



Editorial

Monkeypox outbreak in non-endemic countries: Is there a pandemic threat like COVID-19?

Starting from 7 May 2022, new cases of Monkeypox have been reported from several countries/states including/across UK, USA, Europe, Australia and UAE in which the disease is not endemic.¹⁻³ The recent outbreaks in non-endemic countries are creating concerns, often a fear, may be due to widespread use of social media by all levels of population. But understanding the facts related to history, epidemiology and management of the disease, it appears that it might not be creating a pandemic threat like that of COVID-19, because- (i) it is not very rapidly transmitting across the communities with a high potential of a pandemic threat, (ii) it is not frequently causing serious life-threatening complications, (iii) it is a self-limiting illness and most people recovered within few weeks, (iii) even antiviral drugs as well as vaccine and good quality of diagnostics are available.

Let's look back to the history of Monkeypox. In 1958, Monkeypox virus was first detected in captive monkeys of a research laboratory. The first human Monkeypox cases were reported in 1970 in the Democratic Republic of Congo and later in 2003 introduced in USA.^{4,5}

The etiological agent, the Monkeypox virus, is related to Smallpox virus and causes a rare illness found mainly in Central and West African countries near the tropical rainforest.^{6,7} There are two main clades of the virus - West African and Central African (Congo basin) clades- the Congo basin clade has been found to cause more severe disease and thought to be more transmissible.⁷

Despite its name, Monkeypox is a misnomer since it most commonly infects and spreads between small African mammals and rodents. It can transmit to human when someone has a close relationship with the infected animals like as monkeys, rats and squirrels or person-to-person through virus-contaminated objects such as bedding and clothing. The virus can enter the body through broken skin, respiratory tract, body fluids or eyes, nose or mouth. It has not been previously described as a sexually transmitted infection, but it can be passed through direct contact during sex. In fact, it can spread if someone is in close contact with an infected person for a long time.⁶⁻⁸ Some of those who were infected in 2022 are gay and bisexual men.¹

Early symptoms of Monkeypox include fever, headache, bloating, back pain, lymph node swelling, chills and fatigue. It causes rashes, often starting at the mouth, then spreading to other parts of the body, usually the palms of the hands and the soles of the feet. The rash changes and eventually it forms a wound and which later falls off. The

infection usually lasts 14 to 21 days and gets better on its own. The potential complications of Monkeypox include secondary infections, pneumonia, sepsis, encephalitis, keratitis with vision loss etc. This infection could be dangerous in young children, pregnant women and people with weak immune systems.^{7,9}

Amid of this bizarre global situation created by COVID-19 pandemic and Ukraine war, the good news is that this infection with Monkeypox is mild in nature in most of the cases, and clears up on its own within a few weeks.^{1,7,9} Though it can sometimes be more serious, this can be a leading cause of death (10%) due to infection with West African strains.^{2,7} Interestingly, there was no death in 2003 outbreak reported from USA⁴ which may suggest that with better management the mortality rate could be lower. Though this is a rare kind of viral infection, fortunately vaccine, antivirals and diagnostics are available for this. The US FDA has approved a vaccine, i.e. MVA-BN which basically developed for Smallpox (third generation smallpox vaccine), gives 85% protection against Monkeypox. This vaccine is known as "Imvanex" in EU; "Imvamune" in Canada and "Jynneos" in USA, requires to be administered in 2 doses, given 28 days apart.^{7,10,11} The incubation period for this Monkeypox infection is long and usually varies between 5 and 21 days.^{7,9} This provides high-risk contacts such as healthcare workers and laboratory workers, a window for obtaining post-exposure vaccines that can prevent infection. Vaccination against this virus is most likely aimed only at the immunity of those who have come into contact with infected people, known as the ring strategy.¹² An oral antiviral- "Tecovirimat" which inhibits the function of a major envelope protein required for the production of extracellular virus is available and approved by FDA USA for treatment in 2018.¹³ Monkeypox can be diagnosed using real-time PCR and cell culture.^{7,14} It is an urgent need that in such anxious, fearful and pessimistic situation, these information need to be disseminated quickly, so people can feel at ease, physicians can work confidently and policy makers can plan for future Monkeypox fights. Finally, it appears that the Monkeypox would not be able to turn into a pandemic threat like that of the COVID-19.

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