



THE ALLERGY PATIENT LIFECYCLE

Keep these patients coming back by identifying what triggers their symptoms, tailoring their therapy accordingly, and strengthening their confidence in you as an eye care provider.



BY MINA A. FARAHANI, MD, MS, MS

According to the Centers for Disease Control and Prevention, more than 50 million people in the United States experience allergies each year, and allergies are the sixth leading cause of chronic illness. Up to 30% of the general population experiences allergic conjunctivitis. Transforming these individuals into longtime patients requires identifying what triggers their symptoms and tailoring therapy accordingly.

DETECTIVE WORK

Caring for patients with allergic conjunctivitis can be rewarding, but some detective work is required to identify what triggers their symptoms. Many present with a known history of seasonal or pollen-related allergies. For others, nonspecific symptoms and evidence of papillary conjunctivitis on examination can help cinch a diagnosis of allergic conjunctivitis.

When I first meet these patients, I state that allergies are chronic for many people. I explain that my goals are to identify what triggers their symptoms and to improve their comfort. I emphasize that several visits may be required to achieve these goals. This approach helps me to build rapport with patients, improves their understanding of the disease process, strengthens their confidence

in me as their eye care provider, and improves their adherence to a prescribed medication regimen.

► **History.** A thorough history is critical to determining the cause of ocular allergies. A listing of appropriate questions can be found in the accompanying sidebar on the next page.

It is not always possible to eliminate a trigger, but identifying it and limiting or eliminating exposure to it often reduces the treatment burden for these patients.

► **Examination.** I begin the examination as I obtain the history. I assess the peri-orbital area for erythema, induration, periocular swelling or darkening, and signs of excoriation. A careful slit-lamp examination that includes lid eversion can also be helpful.

With allergic conjunctivitis, the conjunctiva often becomes edematous, with subsequent conjunctivochalasis in the setting of acute papillary changes. Staining with fluorescein and lissamine green dyes can highlight specific patterns of allergy-associated changes (eg, pannus with superior stain in the setting of giant papillary conjunctivitis).

► **A multidisciplinary approach.** A multidisciplinary approach to test for specific allergens is often required for patients with chronic and moderate to severe symptoms. Patients appreciate

that I work closely with other subspecialists to identify allergens. An electronic medical records system makes the process straightforward; an update from another physician becomes an addendum to my notes.

Allergen testing may not identify a specific trigger, but it can rule out common triggers. Several tests can be administered in the ophthalmology office. The Doctor's Rx Allergy Formula (Bausch + Lomb) is FDA approved and easy to administer. It includes 39 separate panels developed for different areas of the United States based on common allergens. Each panel tests for 58 different allergens and two controls. Plastic disposable skin applicators for prick testing administer a small amount of a liquid allergen to the patient's forearm for 3 minutes. Results are ready after 15 minutes. AllerFocus (AllerFocus) is also FDA approved and tests for 58 allergens and two controls. The test takes 10 to 15 minutes to administer and yields similar results as the Doctor's Rx Allergy Formula.

For test results to be valid, patients must discontinue oral antihistamines 3 to 7 days before testing—or up to 2 weeks before testing if they have been administering oral antihistamines for more than 1 year.

- Do you experience symptoms in a certain environment?
- Did you begin experiencing symptoms after starting treatment with a new topical medication? Are your symptoms related to contact lens wear?
- Did you recently begin applying a new product around your eyes?
- Is there an underlying known history of atopy?

TREATMENT

► **Before a trigger is identified.** While efforts are underway to identify the allergen, topical therapy can be initiated to improve patient comfort and decrease inflammation. Histamine release triggers ocular discomfort and pruritus, which may cause patients to rub their eyes. Rubbing incites the release of more histamine, perpetuating the cycle. Cold counteracts the vasodilation of histamine and can disrupt the cycle. I encourage patients to use cold compresses and frequently instill cold, preservative-free artificial tears instead of rubbing their eyes to alleviate their symptoms. The administration of artificial tears can relieve allergy symptoms and flush the allergen from the eye.

Chronic eye rubbing can have vision-threatening sequelae, including keratoconus and corneal scarring. When eye rubbing is significant, I often play a quick video of a dynamic MRI for patients that demonstrates how much distortion of the ocular anatomy can be caused by eye rubbing.

