Mpox transmitted through sexual intercourse: three case reports

Mpox transmitida por relações sexuais: relato de três casos

Wilma Nancy Campos Arze[1,2], Ingrid Antunes da Silva[1], Hugo Boechat Andrade[1], Aline Gissele Azevedo Ferreira Goulart[1], Rubem de Avelar Goulart Filho[1], Julia Sampaio de Souza Morais[1], Carolina Varella Leal Passos[3], Paula Varella Leal Passos[3], Maria Cláudia Pinheiro Guedes de Uzeda[1,4], Christina Thereza Machado Bittar[5], Claudio Cesar Cirne-Santos[1], Izabel Christina Nunes de Palmer Paixão[1], Mauro Romero Leal Passos[1]

ABSTRACT

Introduction: In 2022, many countries, such as Brazil, experienced outbreaks of mpox (formerly called monkeypox) in sexually active people with multiple sexual partners. **Objective:** Report cases of patients diagnosed with Mpox. **Methods:** Report three cases of patients diagnosed with Mpox treated at the STD Sector at Universidade Federal Fluminense. **Results:** We report three cases of young adult patients who spontaneously sought our STD service with wounds in the anogenital area, mouth and other parts of the body. These cases include a 28-year-old man (HIV positive) who had lesions on his penis and body, a 34-year-old man with perianal ulcers and adenopathy, and a 40-year-old man with painful ulcers on his penis. **Conclusion:** The article provides information on the symptoms, transmission, and prevention of mpox, highlighting the need for early detection, diagnosis, and prompt treatment to contain and prevent the spread of the disease. The cases presented in this study show all the characteristics of a sexually transmitted disease.
Keywords: Mpox. Monkeypox. Sexually transmitted diseases. Case reports. Outbreaks.

RESUMO

Introdução: Em 2022, muitos países, como o Brasil, experimentaram surtos de mpox (anteriormente chamada de *monkeypox*) em pessoas sexualmente ativas com múltiplos parceiros sexuais. **Objetivo:** Relatar casos de pacientes diagnosticados com mpox. **Métodos:** Relatar três casos de pacientes com diagnóstico de mpox atendidos no Setor de Doenças Sexualmente Transmissíveis (DST) da Universidade Federal Fluminense (UFF). **Resultados:** Relatam-se três casos de pacientes adultos jovens que procuraram espontaneamente o Setor de DST da UFF com feridas na região anogenital, boca e outras partes do corpo. Esses casos incluem um homem de 28 anos (HIV positivo) que apresentava lesões no pênis e no corpo, um homem de 34 anos com úlceras perianais e adenopatia e um homem de 40 anos com úlceras dolorosas no pênis. **Conclusão:** O artigo fornece informações sobre os sintomas, transmissão e prevenção da mpox, destacando a necessidade de detecção precoce, diagnóstico e tratamento imediato para conter e prevenir a propagação da doença. Os casos apresentados apresentam todas as características de uma doença sexualmente transmissível.
Palavras-chave: Mpox. Varíola dos macacos. Doença sexualmente transmissível. Relatos de casos. Surtos.

INTRODUCTION

Mpox, a disease formerly known as monkeypox[1], was declared an international public health emergency on 23 July 2022 by the World Health Organization (WHO)[2]. It is a viral illness caused by the monkeypox virus (MPXV), which is similar to human smallpox, but less severe. Transmission can occur through close contact with an infected person's skin lesions or bodily fluids, inhalation of droplets from an infected person's respiratory secretions, and handling of contaminated objects, such as clothing or bedding[3].

[1]Universidade Federal Fluminense – Niterói (RJ), Brazil. E-mails: wilma.arze@gmail.com; ingrid_antunes@id.uff.br; hugoboechat@id.uff.br; alinegissele@id.uff.br; ragfuff@gmail.com; ssampaiojulia@gmail.com; mc.uzeda@gmail.com; claudiocirne@id.uff.br; izabelpaixao@id.uff.br; maurodst@gmail.com
[2]Universidade Federal de Integração Latino-Americana – Foz do Iguaçu (PR), Brazil.
[3]Universidade de Vassouras – Vassouras (RJ), Brazil. E-mails: carolvarellalp@gmail.com; paulavarellalp@gmail.com
[4]Laboratório de Saúde Pública de Niterói Miguelote Viana – Niterói (RJ), Brazil.
[5]Laboratório Bittar – Niterói (RJ), Brazil. E-mail: chbittar@gmail.com

However, in the 2022 outbreak, sexual transmission has been the predominant form, unlike the past: a sexual encounter was reported in most cases, with 69.2% of all reported transmission events. 84.4% of cases with known data on sexual orientation were identified as men who have sex with men (MSM) and, among those with known human immunodeficiency virus (HIV) infection status, 48.1% were HIV-positive. Other particularities of the outbreak of 2022 were average age (35.52 years), comorbidity (15.7%) and case fatality rates (4.7%) higher if compared with cases before 2022[2,4].

