

IS HYPERSENSITIVITY/ALLERGY CLASSIFICATION VALID TODAY ?

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Von Pirquet (1874-1929) introduced the term "allergy" in 1906. He described a change to the reactivity of the organism namely in time, quantity and quality . In contrast to the widely accepted use of the "allergy" today, it is restricted to specific immunologic hypersensitivity reactions against harmless foreign antigens. He wanted to describe in general a change in reactivity of the organism, namely in word "allergy" today, when it is restricted to specific immunologic hypersensitivity reactions against harmless foreign antigens. Allergy in Pirquets sense comprised a general term indicating increases and decreases of the reactivity, and so both hypersensitive and hyposensitive reactions. With the expansion of understanding sunstones (so called allergens) it also on endogenous factors of the organism itself.(Stanford 2016).

Although the postulation of Pirquet that he described over 100 years, ago , the theory still valid. The present work was a trial to discuss the strength and week points of this theory.

Hypersensitivity (allergy) is described as altered tissue reactivity to an antigenic substance as a result of repeated or prolonged contact with a specific substance. Von Pirquet included all immunologic reactions which produce harmful effects on the host. In other words, specific acquired change in host reactivity mediated by immunologic mechanism causing an untoward response. The responsible for an allergic reaction is called allergen

Hypersensitivity/Allergy was classified into 4 groups according to the clinical observation of the skin test as follows (Huber and Wochenschr (2006)).

Type 1: It is IgE mediated hypersensitivity. This type gives a positive reaction within 15 minutes. The word allergy is usually applied to type one hypersensitivity

Type 2: It is cytotoxic or cytolytic through an antibody mediated reaction in target organ through an inflammation reaction of the target organs. Transfusion reaction, hemolytic diseases of the newborn, autoimmune hemolytic anemia, etc. are examples.

Type 3: It is antibody and complement mediated inflammation. Both type 2 and 3 give positive skin reaction after 8 hours. Serum sickness is the best example

Type 4: It is cell mediated hypersensitivity. This type gives a positive skin reaction after 24 hours. Activated lymphocyte is mediating the pathological reaction. Allergic contact dermatitis, tuberculin type of hypersensitivity, allograft transplantation reaction are the best examples.

Allergy / hypersensitive is an unusual response in an individual to a substance or a condition which is harmless to others. It is an over reaction. The word allergy applied to type 1 hypersensitivity is substances that the immune system considers harmful even if they are not.

A normal reaction should be the development of immunity. The antibodies involved in allergies are known as IgE. People who usually are affected to allergy produce large quantities of IgE. These IgE antibodies latch back against a

perfectly harmless substances such as rasp pollen, and cat dander (dDandruff) drug like penicillin etc. .

Other main components to allergies are mast cells. A mast cell has about 1000 histamine containing granules in its cytoplasm and on its surface it has up to 1 million receptors for IgE antibodies. IgE encounters allergens when it activated the mast cells to release histamine and other chemicals.

- However, there are points, worthymean timing as follows:
- Type 1 allergy.
 1. Serum levels of IgE in type 1 is not always increased
 2. Allergy and hypersensitivity are the same meaning although there are different pathology ,but not in the clinical feature histaminels the primary pathology differential type solestane of hypersensitivity
 3. According to the difintion of allergy, all types are due to non self-antigen precipitated by cell antegen, while type 2 and type 3 are precipitated by non self antiges.
 4. Although vaccine is a line of treatment of allergy, both food and drugs induced allergy is not.

Type II Hypersensitivity:1 cytotoxic Compatibility in newborns (Erythroblastosisfetalis) . 2.Rheumatic heart disease 3.Blood transfusion reaction 4.Drug induced hemolytic anemia 5.Thrombocytopenia

According to definition of allergy, all types are due to non self antigens .Types 2,3 are precipited by self antigen. luType 2 definition of allergy, all types are due to non self antigen. in fact, type 3 and type 2 was overlaping.

Type III hypersensitivity: immune complex :

- These reactions are mediated by IgG antibodies, which combine with the antigens to form immune complex that subsequently activate the complement system leading to inflammation, Vasculitis,and tissue damage act..
- It occurs when immune complexes (Ag-Ab) are not removed from circulation (due to presence of excess of Ag and Ab) and are deposited in various tissues and organs such as kidneys, Joints, Lung ,and Skin

Examples areSerum sickness, Lupus erythematosus Rheumatoid arthritis and allergic stomatitis

Although IgE in Type 1 hypersensitivity is the cornerstone , its absence has many explanations, but lack of approve . However skin test is sensitive but lack of specificity.

Our suggestion depends on evaluation of serum histamine .If is high , patients are considered type 1 , which can be vaccinated, and anti-histamine is ahelpful therapy.

On the others hand, if serum histamine levels is normal , total IgG and IgM were estimated. If high , this could be type 2 or type 3 hypersensitivity. They could be differentiated by estimation of complement C3.

According to Perquite theory for patients of type 2,3 the clinician dealing ith active diseases not with disease itself. So, ESR and CRP are the most value to folly up for disease activity. .

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