

Differentiating Contact Lens-Related Red Eye from Dry Eye



How many red eye patients do you normally see in a week? I see about two to five on average. Some patients who come in with red eyes are contact lens wearers. It's important to distinguish an infection from inflammation secondary to dry eye, as an incorrect diagnosis can lead to delayed treatment.

Delayed or unsuccessful treatment might make patient seek a second opinion or lose confidence in you as their eyecare provider.

Here's a [36 page guide on understanding dry eye](#) and meibomian gland dysfunction. Learn how you can treat MGD using LipiFlow, and how to bring this technology to your practice.

Let's look at a case of a red eye.

A 35 year-old caucasian female presented with red eyes that had been occurring on and off for a month. She reported discharge, eye discomfort,

and an inability to wear contact lenses. She subsequently was diagnosed with giant papillary conjunctivitis (GPC) and had been medicated with: Pred Forte, Alrex and Lastacaft with slight improvement.

This particular patient presented to us for a *second opinion*. Since she was diagnosed with GPC already, I felt it important to examine the palpebral conjunctiva. On examination, there was 1+ papillae and a moderate amount of concretions. Concretions can form due to chronic inflammation related to conjunctivitis, dry eye or meibomian gland dysfunction.

I began her on a regimen of Alrex bid ou and Freshkote qhs ou to control the inflammation.

At her follow up visit, the GPC had resolved; however she still had concretions within the superior palpebral conjunctiva. Our patient also complained of having dryness in both eyes, so I investigated tear break up time (TBUT), which was 3 seconds OU and noted the presence of conjunctival staining.

Had I checked TBUT at her last visit, I could have addressed these findings and saved her another office visit. I changed the treatment regimen to include artificial tears QID OU, warm compresses BID OU and Restasis BID OU.

At the follow up visit, TBUT increased to 4 seconds and the size of concretions were reduced. She is scheduled for follow up again in several months.

It can oftentimes be difficult to differentiate between contact-lens related issues and dry eye as they can go hand and hand and present similarly.

Below I will outline several causes of red eye secondary to contact-lens related complications and dry eye, and how to differentiate between the two.

Giant Papillary Conjunctivitis

Signs: cobblestone papillae on upper lid, mucous discharge, contact lens intolerance

Treatment: discontinue contact lens wear, mast cell stabilize for mild-moderate cases, topical steroids for severe cases

Tip: Evert lids on all contact lens wearers even if they are asymptomatic.

Meibomian gland dysfunction (MGD)

Signs: capping of meibomian glands, hyperemia and telangiectasia of posterior lid margins, toothpaste like secretion on applying pressure to lid margin and oily tear film

Treatment: lid hygiene (warm compresses and digital massage of lids), Doxycycline 100mg bid for 6-8 weeks, artificial tears

Tip: Chronic MGD can lead to contact lens intolerance and giant papillary conjunctivitis.

Aqueous Deficiency

Signs: foreign body sensation, dryness, watering, gritty feeling, contact lens intolerance

Treatment: artificial tears and ointment, Restasis, punctal plugs, mild topical steroid (I normally use FML BID OU for a month and then switch to Restasis).

If my patient was in pain and had photophobia, corneal ulcer and contact lens induced acute red eye would be on my differential diagnosis list as well.

Here is a [great article](#) on the signs and treatment of some of these

conditions.

With a red eye patient, it's important to look at the eyelids, conjunctiva, cornea and anterior chamber specifically if a patient is wearing contact lenses. With a right diagnosis and treatment, not only will your patient be happy, but you will also create a *loyal patient to your practice*.

What would you have done differently for this patient? Share your thoughts in the comments!

Tip: Check TBUT on patients who complain of watery eyes.

References

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