



### LETTER TO EDITOR

# From Africa to Pakistan a Call for Urgent Measures for Monkeypox Outbreak: An Unprecedented Public Health Concern

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The Monkeypox Virus (MPXV) is responsible for the highly contagious disease known as "monkeypox," which is mostly prevalent in the rainforests of Central and Western Africa. The illness was initially identified in 1958 in monkeys kept for research and was not identified in humans until 1970 when its first case was identified. Since then, outbreaks of monkeypox have been documented around the globe, from Central and Western Africa to United States. Although its occurrence is uncommon, but recent occurrences raised concerns about the potential for it, too.<sup>1</sup> The purpose of this communication is to provide light on the recent outbreak of the monkeypox epidemic in Pakistan and to emphasize the necessity of early identification, diagnosis, and containment of the disease.

Monkeypox exhibits clinical resemblances to Smallpox, albeit with a less severe progression of disease. The transmission of the virus occurs through direct contact with infected animals or their bodily fluids. Additionally, human-

to-human transmission can occur through respiratory droplets or contact with lesions. Foreseeing its capacity to incite an outbreak, the importance of maintaining a vigilant surveillance on monkeypox cannot be overlooked.<sup>2</sup>

Pakistan has seen more monkey pox cases in recent years. The event requires urgent attention from medical professionals and health agencies. The onset of monkey pox is marked by a constellation of symptoms, including fever, headache, muscle aches, and exhaustion. These initial signs are soon followed by a distinctive rash, which serves as a hallmark of the disease. As the rash advances, it undergoes a series of transformations, each more pronounced than the last. Beginning as papules, it gradually evolves into vesicles, then pustules, and finally crusts. Given the similarities with other poxviruses, such as chickenpox and Smallpox, an accurate laboratory diagnosis is essential. The confirmation of the monkeypox virus can be facilitated by laboratory tests such as viral culture and polymerase chain reaction (PCR).<sup>3</sup>

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The implementation of effective public health measures is essential to the containment of the monkeypox epidemic. It is imperative that we establish advanced surveillance systems to efficiently detect any suspected cases. The timely isolation of those who have been infected, coupled with stringent measures for infection prevention and control, as well as the tracing of contacts, are crucial in preventing the spread of the disease. Increasing public awareness of the disease's signs, symptoms, and preventative measures can effectively reduce the risk of widespread outbreaks.<sup>4</sup>

The cornerstone of prevention strategies lies in the administration of vaccines and the meticulous monitoring of potential outbreaks. The administration of JYNNEOS and ACAM2000 smallpox vaccines has provided remarkable cross-protection against monkeypox, effectively avoiding the onset of severe monkeypox disease. Furthermore, it is imperative to educate healthcare professionals on identifying and managing the disease to ensure prompt intervention.<sup>2,4</sup>

Monkeypox currently has no antiviral treatment, but antivirals used for the treatment of Smallpox may be effective against monkeypox. Tecovirimat is given to children and adults with Smallpox to relieve symptoms because it restricts viral transmission by inhibiting the VP37 protein, which is essential for viral maturation. Brincidofovir is another smallpox antiviral. DNA polymerase inhibition makes it antiviral. For Smallpox vaccine-related cutaneous problems, vaccinia immune globulin (VIG) is FDA-approved.

Even though such medications have shown promising results against Smallpox, but there have been no human investigations to establish their effectiveness against monkeypox.<sup>5</sup>

The emergence of monkeypox in Pakistan necessitates the immediate attention of healthcare professionals, policymakers, and the public health community. Enhancing surveillance systems, bolstering diagnostic capabilities, and instituting effective infection control measures are crucial for preventing

further spread. National and international collaboration, along with increased public awareness, can help mitigate the impact of monkeypox and safeguard the general health of the population.

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