

Ocular Allergies: Scratching the Surface

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How Many People Are Affected?

-20%-50% of the population has allergies
-83% of allergy sufferers experience ocular symptoms

Disclosure:

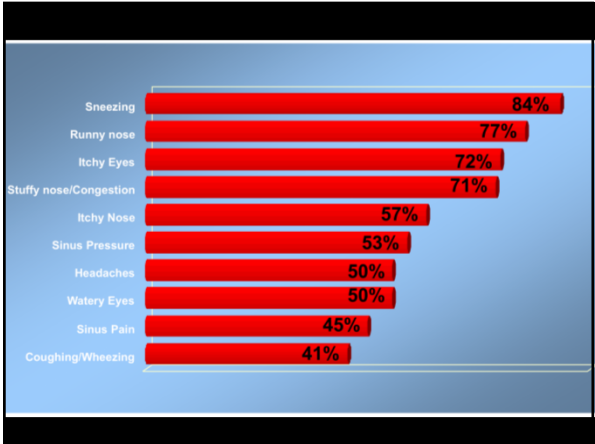
- I have no financial interest in any of the products mentioned
- Received honoraria for writing, speaking, acting in an advisory capacity or research from: Advanced Vision Research, Alcon, Argent LLC, Bausch + Lomb, Ciba Vision, CooperVision, Inspire, Ista, RPS, TelScreen, Transitions, Valeant Pharmaceuticals, Vistakon, Vmax Vision

Allergists and general practitioners should be disciplined to ask patients presenting with gross nasal allergies about their eyes, for it is only upon direct questioning that most will indicate that their eyes have been an issue."

2006 Clinical Guide to Ophthalmic Drugs; Ron Melton, Randall Thomas

Allergy

- A hypersensitivity to a specific substance or condition which in similar amounts or degrees is harmless to most people



Types of Allergic Eye Disease

- Acute allergic conditions
 - Seasonal Allergic Conjunctivitis (Hay Fever) - SAC
 - Perennial Allergic Conjunctivitis – PAC
- Chronic allergic conditions
 - Vernal Conjunctivitis - VKC
 - Atopic Conjunctivitis - AKC
 - Giant Papillary Conjunctivitis - GPC



Common Causes of Ocular Allergies

Dust

Ragweed

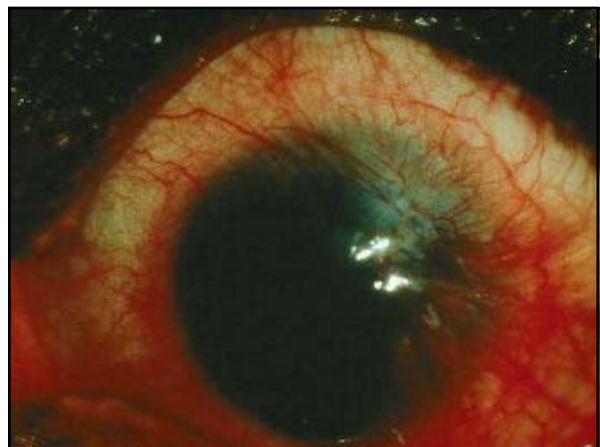
Dust Mites

Animal Dander

Molds

Allergic Conjunctivitis:

