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Correspondence



Recent outbreak of monkeypox: Overview of signs, symptoms, preventive measures, and guideline for supportive management

Dear Editor

Monkeypox virus is an orthopox virus that causes a less severe illness with symptoms similar to smallpox. Monkeypox, which is a zoonotic viral disease, is endemic to West and Central Africa. Two different clades are known, namely The West African clade, with a reported mortality rate of 1%, and the Congo Basin clade, also known as the Central African clade, with a reported mortality rate of 10%. The disease was named "monkeypox" because two outbreaks of diseases were first discovered in 1958 when they occurred in a colony of research monkeys. First human exposure to monkeypox was recorded in the year 1970 when extreme measures for eradication of smallpox were being taken. Then again, smallpox was eradicated in 1980, but monkeypox continues to occur in Central and West African countries from time to time [1–3].

A recent outbreak in 2022 indicates that monkeypox has gone global as 30 non-endemic countries reported the disease with no less than 550 confirmed cases [4]. Epidemiological investigations are underway, but the cases reported so far do not have a proven travel link to endemic areas. Based on currently available information, predominantly, but not limited to, cases were identified in men having sexual attachment to men (MSM) who were seeking treatment in primary care and sexual health clinics [5].

In humans, the signs and symptoms of the disease are similar to but gentler than those of smallpox. The main differentiating symptom between smallpox and monkeypox is that monkeypox patients suffer from swelled lymph nodes (lymphadenopathy), whereas smallpox patients do not. The period of incubation of monkeypox is typically 1–2 weeks but can be 5–21 days in some cases. The illness begins with fever, chills, swollen lymph nodes, headache, backache, muscle aches, and exhaustion.

It takes 1–3 days and sometimes a bit longer for the patient to suffer from a rash after development of a fever. The rash begins typically on the face first and spreads to other parts of the body afterward.

Lesions go through the following stages before disappearing macules, papules, vesicles, pustules, and scabs.

The ailment usually lasts for 14–28 days. The disease has been claimed to cause death in 10% population in the worst cases in Africa [6].

The virus transmits when a person comes into contact with an affected animal or human and sometimes contaminated material. The virus can invade the body through injured skin, respiratory tract, or mucous membranes such as nose, eyes, or mouth. Current risk factors for contracting monkeypox include:

- a. Those who traveled within the last 21 days to an area with reported monkeypox exposure in recent times;

- b. Those who have reported contact with a person who has monkeypox-like symptoms; and
- c. Persons who identify themselves as men having sex with men (MSM) [7].

The following preventive measures even if in region that do not report any cases of monkeypox disease include:

- a. Avoid contacting animals that could contain the virus (including animals that are suffering from sickness or that have died in areas where monkeypox was reported)
- b. Avoid contact with any object that has been in contact with a sick animal (such as bedding).
- c. Separate infected patients from others.
- d. Wash hands with soap and water each time after contacting infected humans or animals. Alternatively, use simple alcohol-based sanitizer to sanitize hands.
- e. Use personal protective equipment (PPE) during patient care.

An attenuated live virus vaccine approved by the USFDA JYN-NEOS™ (also known as Imvamune or Imvanex) is in use for prevention of monkeypox [8]. The following supportive management strategies are recommended for management (Table 1).

It is highly unlikely that monkeypox will turn into another pandemic like COVID-19, but not very much is known about the virus [9]. It is crucial to minimize the impact that an outbreak of monkeypox might have on public health throughout the world, especially in light of the current pandemic risk situation. In order to get a better understanding of the constantly shifting epidemiology of this reemerging disease, greater global surveillance and case identification are crucial measures. Additionally, preventive measures and public awareness are necessary at this moment. As the virus evolves with time, a close watch should be kept on its changing pathogenesis and clinical manifestations by the concerned authority.

For the monkeypox virus, along with any other potential emerging zoonotic viral diseases, persistent surveillance and monitoring are of utmost importance. The resurgence of monkeypox cases highlights the importance of interdisciplinary One Health approaches to halt the zoonotic diseases of animal origin. It is also vital to collaborate across disciplines to address these biological dangers. In addition to being performed in humans, it is also vital to create quick evaluations of the danger or risks associated with animal-human and human-animal interphases in the context of the recent resurgence of monkeypox cases worldwide [11].

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Table 1
Supportive management of monkeypox.

Component of management	Symptoms/Signs	Management
Protection of mucous membrane and compromised skin	Skin rash	<ul style="list-style-type: none"> Clean with regular antiseptics Mupiroic Acid/Fucidin Light dressing can be used if an extensive lesion is present Try to avoid touching/scratching the lesions In case of secondary infection, relevant systematic antibiotics may be considered
	Genital ulcers	<ul style="list-style-type: none"> Slitz bath
	Oral ulcers	<ul style="list-style-type: none"> Warm saline gargles/oral, topical anti-inflammatory gel
Rehydration therapy and nutritional support	Dehydration can occur in association with decreased appetite, nausea, vomiting, and diarrhea	<ul style="list-style-type: none"> Usually, self-limiting Consult an ophthalmologist if symptoms persist or if there are pain/visual disturbances
		<ul style="list-style-type: none"> Use ORS or oral fluids Use intravenous fluids if indicated Take a nutritious and sufficient diet
Symptom alleviation	Fever	<ul style="list-style-type: none"> Lukewarm sponging Paracetamol as per requirement
	Itching/Pruritus	<ul style="list-style-type: none"> Topical calamine lotion Antihistamines Use anti-emetics
	Nausea and vomiting Headache/malaise	Paracetamol and sufficient hydration [10]

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Pollob Ahmed Shuvo, Arpita Roy, Talha Bin Emran conceptualized and designed the manuscript, participating in drafting the article and/or acquisition of data, and/or analysis and interpretation of data; Pollob Ahmed Shuvo, Arpita Roy, Manish Dhawan, and Hitesh Chopra prepared tables. Talha Bin Emran edited and revised the manuscript critically. All authors critically revised the manuscript concerning intellectual content and approved the final manuscript.

Guarantor

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Data statement

All data are available in the manuscript.

Declaration of competing interest

Authors declare that they have no conflicts of interest.

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