

Annular Lichen Planus On Penis Treated With Topical Pimecrolimus 1%

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Abstract

Lichen planus (LP) is an idiopathic inflammatory disease of the skin and mucous membranes. Classical LP is characterized by pruritic, violaceous papules that favor the extremities. Annular lichen planus (ALP) is a long-recognized clinical variant of lichen planus, but is often considered uncommon in occurrence. ALP commonly involves the male genitalia but also has a predilection for intertriginous areas such as the axilla and groin folds. Distal aspects of the extremities, and less commonly the trunk, may also be involved. We report the case of 38 year-old uncircumcised male patient who addressed our clinic for multiple asymptomatic annular lesions on the glans penis and corpus penis and whitish linear bilateral and symmetric lines on buccal mucosa with 2 years duration. During this period the patient was treated several times with antifungal and corticosteroid drugs without improvement. Diagnosis was based on clinical features and histological examination. The patient was treated with topical pimecrolimus 1% with significant improvement after 3 weeks.

Keywords: Lichen Planus (LP); Annular Lichen Planus (ALP); Penis

Introduction

Lichen planus is a cell-mediated immune response of unknown origin, affecting skin, mucous membranes, scalp and nails. It may be found with other diseases of altered immunity, such as ulcerative colitis, alopecia areata, vitiligo, dermatomyositis, morphea, lichen sclerosis, and myasthenia gravis. The term lichen planus was initially introduced by Erasmus Wilson in 1869 to describe the condition that had been previously named *leichen ruber* by Hebra. [1] Classical LP is characterized by pruritic, violaceous papules that favor the extremities. [1] It has different variants based on the morphology of the lesions and the site of involvement.

Case Report

38-year-old man, uncircumcised, heavy smoker was admitted in our clinic. He denied drug abuse and bisexuality. Clinically multiple asymptomatic annular lesions different in size, with slightly raised edge and typically purple to white in color and central portion with skin-color were presented on glans

penis and corpus penis (Figure 1). There was no lesion anywhere else on the skin. Whitish linear bilateral and symmetric lines on buccal mucosa were observed. The first lesion was appeared 2 years before as reddish-purple papul which spread peripherally and the central area was resolved. After a period of 6 months the patients noticed the changes on oral mucosa like mild discomfort and altered sensitivity. He was treated several times for Candida balanitis with Fluconazol topical and systemic without clinical improvement. He was also treated with topical corticosteroids for a long time without clinical improvement.

Microscopy and culture spices were negative for Candida spp. and other microorganisms. Serologies for hepatitis B and C, syphilis, and HIV were negative. Histological examination of a biopsy specimen was consistent for Lichen planus. Eipdermal acanthosis with both hyper- orthokeratosis and hypergranulosis were observed. There was also a band-like lymphocytic infiltrate at dermal- epidermal junction with hydropic degeneration of the basal layer with which apoptotic bodies were seen (Figures 2,3,4). Direct immune fluorescence was negative. Topical pimecrolimus in combination with immune stimulant drug (lactofer and colastrum) were prescribed, which led to significant clinical improvement after 3 weeks of treatment (Figures 5, 6).

Discussion

Annular lichen planus (ALP) is a long-recognized clinical variant of lichen planus, but is often considered uncommon in occurrence. ALP was first reported in literature by Dr. Galloway in 1899 as distinct from lichen planus of annular type. [2] The mechanism of genesis of annular lesion is still unknown, probably expressions of ICAM-1 and TNF-alpha in the peripheral keratinocytes and dermal infiltrated cells play important role. [3] There is not data for race and gender predisposition in literature. The eruption initially occurred as lichen-papules, then enlarged, and finally developed annular manifestations with raised edges and central cleraing. ALP commonly involves the male genitalia but also has a predilection for intertriginous areas such as the axilla and groin folds. [4, 5] Distal aspects of the extremities, and less commonly the trunk, may also be involved. Typical lichen papules



Figure 1: Multiple annular lesions different in size, with slightly raised edge, typically purple to white in color and central portion with skin-color.

on clinical presentation and histological examination- epidermal acanthosis with both hyper- orthokeratosis and hypergranulosis, band-like lymphocytic infiltrate at dermal- epidermal junction with hydropic degeneration of the basal layer with apoptotic bodies. There is a wide range of differential diagnoses, particularly Candida balanitis, circinate balanitis in patients with SARA, Reiter Syndrome, balanitis with other genesis, granuloma annulare, psoriasis on penis, Lichen sclerosus, syphilis etc. [6, 7] Mid- to high potency topical corticosteroids are the first line