The symptoms include headache, fever, muscle aches, back pain, swollen lymph nodes, chills, and a rash[5]. The rash usually begins on the face and then spreads to other parts of the body. Genital rash was reported in 45% of male cases who described at least one symptom[6].

OBJECTIVE

To report cases of patients diagnosed with mpox. This article follows the CARE (for CAse REports) Guidelines[7] and describes three cases of mpox in cisgender men who have sex with men, with genital lesions being a common symptom. It also stresses the importance of breaking the transmission chain and following guidelines to prevent further spread of the disease[8].

METHODS

To report three cases of patients diagnosed with mpox treated at the Sector of STD, in the Microbiology and Parasitology Department, Instituto Biomédico, Campus do Valonguinho, Niterói (RJ), Brazil, Universidade Federal Fluminense.

The patients were seen and followed up at our public outpatient medical service during the beginning of the infection outbreak and, to the best of our knowledge, were the first cases duly documented in the municipality.

Narrative

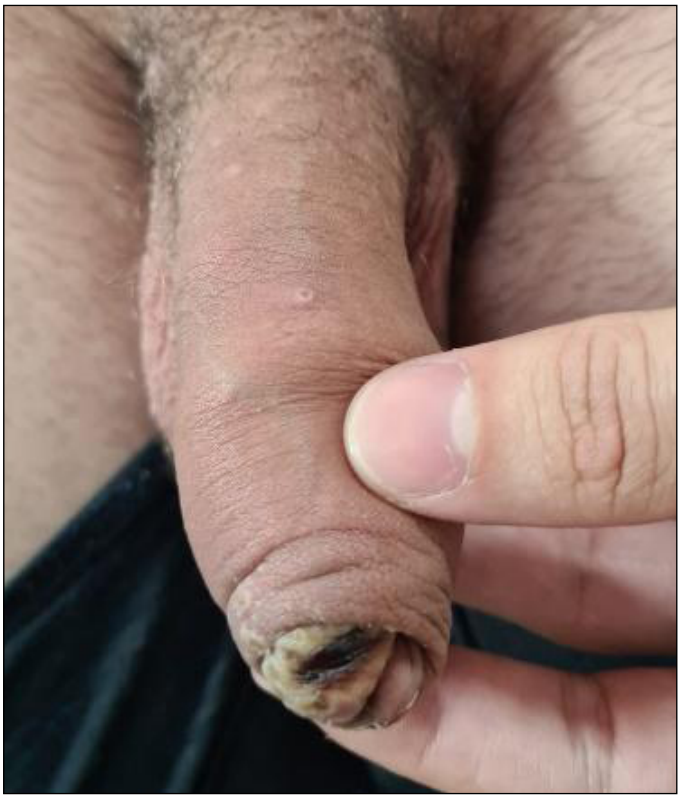
Case 1: On July 20, 2022, we were contacted through a messaging app by a patient who said he had wounds on his penis and body. He added that he had sought aid in the neighboring city of São Gonçalo, without success. He also said that he tried to make an appointment with the service where he is registered for HIV treatment in the city of Niterói, but was told that he would only be able to get a fitting for an appoitment for the following week. He was then advised to go to the STD Sector of Universidade Federal Fluminense for medical care.

He is 28 years old, a cisgender MSM, and has been living with HIV for 6 years. He is now on regular treatment, has a recent undetectable viral load and is in irregular condom use. Likewise, he said he received a call the day before from a sexual partner with whom he had had an intercourse two weeks ago in São Paulo saying he had mpox. About 1 week ago, a lesion appeared on his penis, followed by "little balls of pus" all over the body. He had a fever of 38–39°C for 5 days, up to 2 days before the appointment, in addition to enlarged inguinal ganglia, malaise and tiredness. In the same week, he had collected VDRL and serology for hepatitis B and C, all non-reactors. He also said that, in Niterói, he had intercourse with another man who, after a week, had anal lesions and the same "little balls" on his body.

On physical examination, he presented papules on his left shoulder and leg, a 1.5 cm pustular and scaly lesion with a necrotic center on the foreskin, pustules on the body of the penis, bilateral and painful inguinal polyadenopathy. We performed rapid digital immunochromatographic tests for syphilis, hepatitis B and hepatitis C, all non-reactive.

