

Factsheet Monkeypox

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Quick facts

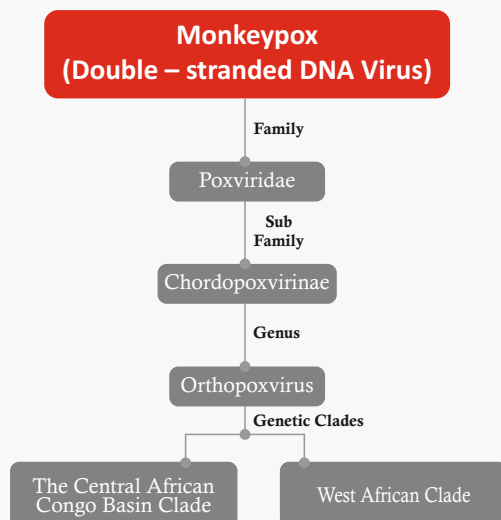
Monkeypox (MPX) is a viral Zoonotic disease (an infectious disease that spreads from animals to people) and has similar symptoms to those reported in smallpox patients in prior. The MPXV has two genetic clades: Central African Clade and West African Clade. Monkeypox is spread to human by close contact with infected persons or through body fluids from infected material including lesions, droplets or body fluids with contaminated persons or animals, as well as through infected material. It can also be transmitted by consumption of undercooked meat or animal products from infected animals. Typical incubation period for the disease is 6-13 days. It can range from 5 to 21 days. The disease commonly presents clinically with fever, rash (commonly on face and extremities than on trunk), lymph node swelling, intense headache and intense malaise. Usually self-limiting, the illness typically lasts for 2 to 4 weeks. In some the disease can result in complications.

Monkeypox has been in focus recently due to the occurrence of the increased number of infections, particularly in non-endemic countries. Although sexual transmission has not been yet established, the most recent outbreak appears to involve a large number of individuals who have had sex with numerous partners. On July 23, 2022, WHO has declared monkeypox outbreak a public health emergency of international concern (PHEIC).

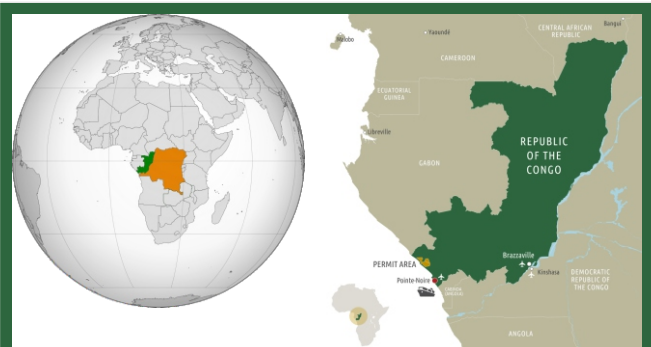


Introduction

Monkeypox is a classic example of an anthroponozoonotic viral disease (an infection which transferred from animals to humans) having symptoms similar to those reported in smallpox patients.



* A clade is also called a monophyletic group or natural group. It is an organism composed of a common ancestor and all its descendants which appears to be a phylogenetic tree branching.

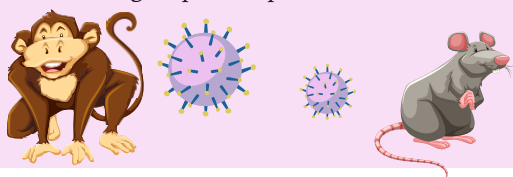


History

Danish virologist Preben Christian Alexander von Magnus was the first to describe monkeypox virus in laboratory monkeys in 1958, and hence the name 'Monkeypox'. The name is a misnomer since small mammals like prairie dogs and other rodents are thought to be natural reservoir in contrast to monkeys. The first case of Monkeypox in humans was found in the Democratic Republic of Congo in the year 1970. The patient was a nine-year-old male child. The condition, which is related to smallpox, causes a rash that usually starts on the face. Since 1970, human cases of monkeypox have been sporadically reported in many African countries. An outbreak occurred in the US in 2003, in which there were 81 human cases resulting due to close contact with pet animal. Monkeypox has historically had a fatality rate ranging from 0 to 11 % in the human population, with rates often higher in young children.

Mode of transmission

Most common mode is close contact with infected person or animals. The primary reservoir remains unknown. However, rodents such as Gambian giant rats, squirrels and small mammals like prairie dogs are the likely hosts of the virus. The virus is not as easily transmissible as the older scourge of smallpox. The virus makes entry through broken skin, mucosa or the respiratory tract. Contact with live or dead animals infected with the virus is also an important mode. Scratch or bite, bushmeat preparation and consumption of undercooked meat are potential modes of transmission from animals. Though serial human to human transmission of monkeypox has been documented, sustained human transmission has been infrequent till recent past and is under investigation considering the present spurt in the cases across the globe.