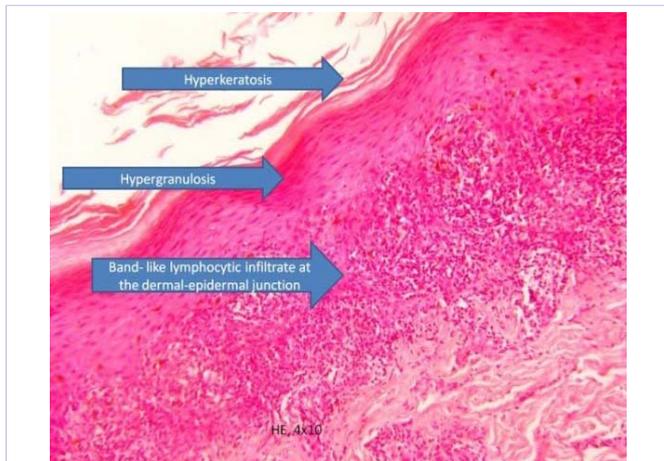


Figure 2: Hyperkeratosis, hypergranulosis, band-like lymphocytic infiltrate at the dermal-epidermal junction, HE 4x10.

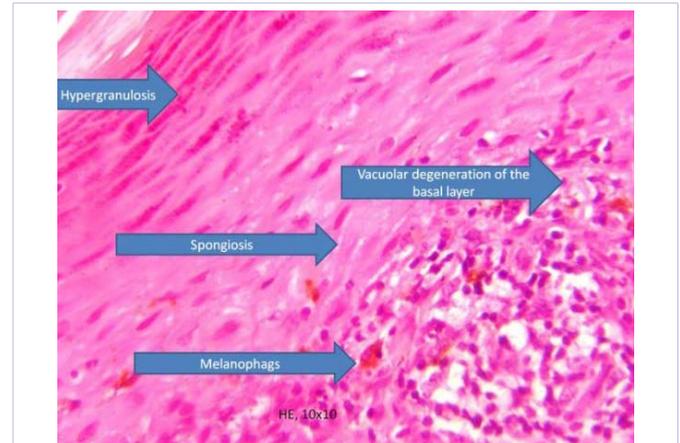


Figure 4: Hypergranulosis, spongiosis, vacuolar degeneration of the basal layer, melanophages, HE 10x10.

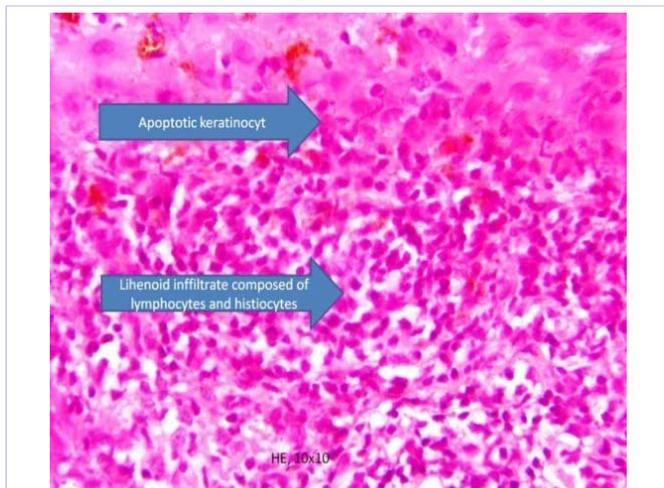


Figure 3: Lichenoid infiltrate composed of lymphocytes and histiocytes, HE 10x10.

may be observed on the other skin surface. Mucous membranes can also be affected. Although classic LP is pruriginous, ALP proceed without subjective complaints. The main problem is psycho-sexual disorders like in our patients. Diagnosis is based



Figure 5: Annular lesions – 3 weeks after treatment with Pimecrolimus 1%.

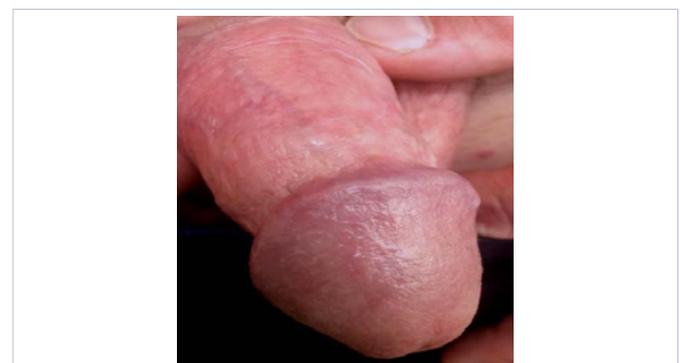


Figure 6: 6 weeks after treatment with Pimecrolimus 1%.

treatment in patients with ALP, but when they are use in genital area they hide a risk for atrophy and hemorrhages so maybe use of topical pimecrolimus can be effective. [8, 9, 10]

Conclusion

This description highlights the importance of patients presenting annular lesion on penis be routinely required to undergo further medical examination for Candida spec., Sexually transmitted infections and if is necessary to perform the biopsy because the exact diagnosis is basis for proper treatment. To our knowledge this is the first case of ALP reported in literature treated with topical pimecrolimus with significant clinical improvement.

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