Ocular allergic diseases are some of the most common conditions encountered by eye care professionals, and ocular allergies can affect our patients’ lives in profound ways. They can affect their ability to read, drive, work on a computer, perform work-related or leisure-time activities and well as their ability to wear contact lenses. It is therefore not surprising that patients with ocular allergies can be very unhappy.

When ocular allergy patients present to the office, their eyes often look relatively normal, illustrating the importance of taking a careful history in these patients in order to help make the diagnosis. They may report experiencing tearing or discomfort at certain times of the day or in particular locations. They may also report redness, burning, or a foreign body sensation, which are symptoms common to other ocular surface diseases such as dry eyes or blepharitis, adding to the diagnostic confusion. Therefore, it is often difficult for the clinician to determine the contribution of allergy to these patients’ ocular surface disease (OSD) symptoms.

Fortunately, there have been several recent advances in point-of-care diagnostic testing for ocular allergies, and these diagnostic tools can help the clinician sort out both the presence of allergy, and the culpable allergens. Armed with data from these tests, clinicians can make informed decisions about treatment and can advise patients about allergen avoidance and related issues.

This article reviews some of the recent additions to the repertoire of ocular allergy tests, including some future innovations, and how these tools fit into clinical practice.

NEW TOOLS
The availability of in-office allergy testing designed specifically for use by eye care providers has changed the landscape of care for our patients with allergic disease.

One extremely useful tool is a skin challenge test that is easy to perform and provides results quickly. It provides data as to the patient’s sensitivity to antigens common in the air in the region in which they live, and it can help to determine the contribution of allergies to the patient’s OSD symptom complex, helping to rule in or rule out the contribution of allergy. The Doctor’s Allergy Formula test (Drs Allergy Formula), which can be easily performed by a technician, includes a tray with an array of 60 different antigens tailored to the region in which one’s practice is located. The tray is divided into six groups of 10, and there is an applicator with 10 prongs. The applicator is dipped into each set of 10 antigens, and an impression is made on the arm. The application, which does not break the patient’s skin, is repeated for all six groups of 10, so a total of 60 different antigens are tested. There is a wait of about 10 minutes for the patient to react, and the result is a “road map” of exactly what allergens the patient is allergic to.

A helpful aspect of this test is that it allows the clinician to see the magnitude of the skin response to each particular antigen. For example, a patient may have a huge response to the feather mix but only a slight response to cats. This gives an idea of how sensitive patients are to things in their environment and allows us to counsel them on allergen avoidance (more on this later).

Another new in-office diagnostic is ocular tear film testing for immunoglobulin E (IgE). IgE levels in the tear film are elevated in patients with allergy. Advanced Tear Diagnostics makes a micropipette device to capture a 0.5-µL sample from the tear film. The sample is placed in a test kit, and then the test kit is placed into the TearScan analyzer unit for analysis within seconds. Results can be printed or sent to an electronic medical record.

Rapid Pathogen Screening, maker of the AdenoPlus and InflammaDry tests for viral conjunctivitis and dry eye, respectively, is also coming out soon with an allergy test, which also evaluates IgE in the tear film. Ultimately, it will be combined on the same testing unit with InflammaDry, so the clinician will effectively have a comprehensive OSD differential diagnostic tool in one instrument, to help rule in or rule out dry eye and allergy.

DISTINGUISHING ALLERGY AND DRY EYE
In addition to allergy testing, the patient’s history is an essential component of the diagnosis of ocular allergy and can help us distinguish allergy from dry eye or blepharitis. Careful attention should be paid to the patient’s comments.

The history of itch is particularly important. In querying patients about their OSD symptoms—dry, gritty eyes, foreign body sensation, and itch—there should be a high index of suspicion for allergy in anyone complaining of itch. But patients with allergies do not always spontaneously complain of itch. They

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FAST IN-OFFICE TESTING HELPS IDENTIFY OCULAR ALLERGIES

A custom treatment plan can improve patient compliance with therapies.

BY JASON SCHMIT, OD

Allergies affect almost 60 million people in the United States, and of that number, 40% have ocular allergies in some form. Patients with symptoms of ocular allergies frequently present to the eye care practitioner’s office with eye discomfort, but diagnoses can be elusive. The eye care physician, confronted with common symptoms that may be due to any one of a number of causes, may choose to prescribe an antihistamine or anti-inflammatory medication to address a patient’s symptoms without determining the true nature of his or her complaint or identifying what he or she may be allergic to. Only by properly diagnosing ocular allergy and employing specific treatment methods can eye care providers hope to best address the root cause of their patients’ allergies and alleviate their symptoms.

