Just Like Rock and Roll, Topical Medications for Psoriasis Are Here to Stay

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When I finished my dermatology training in 1986, the only moving parts in the skin that I recall were keratinocytes moving upward from the basal layer of the epidermis until they were desquamated 4 or 5 weeks later and hairs growing within their follicles until they were shed. Now we are learning about countless cytokines, chemokines, interleukins, antibodies, receptors, enzymes, and cell types, as well as their associated pathways, at an endless pace. Every day I am looking in my inbox to sign up for the "Cytokine of the Month" club! Despite the challenges of sorting through what is relevant clinically, it is a very exciting time. Coupled with this myriad of fundamental science is the emergence of newer therapies that are more directly targeting specific disease states and dramatically changing the lives of patients. We see prominent examples of these therapeutic results every day in patients we treat, especially with psoriasis and atopic dermatitis. Importantly, there also is hope for patients with notoriously refractory skin disorders, such as hidradenitis suppurativa, alopecia areata, and vitiligo, as newer therapies are being thoroughly studied in clinical trials.

Despite the best advances in therapy that we currently have available and those anticipated in the foreseeable future, patients with chronic dermatoses such as psoriasis and atopic dermatitis still require prolonged constant or frequently used intermittent therapies to adequately control their disease. Fortunately, as dermatologists we understand the importance of proper skin care and topical medications as well as how to incorporate them in the management plan. To date, specifically with psoriasis, we have a variety of brand and generic topical corticosteroids, calcipotriene (vitamin D analogue), and tazarotene (retinoid), as well as combination formulations, in our toolbox to help manage localized areas of involvement.[1] This includes both patients with more limited psoriasis and those responding favorably to systemic therapy but who still develop some new or persistent areas of localized psoriatic lesions. New data with the brand formulation of calcipotriene–betamethasone dipropionate (Cal-BDP) foam applied once daily shows that after adequate control is achieved, continued application to the affected sites twice weekly is superior to vehicle in preventing relapse of psoriasis.[2] A highly cosmetically acceptable Cal-BDP cream incorporating a unique vehicle technology has been US Food and Drug Administration (FDA) approved for once-daily use for plaque psoriasis, overcoming the compatibility difficulties encountered in combining both active ingredients in an aqueous-based formulation and also optimizing the delivery of the active ingredients into the skin. This Cal-BDP cream demonstrated efficacy superior to a brand Cal-BDP suspension, rapid reduction in pruritus, and favorable tolerability and safety.[3] Another combination formulation that is FDA approved for plaque psoriasis with once-daily application that has been shown to be effective and safe is halobetasol propionate–tazarotene lotion. This formulation contains lower concentrations of both active ingredients than those normally used in a barrier-friendly polymeric emulsion vehicle, allowing for augmented delivery of both active

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ingredients into the skin than with the individual agents applied separately and sequentially.[4,5] In the best of circumstances, most patients with psoriasis still require use of topical therapy and appreciate its availability. Just like on any menu, it is good to have multiple good options.

What else does this psoriasis management story need? A pipeline! I am happy to tell you that with topical therapy, 2 nonsteroidal agents are under development with completion of phase 2 and phase 3 trials submitted to the FDA to evaluate for approval for psoriasis. They are tapinarof cream, an aryl hydrocarbon receptor agonist, and roflumilast cream, a phosphodiesterase 4 (PDE4) inhibitor. Both of these modes of action involve intracellular pathways that are highly conserved in humans and are ubiquitously present in structural and hematopoietic cells.

Topical application of tapinarof cream once daily has been shown to be effective and safe for plaque psoriasis, is well tolerated with some reports of folliculitis observed that did not typically interfere with use, exhibits a remittive effect in patients achieving clearance on therapy, and is devoid of any systemic safety signals with both short-term and long-term use.[6-8] It also is currently under evaluation for atopic dermatitis. Topical roflumilast cream once daily has been shown to be effective and safe for plaque psoriasis as well as intertriginous psoriasis; is well tolerated including negligible rates of skin tolerability reactions such as stinging and burning; and is devoid of systemic safety signals, including those often observed with oral PDE4 inhibitor therapy (apremilast).[9,10] In addition, roflumilast has been shown to be more inherently potent in PDE4 inhibition activity than crisaborole and apremilast.[11] Roflumilast cream also is being studied for atopic dermatitis and a foam formulation is being evaluated for seborrheic dermatitis. Importantly, both tapinarof and roflumilast are not corticosteroids and are not associated with adverse effects observed with topical corticosteroid therapy, such as atrophy, striae, telangiectasia, and hypothalamic-pituitary-adrenal axis suppression. This provides a sense of comfort for clinicians and patients, as potential side effects associated with more prolonged topical corticosteroid therapy are common and lingering concerns.

To summarize, topical therapy for psoriasis is here to stay, just like all the rock and roll we have more access to than ever through expanded modern-day radio access and several music streaming sources, most of which are on demand. Also available to us are some viable current options, including a few newer brand formulations. New nonsteroidal agents with favorable data thus far are on the horizon, providing their own inherent efficacy and safety, which appear to be advantageous thus far. As the late Ric Ocasek of the Cars sang, "Let the good times roll."

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