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Editorial

Monkey pox- A public health emergency of international concern

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1. Global Health Concern

Mpox earlier known as Monkey pox was first reported in humans in 1970 in Democratic Republic of Congo and it has recently raised a lot of concern worldwide because of its increasing spread in African countries (Burundi, Cameroon, Central African Republic, Democratic Republic of Congo (DRC), Kenya, Nigeria, Rwanda, South Africa, and Uganda etc.) as well as in other parts of world. A total 1,03,048 laboratory-confirmed cases, including 229 deaths, have been reported from across the world by 5^{th} September, 2024. Despite being named "monkeypox", the source of the disease remains unknown.

WHO, on 14 August 2024, declared mpox as Public Health Emergency of International Concern (PHEIC) after resurgence of new strain- Clade Ib mpox cases in the DRC and its neighboring countries Worldwide, the mortality rate varies between 0.1 and 10%. Risk in various countries was assessed as high in eastern DRC and neighboring countries while moderate both in Nigeria and other countries of West, Central and East Africa as well as in all other countries around the world. India confirmed its first mpox case on September 9, 2024, which was a travel-related infection and the strain was identified as West African Clade 2. The patient was isolated and contact tracing and isolation has been started.[1,2]

2. The Virus

Mpox is caused by the monkeypox virus (or MPXV). It is a member of the genus Orthopoxvirus. MPXV is divided into two major clades, clade I (earlier called Congo Basin clade) and clade II (earlier called West Africa clade). Each of these clades is subdivided into two subclades namely clade Ia, Ib, IIa and IIb. Clade Ia circulates within multiple countries in Central Africa and is associated with regular spillover from an animal reservoir(s) with some onward person-to-person transmission. Clade Ib has recently emerged in eastern regions of the Democratic Republic of the Congo and is undergoing sustained person-to-person transmission. Clade IIa has rarely been isolated in humans with most available genetic sequences coming from animal species. Clade IIb has undergone sustained circulation within humans and has caused a large ongoing outbreak from 2022 to present.

3. Transmission

African rodents and non-human primates (like monkeys) might harbor the virus and infect people. The virus spreads through direct contact with body fluids and sores or through sexual contact with someone who has mpox. Another mode of spread is after coming in direct contact with articles, surfaces, clothing and linen contaminated with body fluids.[3–5] Clade Ib seems to be transmitting more rapidly between people than previous variants, including through sexual activity.

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4. Symptoms

The symptoms begin within a week of exposure, but may take up to 21 days in some individuals. Most common symptom is rash (including systemic or genital rash), followed by fever. Symptoms usually stay for 2-4 weeks. The evolution of lesions progresses through four stages—macular, papular, vesicular to pustular, before scabbing over and desquamation. The incubation period is 3-17 days and the illness typically lasts 2-4 weeks. A suspected Case is any person presenting with sudden onset of fever >38.3°C (101°F), intense headaches, lymphadenopathy, back pain, myalgia, and intense weakness, followed 1-3 days later by a vesiculopustular skin rash, progression of which usually starts on the face and then involving other parts of the body, including the soles of the feet and palms of the hands. Confirmed Case is a case that has been clinically and epidemiologically diagnosed with mpox and laboratory confirmed.[6,7]

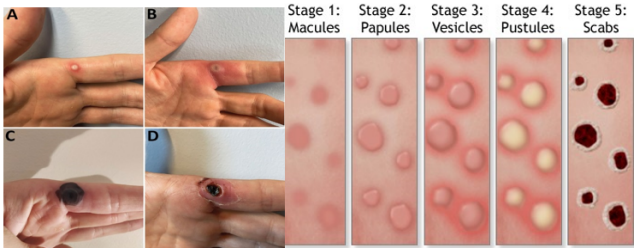

Figure 1: Stages of mpox lesions progression (Image Source: https://wwwnc.cdc.gov/eid/article/28/12/22-1374-f1)

5. Diagnostic Test

Currently, mpox testing is done using a laboratory-based technique called polymerase chain reaction (PCR). A mpox Antigen Rapid Test Kit and mpox IgM/IgG Antibody Rapid Test Kit, which are lateral flow immunoassays for the qualitative detection of monkeypox antigen and antibody during infection, are also available in some countries.

6. Treatment

There is no known treatment of this disease. Symptomatic treatment includes care of rash, hydration and pain management. Isolation is also important till the scab is formed and the patient is non-infective.

7. Complications

Pneumonia, encephalitis, conjunctivitis, corneal lesions, vision loss, neuralgia and mood disturbances are some of the complications.

8. Prevention

Contact tracing of infected person is of significant importance. Vaccines are available in few places in Africa; hence the spread has gone unabated. Apart from DRC, the only other African country to have any mpox vaccine is Nigeria.[8] Vaccination against smallpox has also shown to achieve 85% effectiveness to prevent mpox infection. Three mpox vaccines are available currently. The most commonly used vaccine is modified vaccinia Ankara (MVA), manufactured by Denmark-based Bavarian Nordic. It has approval for mpox from both the US Food and Drug Administration (FDA) and European Medicines Agency (EMA). Other vaccines are LC16m8, produced in Japan, and ACAM2000 which is made by a US company.

9. Disinfection

Detergent and soap are effective against virus so hand hygiene with soap and water is important. Disinfectants such as bleach and alcohol solutions are also effective. Disinfection (after cleaning) is recommended for all areas where a person with mpox has spent time during their infectious period, including vehicles, and frequently touched items in the home (TV remote, chairs, door handles). Isolation of patient at home or hospital is mandatory to control the infection spread.

10. Current Indian Government Recommendation

All States and union territories have been given a directive that healthcare workers, especially those working in skin/STD clinics/NACO clinics, should be made aware about common signs and symptoms, differential diagnosis, actions to be undertaken following detection of a case, including isolation, clinical management of cases, treatment of complications etc. while following the due protocols. Isolation facilities have been set in many hospitals at Government's directive.

11. Source of Funding

None.

12. Conflict of Interest

None.

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