

Clinical features of a large chronic ulcer on the genital and perianal region in HIV-infected patients can be a strong clinical clue for the diagnosis of herpes simplex infection

Chandra Sekhar Sirka

Department of Dermatology and Venereology, All India Institute of Medical Sciences, Bhubaneswar, Odisha, India

Address for correspondence:

Dr. Chandra Sekhar Sirka, Department of Dermatology and Venereology, All India Institute of Medical Sciences, Sijua, Dumuduma, Khurda, Bhubaneswar - 751 019, Odisha, India.

E-mail: csirka2006@gmail.com

Abstract

Herpes simplex infection presents as a large, chronic, genital, and perianal ulcer in immunosuppressed HIV-positive patients. However, the characteristic morphological feature for clinical diagnosis is unclear. This case series illustrates the morphological characteristics of large, chronic, herpes simplex ulcers at the genital and perianal region in four HIV-positive patients. The diagnosis of herpes simplex infection was confirmed by laboratory test and/or rapid response to acyclovir therapy. All four of our patients had consistent morphological features such as uniform depth, punched out edge and arcuate border on the genital and perianal ulcers, along with positive IgM and IgG antibodies to herpes simplex virus and/or rapid response to acyclovir. Such findings suggest that these morphological features may be the characteristic feature of large and chronic herpes simplex ulcer in HIV/ADS positive patients.

Key words: Arcuate border, herpes simplex, HIV infection, large chronic ulcer, punched-out edge, uniform ulcer depth

INTRODUCTION

A common cause of large, chronic, genital, and peri-anal ulcer in HIV-infected patients is herpes simplex virus infection.^[1-4] Its prevalence in HIV-infected homosexual males is about 13%.^[5] However, there is a paucity of published literatures that described the characteristic morphological feature of large, chronic, genital, and peri-anal herpes simplex ulcer in HIV-infected patients. Lack of consensus on a characteristic morphological feature of perianal and genital herpes simplex ulcer on HIV-infected patients often delayed the diagnosis and treatment and prolonged the morbidity in these patients. This report illustrates the morphological feature of large, chronic, genital, and perianal ulcer in HIV-infected patients

who tested positive to IgG and IgM antibody for herpes simplex virus 2 and/or rapidly response to acyclovir therapy.

CASE REPORTS

Case 1

A 36-year-old HIV-positive male reported with an ulcer on the genitalia for 3 weeks. The ulcer started as a papule. It gradually ulcerated and enlarged to a size of 2 cm × 3 cm

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over a period of 3 weeks. Examination of the ulcer revealed uniform depth, punched-out edge, arcuate border, and red granulation tissue at the base [Figure 1]. Based on these clinical features, a provisional diagnosis of herpes simplex was considered. Serum Venereal Disease Research Laboratory (VDRL) test, Grams stain, and bacterial culture from the ulcer were negative. Tzanck test and serum IgG and IgM antibody test for herpes simplex virus 2 were positive. The initiation of oral acyclovir 400 mg thrice daily healed the ulcer over 11 days.

Case 2

A 32-year-old HIV-positive male reported our OPD with a complaint of nonhealing ulcer on the genital and perianal area for 3 months. He had a history of vesicles on the penis 2 years back, which healed spontaneously over a period of 10 days. Examination of the ulcers showed uniform depth, punched-out edge at areas, arcuate border, and granulation tissue at the base of ulcers [Figure 2]. Based on the history and clinical features, a provisional diagnosis of herpes simplex was considered. The serum level of IgG and IgM antibody to herpes simplex virus 2 was raised. Tzanck smear and VDRL tests were negative. Bacterial culture from ulcer grew *Staphylococcus aureus* sensitive to linezolid. The initiation of oral linezolid 600 mg twice daily for 5 days did not heal the ulcers. Empirically, initiated oral acyclovir 400 mg thrice daily for 7 days improved the ulcer over a period of 10 days.

Case 3

A 35-year-old HIV-positive female reported with a complaint of nonhealing ulcer on the genitalia for 40 days. The size of the ulcer was 1 cm × 5 cm with arcuate border, uniform depth, and punched-out and sloppy edge [Figure 3]. Based on these features and experiences from previous cases, a provisional diagnosis of herpes simplex was considered. The investigations for serum IgM and IgG antibody to herpes simplex virus 2 were raised. The Grams stain, Tzanck test, and bacterial culture were negative. Based on the clinical and laboratory test, oral acyclovir 400 mg thrice daily was started. The ulcer healed over a period of 16 days.

Case 4

A 41-year-old HIV-positive female reported with perianal ulcer for 3 months. She had taken azithromycin 500 mg once daily for 3 days, ciprofloxacin 500 mg twice daily for 5 days, and doxycycline 100 mg twice daily for 7 days, but her ulcer did not heal/improve. She had two episodes of vesicles in the past 6 months that healed spontaneously over a period of 2–3 weeks. The examination of the ulcer revealed uniform depth, punched-out edge, arcuate border, and granulation tissue at the base [Figure 4]. The serum IgG and IgM antibody to herpes simplex 2 was raised. Tzanck test, VDRL test, and bacterial culture were

negative. Based on these clinical feature and laboratory tests, a diagnosis of herpes simplex was made, and oral acyclovir 400 mg thrice daily was initiated. The ulcer healed over 14 days.



