Clinical & Refractive Optometry is pleased to present this continuing education (CE) article by Dr. Ron Melton and Dr. Randall Thomas entitled **Nonspecific Conjunctivitis.** In order to obtain a 1-hour Council of Optometric Practitioner Education (COPE) approved CE credit, please refer to page 260 for complete instructions.

Nonspecific Conjunctivitis

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CASE #1

Subjective

A 30-year-old male presents with a history of several years of redness to his eyes (Fig. 1). He has seen three different eye doctors and his family physician for his problem, and has used multiple prescriptions and over-the-counter products, ranging from a nasal spray to a variety of pills and drops. He has used naphazoline hydrochloride/pheniramine maleate (Naphcon-A) routinely 2 to 4 times daily for the last 3 to 4 years because this medication helps the most in clearing his redness. He is using no systemic medicines and has no known drug allergies.

Objective

- Visual acuity (VA): 6/6 (20/20) OU
- Lids: normal OU
- Bulbar conjunctivae: Grade I injection OU (Fig. 2)
  Palpebral conjunctivae: Grade II inferior palpebral follicular response OU (Fig. 3)
- Cornea: clear OU
- Tear breakup time (BUT): 15 seconds with a normal lacrimal lake height OU.

Assessment

- Nonspecific conjunctivitis OU secondary to chronic antihistamine/decongestant

Plan

- Stop naphazoline hydrochloride/pheniramine maleate eye drops!
- Start loteprednol etabonate 0.2% (Alrex) 1 drop q.i.d. OU x 1 week, then 1 drop b.i.d. OU x 1 week
- Use GenTeal q.i.d. OU x 1 month

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Fig. 1 The patient presented with a history of mild redness to his eyes over the past several years.

- At follow-up in 1 month: Significant decrease in the bulbar conjunctival injection with the patient being much happier with the status of his general eye condition
- Continue the GenTeal q.i.d. OU indefinitely

Comments: One of the keys to managing patients with nonspecific conjunctivitis is to educate them about their condition. Make sure they understand that you will not cure their red eye problem, but that the goal is to minimize their problem. The patient needs to understand that they will have to lubricate their eyes long term to prevent the exacerbation of the nonspecific conjunctivitis.

General Observations

Conjunctivitis is the medical term describing inflammation of the conjunctiva, the most common anterior segment eye disease. Bacteria, viruses, allergy, and trauma are four common causes of this acute inflammatory response. Each of these specific types of conjunctivitis has historical and clinical features which help pinpoint the etiologic agent. For example, a patient complaining of mucopurulent discharge and pronounced sticking together of the lids upon awakening, as well as a burning sensation in the involved eye(s) during the day is suspicious of bacterial etiology.

A palpable preauricular node in a red eye with an excessive watery, serous discharge is characteristic of adenoviral infection. In allergic conjunctivitis, a patient presents with bilateral itching, tearing, and redness of the eyes, with itching being the predominant feature (especially towards the nasal canthal area). It would be ideal if

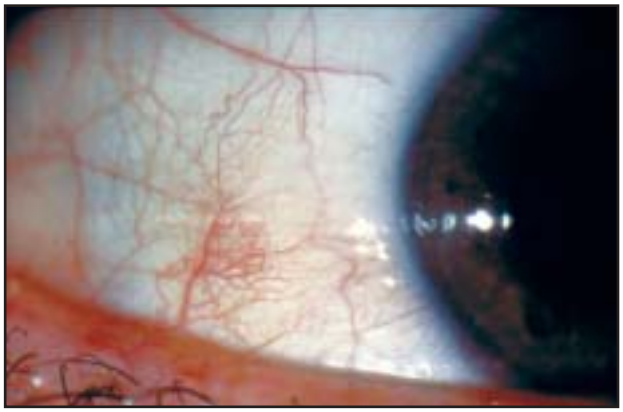

Fig. 2 Slit-lamp observation shows a mild (Grade I) injection pattern to the bulbar conjunctiva.

