



Short Communication

## Sexual Transmission of Monkeypox Virus

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Received : 11 November 2022

Accepted : 10 January 2023

Published : 07 February 2023

**DOI**

10.25259/IJPGD\_24\_2022

**Quick Response Code:**



### ABSTRACT

Monkeypox is a zoonotic disease which mimics smallpox very closely in morphology with presence of deep seated umbilicated vesicles, pustules and erosions going through various stages of evolution. However, sexual transmission has now been recognized as another mode of transmission. In almost all cases where sexual transmission was suspected, it was observed that the typical umbilicated vesicles and pustules were limited around the mouth, pubic and perianal area with mucosal erosions and crusted lesions around these sites (areas of skin to skin sexual contact). Viremia is seen to be more severe in receptive anal intercourse due to greater trauma to the mucosa, with a greater clustering of cases in homosexual and bisexual males. It was observed that people living with HIV had a greater prevalence of monkeypox and the cutaneous lesions tended to be more severe. The best way to prevent transmission is abstinence from any kind of intercourse until the lesions and fever subside.

**Keywords:** Monkey pox, Sexual Transmission, Virus outbreaks

Monkeypox (aka Mpx) is a zoonotic disease which is primarily found in Central and West Africa. However, recent outbreaks in many countries among people with no history of travelling to any African country or other links to the endemic areas have put the world on an alert mode for the fear of another SARS-COVID-19-like pandemic. Current outbreaks are mostly travel-unrelated, with a few exceptions, including cases traveling back from endemic countries. Mass gathering events can contribute to the spreading/super-spreading of infectious outbreaks. Some of these, including the 'Gay Pride Maspalomas (Gran Canaria) 2022' festival, held in Spain, have been linked to monkeypox outbreaks.<sup>[1]</sup>

The causative agent is monkeypox virus (MPXV), which is an enveloped double-stranded DNA virus that belongs to the Orthopoxvirus genus of the Poxviridae family. There are two distinct genetic clades of the MPXV—the Central African (Congo Basin) clade and the West African clade. The Congo Basin clade has historically caused more severe disease and was thought to be more transmissible. MPXV was first detected in colonies of monkeys, hence the nomenclature. Although no other natural reservoir is yet known, certain rodents like squirrels are susceptible to the infection.

The incubation period is 1–2 weeks. Systemic prodromal features include fever, headache, malaise, chills and lymphadenopathy. The cutaneous lesions usually appear within 1–3 days of onset of fever and last for 2–4 weeks. Monkeypox mimics smallpox very closely in morphology with the presence of deep-seated umbilicated vesicles, pustules and erosions going through various stages of evolution. The cutaneous lesions remain contagious till formation of the scab. Confirmation of MPXV infection is based on nucleic acid amplification testing using real-time or conventional polymerase chain reaction (PCR) for detection of unique sequences of viral DNA. PCR can be

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used alone, or in combination with sequencing. Management includes symptomatic management and specific management such as oral DNA polymerase inhibitors – brincidofovir, oral intracellular viral release inhibitor – tecovirimat and intravenous vaccinia immunoglobulins.

Earlier, the only mode of transmission to humans was thought to be through bites or scratches by the infected animals. However, the absence of any such exposure in the recent cases suggests possibility of human to human transmission and the danger of a new pandemic. As in other viruses, initially the main mode of human transmission was contemplated to be through direct contact with the skin lesions (rash/scabs) of infected individuals or respiratory route with large droplets. However, in light of recent evidence, sexual transmission is now believed to be an equally or even more important mode of transmission in humans.<sup>[2]</sup>

In many countries, it was observed that monkeypox cases were clustered in large gatherings where sexual contact was frequently made with unknown people and with homosexual males. This prompted the medical fraternity to think about sexual transmission being an important route of spread of infection. The WHO has also now described sexual contact with multiple or different sexual partners in the 21 days before symptom onset as a risk factor.<sup>[3]</sup>

It is now accepted that exchange of bodily fluids, like during kissing/intercourse, provides a portal of exchange for the virus. Detection of MPXV in the semen of infected males further corroborates this belief. In almost all cases where sexual transmission was suspected, it was observed that the typical umbilicated vesicles and pustules were limited around the mouth, pubic and perianal area with mucosal erosions and crusted lesions around these sites (areas of skin to skin sexual contact). The presence of mucosal erosion further increases the possibility of transmission due to higher viral load reaching the bloodstream during sexual contact. Thus, viremia is seen to be more severe in receptive anal intercourse due to greater trauma to the mucosa, with a greater clustering of cases in homosexual and bisexual males. Systemic symptoms other than fever are seen less frequently in people who acquire monkeypox through this route. It was also observed that people living with HIV had a greater prevalence of monkeypox as compared to the general population and the cutaneous lesions tended to be more severe.<sup>[3]</sup>

Lack of awareness about sexual transmission of monkeypox may lead to misdiagnosis of the lesions like other sexually transmitted infections like herpes simplex. However, the presence of herald lesions confined to the point of sexual contact, presence of the prodromal symptoms and absence of a prior history of herpes lesions may suggest an alternative diagnosis of monkeypox. The table mentioned below shows some key clinical points of difference between monkeypox and genital herpes:

	Monkey pox	Genital herpes
Systemic symptoms such as fever, headache	Present	Absent
Duration of rash	2–3 weeks	6–7 days
Mucocutaneous examination	Fewer and larger, deep-seated vesicles and pustules or ulcers	Multiple/few small grouped vesicles/erosions over erythematous base

### Prevention

- General measures: Maintain proper hygiene, optimal usage of personal protective equipment, isolate the infected patients from others
- Specific measures: vaccination: JYNNEOS vaccine is approved for prevention of smallpox and monkeypox and it is the primary vaccine being used during the current outbreak. The ACAM 2000 vaccine, an alternative to JYNNEOS, is also approved to help protect against smallpox and monkeypox. Vaccination against smallpox demonstrated 85% effectiveness in preventing monkeypox
- The best way to prevent further sexual transmission is abstinence from any kind of intercourse (oral/vaginal and anal) until the lesions and fever subside. Condoms and diaphragms may offer protection but *are not 100% effective* in protecting them from transmission of virus as they alone may not prevent all exposures to monkeypox since the rash can occur in other parts of the body.

### CONCLUSION

Sexual transmission of monkeypox is now a well-recognised mode of transmission. Identification of the high-risk population and creating awareness among them may help in preventing the rapid spread of the virus. The containment of the virus by effectively using the available resources is the need of the hour.

### Declaration of patient consent

Patient's consent not required as the patient's identity is not disclosed or compromised.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

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**How to cite this article:** Agarwal P, Gupta DA. Sexual transmission of monkeypox virus. *Indian J Postgrad Dermatol* 2023;1:29-31.