Letters

OBSERVATION

Tecovirimat Treatment for Monkeypox Virus Keratouveitis

Human monkeypox is caused by monkeypox virus (MPXV), an Orthopoxvirus similar to variola virus. It is typically a self-limited disease with symptoms lasting 2 to 3 weeks.1

In August 2022, a 27-year-old man receiving HIV pre-exposure prophylaxis presented at our ophthalmology service with hyperemia, pain, and low visual acuity in his left eye. He had confirmed MPXV infection. The first genital lesion appeared 24 days before, 5 days after having sexual intercourse with a man. He developed fever, inguinal lymphadenopathy, multiple lesions on the face, upper back, hands and feet, and a very itchy eyelid lesion.

Visual acuity was 20/80 OD (amblyopia) and 20/100 OS. Slitlamp examination showed diffuse anterior scleritis, characterized by a violet-bluish hue with scleral edema and deep vascular engorgement (Figure 1A) and a serpiginous epithelial elevation in the corneal periphery with an underlying whitish stromal infiltrate and thinned out epithelium (Figure 1B). Anterior segment optical coherence tomography confirmed the presence of stromal involvement and superficial thinning (Figure 1C). Decreased corneal sensitivity was observed.

Findings of skin lesion swab of the upper back and eye swab were negative for Human herpesvirus 1, 2, and 3 but positive for MPXV DNA by polymerase chain reaction (PCR; cycle threshold [CT] of 19 for ocular surface and 27 for skin lesion). Findings of blood testing were negative for syphilis antibodies (venereal disease research laboratories and fluorescent treponemal antibody-absorption) at that time. Findings of HIV serology were negative for the simultaneous qualitative detection of p24 antigen and antibodies to HIV type 1 and/or type 2.

Initial treatment was eye drops (sodium hyaluronate, 0.2%, and moxifloxacin, 0.5%) and oral valacyclovir (1 g 3 times daily). After 14 days, the stromal keratitis had progressed toward the

Figure 1. Biomicroscopy and Anterior Segment Optical Coherence Tomography

Photograph of ocular surface

Slitlamp photograph

Anterior segment optical coherence tomography

A, Ocular surface showing diffuse hyperemia and deep vascular engorgement (arrowheads) suggestive of anterior scleritis. B, Superficial peripheral keratitis with an underlying whitish stromal infiltrate (arrowheads). C, Anterior segment optical coherence tomography showing stromal involvement and superficial thinning (arrowhead).
visual axis (Figure 2A), with the presence of keratic precipitates and 1+ cells in the anterior chamber (Figure 2B). Valacyclovir was discontinued. On day 17, findings of a second eye swab were positive for MPXV DNA (CT of 24), and a 14-day course of oral tecovirimat (600 mg twice daily) was started. On day 3 of tecovirimat treatment, examination revealed improvement of the original keratouveitis, and topical fluorometholone, 0.1%, twice daily was introduced. During treatment, he complained of headache and drowsiness. Two weeks later, the patient had visual acuity of 20/30 OS and presence of superficial corneal opacities and residual keratic precipitates (Figure 2C).

Despite being immunocompetent, this patient had prolonged ocular symptoms and PCR positivity. He tested positive for MPXV DNA by PCR of an eye swab at 24 and 41 days after the first genital lesion, with the first CT of 19 suggesting a high viral load on the ocular surface. Prolonged upper respiratory tract viral DNA shedding after skin lesion resolution has already been demonstrated, which may be of concern, as the eyes could also be a potential site for virological seeding into the central nervous system.²

People infected with MPXV may experience corneal involvement (prevalence of 3.6% to 7.5%), which can result in permanent vision loss.³ However, the current outbreak is of a different viral clade and has not been associated commonly with ocular involvement.² Ocular inflammation may occur more often in immunocompromised individuals or as a result of the contiguous spread of periorcular skin lesions.⁴,⁵

Currently, there is no specific medication to treat human monkeypox, and antiviral agents approved to treat smallpox have been used for its management. Compassionate use of tecovirimat has been reported in this setting, with minimal adverse effects.⁶

A case of MPXV keratouveitis confirmed by PCR and treated with tecovirimat was presented. Patients should be advised not to rub the eyes, since self-inoculation of the ocular surface from contaminated hands may occur. Although possible, we do not know whether MPXV is transmissible through tears. Resources are more than needed to put in place new action plans and strategies.

Luciana P. S. Finamor, PhD
Denise de Freitas, PhD
Gabriel Andrade, PhD
Victor D. Bergamasco, PhD
Laura Cunha, MD
Carolina Lázari, PhD
Cristina Muccioli, PhD

Author Affiliations: Department of Ophthalmology and Visual Sciences, Paulista School of Medicine, Federal University of São Paulo, São Paulo, Brazil (Finamor, de Freitas, Andrade, Bergamasco, Muccioli); Moacir Cunha Eye Clinic, São Paulo, Brazil (Finamor, Andrade, Bergamasco, Cunha); Fleury Group, São Paulo, Brazil (Finamor, Andrade, Bergamasco, Cunha, Lázari); Department of Ophthalmology, Santa Casa de São Paulo, São Paulo, Brazil (Andrade); Molecular Biology Laboratory University of São Paulo, School of Medicine, São Paulo, Brazil (Lázari).

Corresponding Author: Luciana P. S. Finamor, PhD, Department of Ophthalmology and Visual Sciences, Paulista School of Medicine, Federal University of São Paulo, R. Botucatu, 822-Villa Clementino, São Paulo, SP 04023-062, Brazil (dralupeixoto@gmail.com).

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