

## Case Series

# Topical therapy with clobetasol propionate 0.025% for various dermatological conditions

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## ABSTRACT

Topical corticosteroids (TC) are the most commonly prescribed medications for the treatment of several dermatoses. Owing to their potent effect of relieving symptoms, these drugs are indicated for the use of inflammatory and pruritic presentations of dermatologic conditions. Clobetasol propionate (CP) is the most common TC used to treat itching, redness, and swelling caused by some skin conditions. It possesses anti-inflammatory, antipruritic, and vasoconstrictive properties. To exert its effect, CP binds to cytoplasmic glucocorticoid receptors and subsequently activates glucocorticoid receptor-mediated gene expression, thus resulting in the synthesis of certain anti-inflammatory proteins, while inhibiting the synthesis of certain inflammatory mediators. This case series discusses the efficacy, safety, and clinical experience of using CP 0.025% cream for the treatment of different dermatologic conditions.

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

## INTRODUCTION

Topical corticosteroids (TCs) have greatly contributed to the dermatologist's ability to effectively treat various dermatologic conditions. Given the widely available range of formulations and potent efficacy of these therapeutics, they can be used to treat all groups of patients, different phases of the disease, and different anatomic sites.<sup>1</sup> They are approved by the US Food and

Drug Administration and are commonly used for the treatment of psoriasis, limited areas of vitiligo, eczema, atopic dermatitis, phimosis, acute radiation dermatitis, lichen planus, lichen simplex chronicus, discoid lupus erythematosus, and lichen sclerosis. They are also effective for conditions involving hyperproliferation and immunological and inflammatory properties.<sup>2</sup> Clobetasol propionate (CP) is the most potent of all topical steroids. It exerts anti-inflammatory, immunosuppressive, and

antimitotic effects, influencing the growth, differentiation, and function of various cells and inhibiting cytokine production.<sup>3</sup> The 0.025% cream formulation of CP is free of propylene glycol, short-chain alcohols (example- ethanol), and sorbitan sesquioleate, a sorbitol-based emulsifier which is a commonly used allergen in many TC formulations.<sup>4</sup>

The present case series discusses the efficacy, safety, and clinical experience of using CP 0.025% for treating various dermatoses.

## CASE SERIES

### Case 1

#### *Erythematous plaque over the face and upper limb: a case study report*

A 40-year-old male presented with thick scaly erythematous plaque over the face and upper limb. There was no other comorbidity or any significant family history. He worked as a farmer and was primarily exposed to parthenium plants, which posed as a risk factor for his condition. The vitals and systemic findings were within the normal range, and the patient had no psychological and social sequelae. The lesions were present mainly over the face and upper limb. The size of the lesions was approximately 10×12 cm. Inflammation was observed surrounding the lesions, and the center of the lesions was thick and scaly. The skin had a papular and crusty rash and was itchy and scaly (Figure 1A). The patient was diagnosed with plaque psoriasis and was prescribed a topical application of ImpoyzTM (CP) cream 0.025% to be applied twice daily for 10 days. The patient was also advised to wear full clothing for personal hygiene and successful management of the indication.



**Figure 1: (A) Pretreatment image of the lesions. (B) Post-treatment image of the lesions.**

At a follow-up visit on day 10, erythema, scaling, facial redness, and plaque elevation were reduced, and itching had almost disappeared (Figure 1B). Overall, a reduction in disease severity was observed with the topical treatment.

### Expert opinion

ImpoyzTM (CP) Cream 0.025% is safe with no side effects or signs of skin atrophy. It is effective with good penetration ability and can be considered for the management of contact dermatitis, atopic dermatitis, and chronic eczematous dermatitis.

### Case 2

#### *Management of palmer psoriasis with ImpoyzTM (clobetasol propionate) cream 0.025%*

A 57-year-old housewife presented with hand eczema. The symptoms of eczema include dry, red (or dark brown), chapped, scaly, inflamed skin; burning sensation; itchy blisters; and deep, painful cracks on the skin. She had diabetes mellitus and hypertension; however, no significant family history was reported.