Two samples of genital ulcer scrapings were collected. One of the samples was sent to the Miguelote Viana Laboratory, of the Municipal Health Secretariat of Niterói, RJ, for diagnosis by molecular biology, PCR for MKPV, according to the operational flow of the Municipal Health Secretariat of Niterói. The second was sent to the Bittar Laboratory (supplementary medicine), which handles special cases treated by us, without any type of remuneration, for the following tests to be performed: Seegene Allplex™ genital ulcer assay - Cytomegalovirus (CMV), Haemophilus ducreyi (HD), Herpes Simplex Virus Type 1 (HSV1), Herpes Simplex Virus Type 2 (HSV2), Lymphogranuloma venereum (LGV), Treponema pallidum (TP), Varicella-zoster virus (VZV) — and Seegene PCR kit for MKPV (**Figures 1 and 2**).

Both samples of lesion scrapings for MPXV research that were sent to the public laboratory (Miguelote Viana) and to the supplementary medicine laboratory, which used Seegene's MPXV RT-PCR kit (Bittar Laboratory), were positive.



Figures 1. Pustular lesion with necrotic center in foreskin and papulous lesions in the body of the penis.

Figures 2. Pustular lesion in the axillary region.

Rapid tests (finger prick blood) for syphilis, hepatitis B and hepatitis C were also carried out, all negative.

We recommended cleaning the lesions of the foreskin and glans with a solution of 2% chlorhexidine, maintenance of adequate nutrition and home isolation. We prescribed over-the-counter medications for fever and pain. We maintained a weekly follow-up until complete healing of the lesions and remained available (even by WhatsApp contacts) in case of any questions or new symptoms.

Case 2: Male, 34 years old, a cisgender MSM, born in Niterói, lives in São Gonçalo, came together with case 1 for consultation at the STD Sector. He had only had case 1 as a sexual partner in recent months, with the first intercourse two months before the onset of the symptoms. The second one was a month before and the last one on the day after the first day of fever. He searched case 1 to report the symptoms, and he said he had also been symptomatic for two days before case 2.

He had seven days of fever, tiredness, dizziness, anal itching, and adenopathy inguinal. The anal pruritus ceased along with the fever and gave place to the pain. Then he presented sparse papular lesions on his legs and arms and one on his face.

On examination, an erythematous papule with central ulceration was found on his face and lower limbs, as well as bilateral anterior cervical and inguinal polyadenopathy, and multiple coalescent perianal ulcers (**Figures 3 and 4**).

We performed the same diagnostic routine as Case 1. The PCR test was positive for MPXV, and we made the recommended cleaning on the perianal lesions with 2% chlorhexidine.

Rapid tests (finger prick blood) for HIV, syphilis, hepatitis B and hepatitis C were also carried out, all negative.

Case 3: On July 21, 2022, we sent a message to case 3, who case 1 claimed to be the source of his contamination, proposing an appointment to offer medical assistance and understand the chain of transmission.

Within 4 days, we examined a 24-year-old cisgender MSM, born in São Gonçalo and resident of Niterói. He had labial herpes, parapsoriasis and took pre-exposure prophylaxis to HIV. The patient believed he had been exposed to the virus on June 26, 2022, when he had unprotected sex with another man in São Paulo. Prior to this meeting, he had been almost two months without intercourse. Asked if he noticed any changes in the skin or mucous membranes in his sexual partner from São Paulo, he said that he had not observed any injury. He added that when he had intercourse with case 1, he did not present any skin or mucous lesion, but on the day before he had had a sore throat.

On July 3, 2022, he had this sore throat, pruritic papulovesicular rash on his trunk and hands, which later spread to other parts of his body. He had perianal lesions, when he had an appointment with a proctologist who, although considering herpes, prescribed antibiotics and analgesics and advised that the patient should go to Emílio Ribas Hospital, because it could be mpox. They performed rapid tests for syphilis, HIV, hepatitis B and C, all of which were negative, and collected materials from the lesions on the hands, perianal and other skin lesions for research by polymerase chain reaction (PCR) for MPXV, which was positive.

On the day of his appointment with us, he mentioned that the injuries were already much better. He denied fever or productive cough. On physical examination, he had crusted lesions on his feet and hands, from which we collected fragments for research by

Figures 3. A papulosive lesion with central ulceration located on the right malar region.

Figures 4. Multiple ulcerated lesions other papulous with central ulceration as well as anal and intra-anal borders.

polymerase chain reaction (PCR) for MPXV, which was still positive. We repeated the same diagnostic routine as Case 1 because the patient was living with someone and was struggling to be confined in his room. Rapid tests (finger prick blood) for syphilis, HIV and hepatitis B and C were negative (**Figures 5, 6 and 7**).