► **After a trigger has been identified.** I work closely with patients to eliminate or limit their exposure to the allergen. HEPA air filters can be a useful strategy against airborne, environmental allergens. Allergen-proof pillowcases, duvet covers, and mattress covers protect bedding from dust mites, which can limit patients' exposure to dust. Cosmetics and face lotions are another frequent source of allergies. A careful review of these products and, when indicated, a switch to a hypoallergenic formulation can be helpful.

► **Topical therapies can be initiated once triggers are identified.** Sometimes,

they even can be initiated if triggers cannot be clearly identified. If the allergy is moderate to severe, I often prescribe a tapering dose of a topical steroid to relieve symptoms quickly. Topical steroids can be used safely for many acute flares, but I educate patients about the agents' potential side effects and instruct them to follow the taper instructions to limit the risks. Concurrent therapy with a topical antihistamine and/or mast cell stabilizer is also initiated. The full effect of these agents may take longer to achieve compared to a topical steroid. Several efficacious over-the-counter options are available, including olopatadine 0.7% (Extra Strength Pataday, Alcon) and preservative-free ketotifen fumarate 0.035% (Alaway, Bausch + Lomb). Antihistamines are typically effective for patients with acute allergy symptoms, which are predominantly Immunoglobulin E-mediated. Oral antihistamines may be used, but they reduce tear volume. I therefore recommend an oral antihistamine only if patients are experiencing systemic allergy symptoms; I do not prescribe these products as a first-line treatment for ocular allergy.

Patients with chronic or severe ocular allergies often have T-cell-mediated hypersensitivity. Atopic keratoconjunctivitis and vernal keratoconjunctivitis are both predominantly T-cell mediated and tend to respond best to medications that target this inflammatory cascade. Tacrolimus inhibits calcineurin and Interleukin-2, a cytokine that is key to the proliferation of T-cells. No topical ophthalmic preparations of tacrolimus are currently approved by the FDA. Ongoing research, however, is evaluating novel systems for delivering the immunosuppressive drug to the ocular surface. Several studies have proven the safety, efficacy, and tolerability of applying tacrolimus 0.03% ointment to the periocular region and conjunctiva.^{1,2} I have found applying the ointment along the eyelids or in the inferior fornix to be highly effective for atopic and vernal keratoconjunctivitis and for intractable allergic conjunctivitis (off-label use). The approach can cause transient stinging,

which raises the issue of tolerability for some patients. If tolerable, the agent can be a valuable adjuvant treatment.

CONCOMITANT DISEASE

Patients with ocular allergies often exhibit signs and symptoms of concomitant dry eye disease (DED) due to tear film instability and inflammation. Matrix metalloproteinase 9 testing is typically positive in patients with allergic conjunctivitis, so it is important to look closely for an allergic component as part of a thorough DED consultation.

For patients with chronic, mild to moderate environmental allergies, topical antiinflammatory therapies such as cyclosporine and lifitegrast ophthalmic solution 5% (Xiidra, Novartis) can help to control both ocular inflammation and the DED it produces. This approach can limit patients' need for topical steroids and achieve long-term control of their symptoms.

CONCLUSION

Many patients have chronic ocular allergies that wax and wane. Exacerbated symptoms can limit their activities and may become a source of anxiety. In this situation, I schedule follow-up appointments based on when an acute exacerbation of allergy symptoms can be expected. This allows me to increase therapy as needed to achieve better control of their symptoms.

My practice's electronic medical records system features a communication system that patients can use to contact me if they experience an acute flare-up. This accessibility can improve patients' peace of mind while further tightening control of their symptoms and ocular inflammation. ■

1. Hazarika AK, Singh PK. Efficacy of topical application of 0.03% tacrolimus eye ointment in the management of allergic conjunctivitis. *J Nat Sci Biol Med*. 2015;6(Suppl 1):S10-S12.
2. Shoji J, Ohashi Y, Fukushima A, et al. Topical tacrolimus for chronic allergic conjunctival disease with and without atopic dermatitis. *Curr Eye Res*. 2019;44(7):796-805.

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