Case Report

Zoon's balanitis treated with topical tacrolimus

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Abstract

Zoon's balanitis is an asymptomatic lesion that requires histopathological examination of involved tissue for confirmation of diagnosis. Till today, circumcision is considered as the treatment of choice as topical medical therapy is insufficient to cure the disease and also there was a risk of recurrence after discontinuation of therapy. Herein, we have treated the Zoon's balanitis with 0.1% topical tacrolimus with complete resolution of the lesion in 6 weeks. Hence, we think topical tacrolimus therapy should be considered as an alternative to circumcision in the treatment of Zoon's balanitis.

Key Words: Circumcision, plasma cells, prepuce

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Revised: 17.01.2016, **Accepted:** 19.04.2016

INTRODUCTION

Balanitis circumscripta plasmacellularis (plasma cell balanitis) is a rare, idiopathic benign penile dermatosis. It was first described by Zoon in 1952.[1] Most common age group affected is middle-aged or elderly uncircumcised men. Lesion noted most commonly over glans or prepuce; its etiology remains unknown. The treatment of choice is circumcision, which is usually curative.[2] Laser therapy, photodynamic therapy, radiotherapy, and topical medical therapy have being described with the successful result for this benign condition. We herein report a case of Zoon's balanitis over prepuce and glans which was treated with topical tacrolimus 0.1% application.

CASE REPORT

A 28-year-old married, uncircumcised male presented with 1 month history of noticing a reddish patch over inner preputial mucosa. It was increased in size over 1 month associated with mild pruritus. Patient had no history of multiple sexual partners, no co-morbid illness, and no previous similar complaint.

On clinical examination, there was 1 cm nontender well demarcated reddish nodular lesion involving inner preputial and adjacent part of glans. There was no active discharge and no bleeding on touch seen [Figure 1].

Inguinal lymph nodes were not palpable. A punch biopsy was performed. It showed focal inflammation in surface epithelium [Figure 2], subepidermal connective tissue shows dense lymphoplasmacytic infiltration predominantly plasma cells. Focal areas of thinned out epidermis with erosions and forming macrophages were seen confirming diagnosis of Zoon's balanitis [Figure 3].

Access this article online

Quick Response Code:

Website: www.urologyannals.com

DOI: 10.4103/UA.UA_10_16

How to cite this article: Daga SO, Wagaskar VG, Jumnake SF, Patwardhan SK. Zoon's balanitis treated with topical tacrolimus. Urol Ann 2017;9:211-3.

Patient opted for topical tacrolimus over circumcision. Tacrolimus 0.1% was advised for twice daily application for 6 weeks. Complete resolution of lesion was achieved [Figures 4 and 5]. We have followed the patient for 6 months. There was no recurrence of lesion by the time.

DISCUSSION

Plasma cell balanitis usually presents as solitary, shiny, and red-orange plaque on the glans or the prepuce in uncircumcised middle-aged or older man.[3] Though there has been mentioned about different variants such as vegetative, erosive, or multiple lesions variants in the literature,[4] it typically presents as solitary lesion. Plasma cell balanitis usually takes more indolent course with lesion developed months-years prior consultation.[3] Symptoms are minimal and nonspecific such as pruritus or mild tenderness.[3] Diagnosis is confirmed by histopathological examination of lesion.[5] Epidermal atrophy with complete effacement of rete pegs, sub-epidermal infiltrate of dense lichenoid material with predominant plasma cells are the hallmark of plasma cell balanitis.[5-7]

Though the cause of plasma cell balanitis is unclear, many predisposing factors such as uncircumcised male, heat, poor hygiene, friction, trauma, hypospadias, and chronic infection with *Mycobacterium smegmatis* have been described.[3]

Circumcision has been treatment of choice for plasma cell balanitis.[3,8,9] Successful laser ablation has also been described.[10] Literature does not support use of topical agents for treatment of plasma cell balanitis as it claims that lesion usually recurs after discontinuation of treatment and topical treatment is not curative enough. Chander *et al*.[11] have successfully used 0.03% tacrolimus for treatment of Zoon's balanitis. This is only supporting case report to our case so far.

Our case report highlights the fact that topical tacrolimus can be used as curative agent for plasma cell balanitis. However, adequate case series will be required to support this fact.

