Painful facial, oral, and genital ulcers

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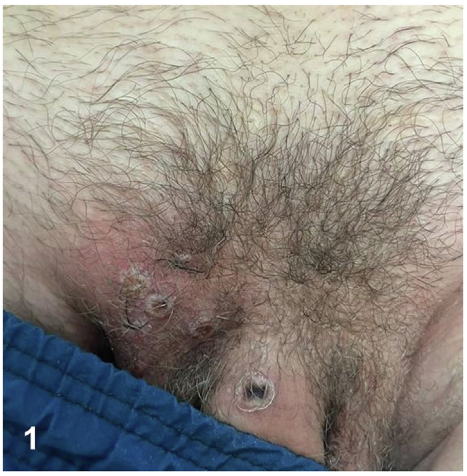
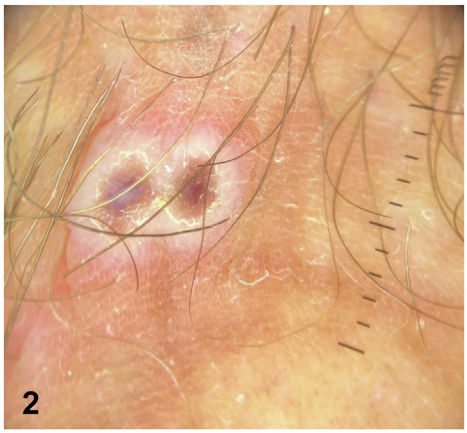
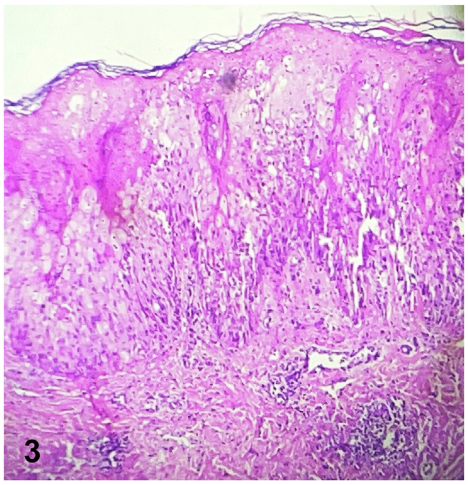
Key words: dermatopathology; dermoscopy; general dermatology; histology; infectious disease; medical dermatology; monkeypox.







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Funding sources: None.

IRB approval status: Not applicable.

Patient consent: Consent for the publication of all patient photographs and medical information was provided by the authors at the time of article submission to the journal stating that patient gave consent for their photographs and medical information to be published in print and online and with the understanding that this information may be publicly available.

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JAAD Case Reports 2023;33:98-100.

2352-5126

https://doi.org/10.1016/j.jdcr.2022.12.024

A 32-year-old otherwise healthy male presented to the dermatology clinic in Rio de Janeiro, Brazil, with a 2-day history of multiple painful, non-pruritic ulcers in the genital and facial regions, fever, odynophagia, headache, and fatigue. Physical examination revealed pustules and vesicles with central umbilication at the same stage of development and targetoid crusted ulcers on the right inguinal area (Fig 1), base of the penis, right gluteal region, and left cheek along with bilateral painful inguinal adenopathy. The oropharynx showed erythematous patches and erosions with white exudate.

Question 1: Based on the clinical presentation, what is the most likely etiology of the patient's ulcers?

A. *Treponema pallidum*

B. Monkeypox virus

C. Herpes simplex virus (HSV)

D. *Candida albicans*

E. Non-infectious inflammation

Answers:

A. *Treponema pallidum* — Incorrect. Primary syphilis infection is classically characterized by a painless genital ulcer, often associated with non-tender inguinal lymphadenopathy. Serologies for syphilis were negative in this case.

B. Monkeypox virus — Correct. Upon further questioning, the patient reported frequent unprotected sexual intercourse with alternating male partners and recent contact with symptomatic partners. After 7 days, the patient developed additional lesions on the bilateral thighs, face, right anterior neck, and buttocks. Lesions evolved to erosions with overlying crusts, with spontaneous resolution of all lesions after 3 weeks. Monkeypox is a zoonotic *Orthopoxvirus*. Beginning in May of 2022, a rapid increase in the number of monkeypox cases emerged. Historically, lesions began on the face and spread across the trunk and extremities.[1] In the current outbreak, it has been observed that lesions begin primarily in the genital region in men who have sex with men.

C. HSV — Incorrect. Genital herpes presents as painful grouped vesicles or ulcers. Disseminated HSV could present as facial and genital ulcers in an immunocompromised patient. Serologies for HIV were negative.

