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PROGRESS IN UNDERSTANDING HYPERSENSITIVITY REACTIONS TO NON-STEROIDAL ANTI-INFLAMMATORY DRUGS

Doña I et al. Allergy. 2019
https://doi.org/10.1111/all.14032
NSAIDs-induced hypersensitivity reactions have long been a diagnostic and management challenge. This timely paper provides further insight on the phenotypes of NSAIDs-induced hypersensitivity reactions – a re-evaluation of the European Academy of Allergy and Clinical Immunology (EAACI) classification which differentiates between cross-hypersensitivity reactions (CRs), associated with COX-1 inhibition (ie, NSAIDs-exacerbated respiratory disease, NSAIDs-exacerbated cutaneous disease, and NSAIDs-induced urticaria/angioedema), and selective reactions, and associated with immunological mechanisms (ie, single-NSAID-induced urticaria/angioedema/anaphylaxis, and single-NSAID-induced delayed reactions). The authors describe another phenotype: blended reactions which included coexistence of cutaneous and respiratory symptoms or food-dependent NSAID-induced anaphylaxis. They also address the natural evolution of these phenotypes including the effect of atopy and the development of tolerance; and discuss the potential role of genetic studies, transcriptomics and metabolomics in the discovery of biomarkers.

EXPOSURE TO SEWAGE WATER AND THE DEVELOPMENT OF ALLERGIC MANIFESTATIONS IN FINNISH CHILDREN

Kujansuu E et al. Pediatr Allergy Immunol. 2019;30:598-603.
https://doi.org/10.1111/pai.13090
This Finnish group examined an unusual accident where sewage water was mixed with drinking water for 2 days. As a way of testing the “hygiene hypothesis”, they postulated that such exposure to bacteria could affect the subsequent development of allergies in children. 139 children from the accident area were matched with a group of children living in an unaffected area. Children who were younger than 1 at time of exposure to sewage water were less likely to show evidence of sensitisation (OR 0.311, P = .019), which supports the view that the infant gut microbiome influences IgE sensitisation in later life.

PROGRESSIVE INCREASE OF FcεRI EXPRESSION ACROSS SEVERAL PBMC SUBSETS IS ASSOCIATED WITH ATOPY AND ATOPIC ASTHMA WITHIN SCHOOL-AGED CHILDREN

Leffler J et al. Pediatr Allergy Immunol. 2019;30:646-653.
https://doi.org/10.1111/pai.13063
IgE bind to high-affinity FcεRI on immune cells such as dendritic cells – cross-linking of these complexes lead to release of inflammatory mediators. While it is already recognised that FcεRI expression is higher in children in atopy, this group sought to examine FcεRI expression in different circulating cells in atopic asthmatic versus atopic non-asthmatic children. Peripheral blood from 391 asthmatic school-aged children was analysed for FcεRI expression on basophils, monocytes and dendritic cells. Children with current atopic asthma had increased FcεRI expression in both effector (basophil) and regulatory (dendritic cells, myeloid) populations. The authors suggest that FcεRI expression has the potential to be used as a biomarker for allergic asthma and could identify those who may benefit the most from biologic agents targeting Th2-mediated inflammation.

A CASE-CONTROL ANALYSIS OF SKIN CONTACT ALLERGY IN CHILDREN AND ADOLESCENTS

Francuzik W et al. Pediatr Allergy Immunol. 2019;30:632-637.
https://doi.org/10.1111/pai.13069
Although more prevalent in adults, contact dermatitis is becoming more common in children. Sensitisation profiles of young children (6-12 years) were compared with adolescents (13-18) and unaffected adults. Nickel was the most frequent contact allergen, whilst reactions to sorbitan sesquioleate and mercapto mix were more common among younger children and cobalt in adolescents. Adolescents in current employment were more likely to have reactions to methyl(chloro)isothiazolinone (predominantly hand involvement) and paraben mix (predominantly foot involvement) in comparison to those who were not working, suggesting that employment history and age of the patient might influence the reagents selected for patch testing.