

Paradoxical Worsening of Acne Due To Topical Steroid Misuse for Skin Whitening: A Case Report from Pakistan

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ABSTRACT

Misuse of topical corticosteroids for cosmetic skin whitening is a growing problem in South Asia, particularly in Pakistan, where fairness creams are easily available without regulation. Prolonged and unsupervised facial application of potent corticosteroids can lead to paradoxical dermatologic reactions. We report the case of a 24-year-old woman who developed painful inflammatory facial eruptions following five months of over-the-counter use of a fairness cream. Clinical examination revealed erythematous papules, pustules, and telangiectasias on the cheeks and forehead, without comedones. Chemical analysis of the cosmetic product identified clobetasol propionate 0.05%. A diagnosis of steroid-induced acneiform eruption was made. The patient improved significantly after discontinuation of the offending agent and treatment with oral doxycycline and topical metronidazole. This case highlights the harmful consequences of cosmetic steroid misuse and emphasizes the need for public awareness and stricter regulatory control.

Keywords: Steroid-induced acne; Topical corticosteroids; Skin whitening; Clobetasol propionate; Pakistan

INTRODUCTION

In South Asian societies, lighter skin tone is frequently associated with beauty, social acceptance, and professional success. This perception has fueled widespread use of cosmetic skin-whitening products, many of which contain potent topical corticosteroids (TCS). In Pakistan, these products are often sold over the counter without appropriate labeling or medical supervision.^[1,2] Clobetasol propionate, a super-potent corticosteroid, is commonly detected in such preparations.^[3,4,5]

While topical corticosteroids are highly effective when used appropriately for inflammatory dermatoses, prolonged facial application can result in significant adverse effects, including steroid-induced acne, rosacea-like dermatitis, perioral dermatitis, skin atrophy, and telangiectasias.^[1,3] Steroid-induced acne differs from acne vulgaris in its sudden onset, monomorphic appearance, absence of comedones, and association with erythema and vascular changes.^[4,9]

CASE PRESENTATION

A 24 year old girl has been using local creams for skin whitening purpose. Steroid misuse for cosmetic purposes has been increasingly reported among young women in Pakistan, often driven by peer recommendation and misleading advertising.^[4,5] The absence of prior acne history and sudden onset of lesions following topical steroid exposure are characteristic features of steroid-induced acne.^[3,4]

Chemical analysis confirming the presence of clobetasol propionate supported the clinical diagnosis, as class I corticosteroids are well known to precipitate acneiform eruptions and vascular changes when used on facial skin.^[1,3]

MANAGEMENT AND OUTCOME

The cornerstone of management in steroid-induced acne is immediate discontinuation of the offending agent, followed by anti-inflammatory therapy. Oral tetracyclines such as doxycycline are commonly recommended due to their antimicrobial and anti-inflammatory properties.^[6,10] Topical metronidazole has been shown to reduce erythema and inflammation in steroid-induced facial dermatoses.^[14]

Psychological distress related to cosmetic appearance and societal pressure has been frequently reported among affected patients and should be addressed as part of holistic management.^[7,16]



Figure 1a: Pre-treatment photo of the right cheek showing inflammatory papules, pustules, and erythema

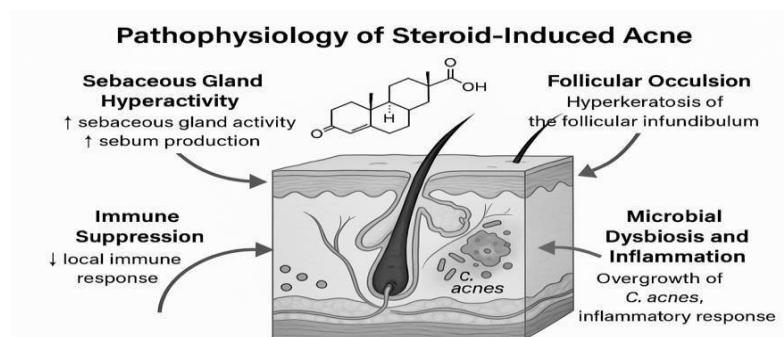
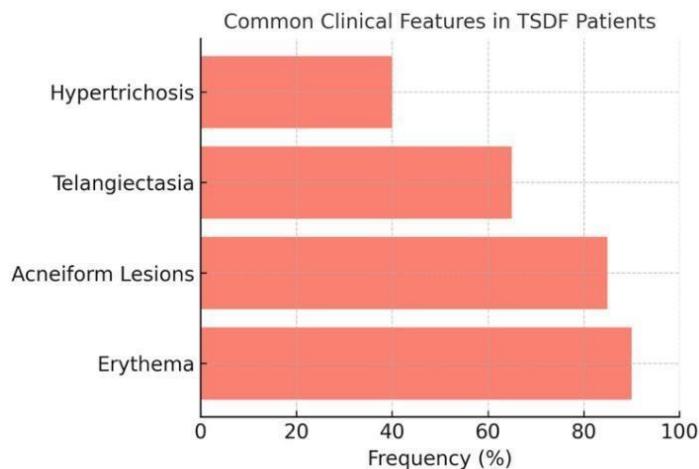


Figure 1b: Post-treatment image of the same site after 8 weeks showing resolution of acneiform lesions

DISCUSSION

Misuse of topical corticosteroids in cosmetic products represents a significant dermatologic and public health issue in Pakistan and neighboring countries. Studies from Pakistan have demonstrated that a substantial proportion of women using fairness creams are unaware of their pharmacologic contents.^[5,7,8]

The pathogenesis of steroid-induced acne involves local immunosuppression, increased sebum production, impaired follicular keratinization, and microbial proliferation, resulting in monomorphic inflammatory papules and pustules.^[1,9,11] The absence of comedones and presence of telangiectasias help differentiate this condition from acne vulgaris.^[4,10]



Clobetasol propionate, due to its high potency, poses a particularly high risk when used unsupervised, and its presence in cosmetic products is a major regulatory concern.^[12,13] Persistent telangiectasias may require vascular laser therapy for cosmetic improvement.^[14,15]

Several authors have emphasized the urgent need for stricter regulation, pharmacy oversight, and public education to curb the rising prevalence of steroid-induced dermatoses related to cosmetic misuse.^[8,16,17]

CONCLUSION

This case highlights the paradoxical dermatologic harm resulting from misuse of potent topical corticosteroids for cosmetic skin whitening. Increased awareness among healthcare professionals and the general public, along with stronger regulatory enforcement, is essential to prevent similar cases.^[8,16,17]

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