Comparison between Topical Steroids and Biologics for Plaque Psoriasis in 2026: An Evaluation of Cost Efficacy and Adverse Effects

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***Abstract*—Plaque psoriasis is a chronic skin condition that demands lifelong treatment regimens. The development of treatment modalities has come a long way, from the conventional use of topical corticosteroids to more modern biological drugs targeting the immune system. The following discussion provides an analysis of the cost, efficacy, and safety of topical steroids and biologicals (as of 2026). Although topical steroids serve as the mainstay of treatment for mild conditions, biological drugs are gaining precedence for severe cases due to better efficacy.**

Objective: Comparative assessment of topical corticosteroids and biologics in relation to efficacy, costs, safety, and emerging treatment trends in 2026.

Methodology: Narrative review of recent literature (2020-2026) regarding the clinical efficacy, Pharmacoeconomics, and safety aspects of topical steroids and biologics in treating plaque psoriasis.

Result: Topical corticosteroids continue to be efficacious in mild and moderate cases, ensuring quick and effective relief locally without significant costs. Biologics acting on cytokines (IL-17/IL-23), however, present better efficacy outcomes in moderate and severe cases, exhibiting better PASI scores and prolonged remissions compared to topical steroids.

Conclusion: Topical corticosteroids and biological agents are used synergistically in psoriasis treatment. Although topical steroids continue to be recommended in cases of mild psoriasis, biological therapies are more favored in moderate to severe cases of psoriasis owing to their superior efficacy.

***Index Terms*—Psoriasis, Topical corticosteroids, Biologicals, IL-17 blockers, IL-23 blockers, Value for money**

I. INTRODUCTION

Psoriasis is a chronic inflammatory dermatological disorder triggered by immune responses, affecting 2-3% of individuals globally. It features as scaly, reddened patches which can occur in various parts of the skin, causing severe discomfort both psychologically and physically to sufferers. The onset of psoriasis involves complex associations between genes, immune systems, and the environment leading to excessive immune responses and keratinocyte proliferation.

Traditional management has been primarily based on the use of topical corticosteroids; however, recent developments in immunology have led to the development of biologics that act on key cytokines such as TNF-α, IL-17, and IL-23. The present paper aims to provide a comparative assessment of topical

steroids and biologics in the treatment of plaque psoriasis in 2026, focusing on efficacy, safety, costs, and new treatment guidelines.

II. MATERIALS AND METHODS

A literature review was conducted using PubMed, Scopus, and Web of Science. Articles written between 2020 and 2026 were selected by using the following keywords: psoriasis, topical corticosteroids, biologics, IL-17 inhibitors, IL-23 inhibitors, and cost-effectiveness.

Treatment modalities

1.Topical corticosteroids

Topical corticosteroids possess anti-inflammatory activity and inhibit the scale and hyperproliferation of the skin. Though the topical corticosteroids effectively manage erythema and scaling of the skin, continued application causes development of tachyphylaxis (reduced effect), spread of disease and flare post-stopping. Therefore, they are prescribed only for short periods of time (i.e., 2-3 weeks) or on an intermittent basis (weekends).

Milder topical corticosteroids (such as methylprednisolone aceponate or hydrocortisone 1%) may be used for face and genitals. Potent topical corticosteroids like mometasone furoate and betamethasone dipropionate are required for treating thick plaques on the scalp, elbows and knees, as well as palms and soles.

Calcipotriol

Topical calcipotriol, a vitamin D derivative, possesses antiproliferative properties and helps shrink psoriasis plaques. It is irritant and not indicated for application to face, flexural sites and groin. Application in excess (over 100 g weekly) increases risk of hypercalcaemia.22

Calcipotriol is available on PBS in combination with potent topical corticosteroids; because of this, it should be used only temporarily.

Tar and dithranol

Tar and dithranol are traditional topical treatments, which may be inexpensive but less popular nowadays due to the inconvenience caused by their odor and mess.

Liquor picis carbonis (LPC) creams may be compounded with or without keratolytic agents (e.g., salicylic acid or sulfur). The shampoos may contain tar. They suppress pruritus and desquamation and may be combined with weekly application of topically-applied corticosteroids scalp lotions. Cocois ointment (e.g., Coco-Scalp) consists of salicylic acid, tar, and sulphur in a base of coconut oil and works well if left for some time and then washed out for treatment of thick scalp psoriasis.

