Personalized Medicine and Allergic Disease: Unmet Need Of Biomarkers

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Opinion

Personalized medicine or 4P medicine or recently 5P medicine is a patient-centred approach to disease and care, based on its individual biological, genetic and epigenetic characteristics. It concerns all stages of the medical procedure, from molecular diagnosis using biomarkers to targeted therapeutic modalities. Personalized medicine is of broad relevance for the management of allergic diseases asthma, rhinitis, and atopic dermatitis in the context of a better selection of treatment responders, risk prediction, and design of disease-modifying strategies [1,2]. For asthma, several steps have been taken to establish the profile of asthma linked to the type 2 immune response, as well as strategies linked to the endotype. . Progress has been made in profiling the type 2 immune response-driven asthma. However, more information is needed to better target specific pathways in patients, which will optimize responses therapeutic while avoiding side effects. The endotype driven approach for non-type 2 immune response asthma, rhinitis, and atopic dermatitis is lagging behind.

In addition, most biomarkers are currently used in the framework of research and have yet to be validated and qualified. The biomarkers of asthma, rhinitis and AD are complicated by remarkable heterogeneity compared to specific cancer biomarkers. This complexity encompasses different modes of clinical presentation and marked variations in the rate of remission or progression disease, which further increases the considerable difficulty of determining the appropriate clinical outcome and to delineate efficacy biomarkers. Qualification of biomarkers are needed to facilitate their translation into specific diagnostic tests. A validation strategy for biomarkers must be created. Open interaction between the steering committees of major trials and large cohort studies should be encouraged for free trade of ideas and samples.

The approach of allergen immunotherapy is tailored to the specific IgE spectrum of an individual and modifies the natural course of the disease. In this perspective AIT has to be presently considered a prototype of current and future personalized medicine. Accurate and Specific information and biomarkers provided by evidence base medicine and network medicine will focus on the discovery of allergen immunotherapy biomarkers. Thus, this allows praticiennes to identify the responsible allergen, to recognize the correct patient responders and to evaluate therapeutic efficiency [3]. Personalized medicine is becoming an overarching medical discipline that will require a better understanding of biomarkers, phenotypes, endotypes, genotypes and Regio types of diseases. Improved knowledge of disease pathogenesis together with defining validated and qualified biomarkers are key approaches to personalized medicine.

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