**ALLERGIC CONJUNCTIVITIS**

* Definition
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Definition

Allergic conjunctivitis is a group of diseases which result from the inflammation of the ocular surface (including the conjunctiva, the cornea, eyelids and the tear film) following immune response to an allergen. The group of diseases include:

* Seasonal allergic conjunctivitis
* Perennial allergic conjunctivitis
* Vernal keratoconjunctivitis
* Atopic keratoconjunctivitis
* Giant Papillary Conjunctivitis

Etiology

The mechanism behind allergic conjunctivitis is mostly IgE mediated (Type 1 Hypersensitivity Reaction), although it may also be non-IgE mediated. Allergens that may cause allergic conjunctivitis include:

* Pollen and molds (most common cause of allergic conjunctivitis)
* Animal skin and secretions
* Chalk dust
* Perfumes
* Cosmetics
* Skin medicines
* Air pollution
* Smoke
* Dust mites

There are two broad stages that are involved.

1. Sensitization

This is usually the first interaction between the allergen and the IgE antibodies. The Langerhans cells are involved in the antigen processing and presentation through MHC II. This results in the stimulation of specific CD4 T cells with the resultant secretion of IL-4, IL-13 and expression of CD154 which cause class switching to IgE on B cells. The IgE then bind on mast cells through the binding of their Fc portion to the Fc receptor on the mast cells. The conjunctiva has approximately 6000mast cells per millimeter.

1. Effector Stage.

There are two phases in this stage

1. Early Phase

This usually results from the degranulation of mast cells. On second exposure, the allergen binds to the Fab portion of two or more IgE molecules resulting in cross-linking. After cross-linkage, there is degranulation of mast cells to release primary molecules (histamine, heparin, neutrophil chemotactic factor and eosinophil chemotactic factor) and secondary molecules (leukotrienes, prostaglandins and cytokines e.g. IL-4, IL-6, IL-13 and TNF)

1. Late Phase

This phase is characterized by infiltration of basophils, neutrophils, T lymphocytes and eosinophils; this is directed by T cells.

Clinical presentation

Bilateral red eyes

Ocular itching

Tearing

Edema of the eyelids

Skin irritation on the lids

Watery discharge from the eye

Foreign body sensation, with pain.

Complications

1. Corneal ulceration