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## Potential complications of monkeypox

Monkeypox is an emerging infectious disease that was initially recognised in 1958 but was not seen outside of Africa until 2003. It is caused by an orthopoxvirus, related to the smallpox virus, and presents with a pustular rash after a viral prodrome. A worldwide outbreak beginning in May, 2022, and affecting over 26 000 people to date, was declared a public health emergency of international concern by WHO on July 23, 2022.<sup>1</sup> This outbreak has largely affected men who have sex with men, and has shown atypical presentations, including skin lesions without prodrome, predominantly anogenital or oropharyngeal lesions, and proctitis.<sup>2</sup> Because monkeypox might be unknown or under-recognised outside of endemic areas, we want to remind clinicians about its potential neurological complications.

The most common neurological manifestation is a prodromal headache, usually generalised or frontal, that occurs in the majority of

patients.<sup>3</sup> Asthenia and myalgias are also common prodromal symptoms. Neuralgia and mood disturbances can also manifest. In some people, conjunctivitis can occur, and corneal lesions can cause scarring with vision loss.<sup>4,5</sup> Rarely, encephalitis, with seizures, can occur.<sup>3,5,6</sup> Viral neuroinvasiveness might be a particular concern in immunocompromised individuals. A prospective cohort study of 528 patients with monkeypox during the current outbreak found that 218 (41%) of them had a concurrent HIV infection, although most patients with HIV were well managed.<sup>2</sup> There is concern for viral persistence in people with HIV/AIDS.

Neurological complications of other orthopoxviruses, namely smallpox, might also manifest in patients with monkeypox infection. Additionally, parainfectious and postinfectious neurological complications that can occur with a variety of viral infections, such as Guillain-Barré syndrome, transverse myelitis, and acute disseminated encephalomyelitis, are possible complications too, but have not been reported so far.

Much remains unknown regarding monkeypox, particularly its potential neurological complications. However, effective immunity can be obtained with the use of the smallpox vaccine; additionally, some antivirals, such as tecovirimat and brincidofovir, have efficacy against the virus. So far, few major neurological complications, including two cases of encephalitis,

have been reported during this outbreak. Nevertheless, clinicians must be vigilant for neurological manifestations of monkeypox, particularly in immunocompromised individuals. Biological samples, including CSF, should be collected for viral and immune studies.

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[In Context](#) page 874