for the readers to easily diagnose in future.



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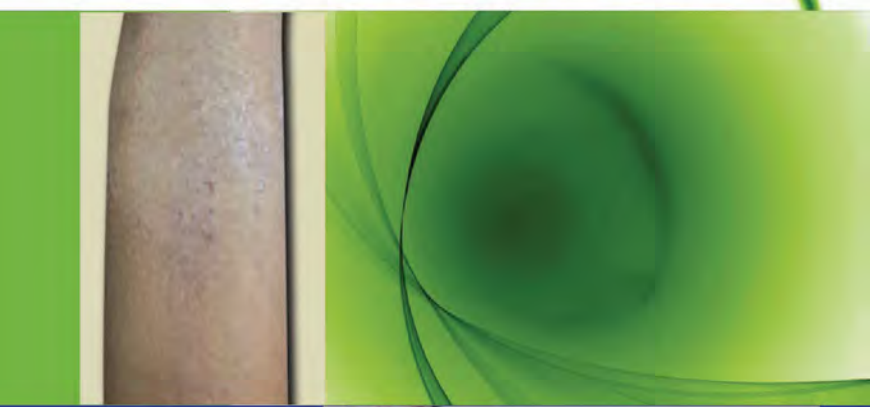
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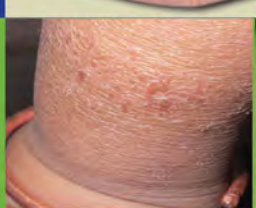
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