



# Genital Manifestations of Monkeypox Infection: Two Case Reports

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## Abstract

We present two cases of HIV-positive male patients, with a confirmed diagnosis of monkeypox through molecular diagnosis, with genital involvement.

## Introduction

Monkeypox (MPX) disease is caused by the monkeypox virus of genus Orthopoxvirus, of which smallpox is also a member. MPX was first detected in humans in the 1970s and has been zoonotic for decades in non-human primates, rodents, and other species [1-4]. Overall lethality is around 3–6%, being more severe in children and people with immune deficiencies. The incubation period can range from 4 to 21 days and begins with nonspecific general symptoms such as fever, myalgia, and fatigue [1-4]. It evolves with the appearance of skin rashes: spots, papules, vesicles, pustules, ulcers, and crusts. The lesions are infectious throughout their evolution and can be painful, requiring analgesia. These lesions, which vary in quantity, usually last from 2 to 4 weeks and affect the face, palms and soles of the feet, cornea, and genital regions (in at least 30% of cases). Lesions typically begin to develop simultaneously, but they do not remain at the same stage of development [1-4]. An MPX diagnosis is confirmed through a positive result in molecular examination (real-time PCR and/or sequencing). To date, there are no specific drugs approved for the treatment of MPX, and symptomatic and supportive treatment is indicated. The antiviral tecovirimat was recently released for exceptional and temporary use in Brazil, and is indicated for patients at risk of developing severe forms of the disease [5,6]. Data from Brazil and the rest of the world show that most cases present with mild symptoms and approximately 5% need hospitalization or isolation due to clinical severity.

## Case Report

Patient 1 was a 31-year-old male experienced edema in the penis and scrotum, progressing to vesicular and ulcerated lesions

diffusely throughout the body, worse in the upper limbs and face. The patient is HIV-positive, receives irregular treatment, and reports recent treatment for other sexually transmitted infections (STIs). The patient had a normal CD4+ T-cell count and suppressed HIV viral load. At the time of admission to this hospital, the patient had a disseminated MPX virus infection, with significant genital and oral involvement, progressing to respiratory failure and orotracheal intubation. He underwent treatment with intravenous antibiotic therapy for secondary involvement of skin infection, and supportive measures with the drug tecovirimat. The patient showed clinical improvement, being extubated and kept under clinical surveillance. The genital edema evolved into ulcerated lesions and crusts and has not required a surgical approach so far. There was improvement in the pattern of the lesion, with a reduction in perilesional edema and infiltration of the subcutaneous tissue.

Patient 2 was a 31-year-old male first noticed the appearance of diffuse skin lesions associated with fever and pain. After four weeks he experienced worsening of the anogenital lesions in the form of vesicles and ulcers, in addition to significant swelling of the penis and scrotum. The patient was HIV-positive and had abandoned treatment. The patient had a normal CD4+ T-cell count and suppressed HIV viral load. After three weeks of supportive treatment and antibiotic therapy for secondary skin infection, there was an improvement in the crusted lesions in the genital region and regression of penile and scrotal edema. However, the patient evolved symptoms of intestinal occlusion, was submitted to exploratory laparotomy with colostomy, and experienced subsequent septic shock and death.

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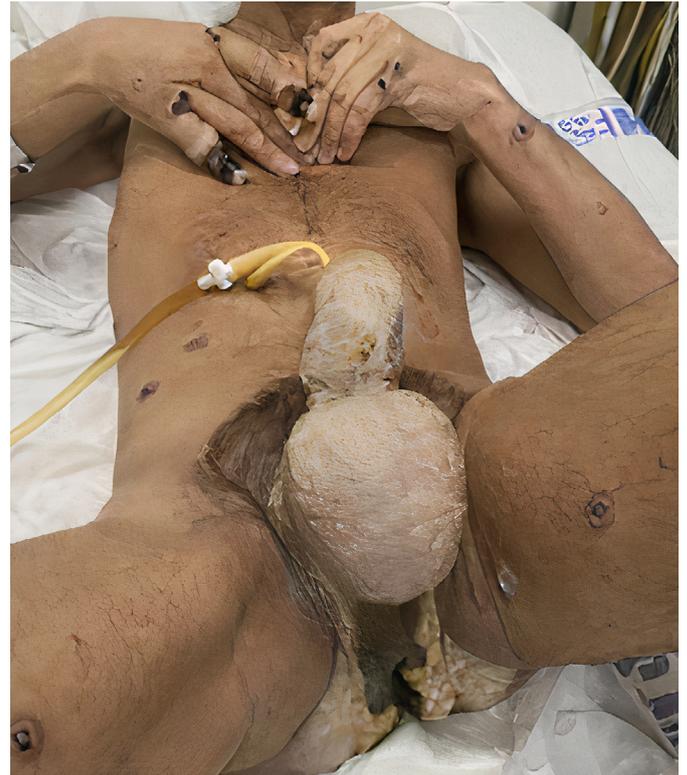
Monkeypox infection, Genital, Monkeypox virus, Perineum

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**Figure 1.** Crusted and infiltrating lesions in the penis and scrotum.



**Figure 2.** Desquamative and infiltrative lesion in the penis and scrotum after the crust had fallen off. Indurated crusted lesions in the perineal and anal regions.

## Discussion

Here we present two cases of male patients with genital involvement in MPX infection. This involvement, which was present in both cases, reaffirms other data available in similar case reports [7,8] and may suggest transmission through sexual contact. Genital lesions may present as one or two solitary lesions on the penis or multiple lesions affecting the penis, scrotum, and pubis. They are commonly associated with perilesional edema, which may progress to severe edema of the glans or foreskin, with the possibility of progressing to paraphimosis. Large ulcers or necrotic crusts have also been reported as complications. The role of the urologist is important in the differential diagnosis from other sexually transmitted diseases that involve similar penile changes and skin lesions in the genital area. Lesions in the genital area may take time to appear, but their absence does not in itself exclude MPX infection. Penile edema has a variable evolution time, and can last for weeks. To date, we believe that the surgical approach should be indicated for patients with purulent collections or diagnosed abscesses. Further studies are needed to better understand this disease and the possible long-term sequelae in the genital system.

## Conclusion

We can conclude that MPX virus infection is an emerging disease, with an increasing number of cases in Brazil and the world. Evidences suggest that the perineal region should be investigated in the physical examination of patients with this condition, and urologists play an important role in the diagnosis of MPX and STIs that can mimic the disease.

## Authors' contributions

All the authors contributed equally to this article

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