Plenary Lecture 2

Phenotypes and endotypes of atopic dermatitis

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Atopic eczema/dermatitis (AD) is a paradigmatic complex disease. Different ages of onset, natural histories with various trajectories and emergence of allergic asthma and/or allergic rhinitis (atopic march), various forms of severities, divergent therapeutic response to immunosuppressive drugs but also to new approaches such as biologics or small molecules are only some of the most important and striking aspects highlighting the phenotypic complexity of AD. This diversity is probably reflecting many underlying mechanisms such as the genetic and epigenetic background affecting the innate and adaptive immune mechanisms, neuro-immunological and environmental factors including the microbiomic signals. Currently, besides understanding the pathophysiology of AD, substantial progress in the discovery of biomarkers (BM) with a predictive/prognostic value for the management of this chronic disease is an unmet need. So far, mainly BM reflecting the severity of AD have been identified but their value as surrogate BM is questionable. Moreover, predictive BM for e.g. the therapeutic response or the selection of patients who will experience atopic and non-atopic comorbidities are still lacking. Thus, BM discovery and validation remains one of the key areas in translational medicine in AD. Only a detailed and extensive analysis of the clinical phenotype combined with a thorough exploration of the underlying mechanisms in the context of biobank projects including large cohorts of patients will pave the way for precision medicine in AD.