



NEXT-LEVEL ALLERGY MANAGEMENT



In-office testing takes the guesswork out of diagnosis and treatment.

BY JAMES DEOM, OD, MPH, FAAO

Until recently, the treatment of ocular surface disease (OSD), including allergic conjunctivitis, was purely symptom-driven, which left us to guess about various factors. Depending on the patient, allergies may have either been the wrongful scapegoat or a serious cause of morbidity for many patients with signs and symptoms of dry eye. If we are honest with ourselves, when faced with a set of red, irritated eyes, many of us might use what we can call a shotgun approach, recommending lubricants, the combination drop de jour, and/or

an antihistamine/mast-cell stabilizer, without so much as a fleeting thought about the true underlying etiology.

Studies show that up to 20% of patients with OSD complaints have undiagnosed and significant systemic diseases.¹ This fact serves to underline our collective failure to systematically tease apart the potentially separate but additive contributions of allergic processes, aqueous tear insufficiency, meibomian gland and lid margin disease, infectious processes, and other proinflammatory states from one another.

Does this patient with ocular

irritation simply have dry eye, or does he or she also have ocular rosacea-driven lid margin disease, poor meibomian gland function, and tear film instability? Does the patient with chronic redness and vague irritation have dry eye alone or an underlying systemic inflammatory condition? Are ocular allergies playing a role in either of these common circumstances? How can we expect to adequately respond to each patient's unique mix of complaints if we don't make an effort to uncover the constellation of problems that contribute to the overall disease state?

We have witnessed a paradigm shift in the diagnosis and management of OSD with point-of-care tests such as the TearLab Osmolarity System (TearLab) and InflammaDry (Quidel); however, we have not until recently seen the same revolution in ocular allergy. We now have in-office testing modalities that offer a way to better understand what is causing our patients' allergies and to treat them more effectively.

ENVIRONMENTAL TRIGGERS

Population-based studies show that the rate of allergic disease is on the rise, including seasonal and

TABLE. Features of In-Office Allergy Tests

FEATURES	ALLERFOCUS	DOCTOR'S RX ALLERGY FORMULA
No. of allergens tested	up to 78	58
No. of controls	2	2
Billable units	up to 80	60
Need to sign a contract?	No	Yes
Autoship?	No	Yes
Monthly minimum of tests (because of autoship)	No	Yes
Treatment option	Yes, subcutaneous or sublingual therapy	No
Practitioner portal	Yes	No
Purchase option	Buy and bill purchase when you need to	Receive monthly predetermined amount upon signing contract
Onsite training available	Yes	Yes
Patient portal	Yes	No

perennial allergic conjunctivitis, vernal keratoconjunctivitis, atopic keratoconjunctivitis, and giant papillary conjunctivitis.² Seasonal and perennial allergies, tied to the expression of specific immunoglobulin-E (IgE) antibodies in reaction to environmental allergens, are the most common forms of ocular allergy, affecting 15% to 20% of the population.³

In these forms of ocular allergy, allergens interact with IgE bound to sensitized mast cells, resulting in the acute hypersensitivity reaction

characterized by mast cell degranulation and increased levels of histamine, prostaglandins, leukotrienes, and other proinflammatory molecules in the tear film. Mast cell activation also triggers the expression of chemokines, adhesion molecules, and other chemoattractant proteins that recruit and activate T-cells and macrophages in the conjunctival mucosa, characterizing the late-phase response.⁴

KNOWLEDGE IS POWER

The first step in treating ocular allergy is to avoid the allergen.

Therefore, knowing which specific allergens are the offending agents is critical to proper management.^{5,6} When our practice first began to offer in-office allergy testing, we learned that up to 75% of our patients who reported ocular allergy signs and symptoms such as redness, irritation, burning, itching, and watering had never been tested for allergies. We found this out by asking them the questions below at the same time that they fill out the Standardized Patient Evaluation of Eye Dryness questionnaire.

- Do allergies run in your family?
- Do your eyes often itch, particularly during spring pollen season?
- Have you ever been diagnosed with conjunctivitis?
- Are you allergic to certain animals, such as cats?
- Do you often need antihistamines and/or decongestants to control sneezing, coughing, and congestion?
- When pollen is in the air, are your eyes less red and itchy when you stay indoors under an air conditioner?
- Do your eyes begin tearing when you wear certain cosmetics or lotions or when you're around certain strong perfumes?

