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Treatment of penile lichen sclerosus with topical corticosteroids for over 25 years' duration: A case report

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Abstract

Topical corticosteroids are currently recommended only for short-term management of flares of lichen sclerosus, with efficacy in halting disease progression. Given the chronic nature of this condition, there is a lack of literature surrounding the chronic effects of topical corticosteroids on the male genitalia with many dermatologists avoiding prescribing long term. This case report aims to provide anecdotal observation for the long-term use of topical corticosteroids and details the long-term follow-up of an individual who used potent and superpotent topical corticosteroids for over 25 years without significant demonstrable side effects. A short review on relevant literature is provided.

Keywords

Lichen sclerosus, penile lichen sclerosus, topical corticosteroids, adverse effects, male genital dermatoses

Introduction

Topical corticosteroids are a mainstay of treatment for penile lichen sclerosus (LS), currently recommended for short-term use of flares up to 6–8 weeks and to be discontinued if ineffective after 6 months.[1,2] Topical corticosteroids may be helpful in halting disease progression long term.[1] However, after a thorough search of the MEDLINE database, there were no reports advocating long-term use of topical corticosteroids in penile LS nor reported adverse effects specific to use on the penis.

Case report

A 58-year-old uncircumcised male was referred for LS of the glans penis to a male genital dermatology clinic. The patient's symptoms first occurred 36 years prior to review. At this time, the patient was 22 years of age describing severe dysesthesia of the glans penis and concurrent swelling of distal foreskin. The pain and dysesthesia severely disrupted the patient's quality of life, restricting ability to work and limiting sexual intercourse leaving the patient depressed. Infectious causes such as herpes and sexually transmitted infections were ruled out by swab testing and clinical correlation. After 8 years, the patient was diagnosed with penile LS with histological confirmation on skin biopsy by a dermatologist. Biopsy histopathology demonstrated compact hyperkeratosis, oedematous collagen in superficial papillary dermis and prominent and dilated superficial vessels with light lymphocytic infiltrate. This came after multiple specialist involvement including urologists and general physicians. The patient self-managed his penile LS with betamethasone dipropionate 0.05% ointment for 15 years (30 g/year) and topical lidocaine gel, achieving symptomatic relief while lost to follow-up. His family doctor changed therapy to mometasone furoate 0.1% ointment (60 g/year) for the next 10 years after fear of adverse effects from long-term use of betamethasone dipropionate 0.05% ointment.

When seen in our clinic, the patient only reported recurrent ulcers of his glans penis associated with mild dyspareunia. Examination revealed diffuse erythema of the glans penis, minor adhesions of the lateral aspect of the glans penis across the coronal sulcus, some telangiectasia, mild swelling of the foreskin but no phimosis, erosions or ulcers (see Figures 1 and 2). There was no definite evidence of active LS. The erythema of the glans penis was felt to be secondary to chronic use of his topical corticosteroid preparations over 25 years, rather than a feature of active penile LS.

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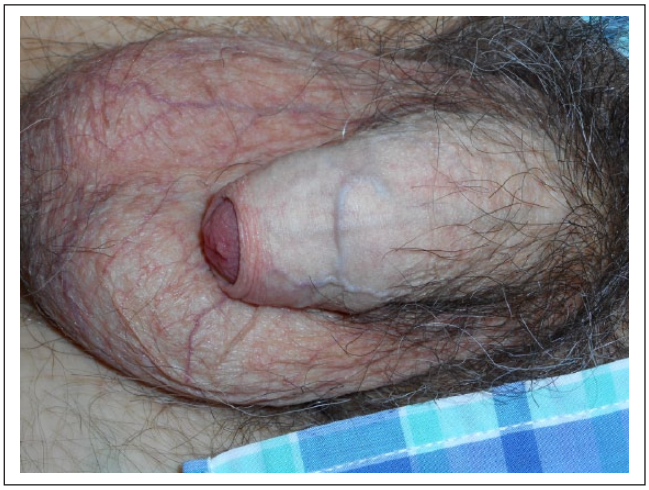

Figure 1. Depicting foreskin after 25 years of topical corticosteroids applied to the patient's penis.

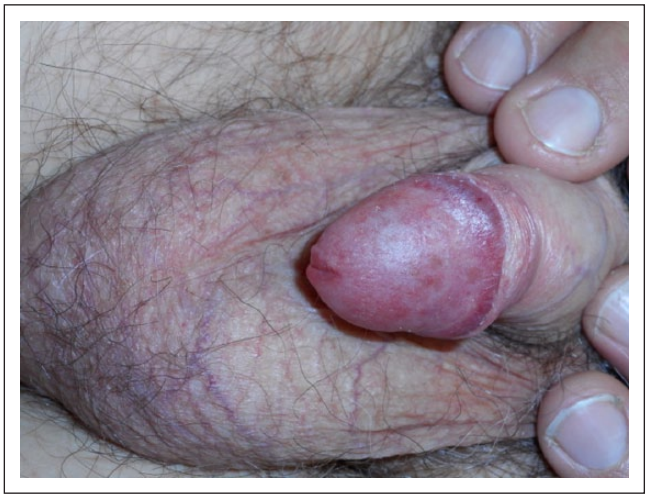

Figure 2. Depicting the glans 25 years of topical corticosteroids applied to the patient's penis with minimal residual inflammation.

