Approximately 1% of all emergency room visits and 2% of all primary care visits are due to conjunctivitis. In the overwhelming majority of these cases, adenovirus is the culprit. Because of the frequency of viral conjunctivitis and its associated patient discomfort and lost days at work or school, a cure is constantly being searched for. Unfortunately, the mainstay of therapy today is limited to ameliorating the symptoms until the natural course resolves.

Traditional therapies include application of artificial tears and ocular lubricants along with cool compresses. Patient counseling regarding how to decrease viral spread by frequent hand washing and staying out of school or work is also helpful. For many patients, however, the symptoms of conjunctivitis are simply too disabling for supportive therapy alone. This has led some practitioners to suggest the use of topical steroid drops.

**PROS AND CONS**

Many physicians have found topical steroids to be helpful for patients with debilitating conjunctivitis. By reducing inflammation, steroids can bring dramatic improvement in patient comfort. However, others caution that steroids may delay resolution of the disease, prolonging the contagious course of the virus. In fact, studies in rabbit models have shown that topical steroids may prolong ocular shedding of adenovirus by several weeks.

Until recently, no well-designed human study has assessed the risks and benefits of topical steroids in the treatment of viral conjunctivitis. In a study by Wilkins and colleagues, 111 patients with presumed viral conjunctivitis were randomly assigned to receive either preservative-free dexamethasone 0.1% or hydroxypropyl methylcellulose (the vehicle used by the Moorfields pharmacy for compounding topical dexamethasone) four times daily for 1 week. Statistically significantly more patients in the dexamethasone group (39 of 45) felt the drops to be helpful than in the vehicle group (30 of 43). No adverse events were seen in either group.

The decision to use steroids for the treatment of viral conjunctivitis is a personal one. Research has shown that, when used appropriately (ie, in cases where bacterial or herpetic infection has been ruled out and when used in short pulses), topical steroids can be beneficial to patients by ameliorating the symptoms for which they initially presented. Steroid use may somewhat prolong the length of the contagious period; however, many patients will gladly accept this so that they may begin to feel ocular relief.

Topical steroid drops should be used with great caution, as herpetic viral infection of the ocular surface is a common mimicker of adenoviral conjunctivitis, and unopposed steroid drops can promote viral replication and corneal scarring. Additionally, as noted above, multiple studies have demonstrated that topical steroids prolong the viral shedding period. The key to managing adenoviral conjunctivitis is to limit its spread. Patients with viral conjunctivitis who are treated with topical steroid drops may return to work or school while they are still in the contagious phase of the infection, and therefore have the potential to further increase the disease burden on the health care system.

Because the symptoms of adenoviral conjunctivitis may be severe, investigators have explored other treatment options for patients with symptomatic disease including a topical combination of dexamethasone 0.1% and povidone-iodine 0.4%. This novel formulation was compared with cidofovir 0.5%, a combination tobramycin-dexamethasone ophthalmic suspension (TobraDex; Alcon Laboratories, Inc., Fort Worth, Texas), and balanced salt solution in rabbit eyes. The combination topical dexamethasone 0.1% and povidone-iodine 0.4% was equally effective as cidofovir 0.5% in reducing viral titers and was the most efficacious in reducing clinical symptoms of adenovirus infection in rabbit eyes.

A dexamethasone/povidone-iodine combination drop is

**In most cases, other therapeutic alternatives may be preferable initially.**

**BY DAVID A. GOLDMAN, MD; AND RAVI PATEL, MD**
not yet commercially available, but other options are. Gordon et al demonstrated that topical ketorolac or diclofenac did not increase the viral shedding period and may be a safer alternative to topical steroids.\textsuperscript{5} More recently, during an epidemic of viral conjunctivitis in a military garrison in Karachi, Pakistan, 200 patients were randomly assigned to topical decongestant/antihistamine combination drops or to eye washing and cool compresses.\textsuperscript{6} Acute illness symptoms of eye watering, itching, burning, pain, and photophobia lasted a mean 4.91 days in the decongestant/antihistamine drop and 7.86 days in the cool compresses group.

**CONCLUSION**

If a combination drop of dexamethasone 0.1% and povidone-iodine 0.4% becomes available, this may be a suitable alternative for treatment of viral conjunctivitis, as it not only provided symptomatic relief but also decreased the viral load in an animal model. For the present and in selected cases of viral conjunctivitis, such as in eyes with subepithelial infiltrates or in post-LASIK patients in whom there is a risk of diffuse lamellar keratitis and corneal edema, topical steroids may be indicated. In others, however, given the currently available pharmacologic therapies, it may be prudent to try alternative topical regimens before initiation of steroid therapy.

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**TAKE-HOME MESSAGE**

- Topical steroids can alleviate adenoviral symptoms for which patients initially present; however, they can also promote viral replication and corneal scarring.
- If it becomes commercially available, a combination drop of dexamethasone 0.1% and povidone-iodine 0.4% may be a suitable alternative for treatment of viral conjunctivitis.

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