**Figure 2: (A) Pretreatment image of the lesions. (B) Post-treatment image of the lesions.**

The patient had no psychological and social sequelae, and her vitals were normal. Continuous water contact was an associated occupational risk in this case. Systemic examination revealed blood pressure as 150/90 mmHg and a pulse rate of 84/min. Lesions were observed in both the hands but were predominant in the fingers. There was inflammation around the lesions (Figure 2A). The patient was diagnosed with hand eczema and was prescribed ImpoyzTM (CP) Cream 0.025% to be applied at night under occlusion for a month. The patient was also advised to reduce contact with water.

After a month at the follow-up visit, erythema, scaling, plaque elevation, and itching had reduced (Figure 2B). Overall, a significant decrease in the severity of the disease was observed over the course of treatment.

### Expert opinion

ImpoyzTM (CP) Cream 0.025% demonstrates potent efficacy and safety with no side effects of steroid use. It can be used as first-line topical therapy for the treatment of hand eczema.



**Figure 3: (A) Pretreatment image of the lesions. (B) Post-treatment image of the lesions.**



**Figure 4: (A) Pretreatment image of the lesions. (B) Post-treatment image of the lesions.**

**Case 3**

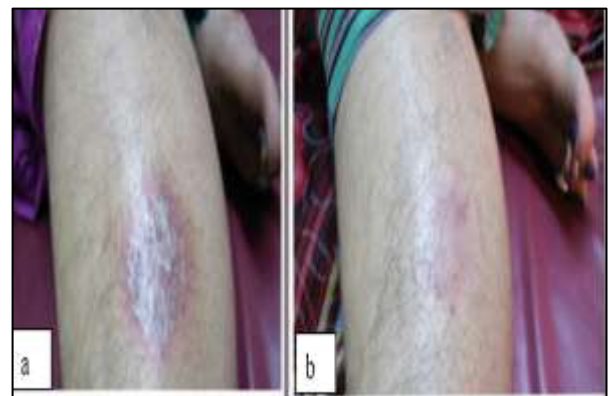
*Impoysz™ (clobetasol propionate) cream 0.025% is efficacious in psoriasis patients*

A 42-year-old male presented with peeling of skin with itchy red spots. He was obese; however, no significant family history or occupational risk was reported. No abnormality was detected in vitals and systemic findings, and psychological or social sequelae were absent. The lesions were variable in size and were present in both hands and legs. The center of the lesions was scaly and accompanied by inflammation. The skin was tender, itchy, and scaly with a papular and crusty rash (Figure 3A). The patient was diagnosed with psoriasis and was prescribed Impoysz™ (CP) Cream 0.025% to be applied at night.

At follow-up, erythema, scaling, facial redness, flares, and relapses had decreased and plaque elevation was under control (Figure 3B). Overall, the severity of the disease had reduced following the topical application of Impoysz™ (CP) Cream 0.025%.



**Figure 5: (A) Pretreatment image of the lesions. (B) Post-treatment image of the lesions.**



**Figure 6: (A) Pretreatment image of the lesions. (B) Post-treatment image of the lesions.**

*Expert opinion*

Impoysz™ (CP) cream 0.025% is safe and can be used in the long term for the management of psoriasis.

**Case 4**

*Management of dry, scaly skin across the shin in the pretibial region: a case study report*

A 35-year-old man presented with dry and blackening skin with an itching sensation. There was no other comorbidity, occupational risk, or significant family history. The vitals and systemic findings of the patient were within the normal range and he had no psychological or social sequelae. The lesions were approximately 5×5 cm in size and were present on the shin in the pretibial region. Inflammation surrounding the lesions was observed; the center of the lesions was black. The skin had a crusty rash and was warm, itchy, and scaly (Figure 4A). The patient was diagnosed with psoriasis and was prescribed a topical application of Impoysz™ (CP) Cream 0.025% to be applied twice daily for 14 days. The patient was also advised to use a moisturizer frequently for better management of the indication.

