

## Case Report

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# Monkeypox and co infections presenting as a painful genital rash

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### Abstract

Since May 2022, there is an ongoing Monkeypox (MPX) outbreak that has been declared as a public health emergency of international concern by WHO. Most of the cases are men who have sex with men, frequently presenting to the clinic with one or more Sexually Transmitted Diseases (STDs).

We present one of the first cases admitted to our hospital ward with a clinical image of multiple painful peri anal lesions. To our experience, even most extensive cases can be treated with symptomatic and directed therapy. Screening and treatment for concomitant STDs is mandatory.

The MPX outbreak has become a public health concern for which the best preventive options are actively discussed. Currently, pre-exposure and post-exposure vaccination are available in Belgium, but vaccines are scarce. Pre-exposure vaccination may be effective in the transmission of MPX virus, but probably insufficiently in the current ongoing epidemic. Therefore, there is urgent need for structured prevention programs, improved diagnostic strategies and systematic clinical management.

**Keywords:** MPX: Monkeypox Virus Infection; co- infection; HIV; Sexually Transmitted Diseases (STDs).

### Introduction

Monkeypox (MPX) is caused by the Monkeypox Virus (MPXV), which belongs to the family of orthopoxviruses (which also includes smallpox, cowpox, horsepox, and camelpox). Until this year the disease occurred mainly in parts of Central and West Africa, with sporadic cases in other countries, always linked to a trip to these areas. Since May 2022, however, the disease is spreading in Europe and beyond, with infections primarily occurring in men who have Sexual Contacts With Men (MSM), but not exclusively [1,2]. There are two genetics different variants of MPXV: the Congo Basin variant (Central Africa) and the West African variant. The current outbreak is caused by a variant of

the West African variant, which according to some sources is sufficiently different to be considered a third variant [3,4].

### Case presentation

A 41-year-old male presented at the Sexual health clinic because of anal pain and fever, overall symptoms suggesting Asexually Transmitted Disease (STDs). He is regularly followed at our clinic because of known HIV infection on antiretroviral treatment with normal CD4 count and suppressed viral loads. At the visit he reported a recent (<21 d) unprotected sexual contact with a person that to his knowledge did not show symptoms of MPX (no skin lesions/rash of other visible signs). Furthermore, he reported fever that started 3 days ago, with evolution to gen-

eral malaise. Mean while he developed rash in the face, spreading to the torso and lastly anorectal. He reported also anal and inguinal pain, for which he took paracetamol regularly and since 1-day Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) with difficulty to achieve pain relief. On clinical exam we note normal parameters, a maculopapular rash on the face, torso, back and genitals, and severely enlarged inguinal nodes. Proctological exam was not done because of extremely painful anal lesions. Further examination was normal. Swabs were taken from the genital lesions, skin and a throat swab were taken as back-up. MPX PCR was conducted and confirmed MPX infection on anal skin lesions and throat swab. Screening for other sexual transmitted diseases resulted also positive for *C. trachomatis* and *N. gonorrhoea* from the anal and throat swabs for which directed treatment was given with Doxycycline and Ceftriaxone. A symptomatic treatment for the pain was also started. Antiviral therapy for MPX infection was not indicated. There were no complications seen.

### Discussion

We describe a case of MPX transmitted by close physical contact and probably sexual contact. Genital rash is one of the key symptoms that is reported in the current outbreak of monkeypox in several countries outside the endemic areas in Africa [1-3]. It is reported mainly in MSM and confirms that route of transmission is often sexual, more than in the endemic African outbreaks, where skin and close contact is often the source of transmission [4]. Experiences from our center show



Figure 1:



Figure 2:

that co-infections are frequent and should be screened for in this high-risk population. So far, all confirmed cases in our center are high-risk population i.e., Men Who Have Sex with Men (MSM), frequently with multiple partners (open relationships, sex on site). A large proportion of the patients are using pre-exposure Prophylaxis for HIV (PrEP) or are eligible for PrEP based on their risk behavior or are HIV positive. We have had very few patients that needed to be hospitalized for symptomatic treatment, mostly for pain control. Treatment with Tecovirimat, antiviral FDA and EMA-approved, is possible for MPX infection in humans in selected cases of severe infection [1,5].

Published literature indicates transmission due to close contact with lesions, body fluids, respiratory droplets and contaminated objects, suggesting that close contact is needed to acquire the infection [1-4]. It is important to further clarify (in prospective studies) the ways of MPX transmission and the impact of different preventive measures.

There is an ongoing discussion over the best prevention methods regarding MPX. Prevention with usage of condom is one of the measures that might be insufficient in this case, since not only sexual transmission, but also oral and close skin-skin contacts can be sufficient. From the moment that MPX became a potential public health concern the option for pre-exposure and post-exposure vaccinations was discussed. It is known that the standard first-generation smallpox vaccine offers 85% protection against MPX virus [1]. Most of the recent vaccine studies compare the standard first-generation smallpox vaccine and the highly attenuated MVA (Modified Vaccinia Ankara) vaccine. The studies are done in mice and monkeys, and they report similar humoral and cellular immune responses for both vaccines seen in non-human primates along with a substantial protection against a severe monkeypox virus challenge [7]. This knowledge was essential for the highly attenuated MVA vaccine to be considered and effectively used as a replacement vaccine with better safety profile, and as such is since 2019 approved as a prevention vaccine for MPX in USA and Canada, and since more recently in Europe [1,7].

However, pre-exposure vaccination may be effective in the transmission of MPX virus, but probably insufficiently effective in the current ongoing epidemic. Due to potential asymptomatic transmission [8], there might be an important underreporting in cases, and this might bias our current epidemiological knowledge and the precise global distribution of MPX. We believe that to contain the current outbreak, MPX should be routinely considered and screened when seeing patients presenting with potential STDs, especially in high-risk population such as HIV+/PreP MSM and sex workers.

Following the current national guidelines, a vaccination campaign is now ongoing within this high-risk population. Post-Exposure Vaccination (PEV) is proposed to high-risk contacts (mostly sexual contacts) within 4 days after contact with a confirmed PCR positive index case and within 14 days for high-risk contacts (e.g. household contacts) respectively to prevent infection and severe disease. Because of the limited impact of PEV on the current epidemic, Pre-Exposure Vaccination (PreV) has been added to contain the spread among the risk groups such as people living with HIV, or patients taking pre-exposure prophylaxis for HIV and is currently available for those with 2

or more STDs in the previous year or MSM with an underlying immune condition. Epidemiological models show that PrEV will provide better protection, however because of a clear risk of further international spread more routine and widespread vaccination will be necessary for optimal prevention. And international awareness, prevention and vaccination strategies are mandatory to contain this and future epidemics.

### Conclusion

There is an ongoing outbreak that has been declared as a public health emergency of international concern by WHO. From the experience in our center, we report that MPX often coincides with other STDs in a high-risk population. We want to raise awareness to the fact that it might not always be symptomatic which is an additional risk for increased spreading with in a population with numerous close contacts crossing borders. Therefore, there is urgent need for structured awareness and prevention programs, improved diagnostic strategies and systematic clinical management.

### Declarations

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**Consent:** All authors have read and approved the submission of this case report.

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