# Genital Ulcerations With Swelling

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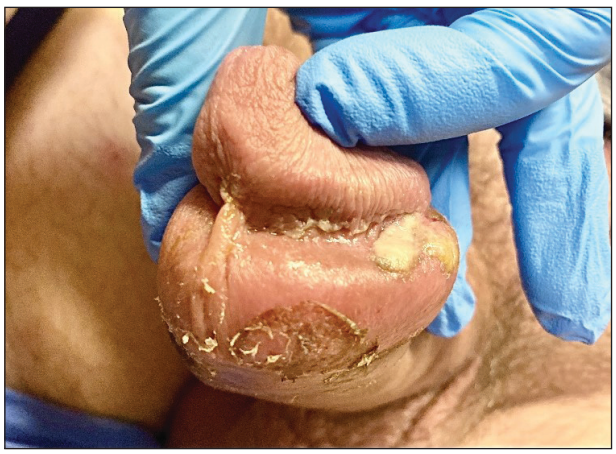

A 50-year-old man with a history of recurrent genital herpes simplex virus infections presented to the hospital with genital lesions and swelling of 5 days' duration. Prior to admission, the patient was treated with a course of valacyclovir by an urgent care physician without improvement. Physical examination revealed a 3-cm, nontender, shallow, ulcerative plaque with irregular borders and a purulent yellow base distributed on the distal shaft of the penis with extension into the coronal sulcus. A few other scattered erosions were noted on the distal penile shaft. He had associated diffuse nonpitting edema of the penis and scrotum as well as tender bilateral inguinal lymphadenopathy. Three days after the genital ulcerations began, the patient developed a nontender erythematous papule with a necrotic center on the right jaw followed by an eruption of erythematous papulopustules on the arms and trunk. The patient denied dysuria, purulent penile discharge, fevers, chills, headaches, myalgia, arthralgia, nausea, vomiting, or diarrhea. The patient was sexually active exclusively with females and had more than 10 partners in the prior year. Shortly after hospital admission, the patient developed red targetoid plaques on the groin, trunk, and arms. No oral mucosal lesions were identified.

## WHAT'S YOUR **DIAGNOSIS?**

a. cutaneous Crohn disease
b. fixed drug eruption
c. herpes simplex virus
d. mpox (monkeypox)
e. syphilitic chancre

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The authors report no conflict of interest.
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doi:10.12788/cutis.0814

# THE **DIAGNOSIS:** Mpox (Monkeypox)

Tests for active herpes simplex virus (HHV), gonorrhea, chlamydia, HIV, and syphilis were negative. Swabs from the penile lesion demonstrated positivity for the West African clade of mpox (monkeypox) virus (MPXV) by polymerase chain reaction. The patient was treated supportively without the addition of antiviral therapy, and he experienced a complete recovery.

Mpox virus was first isolated in 1958 in a research facility and was named after the laboratory animals that were housed there. The first human documentation of the disease occurred in 1970, and it was first documented in the United States in 2003 in an infection that was traced to a shipment of small mammals from Ghana to Texas.[1] The disease has always been endemic to Africa; however, the incidence has been increasing.[2] A new MPXV outbreak was reported in many countries in early 2022, including the United States.[1]

The MPXV is a double-stranded DNA virus of the genus *Orthopoxvirus,* and 2 genetic clades have been identified: clade I (formerly the Central African clade) and clade II (formerly the West African clade). The virus has the capability to infect many mammals; however, its host remains unidentified.[1] The exact mechanism of transmission from infected animals to humans largely is unknown; however, direct or indirect contact with infected animals likely is responsible. Human-to-human transmission can occur by many mechanisms including contact with large respiratory droplets, bodily fluids, and contaminated surfaces. The incubation period is 5 to 21 days, and the symptoms last 2 to 5 weeks.[1]

The clinical manifestations of MPXV during the most recent outbreak differ from prior outbreaks. Patients are more likely to experience minimal to no systemic symptoms, and cutaneous lesions can be few and localized to a focal area, especially on the face and in the anogenital region,[3] similar to the presentation in our patient (Figure 1). Cutaneous lesions of the most recent MPXV outbreak also include painless ulcerations similar to syphilitic chancres and lesions that are in various stages of healing.[3] Lesions often begin as pseudopustules, which are firm white papules with or without a necrotic center that resemble pustules; unlike true pustules, there is no identifiable purulent material within it. Bacterial superinfection of the lesions is not uncommon.[4] Over time, a secondary pustular eruption resembling folliculitis also may occur,[4] as noted in our patient (Figure 2).

