

## Case Series

# Topical corticosteroid therapy: clobetasol propionate 0.025%

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## ABSTRACT

Topical corticosteroids have been the cornerstone of treatment over the last six decades for various dermatoses characterized by dry, scaly, crusted, or erythematous skin as well as those associated with inflammation and pruritus. The potency of a topical steroid depends on the specific molecule, the amount of drug reaching the target, absorption through the skin (0.25%–3%), and the formulation. Clobetasol propionate (CP) 0.025% cream formulation is a potent, fifth-generation topical corticosteroid. It is approved by the United States Food and Drug Administration to be applied twice daily for the treatment of moderate-to-severe psoriasis in adults. This case series covers the clinical experience of various dermatologists, including their expert opinion on the safety and efficacy of Impoyz<sup>TM</sup> (CP) cream 0.025% in different skin disorders.

**Keywords:** Clobetasol propionate 0.025%, Psoriasis, Plaque psoriasis, Topical corticosteroids

## INTRODUCTION

Topical corticosteroids are the most used therapeutics in current dermatology practice. The topical application enables direct delivery of the drug to the target organ as well as dose titration based on the response, which can be easily monitored. Owing to the anti-inflammatory, immunosuppressive, and antiproliferative effects of corticosteroids on the keratinocytes, they find a potent application in the management of several skin disorders.<sup>1</sup> Various factors, including body site, concentration of the

drug, disease state, application method, and vehicle appropriateness, are generally considered when selecting a topical corticosteroid for the treatment of psoriasis or atopic dermatitis.<sup>2</sup> Clobetasol propionate (CP) 0.025% is a class I topical corticosteroid that is approved by the United States Food and Drug Administration for twice-daily application for the treatment of moderate-to-severe plaque psoriasis in patients aged 18 years or older.<sup>3</sup> Although the exact mechanism of action of penetration enhancers is unclear, these agents promote the therapeutic activity of a topical formulation by hydrating the stratum corneum to

enable passage of the drug. This in turn enhances the thermodynamic activity of the active ingredient, thus enabling drug penetration through viable tissues and transiently increasing epidermal intracellular gaps that allow greater passive diffusion of the drug.<sup>2</sup> An increased potency of CP 0.025% cream is bestowed by pharmaceutical grade diethylene glycol monoethyl ether (DEGEE), an agent that provides penetration modification by increased active ingredient penetration and/or limits systemic uptake of the dissolved active ingredient. The use of DEGEE enables the formation of an intracutaneous depot (i.e. reservoir effect) without the use of propylene glycol or ethanol.<sup>3</sup>

The present case series covers the efficacy and safety of CP 0.025% and the expert opinion of the treating physicians in managing various skin disorders.

### CASE SERIES

#### **Case 1: Safety and efficacy of topical Impoz<sup>TM</sup> (clobetasol propionate) cream 0.025% for the treatment of fluid-filled lesions in an elderly patient**

A 62-year-old female presented with scaly fluid-filled lesions over both her palms and feet that have occurred for the past 15 days. She had hypertension and diabetes mellitus; however, no significant family history was reported. The patient had psychological and social sequelae, but her vitals and systemic findings were unremarkable. There was no inflammation around the lesions, and the center of the lesions appeared raw. The skin had an itchy and scaly rash with vesicular and bullous lesions (Figure 1a). The patient was diagnosed with dyshidrotic eczema and was prescribed a topical application of Impoz<sup>TM</sup> (clobetasol propionate) cream 0.025% to be applied twice daily for 14 days. She was also prescribed cefixime tablets (200 mg) and levocetirizine tablets (5 mg) twice daily and one at bedtime, respectively, for 14 days.

At a follow-up visit after 14 days, erythema and itching had decreased, and scaling and flares or relapses had reduced (Figure 1b). Overall, a reduction was observed in the severity of the disease.

#### **Expert opinion**

Impoz<sup>TM</sup> (clobetasol propionate) cream 0.025% has good efficacy as a first-line topical treatment with a long remission period. It is safe for elderly patients.

