

Ocular allergies

Abstract

Ocular allergies affect millions of people each year. Patients affected by symptoms often are seen in practitioner's offices in the warmer weather months but diagnoses and treatments are often elusive. Physicians typically prescribe anti-histamines and anti-inflammatory medications to address the patient's symptoms without really understanding the true nature of what the patient really is allergic to. By properly diagnosing and employing more specific treatment methods, doctors can more accurately help their patients to a better recovery.

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Abbreviations: DAF, doctors allergy formula; GPC, giant papillary conjunctivitis; OTC, over the counter

Discussion

Allergies are the most common disorder of the immune system; affecting nearly 60 million Americans and 24 million (40%) have some form of ocular allergies. It is the 5th leading chronic disease in the US and \$1.3 billion per year is spent on allergy related physician visits.¹ Allergies are an abnormal inflammatory response triggered by a repeated exposure to an allergen (antigen) in a susceptible individual. The reaction can be seasonal or perennial, but what determines if an individual develops the allergic response can be a genetic predisposition or continuous exposure to the antigen. The allergic response is a two stage process. First the exposure to the antigen results in IgE mediated antibodies to adhere to circulating basophils or mast cells. Mast cells—produced in bone marrow and circulate in the blood system waiting to be “activated”. Once activated (antigen) they then reside in body areas that interface with environment like mucous tissues/epithelial barrier sites. They are the first responders/911 operators that serve to detect other invading pathogens and counterattack and recruit additional defenses. They are key regulators of our immune system.

During this initial exposure phase, the body becomes sensitized to the antigen while still remaining asymptomatic. The early phase reaction occurs next when additional exposure to these antigens occurs to the body's now IgE specific mast cells and arachidonic acid. Arachidonic acid is an omega 6 fatty acid, which when stimulated by lipo-oxygenase and cyclo-oxygenase, causes a downstream release of prostaglandins and leukotrienes, further causing the late phase allergic response of swelling, pain, and smooth muscle contraction. The length of time being exposed to the allergen, having exposure by inhalation thus avoiding nasal filtering mechanisms, alcohol consumption resulting in additional vasodilation, and/or being exposed to multiple antigens at the same time can exacerbate the allergic response.²

Remember, itching is the hallmark sign for allergy but his can be difficult to describe for patients if having other signs present. Allergy symptoms include itchy eyes, runny nose, sneezing, and sinus congestion. Besides eye itching, common eye complaints from allergies include redness, watering, and swelling or dark circles under the eyes, but many of these signs and symptoms have similar presentations to other common eye conditions: allergy, dry eye, infection, blepharitis, GPC, chronic topical meds, inflammation, contact lens related...??? Patients with ocular allergies may not even be aware that the allergies are causing their symptoms and are simply looking at you as their

eye care provider to diagnose and treat their eye condition. Presently, as eye care providers we really are only addressing and treating the patient's signs and symptom without really having a diagnosis of the causative factor.

Studies show that up to 20% of patients with ocular surface disease likely have other undiagnosed diseases that can include meibomian gland dysfunction, aqueous tear deficiency, lid margin disease, inflammatory disorder, or possible infectious state present. Differentiating between any of these red eye states can often be difficult to discern.³ And if its allergy that is suspected, sometimes medications that are prescribed work, other times they don't with reports of only 25% of patients who use eye drops finding relief. Many patients become frustrated and often try to alleviate their symptoms on their own, using OTC allergy drops and vasoconstrictors, often times only exacerbating the condition altogether.

At Vance Thompson Vision, where we specialize in cataract and laser vision correction, optimizing the ocular surface of our patients is critical in maximizing our surgical outcomes. We have established a dry eye clinic of excellence to ensure we are accurately diagnosing and treating our patients before, during, and after surgery and assessing patients for ocular allergies falls in line with that assessment. This attention has also helped grow this segment of our practice as well as open additional opportunities to the other aspects of our refractive, cataract, oculoplastics, glaucoma, and aesthetics practices. We now can provide a more holistic approach to our patient care by offering a simple in-office test that will allow you to diagnose ocular allergies with your patients, in as little as 15 minutes! Doctors Allergy Formula (DAF) is a simple in office test that is easy to administer and can be used to accurately diagnose up to 60 specific and unique ocular allergies specific to the region of the country you live. It is estimated that between 25-40% of all eye care patients have some form of ocular surface disease.¹ By understanding the root cause of the symptoms, a more accurate diagnosis and treatment protocol can be implemented to more quickly get your patients on to resolution. Doctor's Allergy Formula's new ocular allergy skin test is covered by most insurance plans. This simple scratch skin test can be administered in as few as 3 minutes with results in about 15 minutes. The allergens tested are specific to the region of the country that you live and can help guide the doctor to determine the appropriate plan for treatment, which can include avoidance, pharmacological therapy, and/or immunotherapy.¹

To get started with the Doctor's Ocular Allergy Diagnostic System is to have an on-site training and certification conducted by a team of the company's administrators. They perform the training

with the physician and his or her staff, learning how to administer the test, interpret results, manage and control the testing products, and learn about adjunct therapies for treating ocular allergies, including homeopathic formulas and immunotherapy solutions. After completion of the course, the physician and staff become certified to perform and administer the DAF system following standardized protocols. As part of the training, the doctor's staff learn how use the customized forms and perform proper documentation that what designed specific to the program. Additional marketing and other patient education and support is included as well as a support hotline for additional questions regarding implementation or billing.¹

Implementing ocular allergy testing has allowed us to be more confident in both diagnosing allergies and initiating the appropriate treatment. And I believe patients are more understanding and compliant with treatment recommendations knowing that there truly is a causative factor for their symptoms. The patients tend to trust the doctor's recommendation too when they leave with a plan tailored to their specific causative agents and tend to adhere to our follow up schedule more consistently. Pharmacological therapy, which can include oral and topical antihistamines and mast cell stabilizers as well as anti-inflammatory medications, may only be effective for some of these patient situations. Avoidance techniques need to at least be discussed. We hand out brochures of the patient's affected allergens and discuss ways to consider avoiding or eliminating these causative factors from their environment. Conversely, you also know which patients won't respond to anti-histamines and would need to be investigated further. Because we have a busy dry eye care center of excellence, it critical to note that antihistamines cause additive effects in exacerbating the ocular surface, and any form of ocular allergy needs to be considered before administering treatment directed towards resolving the patient's dry eye condition.³

One real life example we saw in our clinic was a 24 year old white female who was a medical school student that had been battling

red, itchy eyes for some time. She was referred to us for a dry eye evaluation. Her history included being treated unsuccessfully with various therapies. When she would come home to stay with her parents on the weekends, her symptoms were at their worse. The prescribed treatments would improve symptoms over the weekend, but the redness/itchiness would again worsen throughout the week upon return to school. We had her tested for allergies and she was allergic to mold. It turns out that her apartment at school had mold in it. She moved out and avoided the allergen altogether and her condition resolved.

Conclusion

By properly identifying your allergens and creating a personalized plan, you'll be able to reduce or eliminate allergy signs and symptoms. A custom treatment protocol can then be discussed with the patient in order to determine the most effective approach of treatment. Some solutions include allergen avoidance, medications, nutraceuticals and/or immunotherapy.

Acknowledgments

None.

Conflicts of interest

Author declares that there is no conflict of interest.

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