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Case report

Ocular manifestation of monkeypox virus in a 38-year old Australian male

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Case

A 38-year-old male was referred to an Australian tertiary hospital for consideration of systemic treatment of confirmed human monkeypox (MPX) infection, with suspected ocular involvement. He presented with painful anogenital and upper and lower limb vesicular lesions, arthralgia, fevers, and bilateral inguinal lymphadenopathy. Ten days after the onset of the initial symptoms, he developed conjunctival injection of his right eye with associated epiphora, foreign body sensation and intermittent blurring of vision. He had recently returned from overseas where he had engaged in unprotected anal and oral sex with other men. Past medical history included depression and regular medications were duloxetine and HIV pre-exposure prophylaxis. A recent sexually transmitted infection screen was negative. He had no previous ophthalmic history.

On examination, the visual acuity was 6/6 unaided in both eyes (Snellen chart). Intraocular pressures measured 11 mmHg in the right eye and 12 mmHg in the left eye. Slit lamp examination of his right eye revealed upper and lower lid edema and erythema, and conjunctival hyperaemia without tarsal papillae or follicles, consistent with blepharoconjunctivitis. A small vesicle at the medial canthus of the lower lid was present (Fig. 1). The cornea demonstrated minimal superficial punctate epithelial erosions but was otherwise clear. There was no intraocular inflammation. Dilated fundus examination was normal. Examination of the left eye was unremarkable.

A dry swab was taken from the conjunctiva and the medial canthal vesicle of the right eye, which returned a positive result for MPX virus DNA on polymerase chain reaction (PCR). In consultation with public health officials, the patient was treated by infectious disease physicians with systemic oral tecovirimat 600 mg twice a day for two weeks. Ocular involvement contributed to the decision to use tecovirimat. Ophthalmic treatment was with preservative free lubricating eye drops (carmellose sodium 0.5%) six times a day and as required, and a lubricating ointment (paraffin + retinol palmitate 135 mcg/g) at night. Prophylactic antibacterial cover was provided with topical chloramphenicol drops 0.5% four times a day. At one week review he had complete resolution of ocular symptoms and clinical signs (Fig. 2).

Discussion

The first human-to-human transmission of MPX was reported in 1996–1997; it has re-emerged in 2022 with clusters of infections in multiple countries [1–4]. Common clinical features include a wide spectrum of skin lesions, oropharyngeal symptoms, fever, lethargy, myalgia, fatigue, headache, and lymphadenopathy [2,3]. Severe complications of disease are rare and include encephalitis, secondary bacterial infections, pneumonia, and severe ocular complications leading to loss of vision [2,4]. Most infections remain mild and self-resolve within 2–4 weeks [2,4].

A wide range of ophthalmic manifestations have been reported during previous epidemics, including lesions involving orbital and periorbital skin, blepharitis, conjunctivitis, focal conjunctival lesions, photophobia, keratitis leading to corneal scarring, and vision loss [1]. In this current global outbreak, reported ocular complications have been rare compared to previous epidemics [5]. At present, case series' and reports have identified cases of ocular involvement in Italy, Spain, the United Kingdom, the United States, and Switzerland [2,4,6–8]. Clinical features of these cases have included lesions of the eyelids, blepharoconjunctivitis, and a conjunctival ulcer [6–8]. None have reported more severe potential complications, such as keratitis. Currently the management of MPX-associated eye disease has largely been symptomatic and supportive. As yet, no role for topical antiviral therapy has

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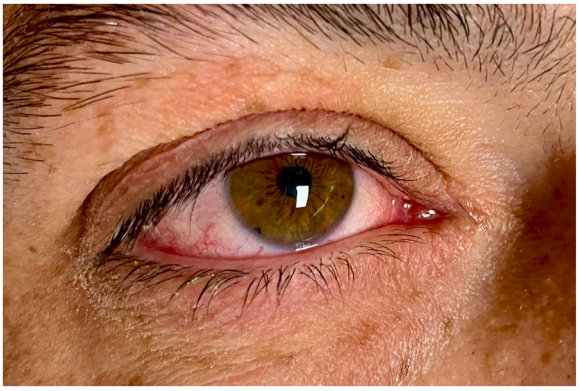

Fig. 1. Right eye blepharoconjunctivitis, with conjunctival hyperaemia and mild upper and lower lid oedema and erythema. A small vesicular skin lesion is visible at the medial canthus.

Fig. 2. Right eye one week post initial review. Resolution of blepharoconjunctivitis and the vesicle at the medial canthus. (Note: yellow staining of the tear film is fluorescein sodium, administered for examination purposes).

been demonstrated [1,6–8]. Ocular localisation of MPX via self-inoculation has been postulated, suggesting the need to provide hygiene education to patients to prevent ophthalmic involvement [7].

This case represents the first published report of ophthalmic involvement of MPX virus in Australia. Health care providers in areas of increasing incidence of this disease should be aware of the potential for ocular manifestations which may lead to vision threatening complications.

Declaration of Competing Interest

We declare no competing interests.

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