Dithranol 1% ointment may be applied to thick lesions and rinsed off within 10–30 minutes. It can discolor skin and white hair.

2.Non steriodal Topical treatments

In the treatment of mild to moderately affected cases of psoriasis, initial therapy often revolves around the application of topical medications, including moisturizers, corticosteroids, calcipotriol, tar, and dithranol. There is insufficient evidence for the choice of topical treatment options, hence this depends on individual patient and prescriber preference.

Moisturizers with keratolytics

Routine (once or twice daily) application of an unscented moisturizer, especially on thick psoriasis lesions in areas like elbows, knees, and the sacral region, may lessen scaling and irritation caused by dry skin. Moisturizing agents can be applied together with keratolytics, including urea (10%) or salicylic acid (6%). However, stronger keratolytics, such as urea (25%) and salicylic acid more than 8%, are effective in the application of thick skin areas of palms and soles, yet painful in raw areas of the skin.

3.Biologic Therapies

The use of biologic therapy in treating psoriasis is revolutionizing this field as these medications focus on specific immune pathways that play a role in the pathogenesis of psoriasis [2,3]. Some examples of biologic therapy include monoclonal antibodies and fusion proteins that block the effects of cytokines such as TNF-α, IL-17, and IL-23.

Biologics are indicated in moderate and severe cases of psoriasis, or when other treatment modalities are ineffective. This type of therapy is highly efficacious and causes a marked reduction in the PASI score [7]. Despite its advantages, biologics are costly and may cause serious complications such as infection and immunogenicity. (21)

Inhibitors of tumour necrosis factor-α

The inhibitors of TNF-α such as etanercept, adalimumab, infliximab, and their biosimilar analogues are not often prescribed nowadays as first-line treatments owing to the existence of more efficient drugs providing better clearance rates and sustained effect. Nevertheless, they are commonly prescribed when the patient is hospitalized and suffering from severe forms of pustular psoriasis due to quick relief they provide. The inhibitors of TNF alpha are contraindicated in case of active infection, including TB, and the rate of infections associated with the application of these biologics is higher than that for other drugs. The use of these drugs may exacerbate congestive cardiac failure. While highly effective in skin lesion clearance (45% skin clearance in case of infliximab), in most cases the patient demonstrates reduced efficacy after 2-3 years.

Inhibitors of interleukin

Anti-IL-17 inhibitors (bimekizumab, ixekizumab, secukinumab), anti-IL-23 inhibitors (guselkumab, risankizumab, tildrakizumab), and IL-12 and IL-23 inhibitors (ustekinumab) demonstrate high efficacy (near-complete skin clearance in up to 88%)

The anti-IL-17 therapies are more likely to cause infections (especially mouth infection), but they work well when targeting joint problems. The anti-IL-17 therapies should be avoided in inflammatory bowel diseases due to risk of catastrophic worsening of disease.

Anti-IL-23 and anti-IL-12 and 23 therapies do not cause many side effects (the injection site reaction is most prevalent). These are effective in treating inflammatory bowel disease if used in higher dosages and have good efficacy for peripheral psoriatic arthritis. Spesolimab is a novel treatment using IL-36 inhibition that has recently been used in Australia to treat flare-ups of generalized pustular psoriasis. [16,17]

III. COMPARISON BETWEEN THE TREATMENT MECHANISMS

Treatment Mechanism and Function

The mechanism of action of topical steroid is local in nature while that of biological therapy is systemic. These differences make them appropriate in different circumstances.

Characteristics Comparing

The comparison between topical steroids and biologic therapy concerning their clinical effectiveness, route of administration, and side effects is shown in Table 1 below.

Parameter	Topical corticosteriods	Biologic therapy
Indication	Mild – moderate psoriasis	Moderate-severe psoriasis
Mechanism	Anti-inflammatory, immunosuppressive	Targeted cytokine inhibition (TNF-α, IL-17, IL-23)
Route of administration	Topical	Injectable (SC/IV)
Time to onset of action	Rapid	Moderate to rapid
Efficacy (PASI response)	Low – moderate	High (PASI 75-90+)
Duration of remission	Short – term	Long- term
Systemic effect	None	Yes
Cost	Low	High
Monitoring	Not required	Required
Side effects	Local (atrophy, striae)	Systemic (infection risk)

Table 1: Comparing Topical Corticosteroids with Biologic Treatments

Categorization and Progress in Biologic Treatments

Table 2 shows the classification of biologic medicines used to treat psoriasis according to their molecular targets.

