

WAO/EAACI Allergy Definitions

The nomenclature of allergy is varied. To address this important topic and ensure clear communication between health professionals, WAO recommends the adoption of a global nomenclature for allergy. The terminology proposed by the European Academy of Allergology and Clinical Immunology publication, A Revised Nomenclature for Allergy^(Ref Johansson et al, Allergy 2001), has been updated by World Allergy Organization in its publication A Revised Nomenclature for Allergy for Global Use^(Ref Johansson et al, JACI, 2004).

Allergy: Allergy is a hypersensitivity reaction initiated by immunological mechanisms. Allergy can be antibody-or cell-mediated. In the majority of cases the antibody typically responsible for an allergic reaction belongs to the IgE isotype and these individuals may be referred to as suffering from an IgE-mediated allergy. Not all IgE associated 'allergic' reactions occur in 'atopic' subjects. In non-IgE-mediated allergy the antibody can belong to the IgG isotype, eg, anaphylaxis due to immune complexes containing dextran, and the classical, nowadays rare, serum sickness previously referred to as a Type III reaction. Both IgE and IgG antibodies are found in allergic bronchial pulmonary aspergillosis (ABPA). Allergic contact dermatitis is representative of allergic diseases mediated by lymphocytes.

Allergens: Allergens are antigens which cause allergy. Most allergens reacting with IgE and IgG antibody are proteins, often with carbohydrate side chains, but in certain circumstances pure carbohydrates have been postulated to be allergens. In rare instances low molecular weight chemicals, eg, isocyanates and anhydrides acting as haptens, are still referred to as allergens for IgE antibodies. In the case of allergic contact dermatitis, the classical allergens are low molecular weight chemicals, eg, chromium, nickel and formaldehyde, reacting with T cells.

Atopy: Atopy is a personal and/or familial tendency, usually in childhood or adolescence, to become sensitized and produce IgE antibodies in response to ordinary exposure to allergens, usually proteins. As a consequence, such individuals can develop typical symptoms of asthma, rhinoconjunctivitis, or eczema. The terms 'atopy' and 'atopic' should be reserved to describe the genetic predisposition to become IgE-sensitized to allergens commonly occurring in the environment and to which everyone is exposed but to which the majority do not produce a prolonged IgE antibody response. Thus, atopy is a clinical definition of an IgE antibody high-responder. The term atopy can not be used until an IgE sensitization has been documented by IgE antibodies in serum or by a positive skin prick test. Allergic symptoms in a typical atopic individual can be referred to as atopic, e.g., atopic asthma. However IgE-mediated asthma in general should not be called atopic asthma. Neither a positive skin prick test nor presence of IgE antibody to a less common allergen, e.g. Hymenoptera sting or a drug, which are high dose exposures, is a diagnostic criterion for atopy.

Hypersensitivity: Hypersensitivity causes objectively reproducible symptoms or signs, initiated by exposure to a defined stimulus that is tolerated by normal subjects.

Non-allergic hypersensitivity: Non-allergic hypersensitivity is the preferred term to describe hypersensitivity in which immunological mechanisms cannot be proven

Disease Nomenclature:

Asthma (as defined by GINA): Asthma is a chronic inflammatory disorder of the airways in which many cells play a role, in particular mast cells, eosinophils and T lymphocytes. In

susceptible individuals this inflammation causes recurrent episodes of wheezing, breathlessness, chest tightness, and cough particularly at night and/or in the early morning. These symptoms are usually associated with widespread but variable airflow limitation that is at least partly reversible either spontaneously or with treatment. This inflammation also causes an associated increase in airway responsiveness to a variety of stimuli.

Allergic asthma is the basic term for asthma mediated by immunological mechanisms. When there is evidence of IgE-mediated mechanisms the term IgE-mediated asthma is recommended. IgE antibodies can initiate both an immediate and a late asthmatic reaction. However, as in other allergic disorders, T-cell associated reactions seem to be of importance in the late and delayed reactions. Depending on duration of symptoms, asthma can be referred to as either intermittent or persistent.

Non-Allergic Asthma: This is the preferred term for non-immunological types of asthma. It is recommended that the old terminologies, 'extrinsic' 'intrinsic', 'exogenous' and 'endogenous' should no longer be used to differentiate between the allergic and non-allergic sub-groups of asthma.

Rhinoconjunctivitis: Symptoms of an immunologically-mediated hypersensitivity reaction in the nose and conjunctiva should be referred to as allergic rhinoconjunctivitis. Most cases are IgE-mediated. Based on duration of symptoms, it can be useful to differentiate between intermittent and persistent allergic rhinoconjunctivitis.

Dermatitis: The umbrella term for a local inflammation of the skin should be dermatitis. What is generally known as "atopic eczema/dermatitis" is not one, single disease but rather an aggregation of several diseases with certain characteristics in common. A more appropriate term is eczema. The subgroup related to allergic asthma and rhinoconjunctivitis, i.e. eczema in a person of the atopic constitution, should be called atopic eczema. Close contact with low-molecular-weight chemicals may provoke a predominantly T_H1 lymphocyte mediated allergic contact dermatitis. The non-allergic variety can also be described by terms like irritant/toxic contact dermatitis.

References

Johansson SGO, O'B Hourihane J, Bousquet J, Bruijnzeel-Koomen C, Dreborg S, Haahtela T, Kowalski ML, Mygind N, Ring J, van Cauwenberge P, van Hage-Hamsten M, Wüthrich B. A revised nomenclature for allergy. An EAACI position statement from the EAACI nomenclature task force. *Allergy* 2001; **56**:813-824.

Johansson SGO, Bieber T, Dahl R, Friedmann PS, Lanier BQ, Lockey RF, Motala C, Ortega Martell JA, Platts-Mills TAE, Ring J, Thien F, Van Cauwenberge P, Williams HC. Revised nomenclature for allergy for global use: Report of the Nomenclature Review Committee of the World Allergy Organization, October 2003. *J Allergy Clin Immunol* 2004; **113**: 832-836.

Extracted from the EAACI and WAO NPS by Karen Henley Davies, WAO and S.G.O. Johansson, Karolinska Hospital, Stockholm.