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The resurgence of monkeypox cases: Reasons, threat assessment, and possible preventive measures

Dear Editor,

Monkeypox is a zoonotic disease that appears in west and central Africa. It is infrequent and can be fatal. Monkeypox virus is an orthopoxvirus that is comparable to the Variola virus (the causative agent of smallpox) and Vaccinia virus (the live virus component of orthopoxvirus vaccines) and may be transmitted to people [1]. The monkeypox infection causes a similar disease to smallpox. Smallpox immunization with vaccinia virus (another orthopoxvirus) has been 85% protective against monkeypox in the past. Following the elimination of smallpox in 1980, regular vaccination against smallpox was no longer recommended, and no orthopoxvirus vaccination program has been implemented in over four decades [2]. Interestingly, six cases of travelers from Nigeria to non-African countries were discovered between September 2018 and June 2021; two of the cases resulted in additional infections [1].

Before the 2017 Nigeria outbreak, most monkeypox cases were in rural woodland areas of Africa; currently, patients have been identified in urban areas, suggesting additional risk factors [3,4]. The West African clade, which is unique to West Africa, and the Congo Basin clade, which is found in central Africa, are two separate clades of monkeypox virus that circulate throughout Africa [3]. Cases in Nigeria have been markedly dissimilar while being proved to be caused by the West African clade. The West African Clade is believed to cause milder infections, fewer deaths, and limited human-to-human transmission. Some cases in Nigeria have been severe, even deadly, especially among HIV-positive people [4].

More than fifty confirmed monkeypox cases in the UK pose a serious public health concern amid the COVID-19 pandemic [1,3,4]. As of 25 May 2022, 219 confirmed monkeypox cases had been reported from countries such as Portugal, Sweden, Germany, Belgium, and Australia, where the disease is not considered endemic (Fig. 1). Hence, we will focus on the reasons and concerns behind the recent recurrence of monkeypox cases worldwide and highlight preventive measures.

Monkeypox might return because of waning population immunity from the end of smallpox vaccination. The upsurge of monkeypox cases and the reappearance of outbreaks in various countries after 30–40 years suggest this possibility. The emergence of cases beyond Africa highlights the disease's global impact and dissemination potential [2]. According to the UK Health Security Agency, monkeypox can be spread during intercourse through close touch. This can also be transferred by intimate contact with a monkeypox patient or clothing or linens [5].

Even though monkeypox infection is not known to be spread sexually, it has been believed that sexual activity does constitute close contact. Additionally, it is also ambiguous why practically every case group in some areas includes males aged 20 to 50, many of whom are gay, bisexual, or have intercourse with men (GBMSM). The most plausible

explanation for this unusual method of transmission is that the virus was accidentally introduced into a GBMSM group and had since been circulating there. Once an epidemiological analysis, which might take weeks and includes contact tracing, is complete, experts will know more about the epidemics' origins and risk factors [6,7]. It is important to emphasize that, unlike COVID-19, monkeypox is not readily disseminated and is not airborne; relying primarily on humans comes into direct association with an infected patient.

Monkeypox cases are often mild, and patients recover within weeks. However, dependent on the kind, the fatality rate varies. According to the ECDC (European Centre for Disease Prevention and Control), the West African clade, detected in Europe, has a mortality rate of roughly 3.6% (estimated from studies conducted in African countries). Children, young adults, and immunocompromised people have a greater death rate risk. The dangers to the general UK public are minimal. UK healthcare institutions are capable and specialize in treating these tropical illnesses mentioned by a senior research fellow in global health at the University of Southampton. However, the situation can be different for developing countries. These imported cases can imply a more significant disease burden elsewhere in tropical medicine. It is possible that in the aftermath of the COVID-19 pandemic, we should pay greater attention to the local and global ramifications of Lassa, monkeypox, Ebola, and other unusual but dangerous viruses (<https://www.gov.uk/guidance/monkeypox#treatment>).

Moreover, monkeypox disease should not be underestimated, especially considering pandemic concerns. Increasing worldwide surveillance and identifying monkeypox cases is crucial to understanding its evolving epidemiology [2,7]. Public health officials are not invincible in the face of monkeypox. Countries like the United States have smallpox vaccinations on hand as a prophylactic measure against bioterrorism and an antiviral therapy that is very efficient against the virus. Monkeypox has no specific treatments; smallpox immunization helps limit outbreaks (approximately 85% efficient in eradicating monkeypox). Antivirals like cidofovir and tecovirimat can treat monkeypox. To stop the spread of monkeypox, healthcare providers would most likely utilize a "ring vaccination technique," which involves vaccinating close relatives of those diagnosed with the disease [6]. Moreover, 21 days of self-isolation and other preventive measures have been implemented in England to mitigate any harmful consequences associated with the resurgence of infections.

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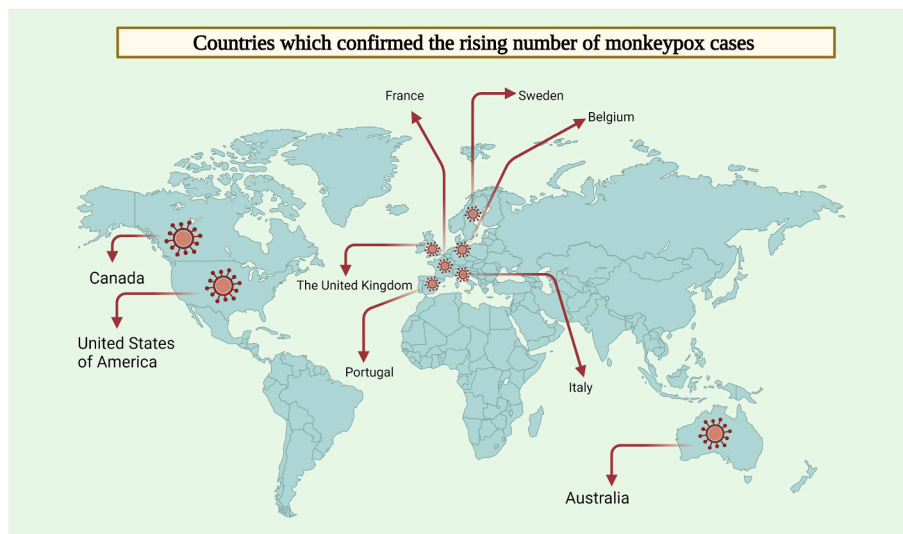


Fig. 1. The global occurrence of the confirmed monkeypox cases worldwide as per WHO's recent data (25 May 2022).

Author contributions

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Declaration of competing interest

All authors have agreed to publish all materials belongs to this article. Authors declared that they have no conflict of interest.

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