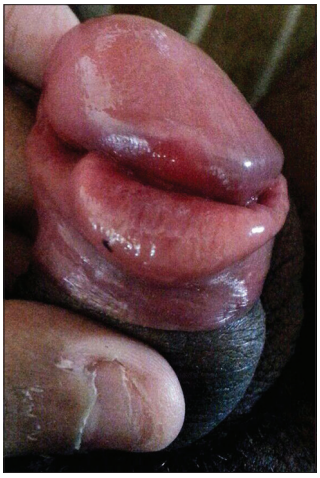

Figure 1: Well demarcated reddish nodular lesion involving inner preputial and adjacent part of glans

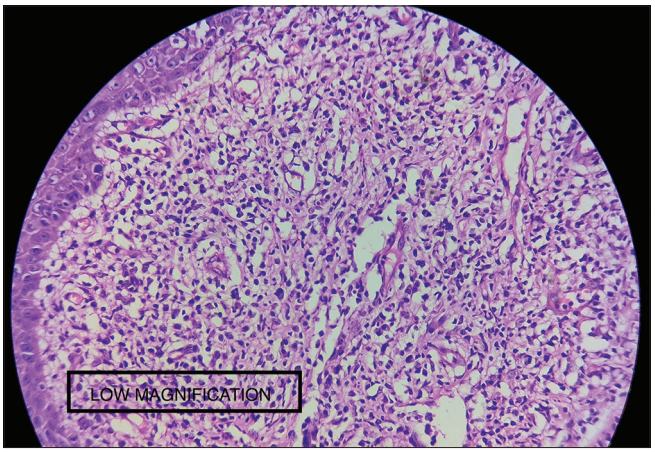

Figure 2: Microscopic examination of tissue bit showing focal inflammation in surface epithelium and thinned out epidermis (H and E, ×40)

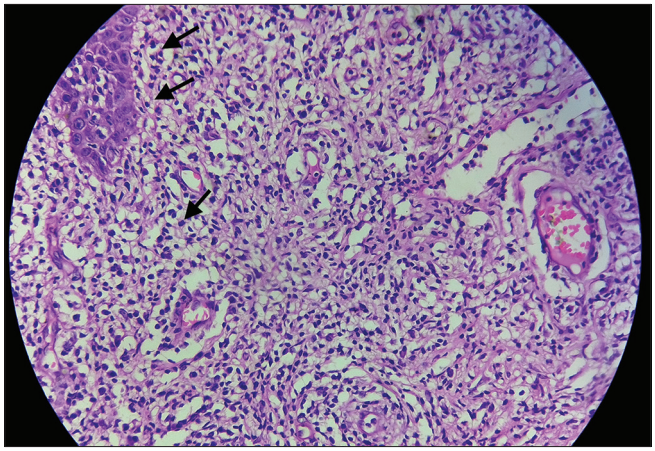

Figure 3: Microscopic examination of tissue bit showing sub-epidermal connective tissue with dense lympho-plasmocytic inflammation with predominant plasma cells (H and E, ×100)

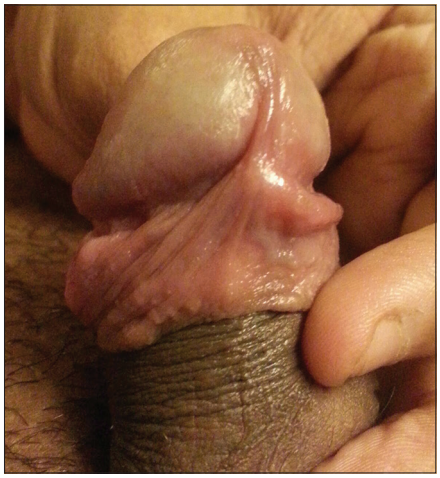

Figure 4: Lesion after tacrolimus application

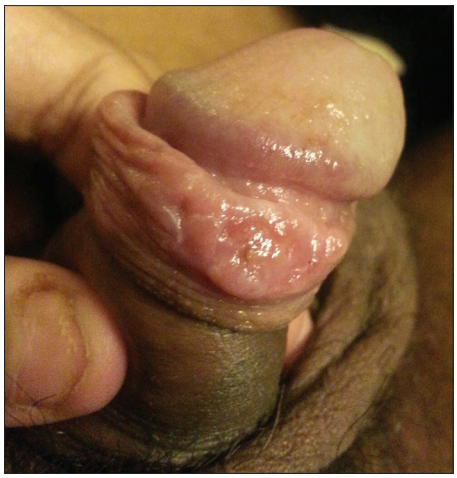

Figure 5: Preputial lesion after tacrolimus application

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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