Editorial

Is there something called adult onset atopic dermatitis in India?

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Atopic dermatitis (AD), a chronic relapsing and remitting eczematous condition, was predominantly considered a disorder of infancy and childhood and reports on adult AD are mostly attributed to early-onset AD extending into adult life. There has not been much literature on adult onset AD until Bannister and Freeman[1] from Australia described a subgroup termed adult onset AD in 2000. Since then, many reports of adult onset AD have been reported from many parts of the world.[2-4] Hence, in the present scenario, adult-onset AD is not a rare but, rather an under-recognized eczematous condition with a prevalence ranging from 13% to 47%.[4]

Even before the description of the terminology "adult onset AD" by Bannister and Freeman,[1] few studies from Asian countries have reported on the prevalence of AD having a later age at onset. Studies from Singapore[5] and Malaysia[6] which are multiracial countries, the prevalence of adult onset AD was 13.6% and 13%, respectively. A higher prevalence of 24.2% has been reported recently from Japan,[2] another Asian country. Till date, there are no published studies from India on the prevalence of adult onset AD. In coastal areas of south India, the incidence of AD is low (personal observation), but we see a number of cases of nummular eczema and genital and extragenital lichen simplex chronicus with a positive personal or family history of atopy in the range of 15-20%. A personal or family history of atopy was present in 25.7% of patients who presented with lichen simplex chronicus of the ano-genital region in our institute.[7] In another study[8] on the patterns of lower leg and foot eczema in south India, a family or personal history of atopy was present in 13.5% of patients who presented with discoid eczema. However, there is lack of data on the prevalence of adult onset AD (as these cases are not investigated to look for other features of AD) which presents as discoid eczema or lichen simplex chronicus.

Adult onset AD has a broad range of age at the onset with a peak at 20-40 years of age as reported by most studies with a female preponderance.[1,2,4] However, AD can have an onset as late as after the fifth decade, called the senile onset AD wherein a male preponderance was observed.[3,9] These observations are in contrast to childhood AD wherein there is no gender predilection.[4,9]

The characteristic manifestation of adult onset AD is inflammatory eczema with lichenification, affecting the flexures and extensors, hands, shoulders, neck, face and eyelids.[1-4,9] In addition to these typical features of AD like pruritus, generalized xerosis and eczematous lesions in a flexural distribution, adult onset AD can present with non-typical morphology and localization. The head and neck distribution is more common in adults with AD than in children with AD.[9] It has been reported that head and neck dermatitis in childhood AD is a poor prognostic factor indicating the persistence of AD in adulthood.[10] Nevertheless, head and neck dermatitis as a manifestation of AD more commonly occurred in adults, even in the absence of childhood eczema, indicating it to be a characteristic feature of adult onset AD. Nummular lesions are the most common

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non-typical morphological variant in adult onset AD and the other atypical variants include follicular, prurigo-like, or seborrheic dermatitis like lesions.[3,4] The well-described patterns in childhood AD include papular, lichenoid, follicular, and seborrheic dermatitis like patterns.[3] The site of onset of dermatitis also seem to vary in males and females with the hands being the most common site to be involved in females and the eyelids in males.[3] In senile onset AD, clinical features resemble the adult phase, except that lichenification in the antecubital and popliteal fossae are uncommon and they typically present with eczematous erythroderma and unclassified chronic eczema.[2] The prevalence of hand dermatitis is more common in atopics, especially women, and occupational irritants and domestic work favor its development.[9]

AD can be classified into two types based on the presence or absence of elevated IgE and specific IgE sensitization into "IgE-associated," "allergic" or "extrinsic" type of AD and "non-allergic" or "atopiform dermatitis" or "intrinsic"type of AD, respectively.[11] Extrinsic AD is more common in adult onset AD (87.5-93.05%) and the prevalence of intrinsic AD tends to be higher in younger individuals (15-45%) when compared to adults (5.4-12.5%).[12,13] This could probably be due to the delayed appearance of respiratory allergies signifying the atopic march in children, or it could be that some forms of intrinsic AD are triggered by sensitization to completely different antigens or it could be that very young children have a transient form of spontaneously resolving eczema that is not a typical AD.