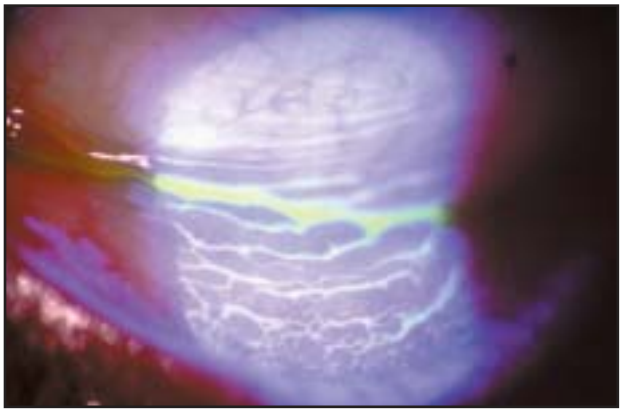

Fig. 3 The inferior palpebral conjunctiva had an associated Grade I+ to II follicular response. The follicular response is easier to grade after the instillation of fluorescein dye.

patients would show up in our offices with textbook cases of conjunctivitis such as those described above. Time and time again, a patient will present with a one-to-three-day history of an irritation to one or both eyes. When asked if there is associated burning or itching, the response is either yes or no to both symptoms, with neither being predominant. There is usually no significant discharge present. Slit-lamp biomicroscopy generally reveals a mild amount of injection, both to the bulbar and palpebral conjunctiva. The inferior palpebral conjunctiva may have a mild follicular response along with the hyperemia, but this is by no means diagnostic. The lids have no unusual amount of scurf or oil.

Having no clue as to what is causing the conjunctival hyperemia, you excuse yourself from the exam room to perform a minor emergency procedure — to brush the dust off the textbook and look under conjunctivitis. When an exhaustive search still leaves you clueless, do not lose hope. This is a classic case of "nonspecific conjunctivitis." The most common cause of nonspecific conjunctivitis is dry eyes, often complicated by patient self-medication with an OTC vasoconstrictor. When the ocular surface is lacking its protective coating provided by a normal tear film, the conjunctiva can become inflamed, creating a symptomatic patient who previously noticed very little irritation. Environmental toxins such as gasoline or exposure to dyes may trigger this nonspecific response. And, last but not least, many times the etiology to the inflammation is unknown, leaving one curious as to the exact cause.

Soparkar et al[1] have identified vasoconstrictor abuse as a common cause of chronic, nonspecific conjunctivitis. Nonprescription decongestant eye drops can produce hyperemia of the conjunctiva by allergic, toxic, and pharmacological mechanisms. The "get the red out" products contain alpha-adrenergic, vasoconstrictive amines such as phenylephrine, tetrahydrozoline, and naphazoline. There are also several preparations that contain an antihistamine with the vasoconstrictors (Naphcon-A, Opcon-A, Visine-A and Vasocon-A). Suspect the decongestants as a cause of nonspecific conjunctivitis in patients giving a history of vasoconstrictor eye drop use.

Management

Nonspecific conjunctivitis caused by the ophthalmic decongestants, is managed somewhat differently. If generalized conjunctival hyperemia is the only clinical finding, discontinuing the vasoconstrictors and using only preservative-free artificial tears will resolve the redness. Steroids do not help speed up the resolution of the hyperemia here. It takes weeks or even months for the conjunctival blood vessels to restabilize.

For the more common non-vasoconstrictor-caused nonspecific conjunctivitis, corticosteroids are the mainstay of therapy. The mild to moderate ophthalmic steroids such as loteprednol etabonate 0.2%, fluorometholone alcohol 0.1%, or prednisolone sodium phosphate 0.125% work well at relieving inflammation. If subjective and/or objective findings are more pronounced, consider a more therapeutically effective ophthalmic steroid preparation such as loteprednol etabonate 0.5%, fluorometholone acetate 0.1%, or prednisolone sodium phosphate 1.0%. Another common option is to prescribe a combination antibiotic/steroid such as Vasocidin or Blephamide, both of which contain sodium sulfacetamide 10% with approximately 0.25% prednisolone.

