

Handout WAC

Role of Dendritic cells in Atopic Dermatitis

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Atopic dermatitis (AD) is one of the most intensive studied chronic inflammatory skin diseases. Several co-factors, such as an impaired skin barrier function, modifications of the innate as well as adaptive immune system and a complex genetic background direct the course of AD. Within this complex network, dendritic cells (DCs) play a pivotal role as the central connecting components, which grab and send or transfer important messages between the environment, the innate and the adaptive immune system. However, based on the inside-outside theory, which postulates that disease specific cellular modifications and related changes of the skin microenvironment, DCs are not only an integral part of the skin barrier but are in addition capable to impact on the function of the physical skin barrier. Moreover, besides their central role in antigen presentation, strong stimulation of DCs by different signals leading to strong production of proinflammatory mediators as well as lack of pro-tolerogenic, anti-inflammatory immune responses inducible by DCs represent components which direct the course of AD. Consequently, DCs represent important targets for therapeutic approaches, which might be aimed to revert individual modifications of DCs and their functions in AD. The most recent developments and insights into the role of DCs in AD are summarized in this presentation.