A New Take on Allergy Diagnostics & Treatment

New diagnostics may be a boon to both patient care and practice development.

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Until recently, the treatment of ocular surface diseases, including allergic conjunctivitis, dry-eye syndrome and other ocular surface inflammatory diseases, lay frozen in the dark ages of ophthalmic care and science. Whole generations of ophthalmologists and eye-care professionals had been indoctrinated in to a mode of thinking about ocular surface diseases that amounted to treating such patients dismissively with little more than palliative care.

However, in just the last five to 10 years we have been witness to a veritable renaissance in not only the available diagnostic and treatment modalities but, perhaps more critically, the value practitioners place on attentively diagnosing and treating these diseases. We can, in part, credit the merger of the refractive and cataract worlds with placing these otherwise minor issues closer to the forefront of surgeons’ considerations as they play a major role in achieving precise outcomes and maintaining high levels of patient satisfaction.

This paradigm shift represents a boon for, first and foremost, good medicine and patient care but also for practice growth and development. In this article, we wish to share with you our experiences with some of the newer diagnostic modalities, specifically ocular allergy testing, that have benefited our patients and, in turn, our practice.

The Shotgun Approach

If we are to be honest with ourselves, when faced with a red, irritated set of eyes, many practitioners might reflexively treat with a “shotgun” approach—often recommending artificial tears, a favored antibiotic-steroid drop, and/or antihistamine, without so much as a fleeting thought about true underlying etiology. Studies showing that up to 20 percent of patients with ocular surface complaints have undiagnosed and significant systemic diseases, underline our collective failure to systematically tease apart the potential separate but additive contributions of allergic processes, aqueous tear insufficiency, meibomian gland and lid margin disease, infectious processes, or other pro-inflammatory states from one another.¹ Does a patient with ocular irritation simply have dry eyes or does she also have ocular rosacea-driven lid margin disease, poor meibomian gland function, and hence tear-film instability? Does the patient with chronic redness and vague irritation have dry eyes alone, or is there an underlying systemic inflammatory condition? Are ocular allergies playing a role in either of these very common clinical 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? The answer to these questions is quite simply, “Seek and ye shall find.”

The Scope of the Problem

There is no question as to the scope of the problem and the scale of the market in this arena. Population-based studies show that the rate of allergic disease is on the rise, encompassing patients with seasonal and perennial allergic conjunctivitis, vernal keratoconjunctivitis, atopic keratoconjunctivitis and giant papillary conjunctivitis.² Seasonal and perennial allergies, tied to the expression of specific IgE antibodies to environmental allergens, make up the most common form of ocular allergy and affect up to 15 to 20 percent of the population.³ In this form of ocular allergy, allergens interact with IgE bound to sensitized mast cells, resulting in the acute hypersensitivity reaction characterized by mast-cell degranulation, increased levels of histamine, prostaglandins, leuko-tryienes and other pro-inflammatory molecules in the tear film. Mast-cell activation also triggers the expression of chemokines, adhesion molecules and other chemotactic proteins that recruit and activate T-cells and macrophages in the conjunctival mucosa, characterizing the late-phase reaction.⁴

In our own practice, where close to 40 percent of patients report some form of ocular surface complaint and where many have been inadequately treated or dismissed by other eye-care professionals, we were long ago encouraged to create a true ocular surface disease clinic or service within our multispecialty practice. The attentive reception and methodical approach patients receive there has yielded happier, less-symptomatic patients for sure, but has also helped grow this segment of the practice exponentially and created a new gateway for new patients entering the practice—hence feeding the refractive, cataract, optometric, glaucoma, retina and oculoplastic services wherever needed.

How Testing Changes Treatment

Appropriate management of ocular surface disease hinges entirely on identifying the underlying etiology, contributing conditions (e.g., allergy), and enlisting other health-care providers such as specialists in rheumatology or allergy and immunology. While the diagnosis of ocular surface diseases is largely a clinical challenge, diagnostic testing has proven immensely helpful in providing patients and practitioners a systematic rationale for treatment. Laboratory testing for underlying conditions contributing to dry eye and other ocular surface inflammatory diseases, now available as an easy in-office testing kit (Sjo Test, Nicox, Dallas), often uncovers previously undiagnosed rheumatologic and autoimmune disorders, that, if treated in conjunction with appropriate specialists, will yield greater relief for patients’ ocular conditions while avoiding potentially devastating systemic manifestations.

Since the first step in treatment of ocular allergy is avoidance of the allergen, knowledge of specific offending allergens is critical to proper management.⁵,⁶ When our practice first began to offer in-office allergy testing, we found that up to 80 percent of our patient’s patients who reported allergic ocular symptoms such as redness, irritation, burning, itching and watering, had never been allergy tested. The vast majority of those who had been tested were tested more than five years earlier or had an incorrect identification of the specific allergen to which they were found allergic. Furthermore, most patients have never been prescribed treatment for
Topical antihistamines competitively and reversibly block histamine receptors and relieve 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 work to reduce redness via their vasoconstrictive mechanism of action. However, such medications may worsen the condition with chronic use; burning, stinging on instillation, rebound hyperemia and conjunctivitis medicamentos are common with long-term use. Mast-cell stabilizers inhibit degranulation of mast cells and thus blunt the release of histamine and other chemotactic factors but can do so only prophylactically. Hence, by themselves they do not reduce ocular surface inflammation or relieve symptoms. Azelastine is a selective second-generation H1 receptor antagonist, and also acts by inhibiting platelet activating factor (PAF) and blocking expression of intercellular adhesion molecule 1 (ICAM-1). Epinastine has effect on both H1 and H2 receptors (the latter effect may be beneficial in reducing the eyelid swelling), and also has mast-cell stabilizing and anti-inflammatory effects. NSAIDS and steroids can also help to inhibit the inflammatory cascade, but have limited utility due to side effects with long-term use. Immunotherapy with subcutaneous injections has been well-known to desensitize patients to specific antigens but has been used primarily to address allergic rhinitis rather than allergic conjunctivitis. However, sublingual (oral) immunotherapy (SLIT) is gaining momentum and may provide an opportunity for ophthalmologists to address the needs of our own subset of patients.

**Targeted & Methodical Approach**

With approximately 24 million ocular allergy sufferers, many of whom demonstrate other concomitant ocular surface diseases, the reflexive “shotgun” approach to ocular surface disease leaves far too many patients inadequately diagnosed and treated. Practices that instead adapt to this growing population of patients and adopt burgeoning diagnostic and treatment modalities to home in on specific contributing factors such as ocular allergy, will be well-positioned to, at once, serve the needs of their patients and grow their practices.

Thus far, our patients are responding well to this new paradigm in ocular surface disease management that now includes in-office allergy testing. Many patients have expressed a sense of relief not only from any actual therapy, but from finally having a sense that their condition and symptoms are being compassionately acknowledged and methodically addressed.

Drs. Desai and Weinstock practice at the Eye Institute of West Florida in Largo, Fla. They report no financial interest in any product mentioned in this article.
