

Oldie But Goodie



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Research over the past several years has elucidated the pathophysiology of psoriasis, yielding both new treatment options and enhanced knowledge of the mechanisms of action of existing treatments. As we have developed a fuller picture of this common inflammatory disease, we have uncovered new insights into the benefits of one of the most forgotten and undervalued topical psoriasis treatment—TAZAROTENE. Accumulated evidence shows that this drug, now used for more than two decades mostly for acne vulgaris, is a multifunctional treatment that targets numerous drivers of psoriatic skin disease.

As a topical retinoid, tazarotene works to normalize keratinocyte hyperproliferation—which accounts for initial interest in the drug as a potential psoriasis treatment. Its effects on keratinocytes are numerous and even include changes in gene expression.¹ In fact, the

reversal of gene expression associated with tazarotene treatment is similar to the effects conferred by systemic biologic treatments.² It is now thought that effects on gene expression contribute to the hypothetical “remittive effect” of tazarotene in psoriasis; patients continue to maintain therapeutic benefit for several weeks after treatment is withdrawn,³ which I call the “durability effect” rather than “remittive effect” in a chronic disease setting.

Of note, tazarotene has been shown to have immunologic impact that directly reduces the inflammatory drivers of psoriasis. Tazarotene has numerous effects on the pro-inflammatory state of epidermal keratinocytes, including the suppression of numerous IL-1 family cytokines induced by TNF-alpha or IL-17.¹ Other immunologic effects include regulation of dendritic cells, macrophages, and neutrophils.⁴ Additionally, tazarotene has been shown to have direct anti-angiogenic effects. It appears to inhibit platelet aggregation and reduce the migration and adhesion of monocytes and lymphocytes.⁵ Ironically, tazarotene has given its name to three genes; TIG-1, TIG-2, and TIG-3 (tazarotene induced genes 1,2,3) which may mediate an antiproliferative effect.⁶

The growth of systemic and biologic therapies has provided new treatment options for patients with moderate to severe psoriasis, and much attention is focused on these newer treatments. However, the majority of patients with psoriasis are still candidates for topical treatments. What's more, patients using biologic and systemic treatments may additionally require a topical treatment to address areas of recalcitrant disease or flare ups.

Topical treatment has been and will always be the mainstay treatment in dermatology. Dermatology providers must therefore be prepared to make topical treatment recommendations most likely to provide the best outcomes for each patient. In summary, tazarotene shows remarkable efficacy on its own by downregulating the markers of keratinocyte differentiation, keratinocyte proliferation, and inflammation.⁶ It can also be used in combination with other topical treatments, such as topical corticosteroids to overcome possible irritation with retinoid use.

Unique among topical therapies in its ability to confer a durable effect on psoriasis, topical tazarotene is an “OLDIE BUT GOODIE” over 20 years of its clinical use.

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