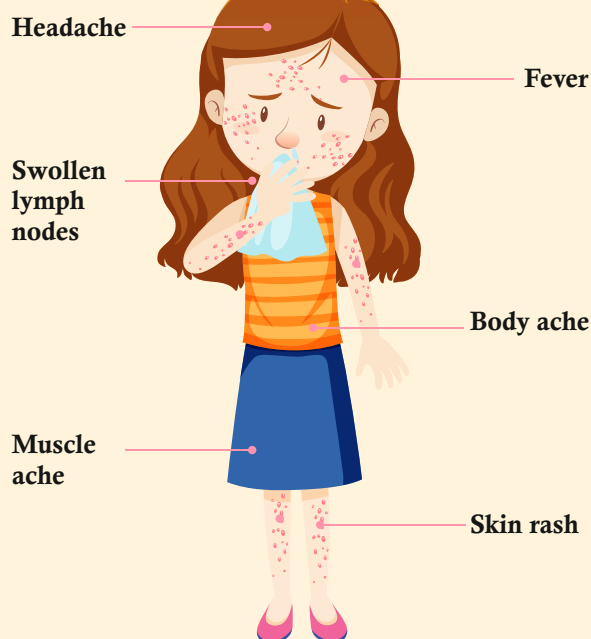
Sexual transmission as a possible route of spread

Sexual transmission has not been established yet. However, in the 2022 outbreaks, a large proportion of cases have reported possible exposure during sexual contact. Men having sex with men (MSM) also constitute a considerable proportion of cases in many countries. There is an increased tendency for anogenital rashes in the current outbreaks and it is possible that contact with fluids from the lesions during sexual contact is a possible mechanism. Although the virus has not yet been documented in semen more evidence is awaited.



Sign and Symptoms

The symptoms are similar to smallpox, though much less severe. The patient experiences symptoms 7 to 14 days after infection and there is a prodrome of nonspecific symptoms including fever, chills, headache, body ache, malaise and exhaustion. Typically, 3 days after onset of these symptoms, a rash develops usually starting from the site of infection and spreading rapidly across the body. The face and extremities are more involved compared to the trunk. Unlike in chickenpox, all the rashes simultaneously pass-through various stages of macule, papule, vesicles, pustules and crust before falling off. Rashes around anogenital region is being increasingly seen in cases reported in 2022 from across the globe.



Monkeypox Treatment

There is no specific treatment for the disease. Smallpox vaccines provides cross protection against infection in up to 85% of individuals who have taken the vaccine. However, since smallpox vaccination was stopped in 1980, individuals born after that have no such immunity. Antivirals like cidofovir, tecovirimat, St-246 and vaccinia immune globulin can be helpful in severe cases.



Outbreaks

The viral outbreak has caused widespread concern around the world. In 2017, Nigeria saw one of the greatest reported epidemics in history. Over 70 cases of monkeypox were reported in the United States in September 2018 among people traveling from Nigeria to Israel. Around 40 years after the previously confirmed cases, there are over 500 suspected cases and 200 confirmed cases with a fatality rate of about one in every ten cases. In recent year, the case fatality rate has hovered around 3 to 6%.

Cases of Monkeypox from major reporting Endemic and Non-endemic Countries.

Country	Confirmed Cases
Non-Endemic Countries	
United State of America	14049
Spain	6119
Brazil	3450
Germany	3295
The United Kingdom	3225
France	2889
Canada	1668
Netherlands	1090
Peru	937
Portugal	810
Italy	689
Belgium	624
Switzerland	416
Mexico	252
Austria	218
Israel	208
Chile	189
Denmark	169
Colombia	164

Country	Confirmed Cases
Sweden	141
Poland	114
Ireland	113
Australia	89
Norway	76
Argentina	72
Puerto Rico	66
Hungary	63
Greece	50
Luxembourg	45
Slovenia	43
Czechia	39
Bolivia	37
Romania	34
Malta	31
Serbia	23
Finland	22
Croatia	22
Ecuador	19
United Arab Emirates	16

Country	Confirmed Cases
Singapore	15
Iceland	12
Slovakia	12
India	09

Endemic Countries	Confirmed Cases
Nigeria	172
The Democratic Republic of the Congo	163
Ghana	47

