Psoriasis is a chronic disease that typically requires long-term treatment and management. Fortunately, many agents are currently available for both short-term and long-term treatment and maintenance of psoriasis at varying levels of severity. The emergence of biologic therapies—indicated for patients with moderate to severe psoriasis—presents new options, however, safety concerns continue to develop around these agents, and they are clearly not indicated for every psoriasis patient. Since a majority of patients have mild to moderate disease, topical therapies play an important role in treatment. Topical therapies can offer high response rates with generally favorable safety and tolerability profiles and, in addition, are useful for both acute treatment and long-term maintenance. Because psoriasis can occur on any body site, including traditionally difficult to treat areas, like the scalp or back, clinicians and patients require a range of versatile formulations. While a variety of topical agents are available to treat psoriasis in its different presentations, newer formulations are always being developed. Following is a review of some of unique topical psoriasis formulations, including shampoos, solutions, ointments, and foams, which have either recently become available or are being used successfully in psoriasis management.

**Shampoos**

Scalp psoriasis is one of the more difficult types of psoriasis to treat. Affected patients frequently complain of pruritus, scaling, stinging, burning, and notable erythema. Topical therapies for scalp psoriasis are often difficult and unpleasant to apply, resulting in decreased adherence and efficacy. In recently publicized guidelines the Medical Board of the National Psoriasis Foundation identifies topical corticosteroids as the recommended short-term or intermittent therapy for scalp psoriasis.

Short-contact topical corticosteroid therapy with clobetasol propionate shampoo 0.05% (Clobex Shampoo, Galderma) is a relatively novel treatment option shown to improve scalp psoriasis and improve patients’ quality of life. Clobetasol propionate shampoo should be applied to the treatment site once daily for 15 minutes prior to being washed out. The regimen may be convenient for many patients, but the 15-minute wait can be a challenge.

**Take-Home Tips.** A majority of patients with psoriasis have mild to moderate disease, amenable to topical therapies. Despite low levels of patient satisfaction, topical therapies can offer good efficacy, safety, and tolerability. They may be useful for both acute and long-term treatment. Clinicians must be familiar with the range of versatile formulations available to treat any body site, including traditionally difficult to treat areas, like the scalp or back.
for some patients. Furthermore, the shampoo is best suited to short-term use. Although a study showed that patients who used Clobex shampoo twice a week for six months had no greater incidence of skin atrophy, telangiectasia, or hypothalamic-pituitary-adrenal (HPA) axis suppression than controls,²⁰ clinically there are concerns about the potential exposure of corticosteroid to the thinner skin of the face and/or the eyes (possibly influencing intraocular pressure).

A study involving 288 patients with moderate to severe scalp psoriasis (90.5 percent had a history of previous scalp psoriasis treatment) found that clobetasol shampoo treatment produced a 3.8 point reduction in mean Dermatology Life Quality Index (DLQI) scores after four weeks.³ Whereas 45.6 percent of study participants had indicated that scalp psoriasis had little or no effect on their quality of life at baseline, 81.7 percent of respondents indicated little or no effect of the disease at week 4. The percentage of patients with no or mild pruritus increased 58.4 percentage points to 83 percent at week four, and the percentage of patients with no or mild scaling increased 64.2 percentage points to 64.9 percent at week 4. The proportion of patients with severe or very severe scaling decreased from 57.3 percent at baseline to 4.5 percent at week 4.

Similar findings from a study of patients with seborrheic dermatitis confirm the benefits of clobetasol propionate shampoo in reducing pruritus and scale.⁶ Clobetasol propionate 0.05% shampoo was the only investigated treatment other than ketoconazole foaming gel 2% to provide statistically significant improvement in specific symptoms and total severity score.

Solution
Several new solutions have entered the market in recent years that may provide relief for patients with plaque psoriasis. For example, a new liquor carbonis distillate (LCD) solution 15% (Psorent, NeoStrata; equivalent to coal tar 2.3%) uses an evaporative and transparent vehicle, fragrance, and a dab-on applicator. It may also be an effective agent for mild to moderate plaque psoriasis. In a recent study, researchers compared cosmetic acceptability of the LCD solution to calcipotriene cream 0.005% in patients with moderate plaque psoriasis.⁷ Patients applied LCD solution or calcipotriene cream twice daily to body lesions for 12 weeks and then were followed for six additional weeks without treatment. Survey results showed that more participants treated with LCD solution versus calcipotriene cream rated their product as more convenient and beneficial compared to prior psoriasis therapies.
Topical vitamin D3 analogues emerged for the treatment of psoriasis with the goal of diminishing dependence on corticosteroids. Although they have been used for the treatment of psoriasis for more than 15 years, their exact mechanism of action is not completely understood. Studies show that vitamin D3 analogues decrease proliferation and induce differentiation of keratinocytes while conferring strong immunomodulating effects.

A novel formulation of betamethasone (0.064%) and calcipotriene (0.005%) (Taclonex Scalp Topical Suspension, Leo Pharma) has recently come to market, conferring the established efficacy of this combination in a liquid suspension formulation for easy application to the scalp. In one study of scalp psoriasis management, 207 patients used betamethasone/calcipotriene solution and 107 patients used calcipotriene solution alone. At week eight, significantly more combination-treated patients (68.6 percent) were clear or had minimal disease compared to just 31.4 percent of controls. The frequency of adverse events was significantly lower for the combination solution compared to calcipotriol alone.