Based on the maintenance of a positive PCR for mpox, we recommended a greater effort to keep the isolation until the lesions are completely healed. We asked patient 3 to contact the parter who he had had intercourse with on June 26, 2022, so that we could trace the chain of transmission, but the patient was unsuccessful in his attempts.

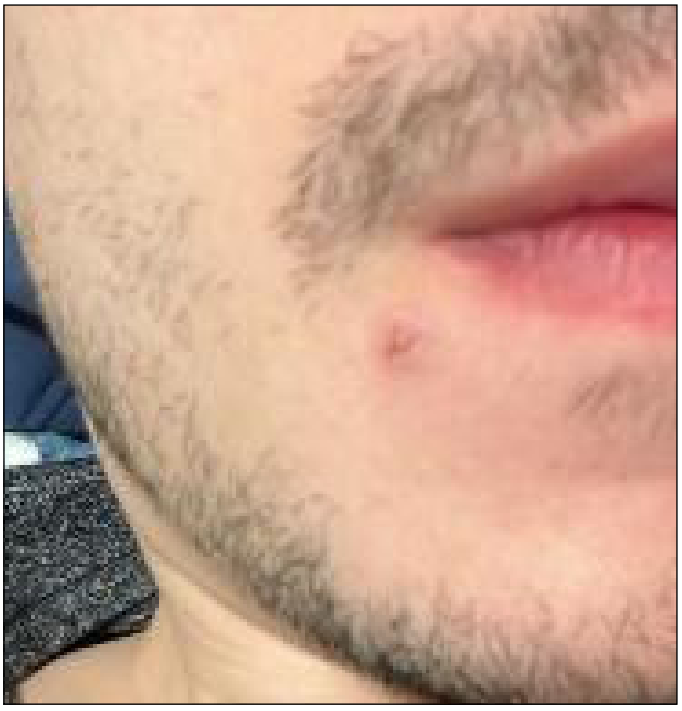


Figure 5. Photo taken on July 6, 2022, sent by patient C. Papulosa lesion with central ulceration and black crust in the face.

Figure 6. Photo taken on July 6, 2022, sent by patient C. Papulosive lesion with central ulceration in the navel.

DISCUSSION

The diagnosis of mpox relies on a combination of clinical presentation, medical history, and laboratory testing. In some cases, a definitive diagnosis may require additional testing, such as a skin biopsy or viral culture. Although the lesions that make up the mpox case suspicion criteria can be located anywhere on the body, anogenital rash is of particular interest to reference centers for sexually transmitted diseases, since they coexist with other diseases in the differential diagnosis[9].

The management focuses on relieving symptoms and preventing the spread of the virus to others, and treating any secondary infections that may develop. In severe cases, hospitalization may be necessary for antiviral treatment and supportive care, such as wound care and fluid management. Underlying immune deficiencies, like HIV/AIDS, may lead to worse outcomes[10].

However, there can be several difficulties that patients with suspected mpox may face when seeking medical care. Even though the Brazilian health system is a mix of public and private systems, access to healthcare and medical resources may be limited or difficult in some areas, preventing patients from receiving a prompt and accurate diagnosis or appropriate treatment[11]. Also, the cost of medical care and testing can be a barrier for some patients, particularly those who are uninsured or have limited financial resources[12].

Besides, they may not be aware of the symptoms of mpox or may not understand the importance of seeking care, leading to delayed diagnosis and treatment, which may be aggravated by fear and stigma from others[13]. There is the recommendation of isolation until complete resolution of symptoms and healing of the rash, which can last for up to 4 weeks[14]. Therefore, the patient's fear and