The clinical patterns of disease also seem to be different between the two groups as observed in various studies. In a study by Kulthanan *et al*.,[12] the typical pattern of lichenified/exudative eczematous lesions on the antecubital and popliteal areas were more common among patients with extrinsic AD whereas nummular and follicular lesions were more common in patients with intrinsic AD. Also, non-flexural involvement was more common in intrinsic AD followed by flexural area and extensor area. Moreover, other features like ichthyosis, cutaneous infection, non-specific hand and foot dermatitis, Dennie-Morgan infraorbital fold, orbital darkening, facial pallor, anteriorneck folds, itch when sweating, course influenced by environment or emotional factors, intolerance to wool and lipid solvent or any coarse fabric were more common in intrinsic AD. However, Fölster-Holst *et al*.[13] observed no clinical difference between the two groups except for the more common occurrence of Besnier pattern of prurigo in extrinsic AD. Fölster-Holst *et al*.[13] and Brenninkmeijer *et al*.[14] observed intrinsic AD to have a later age at onset and milder disease severity when compared to extrinsic AD. However, Kulthanan *et al*.[12] found no difference in the disease severity between the two groups and both extrinsic and intrinsic AD had an early age at onset in their study. Thus intrinsic AD is uncommon in adults unlike in children. These findings support that intrinsic eczema is an uncommon entity in adults with AD.

AD is predominantly a clinical diagnosis based on established diagnostic criteria as no gold standard diagnostic tests for AD exist. Moreover, in adults, AD is a diagnosis of exclusion after ruling out conditions like allergic contact dermatitis, seborrhoeic dermatitis, psoriasis, scabies, and cutaneous lymphoma.[15] Several diagnostic criteria have been proposed, but at present the two most reliable are the Hanifin and Rajka criteria revised by the American Academy of Dermatology (2003) and the UK Working Party's diagnostic criteria revised by Williams (2005).[15] These diagnostic criteria have been validated in children but little is known about the validity of these in adult onset AD.

Many features described in these criteria like pruritus, xerosis, facial erythema, Hertoghe's sign, facial pallor, dirty neck, ichthyosis, Dennie-Morgan fold, non-specific hand and foot dermatitis, orbital darkening, course influenced by environment or emotional factors, intolerance to wool and lipid solvent have been reported to occur in adult onset AD.[2,12] However, some of the features of these criteria do not have much relevance in adults and diagnosing adult onset AD strictly based on these criteria would result in missing many cases of AD in adults.[2]

Early age at the onset is one of the criteria, which is of no relevance in a case of adult onset AD. One of the major criteria is typical morphology and age-specific patterns (facial, neck, extensor involvement in infants and children; current or prior flexural lesions in any age group; sparing of groin and axillary regions). Although typical flexural lichenifications are common in adults, observations from various studies[1-4,9] suggest that a considerable number of patients present with atypical morphology and distribution in adult onset AD. For example, head and neck involvement is more common in adults in comparison to infants and flexural lesions are uncommon in elderly.

Hypersensitivity responses in adults grossly differ from that seen in children. Classical food allergy has less clinical importance in adults with AD, in contrast to children. Non-IgE-mediated and pseudoallergic reactions are more common in adults. Malassezia yeast colonization is higher in adults, as compared to children with AD and the prevalence of serum IgE antibodies to the species *Malassezia furfur* is also much greater in adult patients.[9]

Based on these observations and with the increasing prevalence of adult onset AD, it is high time that the existing diagnostic criteria for AD need to be modified and validated, else many cases of AD would be missed in adults resulting in disposing them off as contact dermatitis with no identified allergens or as unclassified endogenous dermatitis. Modified diagnostic criteria based on the knowledge of the prevalence of common and uncommon manifestations of AD according to different age group would enable early diagnosis and treatment of this extremely distressing condition.

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