Figure 1: Genitalia ulcers having uniform ulcer depth, arcuate border, and punched-out edge in HIV-positive patients

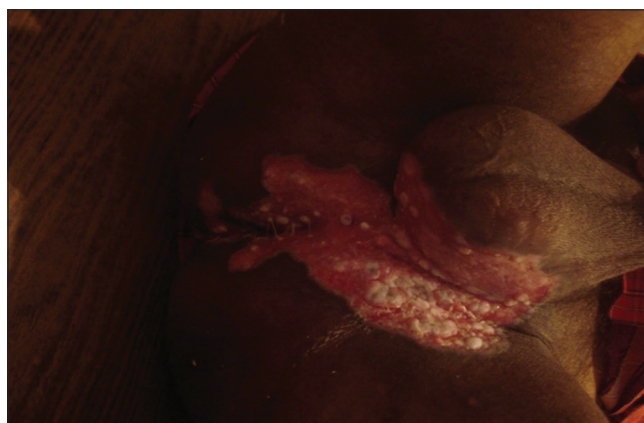


Figure 2: Perigenital ulcer having uniform ulcer depth, arcuate border, and punched-out edge in HIV-positive patients



Figure 3: Genitalia ulcer having uniform ulcer depth, arcuate border, and punched-out edge in HIV-positive patients



Figure 4: Genitalia and perianal ulcers having uniform ulcer depth, arcuate border, and punched-out edge in HIV-positive patients

DISCUSSION

Herpes simplex infection usually develops an atypical ulcer in immunocompromised HIV-infected patients and poses a diagnostic challenge for the physician.^[1-4,6]

Morphological features of herpes simplex ulcer in immunosuppressed HIV-positive patients include large, chronic, widespread, necrotic, vegetating, and exophytic ulcers,^[1-3,6] in contradictory to the herpes simplex ulcer in immunocompetent individuals where the ulcers are typically small, circular, and shallow, and rarely, these ulcers coalesced to form an arcuate border.^[7,8] Gubinelli *et al.*^[4] reported an HIV-positive patient developing shallow herpes simplex ulcer, while Cooper^[7] described arcuate border on herpes simplex ulcer in an immunocompetent patient. In the present case series of HIV-positive patients with positive serum IgG and IgM antibody to herpes simplex 2, all four patients' genital and perianal ulcer had the morphological features such as uniform depth, punched-out edge, and arcuate border. This is almost similar to the reported morphological features of herpes simplex ulcers in immunocompetent and HIV-positive patients.^[4,7] Second, these morphological features were consistently found in our four cases; hence, it can be argued that the uniform depth, punched-out edge, and arcuate border on perianal and genital ulcer in HIV-positive patient may be the characteristic feature of large and chronic herpes simplex ulcer. Authors, postulate that these morphological features on large and chronic herpes simplex ulcer in immunosuppressed HIV-positive patients at genital and perianal area may be due to the ballooning degeneration of epidermal keratinocytes and contiguous spread of infection to the adjoining keratinocytes.^[9]

Early clinical suspicion and diagnosis is necessary for initiating management. A lack characteristic clinical feature in large, chronic, perianal, and genital herpes simplex ulcer in HIV-infected patients often delays the management. In a study by Mosunjac *et al.*,^[1] the herpes simplex infection

was suspected accurately in three of nine HIV-positive patients in the genital and perianal area; however, they did not elaborate reasons for their suspicion of herpes simplex infection. In their rest cases, the diagnosis was delayed, and they required repeated test for the diagnosis. In the present case series, authors suspected herpes simplex infection in all four cases from the morphological feature (arcuate border, punched-out edge, and uniform depth) and later confirmed the diagnosis by laboratory test and rapid response to acyclovir, which is similar to the diagnostic approach used for the herpes simplex infection in immunocompetent patients by others.^[1,7,8] Hence, authors believe that the clinical suspicion is an important step for the management of large, chronic, perianal, and genital herpes simplex ulcers in HIV-positive patients and we believe that our clinical suspicion from the morphological feature was correct.

Diagnostic confirmation of large, chronic, peri-anal, and genital herpes simplex ulcer in HIV-infected patients is often challenging.^[1-4] Yielding positive tests from large, chronic, genital, and perianal herpes simplex ulcers in HIV-infected patients is not uniform and often required an extensive test.^[1,2,4] It is interesting to note that the rapid response to antiviral therapy was a consistent feature in all the reported cases,^[1,2,4,6] which was similar to our four reported cases, who rapidly responded to oral acyclovir. Ranu *et al.*^[2] confirmed the diagnosis of herpes simplex infection in their one of the five cases from the raised level of IgM and IgG antibody to herpes simplex virus 2 and rapid response to acyclovir therapy. In the present case series also, all our four cases had raised level IgM and IgG antibody to herpes simplex virus and responded to oral acyclovir therapy.

Consistent morphological features (uniform depth, punched-out edge, and arcuate border on ulcer) with raised serum IgM and IgG level to herpes simplex virus and rapid response to acyclovir therapy in our four HIV-positive patients with large, chronic, genital, and perianal ulcer suggest that these morphological features are characteristic of herpes simplex infection. However, a large cohort of HIV patients with herpes simplex having perianal and genital, large chronic ulcer may be carried out to validate our claim.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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