#### **Case 2: Efficacy of Impoz<sup>TM</sup> (clobetasol propionate) cream 0.025% in palmoplantar psoriasis**

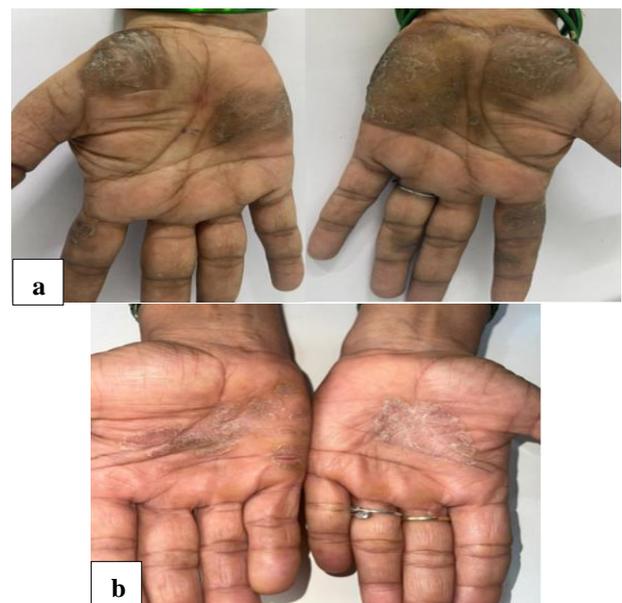
A 46-year-old female presented with complaints of painful, itchy, and scaly lesions on her palms for the past 2 months. This was very difficult for her as she had a burning sensation while carrying out her usual household chores. She did not have any other comorbidity, relevant

family history, or occupational risk. Psychological and social sequelae were absent, and her vitals were unremarkable. The lesions were 1.5 cm × 3 cm in size with no inflammation. The center of the lesion was dry and scaly (Figure 2a). The patient was diagnosed with palmoplantar psoriasis and was prescribed Impoz<sup>TM</sup> (clobetasol propionate) cream 0.025% to be applied twice daily along with 5 mg levocetirizine for 15 days.

At a follow-up visit after 15 days, scaling and itching had markedly reduced (Figure 2b). Overall, a reduction was observed in the severity of the disease.



**Figure 1: (a) Pre-treatment image of the lesions, and (b) post-treatment image of the lesions.**



**Figure 2: (a) Pre-treatment image of the lesions, and (b) post-treatment image of the lesions.**

**Expert opinion**

Impoyz™ (clobetasol propionate) cream 0.025% is good and can be used for the long-term owing to its fast-healing results with better compliance. It can be used as a first-line topical treatment.

**Case 3: Management of eczema with Impoyz™ (clobetasol propionate) cream 0.025% in an elderly patient**

A 64-year-old female presented with eczematous itchy lesions on her hands. She had hypertension; however, no significant family history was reported. The patient had psychological and social sequelae, but her vitals and systemic findings were unremarkable. The lesions were surrounded by inflammation. The skin had a macular and papular rash and was itchy and scaly (Figure 3a). Less than 5% of the body surface area was covered with the lesion. The patient was diagnosed with hand eczema and was prescribed a topical application of Impoyz™ (clobetasol propionate) cream 0.025% to be applied twice daily for 14 days.

At a follow-up visit after 14 days, erythema, scaling, and itching had decreased (Figure 3b). Overall, a reduction was observed in the severity of the disease.



**Figure 3: (a) Pretreatment image of the lesions, and (b) post-treatment image of the lesions.**

**Expert opinion**

Impoyz™ (clobetasol propionate) cream 0.025% has good efficacy with no local or systemic side effects.

**Case 4: Treatment of contact dermatitis with Impoyz™ (clobetasol propionate) cream 0.025%: a case study**

A 62-year-old female presented with small scaly patches on the dorsal surface of her feet. She had hypertension; however, no significant family history was reported. There was no associated occupational risk. The patient had psychological and social sequelae, but her vitals and systemic findings were unremarkable. Inflammation was present around the lesions, and the skin was tender, scaly, and had a rash (Figure 4a). The patient was diagnosed with contact dermatitis and was prescribed Impoyz™ (clobetasol propionate) cream 0.025% to be applied for 6 months. The patient was also advised to improve overall personal hygiene for better management of the indication.

At a follow-up visit after 14 days, a reduction was observed in scaling, plaque elevation, erythema, and itching (Figure 4b). Overall, the severity of the disease had significantly reduced after treatment with Impoyz™ (clobetasol propionate) cream 0.025%.



**Figure 4: (a) Pre-treatment image of the lesions, (b) post-treatment image of the lesions.**

**Expert opinion**

Impoyz™ (clobetasol propionate) cream 0.025% can be used to treat a variety of skin conditions, including swelling, itching, and irritation. However, if no improvement is found in the symptoms or if the symptoms worsen, a dermatologist should be consulted.