Period covering January 2022 to August 2022.
Source : WHO

96 41664 3 to 6%

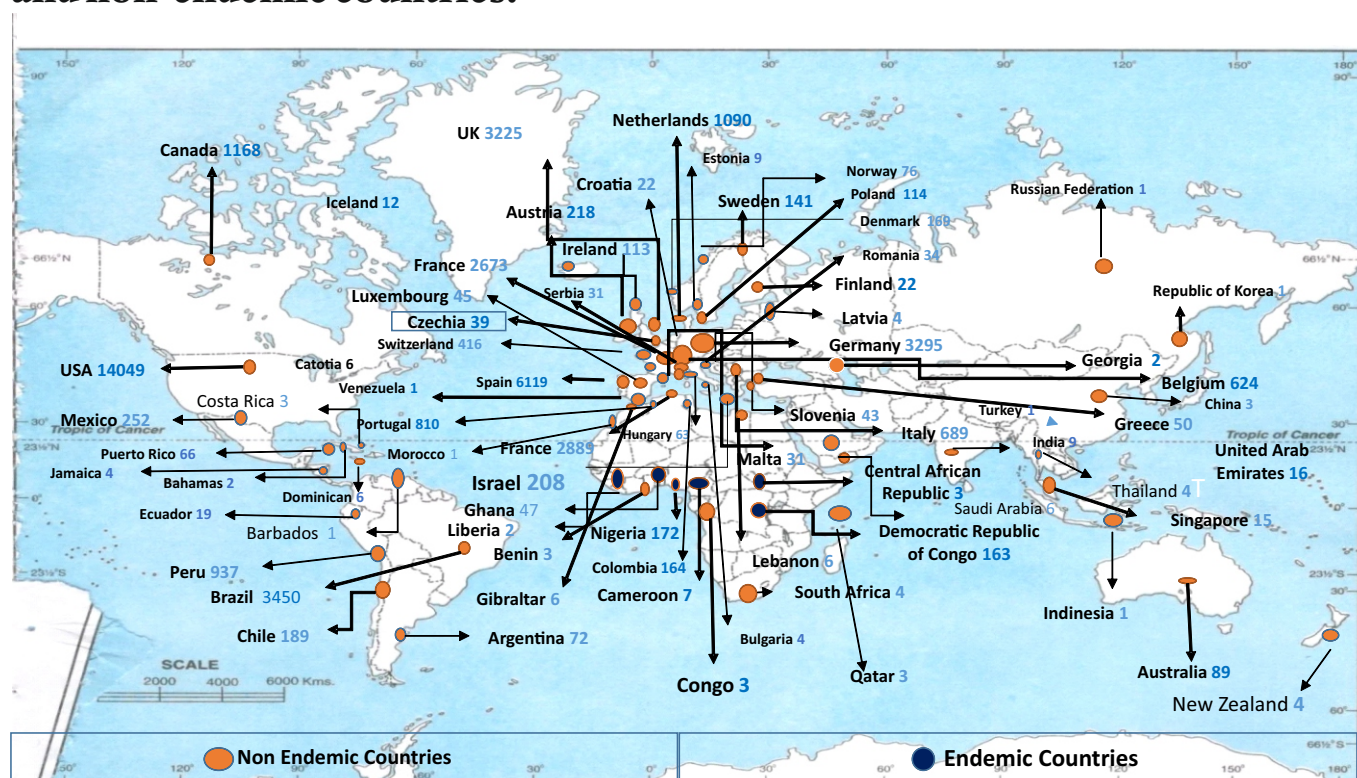
Endemic and Non-endemic countries reported	laboratory-confirmed cases	Has been the range of case fatality rate (In recent year)
		INDIA - 09 Cases: 01 Death

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Geographical distribution of confirmed cases of monkeypox in endemic and non-endemic countries.



Public healthcare preparedness by the Indian government

Government of India has issued detailed guidelines for management of Monkeypox in May 2022. The comprehensive guidelines cover case definitions, and guidance to identify sick travellers at airports, lab tests, symptoms, preventive measures, care of patients, surveillance strategies, hospital reporting and community awareness. As per the guidelines, clinically suspect cases are subjected to PCR test for Orthopox virus. Positive cases are to be confirmed by sending the specimen to ICMR-NIV Pune for confirmation. All the patients are to be isolated till the scabs fall off. All the contacts are to be kept under observation for onset of symptoms till 21 days from the date of contact with patient.

Four cases of monkey pox have been reported in India, three in Kerala and one in Delhi. All States of India are gearing up to prevent cases of monkeypox from spreading across the country. The health department in Rajasthan has directed officials to inspect passengers and transfer samples from suspected cases to the National Institute of Virology, Pune. ICMR and NCDC have been directed by the Union government to Keep a close watch on the evolving situation. Health Minister of Kerala has directed district authorities in the state to maintain vigilance and raise disease awareness. The BMC has a 28-bed unit set aside for the isolation of suspected patients at the Kasturba Hospital in Mumbai. Airport officials were checking people arriving from endemic and non-endemic countries where outbreaks had been detected. The West Bengal government issued an interim advisory on May 24 in response to monkeypox cases reported around the world. Laboratory will collect samples of vesicular fluid, blood, sputum, and other samples to be sent to NIV Pune for monkeypox testing. If a positive case is discovered, contact tracing should be initiated immediately to identify the patient's contacts during the previous 21 days.



Surveillance Strategies

The purpose of the beginning surveillance plan is to determine cases and clusters of infections, along with their sources, as soon as possible to identify and manage contacts, provide optimal clinical care, protect frontline health workers, and isolate to prevent further transmission.

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