



Vitamin D analogues and corticosteroids in the treatment of plaque psoriasis

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Abstract

Purpose: Psoriasis is a common, chronic, immune-mediated disease that primarily affects the skin. Plaque psoriasis, the most prevalent type of psoriasis, can produce disfiguring, erythematous, scaly lesions. Dermatologists choose from an array of treatment approaches for their patients with psoriasis, often managing mild to moderate plaque psoriasis with topical therapy. Vitamin D analogs, corticosteroids, and sometimes topical retinoids are the mainstay of topical therapy. Each of these agents affects different aspects of the pathophysiologic process involved in psoriasis, including inflammation and abnormal differentiation and hyperproliferation of keratinocytes. In combination, these agents may provide additive and sometimes synergistic effects. Clinical studies have demonstrated that enhanced efficacy and tolerability can be achieved using fixed-combination therapy with topical vitamin D analogs and corticosteroids as opposed to using each agent alone. Pharmacists must understand the biologic rationale for the various treatment regimens prescribed for psoriasis, as well as the efficacy and safety profiles of each treatment, so that they can appropriately advise patients about their course of therapy. Factors that affect patient adherence also enter into the treatment decision, as these may affect treatment outcomes.

Psoriasis is a chronic immune-mediated disease that manifests primarily in the skin. More than 7 million persons in the United States, or approximately 2% of the population,^{1,2} are affected by this disease, which relapses and remits throughout a patient's lifetime.³ Plaque psoriasis, the most prevalent type, is characterized by three elements: erythema (redness), scaling (formation of white flakes due to excessive shedding of keratinocytes), and induration (thickness of the plaques).¹ Most patients with this condition have mild to moderate psoriasis, which the National Psoriasis Foundation defines as lesions covering less than 10% of the body surface area.^{2,4}

Histologically, psoriasis is characterized by epidermal hyperproliferation with incomplete keratinocyte differentiation, inflammatory infiltration, and increased vascularity in the dermis.⁵ The pathophysiologic process leading to psoriasis appears to be multifaceted, with cytokines produced by inflammatory T cells playing a crucial role. These immunoregulatory proteins stimulate the differentiation and proliferation of keratinocytes and increase the migration of inflammatory cells into the skin.⁶ The result is clinically evident inflammation and epidermal hyperplasia at the lesion site.⁶ Therapies that target both the immune-related and keratinocyte-related cellular functions are thus potentially more effective than those that target either function alone.

Because the clinical features and triggers of psoriasis are highly variable,^{1,3} the decision-making process for treatment can be complex. Adding to this complexity is the myriad of therapeutic options available,^{1,3} including over-the-counter (OTC) topical agents (eg, salicylic acid, coal tar) and prescription topical agents (eg, vitamin D analogs, corticosteroids, topical retinoids) (Figure 1).^{1,2,7}



Figure 1

It is important to note that although current therapies do not cure the disease, they reduce its severity and prolong the length of remissions.³Symptoms that often occur at the lesion site, including itching, burning, and soreness, may be minimized with topical therapy.^{1,8}The

American Academy of Dermatology and the National Psoriasis Foundation recommend the use of topical vitamin D analogs, corticosteroids, and retinoids as first-line therapy for patients with mild to moderate localized plaque psoriasis.^{2,3}

Many patients approach pharmacists for advice on psoriasis therapy. Pharmacists make at least one dermatologic recommendation each day,⁹ despite having received minimal formal training in dermatology and despite having little opportunity to interact with dermatologists in everyday practice to better understand their treatment strategies.⁹ To enhance pharmacists' understanding of psoriasis treatment, this article reviews the rationale for the widespread use of topical vitamin D analog and corticosteroid combination therapy. The article begins with a discussion of patient adherence, as this is critical to successful outcomes. By keeping in mind the factors that affect tolerability and patient adherence, pharmacists can give informed guidance to patients on their course of therapy.

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