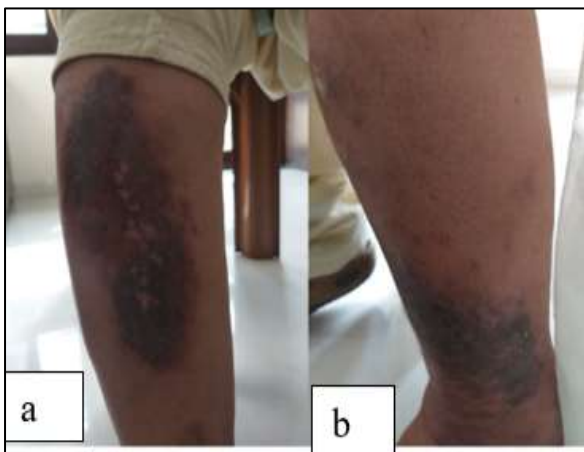
At a follow-up visit, erythema, scaling, plaque elevation, flares, and relapses were noted to have reduced, and itching had almost disappeared (Figure 4B). Overall, good control was achieved in disease severity with the topical treatment.

*Expert opinion*

Impoyz™ (CP) cream 0.025% demonstrates potent efficacy and safety with the least side effects. It is safe for use and can be used in the long term for the management of psoriasis.



**Figure 7: (A) Pretreatment image of the lesions on the right leg. (B) Post-treatment image of the lesions on the right leg. (C) Pretreatment image of the lesions on the left leg. (D) Post-treatment image of the lesions on the left leg.**



**Figure 8: (A) Pretreatment image of the lesions. (B) Post-treatment image of the lesions.**

**Case 5**

*Efficacy of Impoyz™ (clobetasol propionate) cream 0.025% in palmer psoriasis*

A 31-year-old woman presented with itchy lesions in the palms. The symptoms had been present for the past 3

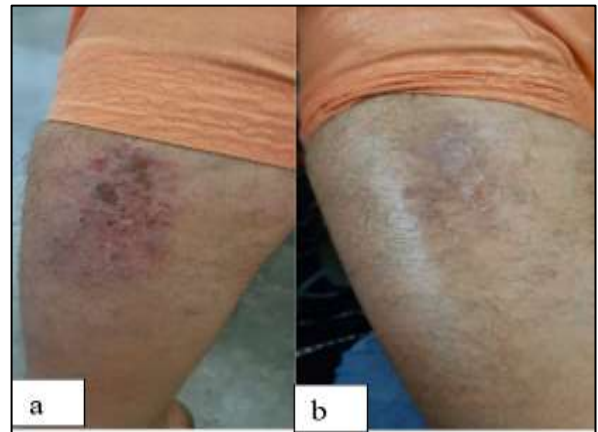
years. The lesions were variable in size ranging from 1 cm to 5 cm.

There was inflammation around the lesions, and the center was thick and crusty. The skin was tender, itchy, and scaly with a crusty rash. About 1% of the body surface area was covered with lesions (Figure 5A). The patient was diagnosed with palmer psoriasis and was prescribed white petroleum jelly to be applied in the morning and Impoyz™ (CP) Cream 0.025% to be applied at night. He was also prescribed cefixime 5 mg for 15 days.

At the follow-up visit, more than 90% improvement was observed in erythema, scaling, plaque elevation, and itching (Figure 5B).

*Expert opinion*

Impoyz™ (CP) Cream 0.025% is safe for use for a short duration of approximately 2–3 weeks.



**Figure 9: (A) Pretreatment image of the lesions. (B) Post-treatment image of the lesions.**



**Figure 10: (A) Pretreatment image of the lesions. (B) Post-treatment image of the lesions.**

**Case 6***Management of plaque psoriasis with Impozyz™ (clobetasol propionate) cream 0.025%*

A 45-year-old woman presented with skin rash with scaly plaques. She had no other comorbidity, occupational risk, or significant family history. No abnormality was detected in vitals and systemic findings, and psychological or social sequelae were absent. The lesions were present in the lower legs and were 4×6 cm in size. The center of the lesions was scaly. The skin had a macular rash and was warm, itchy, and scaly (Figure 6A). The patient was diagnosed with plaque psoriasis and was prescribed a topical application of Impozyz™ (CP) Cream 0.025% to be applied at bedtime. The patient was also advised to use a topical moisturizer regularly and a topical triamcinolone-based steroid cream for better management of the indication.

At the follow-up visit on day 14, erythema, scaling, and plaque elevation had improved. A decrease was observed in itching as well as in flares and relapses (Figure 6B). Overall, an improvement was observed in the severity of the disease throughout treatment.