If patients answer yes to two or more of these questions, we tell them that they may have eye allergies, and we recommend testing to determine their allergens.

Of the patients who had previously been tested, the great majority were tested more than 5 years earlier and had no recollection of the specific allergens they were allergic to. Even worse, most patients had never been prescribed a treatment for ocular allergies and had instead resorted to over-the-counter remedies or relegated themselves to dealing with the discomfort. All of this indicates that ocular allergy is a problem that is underappreciated by the eye care community.

A WORD ON THERAPEUTIC OPTIONS

Topical antihistamines competitively and reversibly block histamine receptors and relieve ocular itching and redness, but only for a short time. These medications do not affect other proinflammatory mediators, such as prostaglandins and leukotrienes, which remain uninhibited.

Over-the-counter decongestants reduce redness through vasoconstrictive mechanisms of action; however, such medications may worsen the condition with chronic use. Burning, stinging on instillation, rebound hyperemia, and conjunctivitis medicamentosa are common with long-term use of over-the-counter decongestants.¹⁻³

Mast-cell stabilizers inhibit the degranulation of mast cells and blunt the release of histamine and other chemotactic factors, but do so only prophylactically. Hence, by themselves they do not reduce ocular surface inflammation or relieve symptoms.

NSAIDs and steroids can also help to inhibit the inflammatory cascade, but they have limited utility due to side effects with long-term use.

Immunotherapy with subcutaneous injections and sublingual therapy has been shown to desensitize patients to specific antigens but has been used primarily to address allergic rhinitis rather than allergic conjunctivitis. However, sublingual immunotherapy is gaining popularity among allergists.⁴ This modality may provide an opportunity for optometrists to address the needs of our own subset of patients.

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THE POWER OF IN-OFFICE ALLERGY TESTING

There are two FDA-approved in-office allergy tests that are marketed to eye care professionals: Doctor's Rx Allergy Formula (Bausch + Lomb) and AllerFocus (AllerFocus). These noninvasive skin-prick tests are covered by all major medical insurances and Medicare with well-established billing codes.

Doctor's Rx Allergy Formula takes 3 minutes to administer and uses a panel of 60 allergens specific to each region of the country. AllerFocus, which provides access to testing when appropriate within state scope of practice laws, identifies 78 of the most common local airborne allergens (Table). Both tests produce results within 10 to 15 minutes, allowing immediate patient education on the sensitive allergens and methods of avoidance.

In-office allergy testing gives my practice greater confidence in knowing when allergies have a contributing role in a patient's symptoms and in directing pharmacologic treatment, which is the mainstay

of therapy for ocular allergies when behavioral and environmental modifications alone are inadequate. Patients with multifactorial OSD who test positive for allergies can be placed on appropriate pharmacologic

AT A GLANCE

- ▶ The first step in treating ocular allergy is to avoid the allergen; therefore, knowing the specific offending allergens is critical to proper management.
- ▶ Taking a reflexive shotgun approach to managing signs and symptoms of OSD leaves many patients inadequately diagnosed and treated.
- ▶ In-office allergy testing offers a noninvasive way to provide better treatment to patients and bring in revenue for practices.

“IN-OFFICE ALLERGY TESTING OFFERS A WAY TO NONINVASIVELY PROVIDE BETTER TREATMENT TO OUR PATIENTS AND A NEW REVENUE STREAM FOR OUR PRACTICES.”

intervention to resolve one of many contributing factors.

Those who test negative for all allergens or who do not show a minimal response to histamine control are unlikely to benefit from treatment with topical or systemic antihistamines or mast cell stabilizers; the underlying etiology of their ocular surface complaints will warrant further evaluation. It bears noting that many topical antihistamines can promote ocular surface

drying and worsen symptoms (see *A Word on Therapeutic Options*).

IN-OFFICE TESTING A NO-BRAINER

Approximately 40% of Americans have ocular allergies,⁷ and many of them have other concomitant OSD as well. Thus, the reflexive shotgun approach to managing signs and symptoms of OSD leaves many patients inadequately diagnosed and treated.

In-office allergy testing offers a way to

noninvasively provide better treatment to our patients and a new revenue stream for our practices. With objective test results in hand, patients are happy to understand why they have red, itchy eyes, and they tend to be more committed to following through with their individualized treatment plans. ■

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