

Editorial



Genitourinary Manifestations of Monkeypox Disease

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Before going through this editorial writing, readers should read the article "Genitourinary Lesions Due to Monkeypox" published in *Eur Urol*, 2022;82(6), on pages 625 to 663.¹ Because, in that article, the authors published a series of 14 patients with MPOX infection, of them 43% of patients consulted for initial symptoms of genitourinary systems. Until now, many urologists have played an important role during the emerging global outbreak of MPOX. Until now urologists must be aware of treating MPOX diseases and might have a fundamental role in differentiating sexually transmitted diseases from MPOX disease, as it may be confused in treating the diseases. That report was timely as we witnessed a global outbreak. Until now, many urologists might have been unaware of MPOX diseases.² The genitourinary area is the most common location of the rash which is often presented with vesiculopustular lesions.¹ Monkeypox or MPOX is a zoonotic viral disease caused by the monkeypox virus, a species of the Orthopoxviral genus in the poxviridae family.³ According to the historical perspective, the MPOX virus was first discovered in Denmark (1959) in a monkey collected for research purposes. There was an outbreak of a pox-like infection of fever and rash in primates, confined to the research center in Copenhagen, Denmark. Ultimately that virus was identified as of the same family as smallpox and cowpox. Pox means any viral disease producing a rash of pimples, that becomes pus-filled and leaves pockmarks on healing. That's why the name of the virus was given monkeypox virus (WHO gave the name MPOX virus), and the first reported human case was a nine-month-old boy in Congo (1970).⁴ MPOX virus was classified into 2 main clades, clade I, and clade II, further subdivided into clade Ia and clade Ib. Clade II is again subdivided into clade IIa and clade IIb. Clade I pox disease is the most dangerous variant.⁵ The global outbreak in 2022 continues to this day. As of August 2024, it has also been detected beyond Africa.¹ On 15 August 2024, in Sweden, only one MPOX was diagnosed, and only 13 cases of MPOX virus were detected in Singapore as published.^{3,4} The virus reservoir is not yet identified, but squirrels and monkeys are susceptible.^{2,3,4} Skin-to-skin close contact such as touching, coitus, kissing, breathing, or talking close to one another. It has been observed that people with multiple sexual partners can transmit diseases. It can also spread from contaminated objects such as clothing or linen, and needle injuries in health care or community settings. During pregnancy or birth, the baby may be affected by an infected mother. These may cause loss of pregnancy, stillbirth, death of the newborn, or complications for the parents.¹ Further study are needed to find out the reservoir and how it spreads during an outbreak of MPOX spreads. MPOX is characterized by fever, headache, cervical lymphadenopathy, and other flu-like symptoms in the early stage.⁶ The incubation period is usually between 6- 13 d, and Genitourinary systems may be involved. The genitourinary symptoms of MPOX are penile edema, pustular lesions and vesicles on the penis, scab and whitish lesions on the glans penis, urethritis, scrotal lesions with purulent exudate.⁷ For effective management and control of genitourinary infection, aimed should be symptomatic relief, shortening the duration of symptoms. The strategic plan must be made in advance to ensure the alertness of the urologist. Nowadays, direct contact with a patient's body fluids is the main transmis-

sion route, another potential mode of transmission is coitus. For handling those patients who will undergo surgery, precautions must be taken before, during, and after surgery by a urologist, and concerned staff. Different treatment modalities have been discovered, even a vaccine developed for prophylaxis of MPOX disease.

A group of researchers investigated the presence of genetic materials of the MPOX virus in different biological samples, collected from 12 patients with confirmed MPOX infection. Viral DNA was detected in semen (7/9 patients) and urine (9/12 patients) samples. These results of the study contribute to understanding viral transmission and the possible role of sexual transmission with the involvement of genitourinary systems.^{8,9} In another study, with 12 patients, MPX virus DNA was detected in saliva and semen.^{10,11} In a study with 197 patients, an average of 38 years old, 56.3% of males presented with mucocutaneous lesions on the genitalia or in the perineal area (41.6%), 15.7% with penile edema.¹² Two recent studies published in *European Urology*, of MPX manifestation including genital lesions, penile edema, and paraphimoses.¹³

Another study published urethritis without skin lesions as the primary manifestation of MPX virus infection. In their outpatient sexual health clinic, 236 patients with MPX infection were diagnosed. Of them, 7.7% had symptoms of urethritis. In their series, they also found one man-positive case of MPX virus presented with a purulent urethral discharge even in the absence of skin lesions.¹⁴ In another study with 114 subjects, 59.6% had penile lesions in which the mean age was 34.7 years old male. Among them, 100% of males had sexual contact with men. Of them 76% had penile lesions resolved spontaneously, and others led to penile scarring, contraction, or discolorations. Their report was the largest series of MPX penile lesions.^{15,16} Due to the capacity of MPX virus transmission via the exchange of body fluids, so, we hypothesized that infection of genitalia is not uncommon. In a study with 199 men, 10% presented with penile lesions and required urological management, and 4% required urological consultation. Average age was 41.6(+/- 7.1) years. About 75% of patients are in this series experience penile edema, and 50% experience paraphimoses, one patient experiences paraphimoses without edema, and another one experiences penile cyanosis with distal edema. Some subjects initially appeared as pustules, and papules, or extensive wet ulceration in the penis, superimpose with secondary infections, leading to necrosis.¹⁶ In a large cohort study with 114 subjects of MPX infection had penile lesions, and reported having sexual contact with other men. Among the subjects, 76% of the penile lesions resolved without complications, and few subjects had poorly healed leading to penile scarring. Had contraction or discoloration at the end of the penis. When there was an increased severity of the lesions, then complications were more common. 15 A retrospective observational study was done in London (2022) with 197 participants, with 196 as gay, and bi-sexual, and one subject had sex with men. About 56.3% were presented with genital lesions, 15.7% with penile edema, and 31.5% had sexually transmitted infections. Overall, 20.2% of subjects were admitted to the hospital with rectal pain, and penile swelling due to MPX infections.¹⁷

Treatment of MPOX depends on the types and location of lesions, to prevent further spread. Of course, for prophylaxis purposes, the vaccine must be used.⁶ Although there has been no report of MPOX cases in Bangladesh, Genital lesions have been reported to manifest in almost 50% of patients infected with MPOX. Urologists need to understand the presentation, manifestation, diagnosis, and management of MPOX genital lesions, as many patients will consult with a urologist first for penile lesions. 15 Take home messages for our readers. First, atypical presentations may be seen in many MPOX-infected people. An awareness of this diagnosis is important. Second, nowadays MPOX outbreaks may occur at any time, in risky populations, so awareness will help in identifying cases of urogenital involvement. Gomez-Garberi M et al. data supported the hypothesis that MPOX may spread via sexual activity.¹ Third, there may be co-infections with others sexually transmitted diseases, so, proper screening is mandatory. Finally, a urologist should take detailed steps to identify a case of MPOX. Patients should be aware of the reduced local spread and encouraged to use condoms during sexual activity with their contact.¹ As a urologist, our role will be proper diagnosis by thorough testing, treating local symptoms, and reducing spread by counseling with patients.

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