Class	Target	Examples	Main benefits
TNF-α inhibitors	TNF-α cytokines	Etanercept, Infliximab	Anti-inflammatory action
IL-17 inhibitors	IL-17A/F	Secukinumab, Ixekizumab	Rapid skin clearance
IL-23 inhibitors	IL-23	Guselkumab, Risankizumab	Long-term remission, high specificity

Safety and Side Effects

The safety of topical corticosteroids and biologics is quite different based on their mode of application and method of action. This is elaborated in Table 3 below.

Category	Topical corticosteroids	Biologics
Local side effects	Skin atrophy, striae, telangiectasia	Injection-site reactions
Systemic side effects	Rare occurs	Increase in infection
Long term adverse effects	Tachyphylaxis	Rare malignancies
Monitoring	Not necessary	necessary

Table 3. Side Effects of Topical Corticosteroids and Biological Drugs -Topical corticosteroids are safe for usage as directed; yet, their long-term use may cause local side effects. Biological drugs, although highly efficacious, need constant surveillance because of their immunosuppressive action throughout the body [6,7].

Cost-Effectiveness Factors

Cost is still an essential consideration in choosing among various treatment options. Corticosteroid creams have low costs and wide availability; thus, they are considered the first-line treatment for mild cases. However, biologics can cost much more because of their complicated production and continuous use.

Although expensive, biologics can be regarded as cost-effective for moderate to severe cases of psoriasis due to their effectiveness, decreased morbidity rates, and improved quality of life [8]. The development of biosimilars and oral medications would lead to lower prices.

Clinical Implications and Management Trends (2026)

According to recent guidelines, early diagnosis and individualized treatment approaches have been gaining attention. Biologics are increasingly favored as primary options for treating moderate-severe psoriasis cases, especially those with a high level of disease burden or comorbidities [5,8].

Combined approaches including biologics and topical corticosteroids are another common way of treatment in order to enhance its effectiveness. In this manner, fast symptom relief can be ensured, while keeping in mind the disease's remission.

IV. RESULTS AND DISCUSSION

Comparison of Efficacy

Topical corticosteroids are efficacious in localized disease, quickly controlling inflammation and scales formation. Nevertheless, they are less effective in case of extensive psoriasis, failing to influence systemic inflammation.

Biologics have shown better clinical effectiveness, reaching PASI 75-90 scores and achieving remission. They have demonstrated their efficiency in treating severe forms and psoriatic arthritis [7,8].

Cost Aspects

Topical corticosteroids are cost-effective and readily available, which makes them appropriate for use over prolonged periods of time in mild disease.

On the contrary, biological drugs have very high treatment costs and necessitate additional health care services due to their application. Nevertheless, they can be cost-effective in severe disease because of better results and fewer complications [8].

Safety Features

Topical corticosteroids induce side effects at the site of action, namely skin thinning and skin irritation when used for a prolonged period of time [6].

Systemic adverse effects are common to biological drugs, and these include greater infection risks. Biological drugs are safe when applied in a controlled manner [7].

Current Clinical Guidelines (2026 Perspective)

Recent recommendations highlight the importance of early diagnosis and personalized treatment approaches. Biologics are being increasingly recommended as the primary systemic medications for moderate to severe psoriasis cases. Combination treatment using topical drugs is also widely used to maximize the effect [5,8].

This trend signifies a new approach in which the systemic nature of psoriasis is recognized and managed.

V. DISCUSSION

The choice of therapy will be influenced by the severity of the condition, individual patient characteristics, and financial factors. Topical corticosteroids will continue to be essential for mild

conditions, while biologics will deliver better results for moderate to severe cases.

Further improvements in biologic medication and the development of biosimilars will enhance availability and lower treatment costs in the future.

VI. CONCLUSION

Both topical corticosteroids and biologic drugs complement each other in the treatment of psoriasis. While topical medications will prove effective and cost-effective for mild conditions, biologic drugs will have a greater impact on the outcome and maintenance of moderate to severe cases.

Future research must concentrate on making treatment more efficient and affordable.

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Conflicts of Interest

The author declares no conflicts of interest.

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