Follmann balanitis – A very rare presentation of primary syphilis

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Abstract

Syphilis is a sexually transmitted infection caused by *Treponema pallidum.* The primary stage of the disease manifests as a chancre. Balanoposthitis as a presenting feature of primary syphilis is a very rare presentation. A 26-year-old male presented with asymptomatic erythematous plaques involving the glans and prepuce after unprotected intercourse with a known female. Routine investigations, serology, and dark field examination were normal. Fontana-Masson stain revealed spirochetes and a diagnosis of syphilitic balanitis of Follmann was entertained. This rare presentation accounts for only 0.3%-0.5% of cases of primary syphilis and hence is highlighted in this case report.

Key words: Follmann balanitis, Fontana-Masson stain, primary syphilis

Introduction

Syphilis is a sexually transmitted infection caused by *Treponema pallidum.* The disease progresses in stages with a characteristic incubation period from primary to secondary, latent, and tertiary stages.[1] The primary stage of the disease manifests as a chancre and is a local tissue reaction to inoculation of treponemes. Balanoposthitis as a manifestation of primary syphilis is a very rare presentation.

Case Report

A 26-year-old unmarried male presented with complaints of reddish lesions over the glans not associated with any symptoms for 20 days. History revealed unprotected sexual intercourse with a known female partner, 1 month back. There was no history of genital ulcer, urethral discharge, skin lesions, or constitutional symptoms.

On examination, there were erythematous plaques involving the glans and mucosal aspect of the prepuce with few erosions [Figure 1a]. There was no genital ulcer, urethral discharge, or oral lesion. The cutaneous examination did not reveal any abnormality. Lymph node examination showed bilateral nontender inguinal adenopathy. Owing to the recent sexual history and bilateral characteristic lymphadenopathy, a diagnosis of syphilitic balanitis of Follmann (SBF) was considered.

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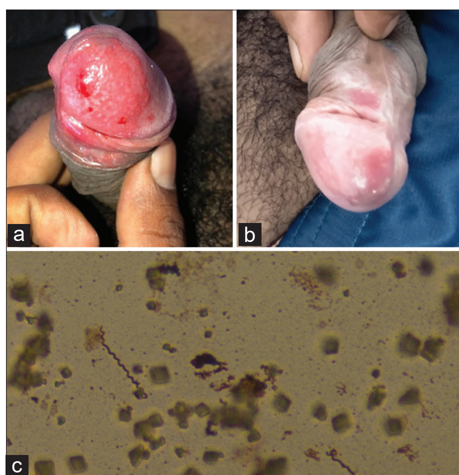

Figure 1: (a) Erythematous plaques involving the glans and inner aspect of prepuce with few erosions. (b) Resolution of erythematous plaques after treatment. (c) Fontana-Masson stain showing spirochetes (×40)

The routine hemogram was within normal limits. Venereal Disease Research Laboratory and *T. pallidum* hemagglutination assay were nonreactive. Dark-field examination did not reveal any organisms. However, Fontana-Masson stain revealed spirochetes confirming the diagnosis of syphilis [Figure 1c]. The patient was treated with a single dose of intramuscular benzathine penicillin G injection 2.4 mIU, with half the dose in each gluteal region after a test dose. There was a resolution of the lesions in subsequent follow-up visits [Figure 1b].

Discussion

Balanitis is an inflammation of the glans penis and posthitis is an inflammation of the prepuce; balanoposthitis refers to inflammation of both.[2] Eugene Follmann, a Hungarian dermatologist reported balanitis as an initial manifestation of syphilis and hence is described as SBF.[3] SBF is an inflammatory reaction of the glans in primary syphilis to *T. pallidum*. Balanoposthitis as an initial manifestation of syphilis is uncommon and the incidence ranges from 0.3% to 0.5%.[3]

The first three cases reported by Follmann presented with erosive balanitis and palpable lymph nodes without any chancre. SBF can develop before, after, or along with chancre. Rarely, it may be the only manifestation of primary syphilis.[3] Gougerot had reported four cases with similar morphology, with one case having typical circinate balanitis.[4] Degos described "syphilis diffuse primaire" as a dark red-colored diffuse induration of the glans penis.[5]

Abdennader *et al*. in their report of three cases of SBF observed cardboard-like induration of glans in one case.[6] Sardinha and coworkers in their study reported lesions with arciform patterns and cartilaginous consistency located around the balanopreputial groove.[7] Rovira-López *et al*. reported a case with prominent penile edema along with syphilitic balanoposthitis.[8] In our case, the presentation was mainly erythematous plaques involving the glans and prepuce with few erosions.

The superficial character of SBF was attributed to preferential epidermal localization of *T. pallidum* in the intercellular spaces of superficial layers of the epidermis.[9] Vezzoni *et al*. recently reported dermoscopic features of SBF with the presence of glomerular and hairpin vessels on an erythematous background.[10]

Differential diagnoses include infective causes such as candidiasis, herpes genitalis, streptococci, and anaerobes and noninfective causes such as psoriasis, lichen planus, plasma cell balanitis, erythroplasia of Queyrat, drug reaction, and contact dermatitis.[6,8] Diagnosis is by serological tests and by dark-field examination of the serous exudate. At times, serological tests can be nonreactive in the early phases of the disease.[11,12] Cubiró *et al*. had reported a case of balanitis, with morphology akin to the present case and negative serology for syphilis. However, the polymerase chain reaction study of the swab sample was positive for *T. pallidum*.[12] In the present case, a unique feature was the positive Fontana-Masson stain showing characteristic organisms.

Conclusion

This case report highlights a very rare morphological presentation of primary syphilis and positive Fontanna-Masson stain. Awareness about this rare presentation of primary syphilis will aid clinicians for an early diagnosis and treatment.

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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