SORTING OUT SYMPTOMS

Allergy symptoms can include itchy eyes, runny nose, sneezing, and sinus congestion. Itching is the hallmark sign for allergy, but it can be difficult for patients to describe if other symptoms are present. Besides ocular itching, common eye complaints due to allergies include redness, watering, and swelling or dark circles under the eyes. However, many of these signs and symptoms are similar to the presentations of other common eye conditions, such as dry eye disease (DED), infection, blepharitis, giant papillary conjunctivitis, or reaction to chronic topical medications.

Patients with ocular allergies may not even be aware that the allergies are causing their symptoms. They look to the eye care provider to diagnose and treat whatever it is that is causing their eye condition. Many eye care providers may simply address and treat patients’ signs and symptoms without really arriving at a diagnosis of the cause.

As many as 20% of patients presenting with a red eye can have an undiagnosed ocular surface disease that includes components such as meibomian gland dysfunction, aqueous tear deficiency, lid margin disease, inflammatory disorder, or infection, as well as allergy. Differentiating these states can be challenging.

If allergy is suspected, sometimes the medications that are prescribed do not work. Some reports have found that only 25% of patients who use allergy eye drops find relief. As a result, patients may become frustrated and try to alleviate symptoms on their own, using over-the-counter allergy drops or vasoconstrictors that can exacerbate the condition rather than ameliorating it.

CLINIC OF EXCELLENCE

Vance Thompson Vision specializes in cataract surgery and laser vision correction. Optimizing the ocular surface for our surgical patients helps to ensure the best surgical outcomes. Therefore, we have established a dry eye clinic of excellence to ensure we accurately diagnose and treat patients before, during, and after surgery. Detecting patients’ ocular allergies is a key part of that care. Paying attention to the ocular surface has helped to enhance the cataract and refractive segments of our practice, as well as opening additional opportunities for synergies with other aspects of our practice including oculoplastics, glaucoma, and aesthetics services.

It is estimated that between 25% and 40% of eye care patients have some form of ocular surface disease (data on file with Drs Allergy). By understanding the root causes of symptoms, we can arrive at more accurate diagnoses and quickly implement the best treatment protocol to resolve our patients’ symptoms.

One tool we use to help us diagnose ocular allergies accurately is a simple in-office test that provides results in as little as 15 minutes. The Doctors Allergy Formula (DAF) test is easy to administer and can accurately diagnose up to 60 unique ocular allergies specific to the region of the country where you practice.
The DAF ocular allergy skin test is covered by most insurance plans. The simple scratch skin test can be administered in about 3 minutes. The allergens tested, which are selected to be region-specific, can help guide the eye care provider to determine the appropriate treatment plan, which may include avoidance of allergens, pharmacologic therapy, or immunotherapy (data on file with Drs Allergy).

ONSITE TRAINING
When a practice decides to adopt the DAF Ocular Allergy Diagnostic System, onsite training and certification is conducted by a team of the company's administrators. Physicians and staff learn how to administer the test, interpret results, and manage the testing products. They are also taught about adjunctive therapies for treating ocular allergies, including homeopathic formulas and immunotherapy solutions.

After completion of the training course, physicians and staff become certified to perform and administer the DAF system following standardized protocols. As part of the training, the staff learns how use the customized forms and perform proper documentation designed specifically for the program. Additional marketing, patient education, and support materials are included, and a support hotline is provided in case questions about implementation or billing arise.

PATIENT IMPACT
Implementing DAF ocular allergy testing has allowed us to be more confident in diagnosing allergies and initiating the appropriate treatment. I also believe patients are more understanding and compliant with treatment recommendations knowing that a causative factor for their symptoms has been definitively identified. Patients tend to trust the doctor's recommendation when they leave with a plan tailored to their specific causative agents, and they generally adhere to our follow-up schedule consistently.

Pharmacologic therapy, which may include oral and topical antihistamines, mast cell stabilizers, and antiinflammatory medications, may be effective only for some patients. Avoidance techniques may be equally important in some cases. We provide brochures relevant to each patient’s specific allergens and discuss ways to avoid or eliminate these causative factors from the patient’s home and work environment.

Because our busy DED center of excellence is related to our surgical practice, it is important to realize that antihistamines prescribed for allergy may exacerbate the ocular surface in DED. Any form of ocular allergy must be recognized before treatment for a patient’s DED is implemented.1

CASE EXAMPLE
A 24-year-old white woman came to our office with a report that she had been experiencing red, itchy eyes for some time. This medical school student was referred to us for a DED evaluation. Her ocular history included unsuccessful treatment with several therapies. A thorough history revealed that, when she went home to stay with her parents on weekends, her symptoms were at their worst. Her prescribed treatments would improve her symptoms over the weekend, but symptoms would worsen again throughout the week at school. Testing with the DAF allergy system revealed that she was allergic to mold. She subsequently learned that her apartment at school had mold in it, and after she moved out and avoided the allergen, her condition resolved.

