

Diagnosing Allergic Conjunctivitis
Stop the Itch: A Three-Part Series Highlighting Allergic Conjunctivitis

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Abstract: Join us for an informative COPE approved webinar on the topic of diagnosing allergic conjunctivitis. One of the major challenges in developing a successful strategy in the care of patients with allergic conjunctivitis (AC) is that AC is often self-diagnosed, underdiagnosed or misdiagnosed by eye care practitioners. Learn about the prevalence of AC and ways to diagnose it. We will discuss how to differentiate AC from other inflammatory disorders of the conjunctiva. Case studies are presented. This course is approved for 1 hour of live COPE approved CE.

Course Learning Objectives:

To provide participants with knowledge in diagnosis of AC. Several photographic histories will be presented and will be selected from a large collection of cases. Attendees will be exposed to various diagnostic applications and strategies for AC. Guidelines and problem-solving tips can be applied to the practice of participants.

At the conclusion of this lecture, the attendee will be able to:

1. Understand the clinical presentation of AC
2. Understand what diagnostic tools to use to identify AC
3. Outline strategies to differentiate AC from other inflammatory disorders of the conjunctiva

1) Allergic Conjunctivitis (AC) (5 minutes)

a. History

- red eye is a common sign that many consider the hallmark of all forms of conjunctivitis
- Ocular itching and blurring of vision are the most prevalent symptoms of ocular allergy. These symptoms often occur simultaneously with nasal symptoms

b. Physical examination

- Initial examination begins with the naked eye, using a light source such as a penlight or ophthalmoscope for illumination.
- The slit lamp examination offers the widest range of examination up to a magnification
- Differential diagnosis

- Papillae may be seen in the conjunctiva of the ocular surface at the superior limbus of the eye, leading to cobblestoning and limbal lesions known as Horner-Trantas dots containing eosinophils
 - Stringy mucus threads are a common feature of chronic forms of conjunctivitis
- c. **General classification of inflammatory disorders of the conjunctiva**
- Includes seasonal and perennial, intermittent (<4 weeks in duration) or persistent (>4 weeks).
 - Distinguishing between acute and chronic forms
- d. **Pharmacoeconomics**
- Market now appears to be almost equally distributed between anterior ocular inflammatory diseases, including ocular allergy (25%), infection (30%), inflammation (14%), and dry eye (31%), with prescription drug expenditure approaching approximately \$7 billion US annually.
 - In the United States, the prevalence of nasal and ocular symptoms have more than doubled since the mid 1970s
 - The economic impact of ocular allergy is estimated to be over \$2 billion US annually: eye care specialists (41%)
- e. **Immunopathophysiology**
- Ocular surface is immunologically active
 - Constant contact with the environment
 - Defined as an anterior ocular surface inflammatory disorder mediated primarily by triggering the IgE-mast cell system

2) Evaluation and Diagnostic Studies for Seasonal/Intermittent and Perennial/Persistent Allergic Conjunctivitis (20 minutes)

- a. **Skin prick test**
- Epicutaneous tests remain the most simple, rapid, and inexpensive procedure for the diagnosis of allergen sensitivity in patients with ocular allergy
 - Provide evidence of specific sensitivity to external environmental allergens within 20 minutes after placement on the skin.
 - Does not always correlate with allergic sensitization of the ocular surface
- b. **Patch test**
- May be necessary to delineate the specific antigen
 - Removed after 48 hours and the patches examined at multiple time points.
 - Benzalkonium chloride and thimerosal, preservatives present in ophthalmic and contact lens solutions, are common culprits
- c. **Conjunctival Provocation Test or Conjunctival Allergen Challenge**

- Conjunctival Provocation Test (CPT) or Conjunctival Allergen Challenge (CAC) can be likened to “skin testing” of the eye
- Safe and simple procedure that provides valuable clinical information with limited systemic side effects

d. Nonspecific Provocation Test

- Ocular challenge with histamine or hyperosmolar solutions has been used to verify a nonspecific hyperresponsiveness of the conjunctiva in allergic patients

e. Tear Film Evaluations

- Measurement of total IgE in tears
 1. Normal values of IgE in tears are normally very low, less than 2.5 kUI/L (3 ng/mL)
 2. Detectable tear IgE levels indicate local production of antibodies and suggest a diagnosis of allergic conjunctivitis
- Tear osmolarity
 1. Should be evaluated for supporting the diagnosis of tear film dysfunction

- Schirmer test

f. Ocular Surface Staining Procedures

- Fluorescein
- Rose Bengal
- Lissamine Green
- Conjunctival Cytodiagnosis

3) Comorbid conditions (5 minutes)

- a. More than 95% of patients with seasonal or perennial allergic conjunctivitis having allergic rhinitis
- b. 23% of children with allergic rhino-conjunctivitis have secretory otitis media
- c. 29% percent of patients with nasal polyps have allergic rhino-conjunctivitis
- d. 17% percent to 21% of patients with allergic rhino-conjunctivitis have asthma
- e. Dry eye is a frequent comorbidity (approaching 50%) of patients with ocular allergic disease

4) Chronic Ocular Allergic Conditions (5 minutes)

- a. Vernal keratoconjunctivitis
- b. Giant papillary conjunctivitis
- c. Atopic keratoconjunctivitis
- d. Contact dermatitis

5) Nonallergic Conjunctivitis Syndromes (10 minutes)

- a. Dry Eye Disease
- b. Nonallergic Perennial (Vasomotor) Conjunctivitis

- c. Infectious Conjunctivitis
- d. Occupational Conjunctivitis
- e. Drug-Induced Conjunctivitis
- f. Misdiagnosis

6) Summary Points (5 minutes)

- a. Special Populations
 - Elderly Patients
 - Athletes
 - Pregnancy
- b. Allergic Conjunctivitis Unmet Needs