

Recent Epidemiology of Monkey Pox Virus: A Global View

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DESCRIPTION

Monkey pox, a viral zoonotic disease caused by the Monkey Pox Virus (MPXV), has created a renewed attention in recent years due to its re-emergence and spread across different regions of the world. Understanding the recent epidemiology of monkey pox infection is crucial for elucidating trends, identifying risk factors, and informing public health strategies.

Resurgence and global spread

Monkeypox was first identified in humans in the Democratic Republic of the Congo (DRC) in 1970, with sporadic outbreaks reported in Central and West Africa. Moreover, in recent years, there has been a resurgence of monkeypox cases, accompanied by geographic expansion beyond endemic regions.

Epidemiological trends

Recent epidemiological data suggest several notable trends in monkeypox infection:

Increase in human cases: There has been an uptick in the number of human monkeypox cases reported globally, with several countries experiencing outbreaks or sporadic cases. The reasons for this increase are multifactorial and may include changes in ecological dynamics, human behavior, and enhanced surveillance and diagnostic capabilities.

Geographic expansion: Monkeypox has expanded its geographic range beyond its traditional endemic areas in Central and West Africa. Cases have been reported in countries such as Nigeria, Cameroon, the Republic of the Congo, the Central African Republic, and Liberia.

Variability in transmission dynamics: Transmission dynamics of monkeypox vary between endemic and non-endemic regions and may be influenced by factors such as population density, human-animal interactions, and healthcare infrastructure. In endemic regions, transmission primarily occurs through direct contact with infected animals, in non-endemic regions, imported cases or secondary transmission from imported cases may drive outbreaks.

Challenges in surveillance and diagnosis

Despite advancements in surveillance and diagnostic techniques, several challenges persist in the detection and characterization of monkeypox infection:

Clinical similarity to other diseases: Monkeypox shares clinical features with other rash illnesses, such as chickenpox, measles, and other viral exanthems, making diagnosis challenging, particularly in non-endemic regions where healthcare providers may have limited familiarity with the disease.

Laboratory capacity and expertise: Laboratory confirmation of monkeypox relies on specialized tests, including Polymerase Chain Reaction (PCR), virus isolation, and serological assays. However, access to these tests may be limited in resource-limited settings, hindering accurate diagnosis and surveillance efforts.

Underreporting and misdiagnosis: Underreporting and misdiagnosis of monkeypox cases remain significant challenges, particularly in regions with weak healthcare infrastructure or limited access to healthcare services. Mild or atypical cases may go unrecognized or be misdiagnosed as other febrile illnesses, leading to delays in appropriate management and containment of outbreaks.

Implications for public health

The recent epidemiology of monkeypox infection has important implications for public health:

Enhanced surveillance and response: Strengthening surveillance systems and response capacity is essential for early detection and containment of monkeypox outbreaks. Timely identification of cases, rapid implementation of control measures, and coordination between local, national, and international health authorities are critical for minimizing the spread of the virus.

Research and innovation: Continued research into the epidemiology, transmission dynamics, and host-pathogen interactions of monkeypox is needed to inform evidence-based interventions and control strategies. Research efforts should focus on improving diagnostic tools, understanding immune

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responses to the virus, and evaluating the effectiveness of vaccines and antiviral therapies.

CONCLUSION

The recent epidemiology of monkeypox infection underscores the evolving nature of zoonotic diseases and the challenges they

pose to global health security. By elucidating trends, identifying risk factors, and addressing gaps in surveillance and response capacity, we can better prepare for and mitigate the impact of future monkeypox outbreaks. A concerted effort by the global health community is essential for containing the spread of the virus, protecting vulnerable populations, and safeguarding public health.