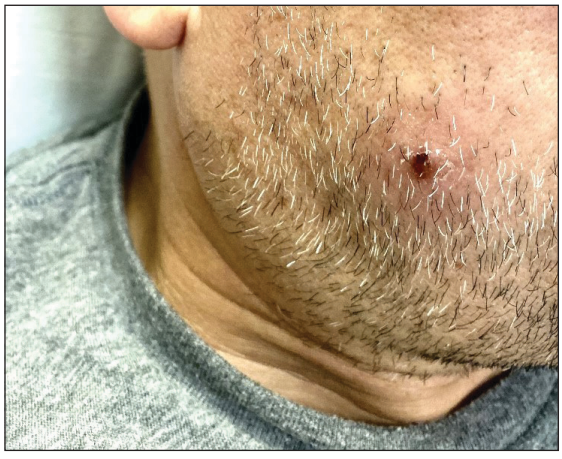

**FIGURE 1.** An erythematous papule with a necrotic center on the right cheek that was diagnosed as mpox (monkeypox).

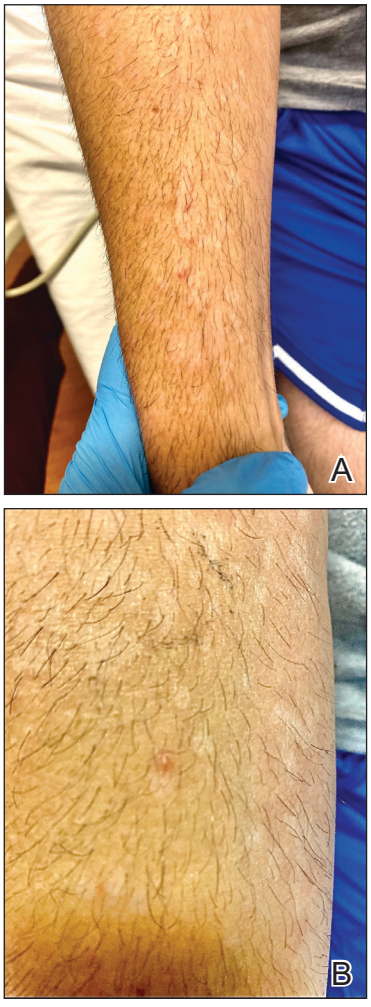


**FIGURE 2.** A and B, Erythematous papulopustules of mpox (monkeypox) on the arms.

Although we did not have a biopsy to support the diagnosis of associated erythema multiforme (EM) in our patient, features supportive of this diagnosis included the classic clinical appearance of typical, well-defined, targetoid plaques with 3 distinct zones (Figure 3); the association with a known infection; the distribution on the arms with truncal sparing; and self-limited lesions. More than 90% of EM cases are associated with infection, with HHV representing the most common culprit[5]; therefore, the relationship with a different virus is not an unreasonable suggestion. Additionally, there have been rare reports of EM in association with MPXV.[4]

Histopathology of MPXV may have distinctive features. Lesions often demonstrate keratinocytic necrosis and basal layer vacuolization with an associated superficial and deep perivascular lymphohistiocytic infiltrate. When the morphology of the lesion is vesicular, histopathology reveals spongiosis and ballooning degeneration with epidermal necrosis. Viral inclusion bodies within keratinocytes may be identified.[1] Death rates from MPXV has been reported from 1% to 11%, with increased mortality among high-risk populations including children and immunocompromised individuals. Treatment of the disease largely consists of supportive care and management of any associated complications including bacterial infection, pneumonia, and encephalitis.[1]

The differential diagnosis of MPXV includes other ulcerative lesions that can occur on the genital skin. Fixed drug eruptions often present on the penis,[6] but there was no identifiable inciting drug in our patient. Herpes simplex virus infection was very high on the differential given our patient's history of recurrent infections and association with a targetoid rash, but HHV type 1 and HHV type 2 testing of the lesion was negative. A syphilitic chancre also may present with the nontender genital ulceration[7] that was seen in our patient, but serology did not support this diagnosis. Cutaneous Crohn disease also may manifest with genital ulceration even before a diagnosis of Crohn disease is made, but these lesions often present as linear knife-cut ulcerations of the anogenital region.[8]

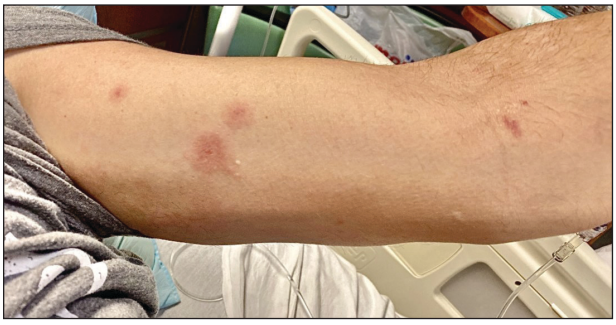

**FIGURE 3.** Red, circular, targetoid plaques on the left arm, consistent with erythema multiforme and associated with mpox (monkeypox).

Our case further supports a clinical presentation that diverges from the more traditional cases of MPXV. Additionally, associated EM may be a clue to infection, especially in cases of negative HHV and other sexually transmitted infection testing.

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