

Atopic Dermatitis, Beyond the Skin Surface

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ATOPIC DERMATITIS (AD) is a common chronic inflammatory skin disease. Current advances in understanding the pathomechanisms of AD led to the development of novel therapy and preventive measures for the disease. Skin barrier abnormality plays an essential role in the pathogenesis of AD. In addition to genetic predisposition like filaggrin gene mutation, T-helper (Th)2 cytokines produced at the inflammatory site and accelerated epidermal turn-over caused by skin inflammation reduce skin barrier function. Reduction in skin barrier function leads to allergen invasiveness in the skin and subsequent allergic inflammation induced by Th2-type immune responses. Moreover, epicutaneous sensitization leads to the development of other systemic allergic disorders including food allergy and asthma. Recently, results of some clinical trials suggest that protecting the skin barrier with a moisturizer during the neonatal period may prevent the development of AD and other systemic allergic disorders. Since inflammatory skin lesions in AD are found to be characterized by an increase in Th2 cytokines such as IL-4 and IL-13, blocking Th2-cytokine signaling would be one of promising strategies in the treatment of AD. Rapid advances in understanding the association between microbiome and variety of diseases may also contribute to the development of novel treatment and/or preventive measures for AD and other allergic disorders.

Accumulating evidence suggests that AD can be accompanied by a variety of systemic diseases including metabolic diseases, which might be explained by its nature as a systemic inflammation. In addition, the association between childhood AD and attention-deficit/hyperactivity disorder (ADHD) has been reported, although the mechanism by which AD confers increased odds of ADHD remains unknown. In the clinical practice of AD, adequate education for patients and their caregivers is very important, in order not only to improve the signs and symptoms of AD but also to reduce the risk of these comorbidities.

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