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Monkeypox: Prioritizing public health through early intervention and treatment



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Dear Editor,

The monkeypox virus (MPXV) has emerged as a novel threat to the human race amid the worldwide efforts to overcome the ongoing coronavirus disease 2019 (COVID-19) pandemic caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) [1,2]. Monkeypox, a zoonotic orthopoxviral disease, which presents clinically as a smallpox-like infection in humans, is becoming increasingly prevalent in high-income settings and healthcare systems. While the monkeypox virus was first diagnosed in the 1970s in the Democratic Republic of the Congo (DRC), it has been spread to several countries [2,3]. As of 28th June, a total of 4780 cases have been reported globally (Monkeypox, Our World in Data; <https://ourworldindata.org/monkeypox>) (Fig. 1A and B). In the United States of America (USA) alone, of the 17 cases, 16 were identified among gay, bisexual, or men who had sex with men. Typical initial appearances occurred on the anogenital regions and the clusters were budding in the countries where neither was monkeypox endemic nor did travel history to endemic regions occur. These patterns suggested an early involvement of the close-knitted social networks and spread within a community. During the initial phases, skin-to-skin contact with an infected patient and having had shared linen, for example, were significant risk determinants for a potential transmission [4]. There was also a high possibility of cross-species transmission, to such an extent that when in an infectious state, avoidance of contact with pets and other mammals that could be susceptible to similar infections, was advised.

Following a laboratory-confirmed positive detection, the following interventions, many of which were evidently effective during the COVID-19 waves of infections [5], can almost immediately curb the rising rates of monkeypox infections as well: 1) isolation of the infected patient; 2) practice of good hand hygiene techniques, and 3) use of appropriate personal protective equipment to safeguard members of a household when caring for an infected individual at home (for example, use of medically-graded surgical masks, clothing for full body cover and disposable gloves), and 4) use of an Environmental Protection Agency-registered, Q-listed disinfectant which is effective against emerging

viral pathogens to disinfect surfaces [3].

The Centers for Disease Control and Prevention (CDC) sends reminders, urging healthcare providers to be watchful of patients who have rash-related illnesses which are consistent with monkeypox. This is advocated regardless of patients' sexual orientation, gender, or recent international travel history, or specific risk factors for monkeypox [6]. Clinicians ought to exercise due diligence and contact their local or state health department, should a suspected case of monkeypox be encountered. Laboratories equipped with rapid diagnostic tests for emerging pathogens are now available across various nations with at least 68 tests known for the various strains of orthopoxvirus [7]. Often, the prolonged interval from the onset of a rash to obtaining a confirmatory positive test result was reflective of delays in the clinical suspicion of an illness unfamiliar to the clinicians. A positive test result for an orthopoxvirus can be presumed to be monkeypox and calls for antiorthopoxviral treatment. Public health authorities need to promptly initiate isolation, contact tracing, monitoring, investigation, and post-exposure prophylaxis for the exposed contacts. Post-exposure prophylaxis is a well-established strategy for the prevention of infectious diseases. Prophylaxis with smallpox vaccines remains available from the strategic national stockpile for the eligible exposed individuals [8].

In the United Kingdom (UK), of the three individuals who acquired monkeypox, one patient was a healthcare worker who acquired the virus nosocomially, and another patient acquired the virus while he returned from abroad and transmitted the infection to an adult and child within their household cluster. The significant clinical features included viraemia, detection of monkeypox virus DNA in the upper respiratory tract swabs, and the monkeypox virus PCR-positive deep tissue abscess in a patient. Several patients with prolonged detection of monkeypox virus DNA and exhibiting PCR positivity spent more than three weeks in isolation. They were prescribed with brincidofovir (200 mg once a week orally). Within a week, all of them developed elevated liver enzymes which resulted in cessation of therapy. In another incident, one patient who was treated with tecovirimat (600 mg twice daily for 2 weeks orally), reportedly experienced no adverse effects and had a shorter duration of viral shedding and illness (10 days hospitalization)

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Monkeypox: Cumulative confirmed cases, by date of confirmation

Cases are shown by the date on which they were confirmed by a test.

Our World
in Data



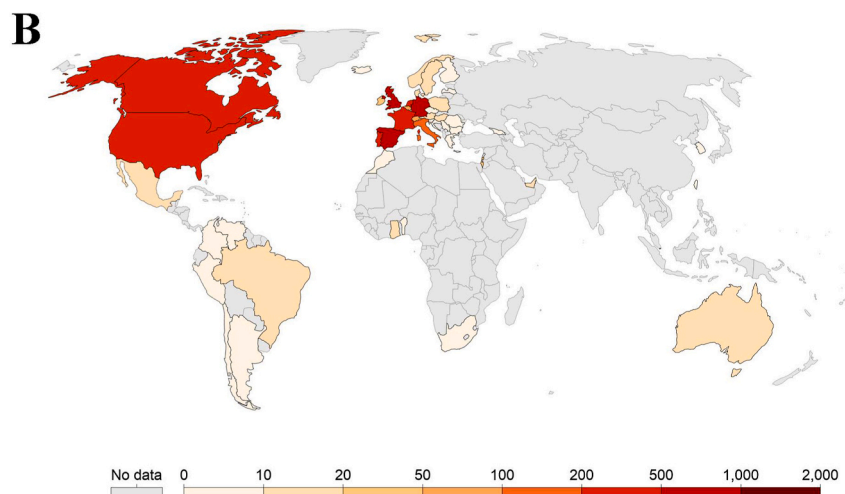
Source: Data produced by the 'Global.health' team — available at github.com/globaldothealth/monkeypox

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Monkeypox: Cumulative confirmed cases, by date of confirmation, Jun 28, 2022

Cases are shown by the date on which they were confirmed by a test.

Our World
in Data



Source: Data produced by the 'Global.health' team — available at github.com/globaldothealth/monkeypox

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Fig. 1. Cumulative confirmed cases of monkeypox as of June 28, 2022 (A) and a map showing different countries with confirmed cases of the monkeypox globally (B). Adapted from the Our World in Data; <https://ourworldindata.org/monkeypox>.

compared with the other six patients. One patient experienced a mild relapse 6 weeks after his discharge from the hospital [9].

In conclusion, the hallmark of monkeypox was a prolonged upper respiratory tract viral DNA shedding despite the resolution of skin lesions, posing unique challenges for curbing the transmission and acquiring control over the spread of the disease. Needless to say, it is crucial to study the safety and efficacy of the appropriate antivirals for use in humans infected with the monkeypox virus, especially for those who are immunocompromised.

Ethical approval

This article does not require any human/animal subjects to acquire such approval.

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Author contribution

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Data statement

The data in this correspondence article is not sensitive in nature and is accessible in the public domain. The data is therefore available and not of a confidential nature.

Declaration of competing interest

All authors report no conflicts of interest relevant to this article.

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