<p><i>Causes:</i></p> <ul style="list-style-type: none"> ▪ Environmental ▪ Genetic predisposition <p><i>Findings:</i></p> <ul style="list-style-type: none"> ▪ Family history ▪ No eosinophils found in scrapings ▪ Spike in tear histamine ▪ Normal histaminase function 	<p><i>Signs/Symptoms:</i></p> <p>Itching Redness Chemosis Lid swelling Tearing</p>
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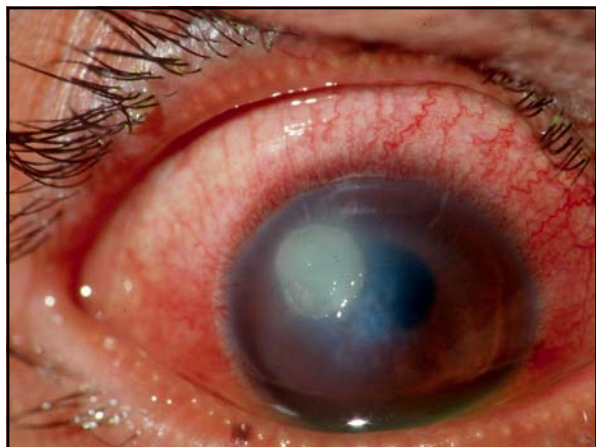
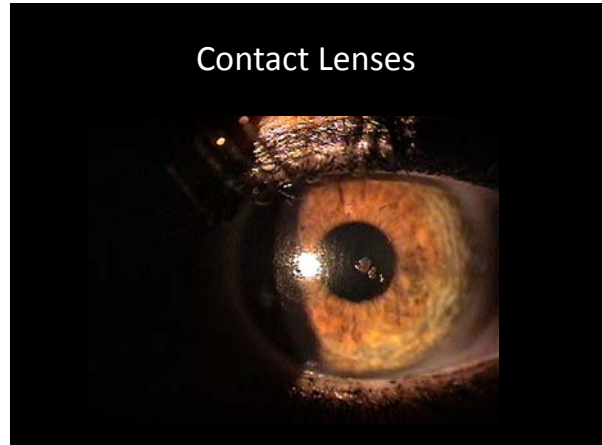


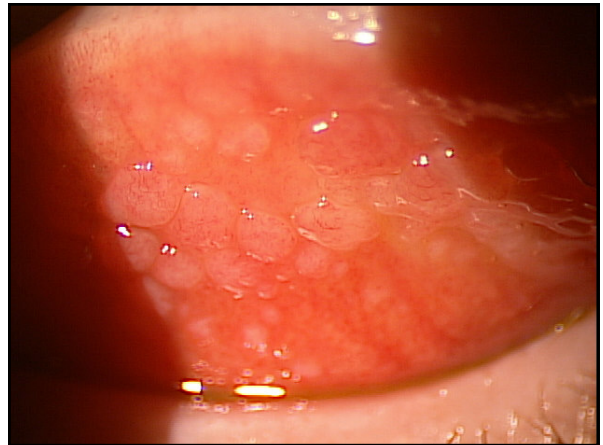
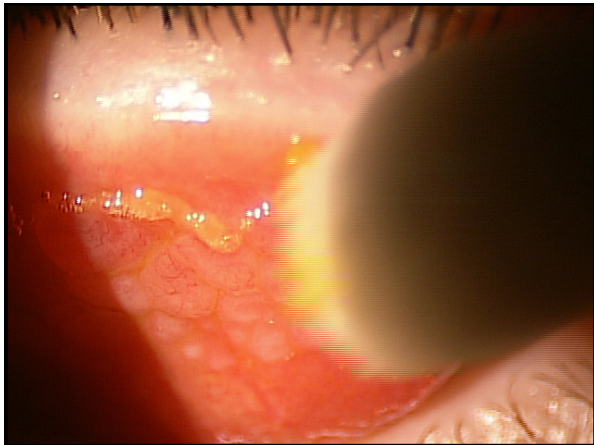
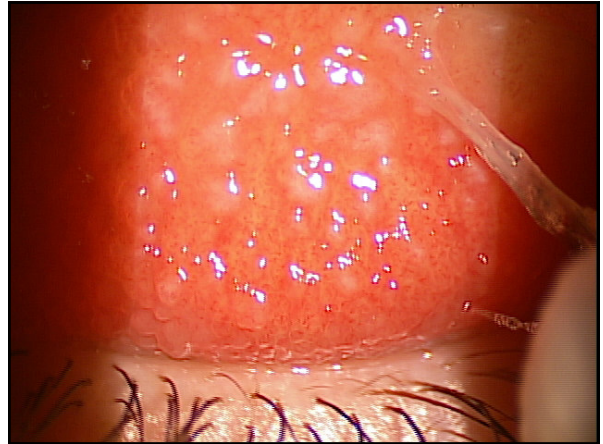
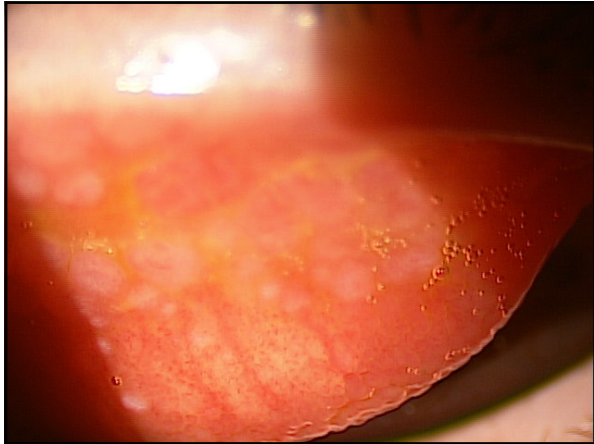
Atopic Keratoconjunctivitis (AKC)