D. *Candida albicans* — Incorrect. Cutaneous candidiasis presents as bright red erythema surrounded by satellite pustules and papules in moist areas. Deep fungal infections can cause genital ulcers but *C. albicans* is not the typical pathogen.

E. Non-infectious inflammation — Incorrect. Behcet syndrome is characterized by recurrent oral apthae associated with genital ulcers. The precise etiology is unknown, but an autoimmune etiology has been proposed. The classic triad includes uveitis as well.

Question 2: What would you expect to see on dermoscopy of active lesions?

A. Targetoid white rings without structure, with central brownish crust or vesicle, and perilesional erythema.

B. Well-defined white structures with pronounced erythema and central brown dots.

C. Dot vessels on a red structureless background.

D. Blurry linear vessels and whitish amorphous masses (cottage cheese-like structures).

E. Diffuse monomorphic dotted and glomerular vessels on a diffuse, yellowish red background with a circular scaling edge.

Answers:

A. Targetoid white rings without structure, with central brownish crust or vesicle, and perilesional erythema — Correct. The dermoscopic features observed in our reported case are demonstrated in Fig 2. Dermoscopic descriptions of monkeypox lesions are lacking in the literature. Reported dermoscopic characteristics of other viral lesions are similar to what is seen in our case.[2]

B. Well-defined white structures with pronounced erythema and central brown dots — Incorrect. HSV lesions demonstrate central brown pigmentation surrounded by white color and peripheral erythema,[3] similar to monkeypox lesions. The lesions can be differentiated by central brown dots seen in HSV lesions.

C. Dot vessels on a red structureless background — Incorrect. These features would be seen in genital ulcers of Behcet syndrome. Oral ulcers can be characterized by central white structureless areas, similar to monkeypox. Dot vessels, however, will be seen in oral and genital lesions.

D. Blurry linear vessels and whitish amorphous masses (cottage cheese-like structures) — Incorrect. These features would be observed in lesions of

cutaneous candidiasis. Linear vessels are not characteristic of monkeypox lesions.

E. Diffuse monomorphic dotted and glomerular vessels on a diffuse, yellowish red background with a circular scaling edge — Incorrect. This finding describes Biett's sign that can be found in secondary syphilis lesions and is considered a strong indicator.[3] Monkeypox lesions do not show vessels or peripheral scaling.

Question 3: A biopsy of a right inguinal papule revealed an orthokeratotic stratum corneum with a preserved granular layer, ballooning degeneration, spongiosis, karyorrhexis, neutrophilic infiltrate, and intraepithelial cytoplasmic inclusion bodies (Fig 3). What stain or additional test, if any, would confirm the diagnosis?

A. Grocott methenamine silver-nitrate (GMS) stain

B. Giemsa stain

C. Direct Immunofluorescence

D. Warthin-Starry silver stain

E. No stain or additional testing needed

Answers:

A. GMS stain — Incorrect. GSM stain is useful for identifying fungal organisms. While not routinely used, GMS stain could be used to aid in the diagnosis of cutaneous candidiasis.

B. Giemsa stain — Incorrect. Epithelial scrapings of active HSV lesions with Giemsa stain can show multinucleated giant cells and intranuclear viral inclusions to aid in the diagnosis of HSV. Giemsa stain has no utility in the diagnosis of monkeypox.

C. Direct Immunofluorescence — Incorrect. There are no pathognomonic laboratory tests to diagnose Behçet syndrome; however, direct Immunofluorescence seems promising to aid in clinching the diagnosis.[4]

D. Warthin-Starry silver stain — Incorrect. The gold standard for diagnosis of syphilis is serologic testing. The Warthin-Starry stain, however, can be useful in identifying spirochetes on pathology.

E. No stain or additional testing needed — Correct. Monkeypox is characterized histologically by ballooning degeneration of keratinocytes, prominent spongiosis, dermal edema, and acute inflammation, as seen in this case. The clinical progression of lesions is mirrored histologically. Ballooning degeneration of basal keratinocytes and spongiosis of a mildly acanthotic epidermis in the vesiculopustular stage progresses to full thickness necrosis of a markedly acanthotic epidermis.[5] There are rare multinucleated keratinocytes with eosinophilic cytoplasmic inclusions, referred to Guarnieri bodies. Since these histologic findings resemble those seen in varicella and other pox viruses,[5] clinical correlation and polymerase chain reaction testing are necessary in confirming the diagnosis if dermoscopy is not performed. In our case, the diagnosis was confirmed with a positive polymerase chain reaction. Polymerase chain reaction remains the gold standard for diagnosis.

Abbreviations used:

HSV: herpes simplex virus
GMS: Grocott methenamine silver-nitrate

Conflicts of interest

None disclosed.

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