



DRY EYE AND GLAUCOMA: A COMMON DENOMINATOR



Tedious drop regimens may cause ocular surface issues; here's how to treat them.

BY JEFF BANAS, OD

About 30% of the patients I see in my clinic have glaucoma. Sometimes patients with dry eye are even more common.¹ Should your clinic be anything like mine, you see both on a regular basis. We live in a world where we are fortunate enough to have many tools in our arsenal to treat these conditions. So, what do you do when you encounter both at the same time? Better yet, what do you do when one is a result of treating the other? Here, I'll share what I do when I encounter this situation in my practice.

CAUSE AND EFFECT

As an optometrist, I was trained to treat glaucoma many ways, one of which is with topical ocular therapeutic drops.² I often start with a prostaglandin analog (PGA) and, depending on my IOP target, I might

add other classes of IOP-lowering agents. The caveat here, though, is the more drops I add, the more chemicals and preservatives I introduce to the ocular surface. Consequently, the more preservatives the ocular surface is exposed to, the dryer it gets. Thus, in treating one condition, I have worsened or created another. Several studies published over the past few decades have demonstrated that preservatives in topical ocular therapeutics can exacerbate ocular surface disease (OSD).^{3,4} There are many ways we can effectively mitigate the effect of preservatives so as not to worsen patient compliance, or their vision, comfort, or quality of life.

Reducing the Drop Burden

The first thing I like to do in this situation is simple: I take the patient off drops, if possible. The reality is

that even if a patient is consistent with their drop regimen, they still face compliance challenges. So, why not just get them off the drops and remove that barrier? There are many ways to reduce the drop burden while still effectively controlling IOP.

Recent data from the LiGHT study show that selective laser trabeculoplasty (SLT) is just as effective as traditional first-line therapies.^{5,6} Thus, whether you have a patient on multiple medications or just one, or you are thinking about adding a PGA, consider SLT. I am fortunate enough to work in an ophthalmology practice, where I have access to this technology, but if you don't have SLT in your practice, I recommend building relationships with nearby practices that do. The benefits of initiating SLT and reducing drop burden cannot be overstated.⁷

AT A GLANCE

- ▶ Treating glaucoma with drops introduces chemicals and preservatives to the ocular surface, exposing it to dryness issues.
- ▶ Dry eye as a comorbidity of glaucoma requires a preservative-free or surgical management solution to improve patient compliance and care.

Another option to consider when aiming to give your patients freedom from topical medications is the bimatoprost intracameral implant 10 mcg (Durysta, Allergan), which enables the delivery of a PGA without the need for a daily eye drop. However, removing one medication may not be enough to significantly reduce OSD. These patients are often the type who have multiple drops in their glaucoma regimen.

The next thing I do is determine whether the patient has a visually significant cataract. If so, they're a great candidate for a MIGS procedure, which, when combined with cataract surgery, can greatly reduce and stabilize IOP to the point where drops may no longer be necessary. If the patient doesn't have a visually significant cataract, but is still on multiple medications and experiencing OSD, the Xen Gel Stent (Allergan/AbbVie) is a good option. A successful Xen procedure should lower IOP into the lower teens without the need for additional glaucoma medications. This effectively takes away the drop burden, controls pressure, and eliminates ocular surface complications from drop toxicity.

Let's say a patient is not a good candidate for surgery and is on medications that are worsening their ocular surface. There are a few preservative-free formulations to consider instead.⁸ For PGAs, tafluprost ophthalmic solution 0.0015% (Zioptan, Merck) and latanoprost ophthalmic solution 0.005% (Iyuzeh, Théa Pharma) are available. Preservative-free timolol maleate ophthalmic solution 0.5%

(Timoptic in Ocudose, Bausch + Lomb) is an alternative for beta blockers, and Cosopt PF (dorzolamide HCl-timolol maleate ophthalmic solution, Merck) is a great combination drop option.

Managing the Ocular Surface

Thanks to the environment here in southeastern Wisconsin, every one of my patients has dry eye. Regardless of whether the patient is a candidate for surgery or whether preservative-free drops are a viable alternative, I still prophylactically treat the ocular surface. I always start a patient on a daily regimen of preservative-free artificial tears to help optimize the ocular surface and mitigate the toxicity of any prescription drops. Additionally, I use an immunomodulator, such as cyclosporine ophthalmic solution (Restasis, Allergan), lifitegrast ophthalmic solution (Xiidra, Bausch + Lomb), or cyclosporine ophthalmic solution (Cequa, Sun Ophthalmics) to bring down inflammation and increase natural tear production.

We can't forget about the lids. More than 85% of dry eye cases have an evaporative component.⁹ Thus, warm compresses twice daily with a Bruder Moist Heat Eye Compress (Bruder) work great for daily maintenance. Hypochlorous acid sprays, such as Avenova OTC Antimicrobial Spray (Avenova Eyecare) and TheraTears Sterilid Antimicrobial Eyelid Cleanser and Facial Wash (Prestige Consumer Healthcare) twice daily, also help with maintenance. If you don't want to add additional eye drops to a patient's regimen, varenicline solution nasal

spray 0.03 mg (Tyrvaya, Oyster Point Pharma) can be a great alternative to increase tear production.

For more moderate to severe cases, an OTC gel ointment used at night, such as Refresh PM (Allergan), may offer substantial improvement. Amniotic membranes for severely dry eyes can quickly improve the ocular surface, and the effects can last for weeks, if not months. I frequently use the accellular amniotic membrane AcellFX (Théa Pharma) in my practice with success. I am also not afraid to use short bursts of steroids in well-managed glaucoma patients who are experiencing an inflammation flare-up. Loteprednol etabonate ophthalmic gel 0.38% (Lotemax SM, Bausch + Lomb) has been shown to have a lower risk of IOP spikes compared with other steroids.

TAKEAWAYS

Tailoring a treatment plan by following the appropriate steps is how I successfully reduce OSD in my patients with glaucoma. Hopefully, this method will also work for you, or at least set the framework for an approach that will. ■

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