<p>Causes:</p> <ul style="list-style-type: none"> ▪ Associated with atopic dermatitis ▪ May be perennial ▪ Genetic predisposition ▪ Environmental antigens <p>Clinical Findings:</p> <ul style="list-style-type: none"> ▪ Initiates between 20 and 50 years of age ▪ Elevated levels of eosinophils, TH₂ lymphocytes, and mast cells 	<p>Signs/Symptoms:</p> <p>Itching Redness Photophobia Keratopathy SPK/Ulcers Keratoconus Anterior polar cataracts Mucous discharge Atopic blepharitis</p>
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Vernal Keratoconjunctivitis (VKC)

<p>Causes:</p> <ul style="list-style-type: none"> ▪ Genetic predisposition, atopy ▪ Seasonal/perennial allergens (IgE) ▪ Nonspecific hypersensitivity <p>Clinical Findings:</p> <ul style="list-style-type: none"> ▪ Most predominant in males from 3 to 20 years old ▪ Increased levels of superficial mast cells, eosinophils, and lymphocytes ▪ Decreased levels of histaminase 	<p>Signs/Symptoms:</p> <p>Ptosis Ropy mucous discharge Photophobia Large, nonuniform cobblestone papillae Trantas dots Limbal nodules Neovascularization Shield ulcers Itching</p>
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Giant Papillary Conjunctivitis (GPC)

Causes:

- Repeated mechanical irritation caused by:
 - Contact lens edge
 - Exposed sutures
 - Extruded scleral buckle
 - Ocular foreign bodies
- Aggravated by concomitant allergy
- Can also aggravate ocular allergy

Signs/Symptoms:

- **Decreased CL tolerance**
- **Blurred vision**
- **Foreign body sensation**
- **Small, uniform papillae on upper tarsal plate**
- **Thick mucous**

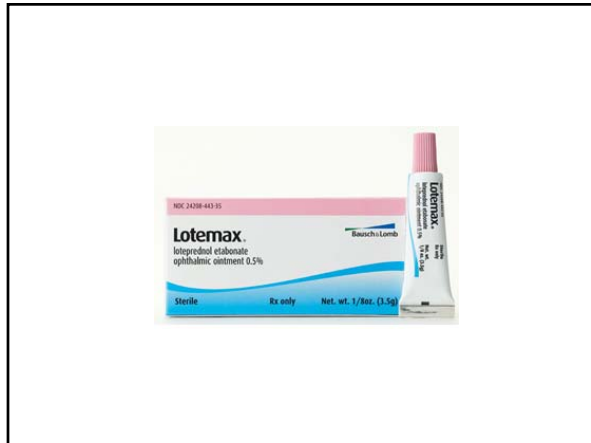
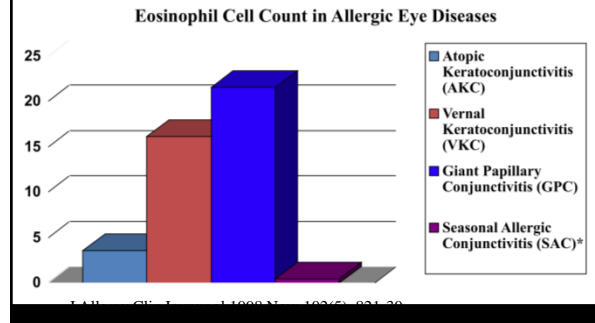
Clinical Findings:

- Increased chronic inflammatory cells

GPC TREATMENT

- Swab area to remove any bound mucous
- Discontinue contact lens wear or change to a daily disposable contact lens
- May begin short term steroid pulse (1 gt qid x 1 week)
- Maintenance of mast cell stabilizer/antihistamine combination 1 gt qd x 1 month

Clinical Relevance of Eosinophils

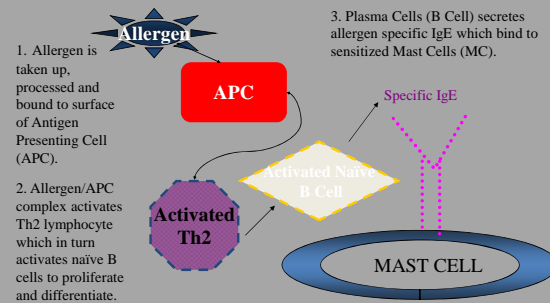


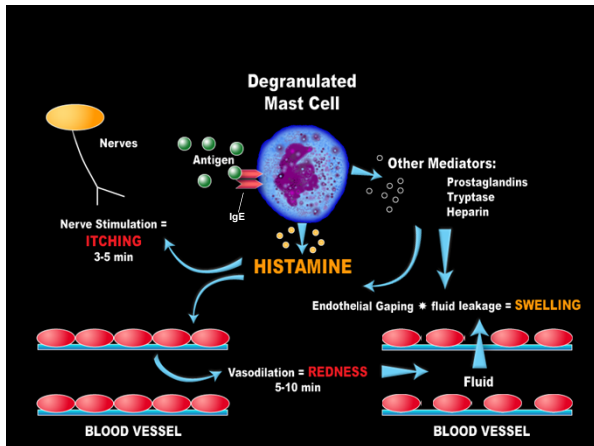
Differential Diagnoses of Other External Diseases

- Dry Eye
- Blepharitis
- Viral
- Contact Dermatitis
- Chlamydial
- Bacterial
- Contact lens related (irritant conjunctivitis, infiltrates)
- Ocular Rosacea
- Medicamentosa



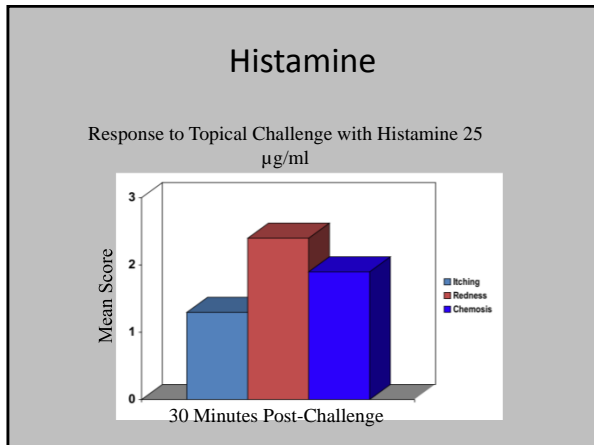
Allergic Response





Treatment Options

- Topical Medications
 - Antihistamine/ Mast Cell Stabilizer Combinations
 - Blocks Histamine receptors on blood vessels, nerve endings, etc
 - Inhibits histamine degranulation from sensitized mast cells so that when these cells are challenged with antigen, they do not degranulate
 - Patanol, Pataday, Elestat, Zaditor, Lastacast, Bepreve, Optivar



Profile of Products Released from Activated Mast Cells

Mediator	Role
IL-4	IgE Production, Mast Cell Modulation
LTC ₄ , IL-5, TNF α	Leukocyte Adhesion
IL-5, IL-6, PAF	Leukocyte Migration and Activation
Histamine, PGD ₂ , LTC ₄ , Kinins	Mucus Secretion, Edema, Vasodilation, and Nerve Stimulation

Treatment Options

- Topical Medications
 - Anti-inflammatory medications (Steroids)
 - Suppresses the whole inflammatory response
 - Loteprednol Etabonate (0.2%, 0.5%)
 - Prednisolone Acetate