The patient was advised to cease using mometasone furoate 0.1% ointment and asked to change to 1% hydrocortisone ointment twice daily, with additional regular use of soft white paraffin ointment as an emollient. The patient ceased topical corticosteroid therapy 1 year ago and has experienced no withdrawal symptoms, further dysesthesia, pain or swelling.

Discussion

Symptoms experienced by our case patient such as burning dysesthesia and erythema of the glans/shaft of penis are typical of LS.[3] Painful erections were likely caused by mild phimosis, with balanitis/glans inflammation contributing to dyspareunia. Similar to our case patient, uncircumcised men are particularly at risk of LS.[3] Although LS may be diagnosed clinically, histology is often useful to exclude differential diagnoses such as irritant dermatitis ("non-specific balanitis"), lichen planus, allergic contact dermatitis, psoriasis and penile intraepithelial neoplasia.[3,4] LS is likely underdiagnosed as observed in a large case series due to a complex interplay of psychosocial factors leading to delay in diagnosis as in this case.[3]

Family practitioners and pharmacists appear to hold particular concern in relationship to epidermal atrophy seen with long-term use of topical corticosteroids such as in atopic dermatitis as well as genital use.[2,5,6] Reported potential adverse cutaneous side effects observed from topical corticosteroids on non-genital skin include erythema, telangiectasia, purpura and striae.[7] However, telangiectasia and epidermal atrophy can also be a sign of chronic penile LS, independent of corticosteroid use.[3,4] Furthermore, epidermal atrophy and telangiectasia have both been demonstrated to improve in patients with vulval LS treated with topical clobetasol, with data lacking in penile LS.[8] Therefore, caution must be taken before interpreting any examination findings as solely iatrogenic.

Decades of both in vitro and in vivo studies have acknowledged potential for systemic absorption of topical corticosteroids. Although uncommon, important systemic adverse effects of Cushing's syndrome, bone osteopathy and adrenocortical suppression have been documented from cutaneous use of topical corticosteroids.[7] Regional variation in systemic absorption of topical corticosteroids is important to consider with the genital region demonstrating up to 40 fold higher absorption rates over the more studied region of the forearm.[9] This is in keeping with the inversely proportional relationship between systemic absorption of topical medications and thickness of the stratum corneum.[7] It is essential that prescribing clinicians are aware of these implications and especially when more potent/lipophilic corticosteroids are used long term.

It is important to achieve disease control in penile LS not only for relief of symptoms for the patient, but also to prevent long-term sequelae from chronically active disease such as irreversible phimosis and meatal stenosis which may require potential surgery.[4,10] The other significant long-term complication associated with penile LS is penile squamous cell carcinoma (SCC).[11] Two separate pathogenic pathways are hypothesised for development of penile SCC: an human papilloma virus (HPV)-associated pathway and an HPV-independent pathway (with chronic LS a significant contributor in the latter).[12] Penile SCC has been observed at rates between 4% and 8% in patients with penile LS, with HPV present in 50% of malignancy specimens in a single sample.[4,13,14] It is possible that with adequate disease control, the long-term risk of penile cancer may be minimised with topical steroids from suppression of inflammation.[15]

Possible reactivation of HPV with chronic topical corticosteroid usage has been suggested posing a current dilemma for

proponents for long-term corticosteroids.[14] Concern has also been raised regarding possible reactivation of superficial skin infections including herpes simplex virus (HSV) and *Candida* species with chronic use of topical corticosteroids.[2,16,17]

In summary, our patient used topical betamethasone dipropionate 0.05% ointment and topical mometasone furoate 0.1% ointment continuously for 25 years after an initial diagnosis of penile LS with no demonstrable significant adverse cutaneous side effects apart from erythema. This anecdotal case supports the authors' observation of the safety of topical corticosteroid for supervised treatment of chronic male genital LS including the benefits to reducing morbidity and sequelae. Concern relating to epidermal atrophy from corticosteroids is likely overestimated with respect to LS treatment given potential improvement from supervised treatment. Cautious attention should also be employed to appraise potential risk for reactivation of secondary infections, including HPV with its oncovirus status, particularly in patients who are at high risk of penile SCC. The role for dermatologists is highlighted as a means of follow-up for patients to minimise complications and to monitor disease progress with view to directing ongoing therapy.

Authors' note

Matthew Howard is now affiliated with Victorian Melanoma Service, Alfred Hospital, Melbourne.

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Informed consent

Informed consent for patient information and images to be published was provided.

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