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Use of Topical Corticosteroids for Dermatologic Conditions Reviewed

Laurie Barclay, MD

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January 21, 2009 — The best practices for choosing topical corticosteroids for patients with various dermatologic conditions are reviewed in the January 15 issue of *American Family Physician*.

"The usefulness and side effects of topical steroids are a direct result of their anti-inflammatory properties, although no single agent has been proven to have the best benefit-to-risk ratio," write Jonathan D. Ference, PharmD, from Nesbitt College of Pharmacy and Nursing, Wilkes University in Wilkes-Barre, Pennsylvania, and Allen R. Last, MD, MPH, from Racine Family Medicine Residency Program, Medical College of Wisconsin, in Racine, Wisconsin.

"Topical corticosteroids are effective for conditions that are characterized by hyperproliferation, inflammation, and immunologic involvement," Drs. Ference and Last write. "They can also provide symptomatic relief for burning and pruritic lesions."

Topical corticosteroids have a long history of effectiveness in a wide spectrum of dermatologic conditions. Currently available topical steroids differ widely in potency and formulation. To safely and effectively treat steroid-responsive skin conditions, clinicians should become familiar with 1 or 2 agents in each category of potency.

For successful treatment with topical steroids, factors to be considered include accurate diagnosis, delivery vehicle used for the steroid (eg, ointment, cream, gel, lotion, shampoo), potency, frequency of application, duration of treatment, and adverse effects.

Despite frequent use of topical steroids, clinical data support efficacy only in certain dermatologic conditions. These include psoriasis, vitiligo, eczema, atopic dermatitis, phimosis, acute radiation dermatitis, and lichen sclerosus.

To date, evidence is limited for use of topical steroids in melasma, chronic idiopathic urticaria, and alopecia areata.

Topical steroid potency can be classified based on the vasoconstrictor assay, which evaluates the degree of cutaneous vasoconstriction ("blanching effect") in healthy persons. The 7 groups of topical corticosteroid potency range from ultrahigh potency (group 1) to low potency (group 7).

High-potency topical corticosteroids (groups 1 - 3) include augmented betamethasone dipropionate 0.05% and clobetasol propionate 0.05%. These should be reserved for alopecia areata, resistant atopic dermatitis, discoid lupus, hyperkeratotic eczema, lichen planus, lichen sclerosus of the skin, lichen simplex chronicus, nummular eczema, severe poison ivy, psoriasis, and severe hand eczema.

Except in rare situations and for short durations, high-potency and ultrahigh-potency steroids should not be used on the face, groin, axilla, or under occlusion.

Medium-potency topical steroids (groups 4 and 5) may be used in severe anal inflammation, asteatotic eczema, atopic dermatitis, lichen sclerosus of the vulva, nummular eczema, scabies (after treatment with scabicide), seborrheic dermatitis, severe dermatitis, severe intertrigo (for short-term treatment), and stasis dermatitis. Examples of medium-potency topical steroids include betamethasone valerate, desoximetasone 0.05%, and fluocinolone acetonide 0.025%.

Low-potency topical steroids (groups 6 and 7) may be effective in dermatitis of the diaper area, eyelids, or face; intertrigo; and perianal inflammation. Examples of low-potency topical steroids include fluocinolone 0.01%; hydrocortisone butyrate 0.1%; and hydrocortisone 1%, 2.5%. These agents are the safest for long-term use, for application over large surface areas, for use on the face or areas of the body with thinner skin, and for use in children.

Most preparations should be applied once or twice daily, with the optimal dosing schedule determined by trial and error. Chronic application of topical corticosteroids may result in tolerance and tachyphylaxis. Ultrahigh-potency steroids should not be used for more than 3 weeks continuously, but if a longer duration is required, the steroid should be gradually tapered to avoid rebound symptoms, and treatment should be resumed after a steroid-free period of at least 1 week.

Like systemic corticosteroids, topical corticosteroids may have potential adverse effects. Cutaneous or local adverse effects may include atrophic changes, easy bruisability, increased fragility, purpura, stellate pseudoscars, steroid atrophy, striae, telangiectasis, and ulceration.

Topical corticosteroids may increase the risk for infections, including aggravation of cutaneous infection, granuloma gluteale infantum, masked infection (tinea incognito), and secondary infections.

Miscellaneous adverse effects of topical corticosteroids may include contact dermatitis, delayed wound healing, hyperpigmentation, hypertrichosis (hirsutism), hypopigmentation, perioral dermatitis, and photosensitization.

"Topically applied high- and ultra-high potency corticosteroids can be absorbed well enough to cause systemic side effects," the review authors write. "Hypothalamic-pituitary-adrenal suppression, glaucoma, septic necrosis of the femoral head, hyperglycemia, hypertension, and other systemic side effects have been reported. It is difficult to quantify the incidence of side effects caused by topical corticosteroids as a whole, given their differences in potency."

Specific clinical recommendations for practice, all rated level of evidence C, are as follows:

- Psoriasis, vitiligo, lichen sclerosus, atopic dermatitis, eczema, and acute radiation dermatitis can be treated with topical steroids.
- Treatment duration with ultrahigh-potency topical steroids used continuously should not exceed 3 weeks.
- To avoid adverse effects, continuous use of low-potency to high-potency topical steroids should not exceed 3 months.
- To lower the risk for tinea infections, clinicians should generally avoid combinations of topical steroids and antifungal agents.

"Children often require a shorter duration of treatment and a lower potency steroid," the review authors conclude. "When the diagnosis is unclear, when standard treatments fail, or when allergy patch testing is unavailable in the physician's office, referral to a dermatologist is recommended."

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