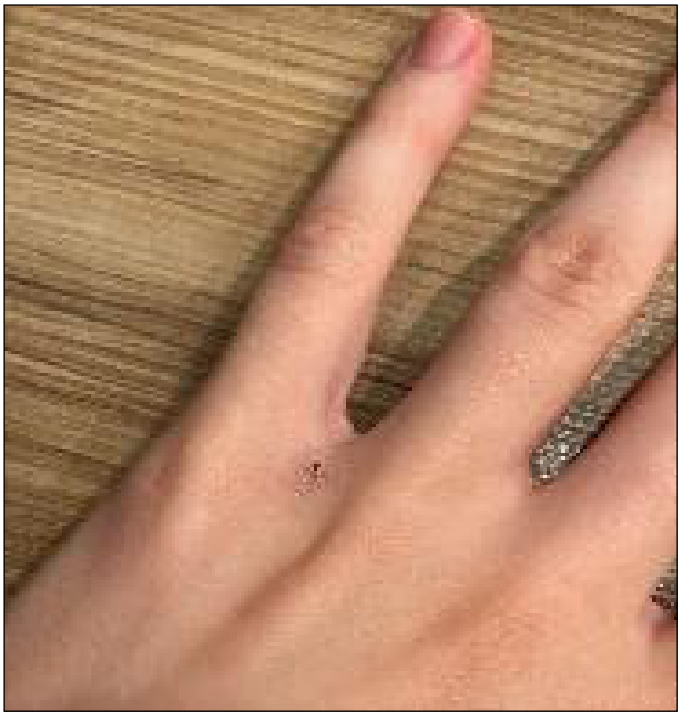


Figure 7. Small papulous lesion, ulcerated with a discrete blackened crust on the medial face of the first chime cbook near the metacarofalangeal joint of his left hand.

insecurity arises in relation to their job, due to the risk of being fired. Thus, they prefer to avoid seeking medical attention until a complication occurs that really impairs their ability to work[15].

From the point of view of the healthcare system, we can also observe several challenges. Diagnosing mpox can be challenging, as its symptoms can be like other illnesses, such as chickenpox/herpes zoster, herpes simplex infections, smallpox, or even some drug rash or presentations of bacterial skin infections or other sexually transmitted infections[11,16]. As those symptoms can vary widely from person to person, and patients may not seek medical attention until later in the course of their disease, it is difficult to diagnose it based on clinical presentation alone[11,17]. We believe it is very important to carry out further research in cases of patients with genital sores, as people with such signs and symptoms may concomitantly present other STI, mainly syphilis and genital herpes.

The first care for these patients can be performed by various specialties: gynecologists, urologists, proctologists, oral health professionals or even emergency services. It is common for patients to seek many of them before the diagnostic hypothesis of mpox or its confirmation, which is even more difficult because of the lack of widespread testing[17].

The lack of knowledge and structure leads to another problem: the medical personnel may not have access to appropriate personal protective equipment, such as gowns, masks, gloves, and eye protection, putting them at increased risk of exposure to the virus[8,18].

Added to all that, even after months of evolution of this public health emergency, there were no effective measures in the country to supply vaccines and pharmacological treatment for the disease[19]. This makes prevention through education and quick access and diagnosis even more important to avoid its spread by breaking the chain of disease transmission.

No need for this procedure, as it is a case series. All three patients signed an informed consent form[20].

Strengths

Our report shows the importance of having an open door in the care of cases of STI (or suspects) and infectious diseases. It also makes clear the need for empathy, availability, spirit, and attitude to assist patients as they would like to be assisted. We do not know all the answers or have the best resources, but we must have credibility, availability to seek the knowledge and means in the public and private health network. On the other hand, we are convinced that molecular biology resources, such as the two RT-PCR panels that we use in these patients, provide security for the proper etiological and differential diagnoses.

Limitations

Attendance to the sexual partner who had intercourse on June 26, 2022, with case 3 would be extremely important to improve the understanding of the chain and mode of transmission of the cases reported herein.

CONCLUSION

The cases presented show all the characteristics of a sexually transmitted disease. This does not mean that Mpox has sexual relations as the only and exclusive form of transmission. A service that deals with sexually transmitted infections must be ready to deal with suspected or typical cases of Mpox. These cases highlight the importance of a qualified approach to sexual partnerships to interrupt the Mpox transmission chain.

Participation of each author

WNCA: Bibliographic research, Text writing, Text review, Image treatment. IAS: Patient care, Text writing, Photographs. HBA: Patient care, Photographs, Text writing, Literature review, Text review. AGAFG: Assistant in patient care, Running rapid tests. RAGF: Bibliographic research, Text review, Image treatment. JSSM: Text writing, Bibliographic research, Text review. CVLP: Bibliographic research, Text review, Image treatment. PVLP: Bibliographic research, Text review, Image treatment. MCPGU: Monitoring of analyzes by molecular biology of clinical samples. CTMB: Monitoring of analyzes by molecular biology of clinical samples. CCCS: Text writing, Literature review, Text review. ICNPP: Text writing, Literature review, Text review. MRLP: Patient care, Collection of biological materials, Photographs, Text writing, Text review, General supervision, Project idealization.

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Conflict of interest

The authors have declare no conflicts of interest.

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Address for correspondence
WILMA NANCY CAMPOS ARZE
Rua Dr. Paulo César, 25, apto 503 – Santa Rosa
Niterói (RJ), Brazil.
CEP: 24220-401
E-mail: wilma.arze@gmail.com

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