Editorial

Understanding the Monkeypox Virus: A Threat Worth Monitoring

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Monkeypox, a viral disease with origin dating back to the late 1950s, has garnered attention due to sporadic outbreaks and its potential for human-to-human transmission. Although relatively rare and less severe than smallpox, the monkeypox virus remains a significant concern, particularly in regions of Africa where it is endemic. This editorial aims to shed light on the monkeypox virus, its impact, and the need for continued vigilance in monitoring and managing this infectious disease.

Monkeypox is an emerging zoonotic disease with rising human outbreaks in recent years. The monkeypox virus played havoc in 2022 in both endemic and non-endemic countries.[1,2] The first human case of this zoonotic virus was documented in 1970 by the Democratic Republic of the Congo. Many human cases have been reported as a result of intermittent epidemics during the past 50 years, mostly in African nations.[3]

The Democratic Republic of the Congo (DRC), Cameroon, Central African Republic, Cote d'Ivoire, Gabon, Liberia, Nigeria, Republic of the Congo, and Sierra Leone are among the nations in Central and West Africa where monkeypox is endemic. The majority of infections are sporadic or relate to localized outbreaks.[4] International travel and importation of monkeypox virus-infected animals are the most common causes of outbreaks in non-endemic areas.[5] Instances in nations other than Africa were previously reported in the US, UK, Israel, and Singapore prior to 2022.[6] The case-fatality ratios for infections with the West African clade are commonly estimated to be between 3 and 6 percent, whereas the Central African clade has been linked to increased transmissibility and mortality. The only nation where both clades have been verified is Cameroon.[3,7]

Monkeypox can spread from animals to humans by close contact with the diseased animal or body fluids, contact with contaminated things, animal bites or scratches, ingestion of infected meat, direct contact with an infected human, their respiratory secretions, skin or genitals lesions, and face-to-face contact.[8,9]

Clinical features of monkeypox are remarkably similar to those of chickenpox. However, monkeypox is clinically milder.[4] The fundamental distinction between monkeypox and chickenpox is the prevalence of lymphadenopathy, as 90% of monkeypox patients experience enlargement of their lymph nodes. The Varicella-zoster virus (VZV), which causes chickenpox, is most frequently mistaken for monkeypox. Both of these disorders have many similarities in terms of their clinical traits. Typically, the monkeypox virus takes 5 to 21 days to incubate.[9]

There are two distinct stages of monkeypox in humans i.e. prodrome and rash stage. Infection with the monkeypox virus causes headache, fatigue, fever with chills or sweats, muscle aches, sore throat, and lymphadenopathy.[10] The rash mostly emerges a few days after a fever and lymphadenopathy. The rash is characterized by lesions and typically begins on the face before spreading to the entire body. Plaque is replaced by papules, pustules, blisters, and scabs develop over the course of roughly 2-4 weeks, followed by shedding. Pneumonitis, keratitis, encephalitis, and subsequent bacterial infections are significant side effects of monkeypox.[9]

Currently, available laboratory tests for detection include polymerase chain reaction (PCR), enzyme-linked immunosorbent assay (ELISA), Western blot analysis or sequencing, and immunohistochemistry.[11] Monkeypox infection is confirmed by nucleic acid amplification testing (NAAT) by real-time or traditional PCR.[4]

Supportive therapy & bed rest are frequently adequate to treat the patient's symptoms because the sickness is typically moderate and self-limiting in nature. Analgesics, antipyretics, and antibiotics for secondary bacterial infections are part of supportive care. However, in extreme situations, hospitalization, antivirals, and specialized care may be required.[11]

Vaccination remains a vital tool in the prevention and control of monkeypox. The smallpox vaccine also provides cross-protection against monkeypox. It is effective in reducing the severity of the disease. Continued research into the development of more specific vaccines and antiviral treatments is necessary to enhance preparedness and response capabilities.[10]

According to Centers for Disease Control and

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Prevention (CDC), people should avoid close skin-to-skin contact with those who have monkeypox-like rashes and also avoid contact with objects and materials used by the patients, use alcohol-based hand sanitizers prior to eating and touching the face, and frequently wash their hands after using the restroom. The patient should be in isolation, keep lesions covered as much as possible, and wear a surgical mask.[9]

Monkeypox cases have substantially surged recently, raising serious concerns.[12] Considering the potential for international spread through travel and globalization, global collaboration and preparedness are paramount in addressing the monkeypox threat. Sharing of surveillance data, best practices, and resources among nations can help bolster prevention, detection, and response efforts. Strengthening healthcare systems, especially in affected regions, is crucial for effective control and management.

Monkeypox remains a significant concern due to its potential for human-to-human transmission and the challenges in diagnosis and management. Continued research, surveillance, and international collaboration are vital to effectively monitor and control the virus. Through heightened awareness, preventive measures, and a commitment to public health, we can mitigate the impact of monkeypox and safeguard communities worldwide.

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