

Potential Treatments for Atopic Dermatitis

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Abstract

Atopic Dermatitis (AD) is the most common pruritic inflammatory skin disease which causes economic and social burden. AD is not curable and therapeutic options are limited. Currently, the therapeutic approaches to AD include topical treatment, phototherapy, and systemic treatment. Although traditional therapeutic strategies are efficacious in ameliorating the symptoms of AD in most patients, sometimes it is a tough challenge for physicians as AD is catastrophic and difficult to treat. Several potential treatments for AD are being studied owing to a clearer understanding of its pathogenesis. Additionally, animal models of AD allow comprehensive and thorough investigation of pathogenesis and provide more options of therapeutic interventions. The purpose of non-classical treatment strategies for AD is to decrease skin inflammation, re-direct the imbalanced immune polarization, and induce immune tolerance to allergens. Generally, the intervention for mouse model of AD can be classified into 1) monoclonal antibodies, 2) anti-oxidants, 3) allergen-specific immunotherapy, 4) herbal medicine, 5) treatment with materials extracted from food or micronutrients, 6) microbiota/probiotics, 7) bio-composites films, and 8) others. Since half of the patients with AD lack specific immunoglobulin E against allergens, the pathogenesis of different phenotypes still needs to be clarified. Through novel therapies such as cytokine-targeting therapy, miRNA or suppression of thymic stromal lymphopoietin, patients with AD could have better quality of life with less morbidity.