CONCLUSION
Properly identifying causative allergens and creating personalized plans can help patients reduce or eliminate the signs and symptoms of ocular allergy. A custom treatment protocol, based on fast, objective in-office testing, should be discussed with the patient to reinforce the most effective approach to treatment and allergen avoidance.


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might, for example, complain of a gritty, burning foreign body sensation and forget about the itch that set them off several days prior. Therefore, it is important for clinicians and for our technicians, when we hear about OSD complaints, to ask specifically about allergy symptoms. “Have you ever had itchy eyes? Do you have hay fever symptoms? Do you own a pet? Is there a family history of allergy?” The answers to these questions may yield clues that may raise our index of suspicion for the contribution of allergy.

As mentioned previously, patients often do not have many clinical findings diagnostic of ocular allergy upon examination. They rarely present with a red, chemotic eye with swollen lids. Every now and then, a chronic allergy sufferer may present with fine papillae on the conjunctiva, but most patients do not come in with that finding—further illustrating the importance of the patient history and why in-office ocular allergy testing can be very helpful to point us in the right direction.

Of course, the presence of allergy does not rule out dry eye, and vice versa. These conditions often coexist. Consequently, all of the usual dry eye tests are also important: examining the tear film, performing fluorescein and lissamine green staining, measuring tear breakup time, and so forth. Remember that patients who have allergies often self-medicate with oral antihistamines, which dry their eyes out further, thereby complicating the diagnostic picture. Some of these patients may present primarily with symptoms and signs of dry eye rather than of allergy. It is therefore important to remember the possible contribution of allergy, to ask the right questions, and to do the diagnostic testing if indicated.

PATIENT FLOW

Patients who have symptoms of ocular allergy or OSD are good candidates, in my opinion, for allergy testing. When we offer allergy testing to these patients, our practice is to bring them back on a separate day for the test, although many practices perform the testing “on the spot.” The technician performs the test, and the physician can then come in to read and interpret the results with the patient.

The availability of rapid, in-office diagnostic testing, which does not slow down office flow is an important advance, leading to widespread acceptance of this technology. The availability of this accurate and efficient diagnostic technology provides an important benefit to clinicians and patients, since many patients with OSD have more than one etiology: dry eyes plus allergy, allergy plus blepharitis, or all three. In order to provide patients with comprehensive control and relief of their symptoms, we have to properly diagnose and address all of the causes of their OSD, including allergy if present.

WORKING WITH PATIENTS

Once a patient is diagnosed with ocular allergy, the clinician must educate the patient regarding allergen avoidance, if possible, and therapeutic options. However, not all of our advice may be well received or even practical. It is easy to tell a patient who is allergic to cats to get rid of their pet, but, practically speaking, they will never do so. However, it is the knowledge of the causative antigens for allergic patients which is the powerful attribute of this technology. Armed with this knowledge, patients can make informed decisions, and clinicians can make better therapeutic recommendations. The cat owner who turns out to be allergic to cats may chose to chronically medicate with a combination antihistamine/mast cell stabilizer rather than get rid of their pet, while another patient who is allergic to feathers may choose to discard the down pillows and switch to a polyester-filled pillow. Similarly, a patient sensitive to dust mites can, armed with this information, proactively wash their bedding in hot water, and use dust-mite-resistant pillow cases to mitigate their symptoms. Often, the causative antigens to which patients are sensitive turn out to be something in their environment they did not know about. This knowledge can allow patients to potentially alter their behavior to avoid exposure to the allergen in question or, if avoidance is not possible, to prepare for the exposure by treating prophylactically. For example, a patient might be sensitive to dogs but not live with a dog. However, after allergy testing, he now knows why, when he goes to his friend’s house, his allergies are triggered, and he can now treat prophylactically before he enters that environment.

CONCLUSIONS

This is an exciting time for the diagnosis and treatment of ocular allergies. Our diagnostic resources used to be limited largely to patient history and limited findings on examination. Now, with the availability of accurate and efficient point-of-care diagnostic testing, we can easily rule in or out the contribution of allergy, and thereby provide more comprehensive treatment of allergy and OSD. I look forward to the availability of the additional diagnostic tests coming down the road, as well as the next generation of therapeutics for the treatment of ocular allergy.

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