*Expert opinion*

Impozyz™ (CP) Cream 0.025% is safe for use and well tolerated (good patient acceptance). It is effective with good compliance. It can be considered for the management of psoriasis, eczema, and palmoplantar keratoderma. The drug can be discontinued following clinical improvement in skin lesions/rashes.

**Case 7***Treatment of erythematous patch with Impozyz™ (clobetasol propionate) cream 0.025%: a case study report*

A 45-year-old man presented with a large scaly erythematous patch on the back, forearms, arms, and legs as well as scaling and itching on the scalp. The symptoms were present for the past 6 months. There was no other comorbidity, occupational risk, or significant family history. The vitals and systemic findings of the patient were normal, and he had no psychological or social sequelae. The lesions were approximately 3×3 cm in size, and inflammation was present surrounding the lesions. The center of the lesions was scaly with red plaque. The skin was itchy (Figures 7A-C). The patient was diagnosed with plaque psoriasis and was prescribed a topical application of Impozyz™ (CP) Cream 0.025% to be applied for 2 weeks. The patient was also advised to use methotrexate (7.5 mg) for a week along with a moisturizer and glycerine- or aloe-based soap.

At a follow-up visit after 2 weeks, erythema, scaling, plaque elevation, itching, facial redness, and flares had

reduced (Figures 7B, D). Overall, a decrease was observed in disease severity with Impozyz™ (CP) Cream 0.025%.

*Expert opinion*

Impozyz™ (CP) cream 0.025% was safe with no signs of atrophy or telangiectasia. It decreases the redness of the lesions and can be considered for the management of psoriasis.

**Case 8***Safety and efficacy of Impozyz™ (clobetasol propionate) Cream 0.025% in plaque psoriasis*

A 65-year-old woman presented with chronic, hypertrophic scaly plaques and thick itchy lesions on the lower limb. She had hypertension, obesity, and hypothyroidism; however, no significant family history was reported. The patient had no psychological or social sequelae, and her vitals were normal. Lesions were present in the lower limbs and were approximately 30×20 cm and 20×10 cm in size. There was inflammation around the lesions, and the center of the lesions was hypertrophic, scaly, and hypopigmented with postinflammatory hypopigmentation. The skin was warm, itchy, and scaly with papular rash and plaques (Figure 8A). Up to 10% of the body surface area was covered with the lesions. The patient was diagnosed with plaque psoriasis and was prescribed Impozyz™ (CP) Cream 0.025% to be applied at night along with a moisturizer twice daily for 14 days.

At the follow-up visit on day 14, erythema, scaling, and plaque elevation had reduced by 90%–95% and itching had disappeared completely (Figure 8B). Overall, a 90% reduction in the severity of the disease was observed with the use of topical therapy.

*Expert opinion*

Impozyz™ (CP) cream 0.025% demonstrates potent efficacy and safety with no evidence of skin atrophy or facial hair. It can be used as first-line topical therapy. Impozyz™ (CP) cream 0.025% provided high patient satisfaction.

**Case 9***Management of psoriasis with Impozyz™ (clobetasol propionate) cream 0.025% topical therapy: a case study report*

A 47-year-old woman presented with complaints of erythematous lesion and itching on the right leg for the past 2 weeks and fluid discharge in the affected area for the past 1 week. The patient did not have any other comorbidity; however, she had a family history of a similar lesion that her father had about 4 years before,

which had subsided following treatment. No abnormality was detected in vitals and systemic findings, and psychological or social sequelae were absent. The lesions were approximately 15×17 cm in size. Inflammation was present around the lesions, and the center of the lesions was crusty. Oozing was also observed in the affected area. The skin was warm, itchy, and scaly with a crusty rash (Figure 9A). The patient was diagnosed with psoriasis and was prescribed Impoyz™ (CP) Cream 0.025% to be applied with a moisturizer twice daily for 7 days. She was also prescribed cefixime tablets (200 mg) and levocetirizine tablets (5 mg) twice daily and one at bedtime, respectively, for 7 days.

At the follow-up visit on day 7, the reduction was observed in scaling, plaque elevation, erythema, and itching (Figure 9B). Overall, the severity of the disease had decreased with Impoyz™ (CP) cream 0.025%.

