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The Role of Sensitization to *Malassezia sympodialis* in Atopic Eczema

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Abstract

Atopic eczema (AE) is a chronic relapsing, highly pruritic inflammation of the skin with a worldwide prevalence of 10–20% in children and of 1–3% in adults. *Malassezia sympodialis* has been reported as the most frequent skin-colonizing yeast in both AE patients and healthy individuals. Approximately 50% of the AE patients show immediate-type skin reactions or have specific serum IgE against *M. sympodialis*. Sensitization to the yeast occurs almost exclusively in AE patients. The main cause for this specific sensitization may be the disrupted skin barrier facilitating allergen uptake. So far thirteen allergens of *Malassezia* have been cloned produced, characterized and partly studied in vitro and in vivo. Phylogenetically conserved allergen structures, such as manganese superoxide dismutase, may play a role as cross-reactive allergens in a subset of AE patients as a result of molecular mimicry and cross-reactivity with structurally related human proteins and might contribute to the perpetuation of the inflammatory skin reactions. The use of recombinant *Malassezia* allergens will contribute to elucidate the pathways of sensitization occurring in AE, the underlying immunological mechanisms governing IgE- and T-cell-mediated responses and may provide new therapeutic options to alleviate *Malassezia*-related symptoms in AE.

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Erythema, serous exudation and excoriation characterize the acute eczematous lesions in atopic eczema (AE), whereas lichenification and dry, fibrotic papules are a chronic manifestation of AE. Impetiginization, periauricular fissuration and superficial pustules are clinical signs of secondary infected AE. The worldwide prevalence of AE in children and adults is estimated to be in the range of 10–20% and of 1–3%, respectively [1]. During the past few years an increased prevalence of AE in highly industrialized countries has been reported following the general trend observed for all forms of atopic diseases [2].