EFFECT OF RESVERATROL ON THE DEVELOPMENT OF ECZEMA

by

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ABSTRACT

Atopic dermatitis is a type of eczema characterized by chronic inflammation of the skin, affecting millions of people worldwide. Resveratrol, a naturally occurring stilbenoid, is widely believed to exhibit beneficial effects on a host of chronic diseases. Although some previous studies have aimed to evaluate the effects of resveratrol on the pathogenesis of atopic dermatitis, this relationship remains ill-understood. We have previously established that mast cell activation, remodeling, and cellular infiltration in the hypodermis all begin prior to the IgE-mediated immune response in an atopic dermatitis mouse model, and that this early pathogenesis is directly related to an increase in local levels of sphingosine-1-phosphate. We have found that treatment with topical resveratrol attenuates mast cell activation, perivascular cell infiltration, thickening of the epidermis, and some other related mediators that we found relevant to early-phase atopic dermatitis. Our research is ongoing, and we also plan to evaluate whether this treatment affects some additional pathogenic contributors such as local sphingosine-1-phosphate levels. The results we have obtained thus far provide proof of our concept that resveratrol can negatively affect the development of atopic dermatitis, and we also plan to investigate its efficacy as a treatment for this disease. We intend to use our results as a gauge to evaluate the effects of other related compounds on the development of atopic dermatitis in the future.