Lichenoid secondary syphilis as immune reconstitution inflammatory syndrome with mixed etiology genital ulcer in a human immunodeficiency virus-positive patient

Sir,

Syphilis has earned the label of "a great imitator" with its protean morphologies of skin lesions. Lichenoid secondary syphilis is a rare presentation, usually seen in human immunodeficiency virus (HIV)-seropositive patients. Immune reconstitution inflammatory syndrome (IRIS) is defined as a paradoxical worsening of a known condition or the onset of a new condition after the initiation of antiretroviral therapy (ART) due to restoration of immunity to specific infectious or noninfectious antigens in HIV-positive patients.[1] We report a patient of generalized lichenoid secondary syphilis presenting as a result of the IRIS and a genital ulcer of mixed etiology.

A 32-year-old man presented with multiple hyperpigmented lesions all over the body for 5 months and a painful, genital ulcer for 1.5 months. He was a known HIV-positive patient on ART (tenofovir, lamivudine, and efavirenz) for 5 months. The hyperpigmented lesions appeared 2 weeks after the initiation of ART. The patient was not carrying his records of CD4 count and viral load. He was unmarried and had multiple female sexual partners. However, he denied any recent sexual exposure in the past 1½ years. He had no systemic complaints.

On examination, there were multiple, discrete as well as coalescent, round-to-oval-shaped, violaceous-to-dark-brown plaques with mild scaling on the surface over the face, trunk, and limbs. Similar plaques were present over the palms and soles with dusky erythema [Figure 1a, and b]. There were few, small areas of nonscarring alopecia over the scalp. He also had phimosis and a superficial, painful ulcer over the tip of the prepuce [Figure 1c]. He had generalized lymphadenopathy (cervical, epitrochlear, and inguinal).

Clinical differential diagnoses of secondary syphilis such as IRIS and lichenoid drug eruption secondary to ART, with genital herpes, were kept.

Tzanck smear showed multinucleated giant cells. Venereal disease research laboratory (VDRL) test was reactive with high titers of 1:1024. *Treponema pallidum* hemagglutination assay was positive. The patient had no neurological symptoms. Quadruplex polymerase chain reaction (PCR) for detection of *T. pallidum*, *Hemophilus ducreyi*, HSV-1, and HSV-2 from the genital ulcer, was positive for *T. pallidum* and HSV-2. Skin biopsy revealed parakeratosis and apoptotic keratinocytes in the epidermis. There was vacuolar degeneration of the basal layer with a band-like chronic inflammatory infiltrate in the upper dermis. The reticular dermis showed a peri-appendageal infiltrate composed of lymphocytes and plasma cells [Figure 2a and b]. Thus, we arrived at a diagnosis of lichenoid secondary syphilis due to IRIS, along with genital herpes.

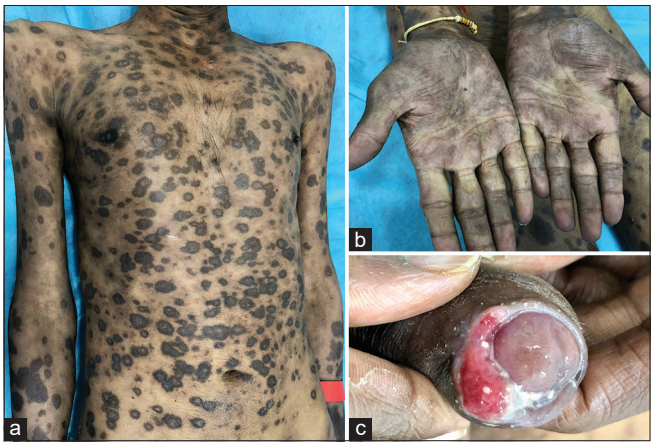

Figure 1: (a) Lichenoid plaques with mild scaling over surface present over the trunk. (b) Similar lichenoid scaly plaques present over the palms with dusky erythema. (c) Superficial ulcer over the mucosal surface of the prepuce on one side

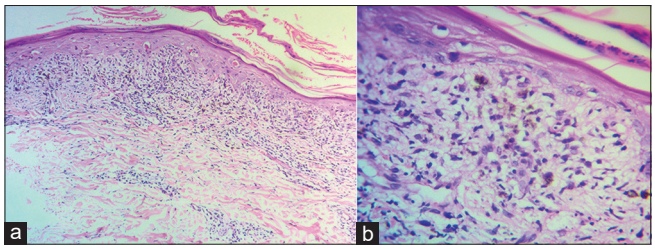

Figure 2: (a) Epidermis shows parakeratosis and apoptotic keratinocytes. There is vacuolar degeneration of the basal layer with a band-like chronic inflammatory infiltrate in the upper dermis. The reticular dermis shows a peri-appendageal infiltrate (H and E, ×100). (b) Higher magnification showing infiltrate is composed of plasma cells and lymphocytes (H and E, ×400)

The patient was advised injection benzathine penicillin 2.4 million units, tablet acyclovir for 7 days, to continue ART, and was counseled regarding safe sexual practices. However, he was lost to follow-up.

The lichenoid lesions in syphilis have been reported since the prepenicillin era due to the use of arsenicals in the treatment of syphilis at that time. However, their increase in cases in the late nineties was attributed to the HIV epidemic in the penicillin era.[2,3]

The previously reported cases had one or few lichenoid lesions[2,4-8] *vis-à-vis* our case in which there was a generalized involvement. This can be attributed to the HIV-related immunosuppression, the high titers of VDRL (1:1024), and the immune reconstitution after ART initiation in our patient.

To our knowledge, there are three cases of secondary syphilis reported as a result of the IRIS,[9-11] out of which only one case is of the lichenoid form.[11]

Based on a strong temporal correlation between the eruption and the start of ART, and as the skin lesions could not be explained by any other newly acquired condition or by the usual course of a previously acquired infection, we made the diagnosis of IRIS. We were limited in our case by the nonavailability of CD4 count, and viral load in the patient's records and the patient was lost to follow-up without receiving the treatment.

As the genital ulcer was superficial and mildly tender, we kept a clinical diagnosis of genital herpes. *T. pallidum* was detected in the quadruplex PCR along with HSV-2 possibly because of secondary syphilis rash.

Presentations in HIV-positive patients are often atypical in morphology and can be of a longer duration than usual, thus posing a challenge in making a diagnosis. Secondary syphilis rash such as IRIS should be kept in mind when HIV-positive patients are recently started on ART.

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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Nil.

Conflicts of interest

There are no conflicts of interest.

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