The reason for prescribing these combination products is for the anti-inflammatory action of the steroid, since the sodium sulfacetamide has limited use as an antibacterial agent for the eye because of staphylococcal resistance. The ophthalmic nonsteroidal anti-inflammatory

Fig. 4 A 56-year-old female presented with a complaint of both eyes being "red, scratchy, and burning." The conjunctivas are 1+ injected.

agents could be tried, but are usually less effective at suppressing conjunctival inflammation. The prescribed drops can be used q.i.d. for 2 to 3 days, then b.i.d. for 2 to 3 days. It may be wise to have the patient use preservative-free artificial tears at least q.i.d. for several days concurrent with and/or after stopping the prescribed drops. This helps protect the eye from feeling irritated following acute relief from the corticosteroid.

For perspective, remember the only conditions where steroids (either alone or in combination) are contraindicated are epithelial herpes simplex keratitis, acute bacterial or fungal infections, and clinically significant defects in the epithelium (such as a large abrasion).

In summary, nonspecific conjunctivitis is not to be used as a shotgun diagnosis for the common "red eye" patient. When the "red eyes" defy an exact diagnosis, one is left with a diagnosis of exclusion – nonspecific conjunctivitis, which is almost always inflammatory in nature. Based on many years of practice and experience with highly-skilled optometrists and ophthalmologists, we know that nonspecific conjunctivitis is a very common presentation.

CASE #2

Subjective

A 56-year-old white female presented with a chief complaint of both eyes being "red, scratchy, and burning." She has been using naphazoline hydrochloride/pheniramine maleate (Opcon-A) drops b.i.d. or t.i.d. for about 3 years. It was originally recommended for short-term use; however, she has continued to use it because, "It makes my eyes white."

Objective

- Visual acuity (VA): 6/6 (20/20) OU with modest correction
- Slit-lamp examination (SLE): 1+ conjunctival injection OU (Fig. 4); Corneas show modest inferior superficial punctate keratitis (SPK)
- Tear breakup time (BUT): 6 to 8 seconds OU

Assessment

- Nonspecific conjunctivitis secondary to dry eye syndrome complicated by protracted overuse of a topical antihistamine/decongestant

Plan

- Stop the over-the-counter vasoconstrictor.
- Use a preservative-free, transiently-preserved, or non-toxically preserved (no BHK) artificial tear* q.i.d. x 1 month.
- Follow-up in 1 month, or sooner if any problems. At this 1-month visit, her eyes were "almost back to normal." SLE revealed normal conjunctival microvasculature. BUT was in excess of 12 seconds in each eye. She was asymptomatic. Artificial tears may need to be used on an ongoing basis

Comments: While it has been controversial whether topical ophthalmic decongestants can cause conjunctival rebound hyperemia, an important article by Soparkar et al[1] establishes the reality of such, just as this patient has done. It is well known that the public commonly selects a "get the red out" over-the-counter medication for common eye ailments (most notably dry eyes). This poor practice can compound the patient's problems. It must be remembered that dry eye syndrome is epidemic in proportion. While artificial tears do not rapidly eliminate the cosmetically bothersome redness, their proper, consistent use is best for long-term ocular surface health. For those few patients who, in spite of proper care, maintain low grade redness, the occasional "special occasion" use of a topical vasoconstrictor to whiten the eyes is permitted, i.e., weddings, pictures, special social occasions, etc.

While everyone enjoys a quick fix, such is not the case in situations where it can take a few months for the conjunctival blood vessels to regain their physiologic tone. Topical corticosteroids are not indicated, since there is no inflammation, rather, there is damaged microvascular tone from chronic over-constriction of these vessels. In working up these chronic low-grade red-eye patients, pursue a history of any eye drop use, and do a careful dry eye evaluation. ❑

REFERENCE

1. Soparkar CN, Wilhelmus KR, Koch DD, et al. Acute and chronic conjunctivitis due to over-the-counter ophthalmic decongestants. Arch Ophthalmol 1997; 115: 34-38.

**Preservative-free examples:* TheraTears; Bion Tears; Refresh Plus; Systane; B&L Moisture Eyes; GenTeal
Transiently-preserved examples: TheraTears; Systane; GenTeal; Refresh Tears
While in our clinical cases we may mention a specific brand name, any of these premium-quality artificial tears could be used.