Isolated circinate balanitis successfully treated with topical tacrolimus

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Abstract

Circinate balanitis, a common manifestation of reactive arthritis, is usually an associated finding seen with the clinical trial of arthritis, conjunctivitis, and urethritis. We hereby report a case of isolated circinate balanitis and its dermoscopic features in an adult patient. The patient responded successfully to treatment with topical tacrolimus 0.1% ointment.

Key words: Circinate balanitis, reactive arthritis, sexually transmitted infections, topical calcineurin inhibitors

Introduction

Circinate balanitis is the most common mucosal finding in association with reactive arthritis, characterized by the classic clinical trial of urethritis (or cervicitis in females), conjunctivitis, and arthritis. Reactive arthritis closely follows lower urogenital (*Chlamydia trachomatis, Neisseria gonorrhea, Mycoplasma hominis,* and *Ureaplasma urealyticum*) or enteric (*Salmonella enteritidis, Shigella flexneri,* and *S. disenteriae, Yersinia enterocolitica, Campylobacter jejuni,* etc.), infections.[1,2] Mucocutaneous

findings such as circinate balanitis (in up to 30%–40%), keratoderma blenorrhagicum, oral ulcers, and dystrophy of nails are also associated with reactive arthritis. Our case presented with circinate balanitis as the only clinical finding. Hence, this case is being reported for its rare presentation.

Case Report

A 23-year-old unmarried male presented to the dermatology outpatient department with asymptomatic genital lesions for the past 10 days. The patient declined any high-risk sexual behavior or drug abuse and did not have any other systemic complaints, including joint pains or preceding diarrhea or dysuria. He was not on any regular medication. On local examination, multiple well-defined round to oval, superficial plaques and a few erosions with irregular margins, which coalesced at places to form a circinate pattern, were present over the glans penis and undersurface of the prepuce [Figure 1]. There were no lesions elsewhere on the body. Ophthalmological and musculoskeletal examination did not reveal any abnormality. Dermoscopic examination (DermLite DL4, 10×) revealed uniform red-dotted vessels against an erythematous backdrop. These areas were encircled by discrete as well as clustered, white pustules arranged in annular and polycyclic configurations [Figure 2].[3] Tzanck smear did not show any multinucleated giant cells. KOH and Gram stain did not reveal any significant findings. Serological markers, including hepatitis B surface antigen, anti-hepatitis C antibodies, human immunodeficiency virus-1 and 2 (HIV-1 and 2), and venereal disease research laboratory (VDRL) tests were nonreactive. Human leukocyte antigen B-27 testing was negative. The urine culture and stool culture were sterile. Based on these features, the patient was diagnosed with circinate balanitis. He was prescribed topical tacrolimus 0.1% ointment, resulting in complete resolution within 14 days [Figure 3]. The patient has been on regular follow-ups with no relapses for 6 months.

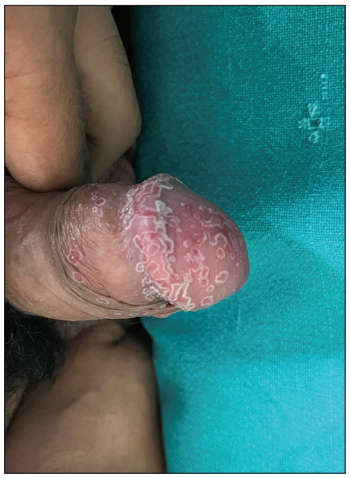

Figure 1: Glans penis: Erythematous, well-defined coalescent round to oval, superficial plaques and a few erosions forming a circinate pattern

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Discussion

Circinate balanitis presents as serpiginous annular erythematous genital lesions with classic polycyclic margins. This clinical presentation is usually associated with reactive arthritis, an inflammatory spondyloarthritis. Reactive arthritis was first described by Hans Reiter, a German physician, during the First World War in 1916. Fiessinger and Leroy reported similar findings as the "oculo-urethro-synovial syndrome" (the triad of arthritis, urethritis, and conjunctivitis).[1] However, circinate balanitis may occur independently, as in our case or alongside other mucocutaneous features, including keratoderma blenorrhagicum, ulcerative vulvitis,[4] onycholysis and nail dystrophy (20%–30%), painless oral ulcers, geographic tongue, and erythema nodosum.[5,6]

The primary approach to managing circinate balanitis consists of appropriate patient counseling, excluding high-risk sexual behaviors and appropriate serological testing (VDRL/rapid plasma reagin, HIV-1 and 2). Topical corticosteroid therapy, such as hydrocortisone or triamcinolone, is most commonly utilized. In addition, circinate balanitis may respond to topical salicylic acid and hydrocortisone,[7] topical calcineurin inhibitors alone (0.1% tacrolimus ointment [as in our index case] or pimecrolimus 1% cream),[8] and combination of dapsone with calcineurin inhibitors topical 0.1% tacrolimus.[9]

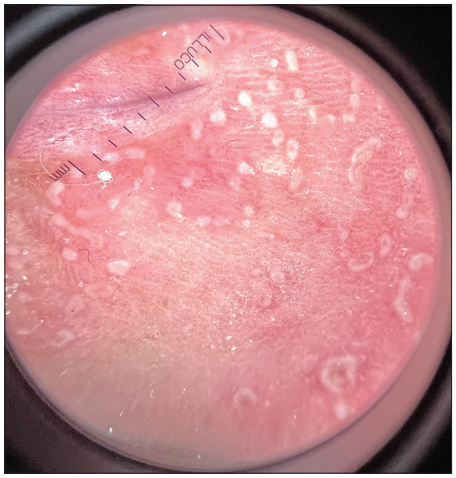

Figure 2: Dermoscopy. Red dotted vessels against erythematous background encircled by clustered, white pustules in annular and polycyclic configurations

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Figure 3: Resolution of the lesions following treatment

Conclusion

We report this case due to its unusual occurrence as an isolated instance of circinate balanitis, which was effectively managed using topical tacrolimus 0.1% ointment.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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