**Case 5: Management of erythematous dry scaly patches using Impoyz™ (clobetasol propionate) cream 0.025%**

A 40-year-old male presented with erythematous dry scaly patches over the elbow, ankle, and knee joints. He did not have any other comorbidity or occupational risk. The patient's father had a history of similar lesions on his feet and ankle. The vitals and systemic findings of the patient were within normal limits, and he had no psychological or social sequelae. The lesions were approximately 7×11 cm in size and were predominant over the elbow and forelegs. Inflammation was present around the lesions, and the center of the lesion was not clear. The skin had a papular

rash and plaque and was itchy and scaly (Figure 5a). The patient was diagnosed with psoriasis and was prescribed Impoyz™ (clobetasol propionate) cream 0.025% to be applied twice daily. The patient was also advised to apply moisturizer (paraffin-based cream) every day after bath.

At a follow-up visit after 14 days, erythema was reduced, plaque elevation was corrected, and scaling and itching had completely disappeared (Figure 5b).



**Figure 5: (a) Pre-treatment image of the lesions, and (b) post-treatment image of the lesions.**

**Expert opinion**

Impoyz™ (CP) cream 0.025% is very good, effective, and can be used as first-line topical therapy for plaque psoriasis. No significant side effects were observed during the treatment.

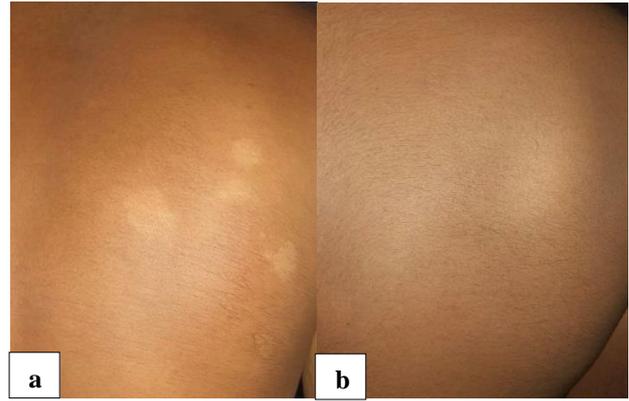
**Case 6: Erythema and plaque management using Impoyz™ (clobetasol propionate) cream 0.025%**

A 22-year-old male presented with erythematous, silvery white plaques on the back of his chest. He did not have any other comorbidity, family history, or occupational risk. His vitals and systemic findings were normal, and he had no psychological or social sequelae. The lesions were approximately 2×2 cm in size. There was no inflammation surrounding the lesions, and the center of the lesion was thick. The skin had a rash and was itchy and scaly (Figure 6a). The patient was diagnosed with psoriasis and was prescribed Impoyz™ (clobetasol propionate) cream 0.025% to be applied at bedtime. The patient was also advised to avoid scratching.

At a follow-up visit after 14 days, itching, scaling, and plaque elevation had reduced (Figure 6b).

**Expert opinion**

Impoyz™ (CP) cream 0.025% is very good and an effective topical therapy for mild psoriasis.



**Figure 6: (a) Pre-treatment image of the lesions, and (b) post-treatment image of the lesions.**

**Case 7: Management of eczema and psoriasis with Impoyz™ (clobetasol propionate) cream 0.025%**

A 65-year-old male presented with severe itching, thickening, and blackening of the skin over his ankle joints for 2–3 months. He did not have any other comorbidity, relevant family history, or occupational risk. Psychological and social sequelae were absent, and his vitals were within normal limits. The lesions were approximately 3×4 cm in size. Mild inflammation was present around the lesions, and the center of the lesion was hyperpigmented with thick skin. The skin was itchy and about 1% of the body surface area was covered with the lesion (Figure 7a). The patient was diagnosed with psoriasis with eczematization and was prescribed Impoyz™ (clobetasol propionate) cream 0.025% to be applied twice daily along with hydroxyzine tablets (10 mg tablet) for 14 days. The patient was also advised to use a syndet bar for bath for better management of the indication.

At a follow-up visit after 14 days, a reduction was observed in erythema and plaque elevation, and itching had almost disappeared (Figure 7b). Overall, the severity of the disease had reduced by 70% after treatment with Impoyz™ (clobetasol propionate) cream 0.025%.



