

Immune system
disorders
hypersensitivity and
opportunistic disease
research paper...

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Immune System Disorders: Hypersensitivity and Opportunistic Disease

Type I hypersensitivity is also called immediate sensitivity. Major mediators in type I hypersensitivity include histamine, tryptase, kininogenase, and eosinophil chemotactic factor of anaphylaxis (ECF-A). Responses to these mediators include bronchoconstriction, mucus secretion, vasodilatation, vascular permeability, proteolysis, edema, and eosinophil and neutrophil attraction (Kuma, Abbas, Fausto, & Mitchell, 2007). The exact mechanism causing type I hypersensitivity is not clear, but individuals who suffer from immediate hypersensitivity display higher amounts of TH2 cell production, and those cells favor the IgE antibody which is the main mediator of type I hypersensitivity (Ghaffar, 2010).

Type II and type III hypersensitivity reactions can affect a variety of tissue types and organs. The antibodies responsible for mediating these types of hypersensitivity are mainly the IgG and IgM antibodies. Antigens in both cases of hypersensitivity can be endogenous or exogenous. However, the antigens in type II hypersensitivity are attached to cell tissue while the antigens in type III hypersensitivity are soluble and they are not attached to the organs involved in the reaction (Ghaffar, 2010). In type II hypersensitivity the antibodies strive to destroy the antigens that have attached to the cell by destroying the cells completely. Antibodies in type II hypersensitivity bind the antigens and consequentially form an immune complex that can cause various autoimmune diseases.

Opportunistic diseases occur because opportunistic pathogens cannot manifest while the immune system is healthy, and they can only take an advantage of a compromised immune system. After HIV incubation, a person develops the acquired immune deficiency syndrome (AIDS). As the HIV virus replicates, it destroys T-lymphocytes progressively until their count drops below 100 cells per microliter (Weeks & Alcamo, 2006). The immune system becomes unable to defend the body from any pathogen, and opportunistic pathogens can manifest their symptoms.

References

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