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EDITORIAL

Re-Emergence of Mpox Virus – A Call for Vigilance and Preparedness

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Mpox (formerly Monkeypox), a viral zoonosis endemic to Central and West Africa, has re-emerged as a global public health concern. Historically, cases of Mpox were primarily reported in rural Africa, where human interaction with wild animals facilitated the transmission of the virus. However, the recent international outbreaks have brought the disease to the attention of health authorities worldwide, signaling the need for a coordinated response.

The Mpox virus belongs to the *Orthopoxvirus* genus, which includes variola virus, the causative agent of smallpox. Unlike smallpox, Mpox is less transmissible and generally less lethal, with case fatality rates ranging between 1% and 10%, depending on the strain. However, the significant rise in human-to-human transmission, especially in non-endemic countries, raises concerns about the potential for widespread outbreaks.

Emerging Epidemiology and Transmission Patterns

The current resurgence of Mpox outside its traditional endemic regions is concerning. Since May 2022, outbreaks in Europe, North America, and other regions have been reported, with many cases linked to international travel or close human contact, including sexual transmission. Although the virus is traditionally spread through direct contact with bodily fluids, lesions, or respiratory droplets, the detection of clusters among specific populations has led experts to explore other routes of transmission.

Notably, men who have sex with men (MSM) have been disproportionately affected during these recent outbreaks, suggesting a need for targeted public health interventions.

This change in transmission dynamics necessitates heightened awareness and new prevention strategies. Traditionally, Mpox had been associated with zoonotic transmission from animals, particularly rodents and primates, to humans. However, increased globalization, travel, and changing social behaviors have facilitated its spread in urbanized settings. Recent epidemiological evidence suggests that Mpox may adapt more readily to human populations than previously thought.

Clinical Presentation and Management

The clinical features of Mpox resemble those of smallpox, with fever, malaise, and a characteristic rash that progresses from macules to papules, vesicles, and pustules. However, Mpox is generally milder, with many patients experiencing self-limiting illness. Severe cases, particularly among children, immunocompromised individuals, and pregnant women, may lead to complications such as pneumonia, encephalitis, or secondary bacterial infections.

Management of Mpox involves supportive care, with antiviral agents such as tecovirimat being explored for severe cases. Vaccination with the smallpox vaccine, especially second-generation vaccines like MVA-BN (Modified Vaccinia Ankara), has shown promise in preventing Mpox infection. However, the limited availability of these vaccines remains a critical barrier to wider immunization efforts.

Public Health Response and Future Directions

The global community must respond proactively to mitigate the impact of Mpox outbreaks. Enhanced surveillance, particularly in non-endemic countries, is essential for identifying cases early and preventing community spread. Governments and international health organizations, including the World Health Organization (WHO), should collaborate to ensure equitable access to vaccines, antivirals, and diagnostic tools. Furthermore, clear public health messaging is needed to inform at-risk populations about prevention measures, particularly regarding sexual health and safe practices.

The Mpox virus re-emergence serves as a reminder of the ongoing threat posed by zoonotic diseases. While smallpox was eradicated, the presence of related viruses like Mpox highlights the need for sustained investment in public health infrastructure, research, and global health security. Preparedness must remain a priority, not only for Mpox but for other emerging infectious diseases that may arise in an increasingly interconnected world.

In conclusion, the re-emergence of Mpox on a global scale demands heightened vigilance, scientific inquiry, and policy coordination. Health systems must adapt to the evolving epidemiology of this virus, ensuring rapid response to outbreaks and providing the tools necessary to control its spread. With concerted effort, Mpox can be contained, but this will require sustained commitment from governments, health authorities, and the public.

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