

Editorial

H Mpox (Human Monkey Pox): A public health emergency of international concern

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Mpox virus is a double-stranded DNA virus that belongs to the genus Orthopoxvirus.¹ Variola, cowpox, vaccinia, and other viruses are also included in the Poxviridae family.² There are two distinct clades (with subclades Ia and Ib) of the virus and clade II (with subclades IIa and IIb). An outbreak of Mpox globally was caused by the clade IIb strain in 2022-2023. Though the natural reservoir of the virus is unknown, various mammals, like squirrels and monkeys, are susceptible.³

As a zoonotic disease, Monkeypox was once endemic in western and central Africa and was caused by the clade I monkeypox virus.⁴ As of August 2024, clade Ib was also detected beyond Africa.³ However, cases recently have been confirmed in many nonendemic countries outside of Africa.⁴ Around the world, this outbreak has spread rapidly through new modes of transmission under International Health Regulations, which meets the criteria of an emergency.⁵

In 1958 in Denmark, the virus was first discovered when researchers noticed pox-like skin eruptions on cynomolgus monkeys from Singapore housed in an animal research facility—called M pox. More outbreaks were reported in the next decade in the U.S. in captive monkeys imported from Asia, where monkeypox had not been identified. In 1970 in the Congo's Équateur.⁶ Sporadically, the first human monkeypox infection was documented in Central and East Africa (clade I) and West Africa (clade II) after 1970. The World Health Organization had recorded 310 monkeypox cases in rural West and Central Africa by 1985, with the majority in Congo. According to The Africa Centers for Disease Control and Prevention, more than 17,000 Mpox cases and more than 500 deaths have been reported in 13 countries in Africa, which classifies the outbreak as a “very high-risk event.”²

WHO declared on July 23, 2022, the MPox outbreak a Public Health Emergency of International Concern. The Americas, Europe, and WHO regions including 110 countries reporting about 87 thousand cases and 112 deaths. Globally, the outbreak has affected primarily (but not only) gay, bisexual, and other men who have sex with men and thereby has spread person-to-person through sexual networks.¹

Viruses can enter the body through broken skin, mucosal surfaces (e.g., oral, pharyngeal, ocular, genital, anorectal), or the respiratory tract; the virus then enters the body. People with a suitable risk are those who have multiple sexual partners. From bites or scratches, animal-to-human pox transmission occurs during activities such as hunting, skinning, trapping, cooking, playing with carcasses, or eating animals. From infected animals to humans.² According to WHO, it can spread through close contact such as touching, kissing, or sex, as well as through contaminated objects like cloth or linens, injuries in health care, or in community settings such as tattoo parlors where symptoms include a fever, a painful rash, headache, muscle, and back pain, low energy and enlarged lymph nodes.⁷

It is essential to understand the difference between Mpox and chickenpox, measles, bacterial skin infections, scabies, herpes, syphilis, other sexually transmitted infections, and medication-associated allergies. At the same time, someone with Mpox may also have another sexually transmitted infection, such as syphilis or herpes. Alternatively, suspected chickenpox may also have a child with Mpox. Polymerase chain reaction (PCR) for detection of DNA virus is the preferred laboratory test for Mpox. Testing blood is not recommended here. The specimens for diagnosis are taken directly from the skin rash, fluid, or crusts – collected by vigorous swabbing. Where there are no skin lesions, testing can be done using swabs or the throat or anus.³ To prevent the spread of infection, covering lesions and wearing a medical mask are required. During the time of sex, using condoms will help reduce the risk of getting Mpox, but it will not prevent the spread from skin-to-skin or mouth-to-skin contact.² The vaccine can also be administered after a person has been in contact with someone who has Mpox (post-exposure prophylaxis). In these cases, the vaccine should be given less than four days after contact with someone with Mpox. The vaccine can be given for up to 14 days if the person has not developed symptoms.³

The resurgence of several zoonotic diseases, such as MPXV and Ebola, is implicated by deforestation, desert encroachment, rising poverty levels, and humanitarian crises arising from conflicts and

natural disasters. Disturb the natural ecosystem through uncontrolled development, rural-urban drift, urbanization, and displace animals from their natural habitat. As a consequence, these displaced animals create new ecological niches among humans, thereby increasing the spreading of zoonotic diseases.¹

Reference

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