A much longer 52-week trial compared the combination calcipotriol/betamethasone suspension to calcipotriol alone for scalp psoriasis. Overall, 92.3 percent of Investigators’ assessments of disease control were satisfactory versus 80 percent of assessment for monotherapy. Perhaps more importantly, the rate of specific adverse events was lower in the combination therapy group, while the rate of compliance was significantly higher.

Ointments
Despite the efficacy associated with calcipotriol ointment (Dovonex, Leo Pharma; ointment no longer available in the US) monotherapy, clinicians began using the agent in combination with topical corticosteroids not long after it came to market. An analysis of published and unpublished data on combination regimens concluded that combining calcipotriol ointment with superpotent steroids yielded greater improvement and fewer side effects. In fact, calcipotriol offers steroid-sparing effects, while topical corticosteroids suppress local cutaneous irritation associated with calcipotriol ointment. However, certain corticosteroids, including betamethasone, are shown to inactivate vitamin D3 analogues when applied simultaneously, requiring that patients separate application times, using one agent each morning and the other in the evening.

To overcome the clinical hurdle of dual applications and simplify the patient’s regimen, a once-daily combination formulation was developed in which micronized betamethasone dipropionate 0.064% is suspended in an anhydrous vehicle containing dissolved calcipotriene 0.05% (Taclonex, Leo Pharma). The active components remain stable with equal distribution of each throughout the product.

In a study comparing once-daily combination calcipotriene/betamethasone dipropionate to betamethasone propionate alone in the same vehicle for up to eight weeks, combination treatment provided greater improvement compared to betamethasone alone. In total sign score, combination-treated patients had improvement of nearly eight percent from baseline than did monotherapy patients.

Another study compared combination calcipotriene/betamethasone ointment to betamethasone alone, calcipotriene alone, or vehicle only. Significantly more patients in the combination treatment group had absent or very mild disease at week eight (71.2 percent), compared to those receiving betamethasone alone (64 percent), calcipotriene alone (36.8 percent), or vehicle (22.8 percent). Nearly 69 percent of patients treated with the combination formulation described their psoriasis as clear or almost clear at week 8.

Another synthetic topical vitamin D ointment formulation that offers considerable flexibility for use in monotherapy and combination therapy regimens in the treatment of plaque psoriasis is calcitriol ointment (Vectical, Galderma). Clinical trials have shown that twice-daily application of calcitriol ointment for eight weeks can result in clearing or minimal residual psoriasis in approximately 34 percent of patients, compared with 12 percent to 22.5 percent of patients treated with vehicle ointment. Calcitriol ointment can also significantly improve ratings of individual psoriasis signs and symptoms of plaque...
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elevation, erythema, scaling and pruritus compared to vehicle. Calcitriol ointment may also be an effective long-term agent for plaque psoriasis as well, with one study showing that calcitriol ointment produced sustained improvement in physician-rated and patient-rated psoriasis severity for one year and was associated with a low risk of adverse events. In addition, calcitriol ointment may have better tolerability in sensitive areas than other vitamin D analogues. These include intertriginous areas and face and scalp locations, like the ears.

Foams

A new vitamin D analogue recently added to the market is calcipotriene foam (Sorilux, Stiefel/GSK). FDA approval followed two clinical trials comparing calcipotriene foam to vehicle in the treatment of patients with mild to moderate plaque psoriasis. In the first study, 27 percent of patients treated with calcipotriene experienced treatment success versus 16 percent using vehicle alone. And in the second study, 14 percent of patients treated with calcipotriene foam were classified as successful versus seven percent of patients treated with vehicle only. (Data reported by Stiefel/GSK; not yet published)

Clobetasol propionate foam 0.05% (Clobex, Galderma) has been used for some time to treat plaque psoriasis. Recent data show that clobetasol propionate foam 0.05% applied twice daily produced a four-point decline in average PASI at two weeks among patients with scalp psoriasis. At week four, all treated patients had achieved or maintained PASI 50.

Another novel foam formulation is coal tar foam 2% (Scytera, Promius). One recent study noted the benefits of coal tar foam in scalp, palms, soles, as well as hair-bearing and intertriginous areas. Coal tar foam may also be effective when combined with corticosteroids. In one study, coal tar foam was combined with clobetasol propionate 0.05% emollient foam in a twice-daily regimen and was found to be efficacious for the treatment of plaque psoriasis of the elbows after eight weeks.

Optimizing Regimens

Topical therapies are generally safe and potentially effective for the management of many cases of mild to moderate plaque psoriasis, yet data show low levels of patient satisfaction with topical therapy regimens. Allure to choose the optimal topical formulation to match the presentation and the application site may contribute to poor treatment outcomes and/or poor patient satisfaction. To achieve best clinical results, prescribers must consider the relative merits of each topical agent and work with patients to devise an acceptable and effective regimen.

Dr. Kircik has served as a researcher, consultant, of speaker for Allergan, Coria, Dermik, Ferndale, Galderma, Stiefel/GlaxoSmithKline, Intendis, M edicis, Obagi Medical Products, Inc., OrthoDermatologics.