HERPES KNOWS NO BORDERS


This viral pathogen is a global threat to vision.

BY ROYA HABIBI, OD, FAAO, FSLS, AND JACOB LANG, OD, FAAO

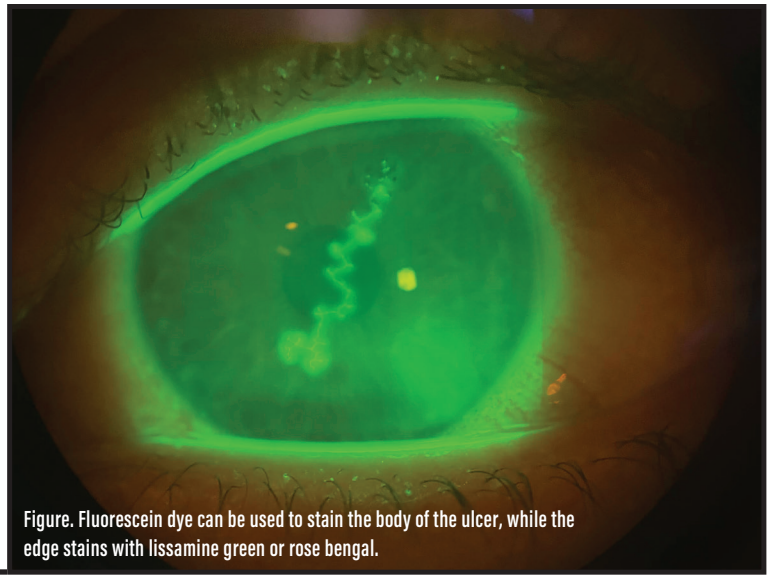

Figure. Fluorescein dye can be used to stain the body of the ulcer, while the edge stains with lissamine green or rose bengal.

Herpes simplex virus type 1 (HSV-1) is the leading cause of infectious corneal blindness in developing countries.[1] Treatment of HSV keratitis accounts for up to 10% of all penetrating keratoplasties performed in the United States and the United Kingdom.[2] Almost everyone is at risk of this condition, considering 90% of the global population has been exposed to HSV-1.[3] This "hibernating bear" makes its appearance in 50,000 US cases and 1,000,000 global cases each year.[4,5] HSV can infect nearly any part of the eye and surrounding adnexa, but HSV epithelial keratitis accounts for 47% to 66% of cases.[4]

CASE REPORT

A 19-year-old student traveler presented to a pharmacy in San José, Costa Rica, complaining of a painful, watery eye and light sensitivity. After questioning, he was diagnosed with a corneal abrasion and prescribed a tobramycin-dexamethasone ophthalmic suspension to be instilled four times daily. Two days later, he visited an urgent care clinic due to decreasing vision and increasing ocular pain. Without using a slit lamp, the clinicians "confirmed" the diagnosis of an abrasion, instructed the patient to increase the frequency of drops to every two hours, and advised him to patch the eye for pain. The patient opted for a third opinion, and visited the local optometrist, where he was properly diagnosed with HSV epithelial keratitis, ordered to stop taking the antibiotic-steroid combination drop, and prescribed an oral antiviral medication.

SERIOUS, BUT TREATABLE

HSV is known as a great masquerader due to its wide scope of tissue targets and presentations. In fact, one study cited that 30% of a sample of HSV keratitis cases were misdiagnosed.[1,5] Viral cultures are definitive and available, but are often time-consuming, slow to produce results, and technically challenging.[5] In cases of HSV epithelial keratitis, clinical diagnosis by slit-lamp biomicroscopy is often reliable, with the classic dendritic lesions being the most common presentation (Figure).[3]

Although HSV does not have a cure, antiviral agents are the go-to treatment for epithelial keratitis. The only FDA-approved treatments for HSV epithelial keratitis are topical antivirals (trifluridine ophthalmic solution 1% [Viroptic, Pfizer] or ganciclovir ophthalmic gel 0.15% [Zirgan, Bausch + Lomb]),[5] but oral antiviral medications are widely used off-label and demonstrate excellent safety and efficacy. Note that their use should be cautioned in patients with renal impairment, the elderly, and in those who are pregnant or nursing.[5]

Because there is limited access to topical antiviral medications in Costa Rica, the patient was prescribed oral valacyclovir 500 mg twice daily for 10 days. Topical corticosteroids should be avoided in the initial management of HSV epithelial keratitis due to their powerful immunosuppressant effects. ■

1. Azher TN, Yin XT, Tajfirouz D, Huang AJ, Stuart PM. Herpes simplex keratitis: challenges in diagnosis and clinical management. *Clin Ophthalmol*. 2017;11:185-191.
2. Tuft SJ. External eye disease and the oculocutaneous disorders. In: *Taylor and Hoyt's Pediatric Ophthalmology and Strabismus*. 5th ed. Elsevier;2017:130-155.
3. Al-Dujaili LJ, Clerkin PP, Clement C, et al. Ocular herpes simplex virus: how are latency, reactivation, recurrent disease and therapy interrelated? *Future Microbiol*. 2011;6(8):877-907.
4. Weiner G. Demystifying the ocular herpes simplex virus. *EyeNet Magazine*. January 2013. Accessed Decemeber 15, 2023. www.aao.org/eyenet/article/demystifying-ocular-herpes-simplex-virus
5. White ML, Chodosh J. Herpes simplex virus keratitis: a treatment guideline - 2014. The American Academy of Ophthalmology Clinical Guidelines. June 2014. Accessed December 15, 2023. www.aao.org/education/clinical-statement/herpes-simplex-virus-keratitis-treatment-guideline

ROYA HABIBI, OD, FAAO, FSLS
- Owner and Trainer, Ojos Del Mar, Tamarindo Beach, Costa Rica
- dr.royahabibi@gmail.com, Instagram @ojosdelmar.cr, @eyes_eyesbaby
- Financial disclosure: None

JACOB LANG, OD, FAAO
- Optometrist, Associated Eye Care, Stillwater, Minnesota
- Member, *Modern Optometry* Editorial Advisory Board
- drjakelang@gmail.com; Instagram @seeoneteachone
- Financial disclosure: None