**Figure 7: (a) Pre-treatment image of the lesions, and (b) post-treatment image of the lesions.**

**Expert opinion**

Impoy<sup>TM</sup> (clobetasol propionate) cream 0.025% has good efficacy and safety profile with minimum side effects. It can be used to manage thickened lichenified eczema, psoriasis, and atopic dermatitis on the body (except the face and intertriginous area).

**Case 8: Treatment of itchy erythematous scaly plaques with Impoy<sup>TM</sup> (clobetasol propionate) cream 0.025%: a case study**

A 25-year-old male presented with itchy, erythematous, scaly plaques over his forearms for 1 year. He did not have any other comorbidity or occupational risk. The vitals and systemic findings of the patient were within normal limits, and he had no psychological or social sequelae. The lesions were approximately 10×5 cm in size. Inflammation was present around the lesions, and the center of the lesion was erythematous. The skin had a macular rash and plaque and was itchy and scaly (Figure 8a). The patient was diagnosed with psoriasis and was prescribed oral prednisone (30 mg) once a day and Impoy<sup>TM</sup> (clobetasol propionate) cream 0.025% to be applied using fingertips for a month. He was also advised to take a bath every day using soap and keep his body covered.

At a follow-up visit after a month, erythema, scaling, plaque elevation, and itching had reduced. Overall, the severity of the disease had reduced (Figure 8b).



**Figure 8: (a) Pre-treatment image of the lesions, and (b) post-treatment image of the lesions.**

**Expert opinion**

Impoy<sup>TM</sup> (CP) cream 0.025% shows potent efficacy with significant reduction in the severity of the disease and no significant side effects. It can be used as a first-line topical therapy.

**Case 9: Efficacy and safety of Impoy<sup>TM</sup> (clobetasol propionate) cream 0.025% in palmoplantar psoriasis**

A 34-year-old female presented with severe itching with redness on her hands and palms. She did not have any other

comorbidity, relevant family history, or occupational risk. Psychological and social sequelae were absent, and her vitals were unremarkable. Inflammation was present around the lesions, and the center of the lesion appeared red. The skin was tender, warm, itchy, and scaly and about 2% of the body surface area was covered with the lesion (Figure 9a). The patient was diagnosed with palmoplantar psoriasis and prescribed a topical application of Impoy<sup>TM</sup> (clobetasol propionate) cream 0.025% to be applied twice daily for 15 days. She was also prescribed terbinafine tablets (250 mg) and levocetirizine tablets (5 mg) twice daily and once a day, respectively, for 15 days. The patient was advised to avoid working with water for better management of the indication.

At a follow-up visit after 15 days, scaling, itching, flares or relapses, and redness had reduced (Figure 9b).



**Figure 9: (a) Pre-treatment image of the lesions, and (b) post-treatment image of the lesions.**

**Expert opinion**

Impoy<sup>TM</sup> (clobetasol propionate) cream 0.025% has good efficacy and safety profile compared with other corticosteroids including mometasone. It can be used to manage skin redness for a longer duration.

**Case 10: Management of psoriasis with Impoy<sup>TM</sup> (clobetasol propionate) cream 0.025%**

A 38-year-old male presented with itchy, dry patches over his elbows for 15–20 days. He did not have any other comorbidity, relevant family history, or occupational risk. Psychological and social sequelae were absent, and his vitals were within normal limits. The lesions were approximately 2×2.5 cm in size. There was no inflammation surrounding the lesions, and the center of the lesion was lichenified. The skin had a papular and macular rash and was itchy and scaly (Figure 10a). The patient was diagnosed with psoriasis and was prescribed Impoy<sup>TM</sup> (CP) cream 0.025% to be applied gently (without rubbing) twice a day. He was also advised to use a moisturizing soap.

At a follow-up visit after 14 days, scaling, plaque elevation, and itching had decreased. Overall, the severity of the disease had reduced (Figure 10b).