#### *Expert opinion*

Impoyz™ (CP) cream 0.025% is safe for use with no signs of atrophy. It is as effective as CP 0.05% w/w with fewer chances of atrophy. It can be used twice daily along with a moisturizer for a week and then the frequency should be reduced.

#### **Case 10**

##### *Efficacy of topical Impoyz™ (clobetasol propionate) cream 0.025% in the management of psoriasis*

A 44-year-old man presented with redness and itching in different parts of the body as well as psoriatic plaque over his hands and scalp. He also had nail pitting with pterygium in the nails. The patient did not have any other comorbidity; however, a history of psoriasis was reported in his father. The vitals and systemic findings of the patient were within the normal range, and he had no occupational risk or psychological or social sequelae. Lesions of more than 3 cm diameter were present in the scalp, forearms, abdomen, and back. Inflammation was present surrounding the lesions. There were signs of Auspitz and crusting in the center of the lesions. The skin was tender, itchy, and scaly with a crusty, macular, and papular rash (Figure 10A). Up to 30% of the body surface area was covered with lesions, of which 10% was extensive psoriasis.

The patient was diagnosed with plaque psoriasis and was prescribed a topical application of Impoyz™ (CP) Cream 0.025% to be applied at night. The patient was also advised to use oral methotrexate (7.5 mg, once weekly), antiallergics, and folic acid along with topical steroids and salicylic combinations for 2 months. He was recommended by the physician to use moisturizing soaps and to avoid the use of antiseptic liquid and spirit for better management of the indication.

At the follow-up visit after 2 months, scaling, plaque elevation, erythema, itching, facial redness, and flares or relapses had all reduced (Figure 10B). Overall, the severity of the disease had decreased throughout treatment.

#### *Expert opinion*

Impoyz™ (CP) cream 0.025% is safe for use in patients with extensive plaque psoriasis without any signs of telangiectasia or hypopigmentation. The drug reduces itching, spreads well over the lesions, and gets absorbed easily. It can be used on all crusty lesions and should be applied overnight. Good results were obtained with Impoyz™ (CP) cream 0.025%. Owing to its quick action and good absorption, an overall decrease in disease severity was observed.

## **DISCUSSION**

Psoriasis is common chronic inflammatory skin disease with a spectrum of clinical phenotypes and results from the interplay of genetic, environmental, and immunological factors. Plaque-psoriasis is the most common form of psoriasis, occurring in 85%–90% of affected patients and characterized by oval or irregularly shaped, red, sharply demarcated, raised plaques covered by silvery scales.<sup>5</sup>

Cobetasol propionate 0.025% cream is a class I TC topical formulation that is applied twice daily for the treatment of moderate-to-severe plaque psoriasis in patients 18 years of age or older. The use of pharmaceutical-grade diethylene glycol monoethyl ether (DEGEE) in CP 0.025% has increased its potency manifolds. DEGEE provides penetration modification by increasing the penetration of the active ingredient and/or limiting the systemic uptake of the dissolved active ingredient.<sup>4</sup>

Results from a phase IIa trial conducted by Srinivas et al. in Indian patients with moderate-to-severe psoriasis showed that CP 0.025% cream could be an effective treatment for psoriasis compared with 0.05% cream given the former demonstrated comparable efficacy with a better systemic safety profile. Lower proportion of patients with an abnormal adrenocorticotrophic hormone stimulation test (cortisol levels  $\leq 18$   $\mu\text{g/dL}$ ) were reported in 0.025% formulations: 5 (20.7%) and 13 (17.2%) vs. 0.05% cream (30.0%), ( $p=0.320$ ) on day 28. Also, the efficacy endpoint assessed by the psoriasis global assessment (PGA) score was higher with 0.025% formulations: 5 (38.9%) and 13 (36.8%) compared with 0.05% cream (30.8%).<sup>6</sup>

## **CONCLUSION**

Clobetasol propionate 0.025% cream exhibits potent efficacy and safety in reducing clinical signs and symptoms of moderate-to-severe psoriasis. Data from

clinical studies of CP 0.025% cream have shown the formulation to have similar efficacy as CP 0.05%. Therefore, CP 0.025% is considered as first-line topical therapy by physicians for various forms of psoriasis in the clinical setting.

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