**Figure 10: (a) Pre-treatment image of the lesions, and (b) post-treatment image of the lesions.**

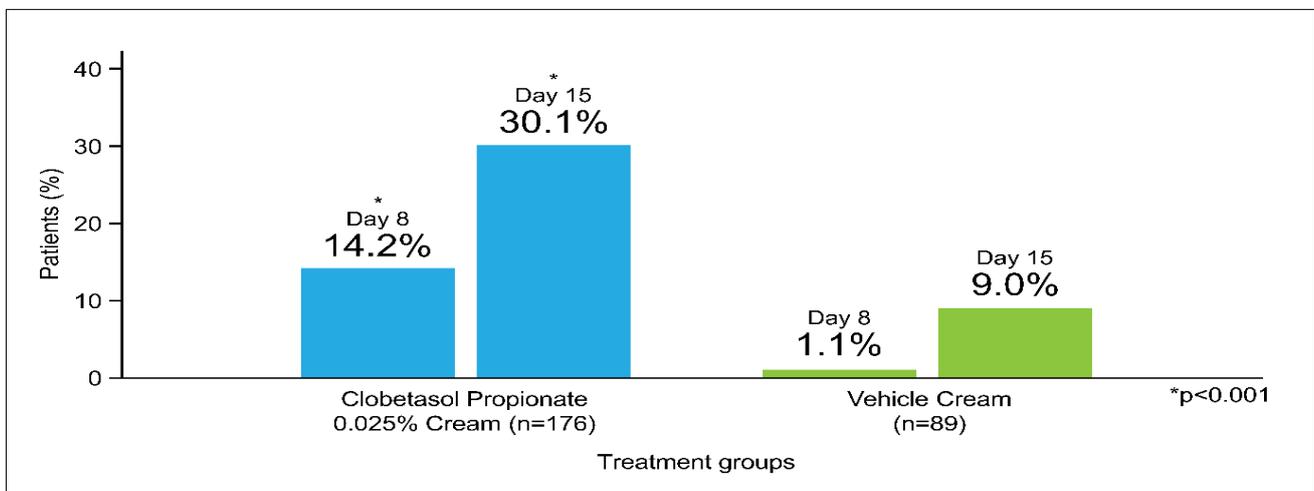
**Expert opinion**

Impoyz™ (CP) cream 0.025% is very safe, and it can be used to manage any eczematous condition owing to its potent efficacy. It can also be safely used in children and patients with diabetes.

**DISCUSSION**

Topical preparations such as corticosteroids, anthralin, coal tar and retinoids, keratolytics, phototherapy, and systemic and biological medications such as immunosuppressants and monoclonal antibodies or their combinations are used to manage psoriasis.<sup>1</sup> Among the available topical steroids, CP has been found to be the most potent with proven efficacy in psoriasis apart from other steroid-responsive dermatoses. It prolongs the remission rates, thus enabling intermittent treatment schedules with minimum side effects.<sup>1</sup>

Results from the phase III trial that compared the efficacy and safety of CP 0.025% formulated with DEGEE versus the vehicle cream in adults with moderate-to-severe psoriasis in the United States showed that CP 0.025% demonstrated superior efficacy than the vehicle cream. The primary efficacy endpoint was the proportion of patients with treatment success at day 15, defined as an investigator's global assessment scale (IGA) score of 0 (clear) or 1 (almost clear) and at least a 2-grade reduction from baseline. On day 8, a significantly greater proportion of patients in the CP 0.025% group (14.2%) achieved treatment success ( $p < 0.001$ ), compared with patients in the vehicle group (1.1%). The treatment success on day 15 was reported in 30.1% and 9.0% of patients in the CP 0.025% and vehicle group, respectively (Figure 11).



**Figure 11: Proportion of patients achieving treatment success.<sup>4</sup>**

**CONCLUSION**

Data from various studies show that CP is the most potent topical corticosteroid that controls inflammation and the pruritic manifestation of several skin disorders. Impoyz™ (CP) cream 0.025% shows potent efficacy with minimum side effects in current clinical practice and is recommended as first-line topical therapy for psoriasis and several dermatological disorders.

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**REFERENCES**

1. Abidi A, Ahmad F, Singh SK. A comparative clinical evaluation of once daily versus alternate day application of topical clobetasol propionate cream in psoriasis. J Clin Diagn Res. 2013;7(1):100-5.
2. Feldman SR. Relative efficacy and interchangeability of various clobetasol propionate vehicles in the management of steroid-responsive

dermatoses. *Curr Ther Res Clin Exp.* 2005;66(3):154-71.

3. Del Rosso JQ. Topical corticosteroid therapy for psoriasis-A review of clobetasol propionate 0.025% cream and the clinical relevance of penetration modification. *J Clin Aesthet Dermatol.* 2020;13(2):22-9.
4. Desai S, Draelos Z, Feldman S, Jackson JM. A phase 3, randomized, double-blind, vehicle-controlled, multicenter, parallel group trial investigating the

efficacy and safety of clobetasol propionate cream, 0.025% in the treatment of moderate to severe plaque psoriasis for 14 days. *SKIN J Cutaneous Med.* 2021;5(6):s33.

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