A SUPPLEMENT TO
Skin & Allergy News®

Examining Alternative Topical Therapy for Atopic Dermatitis

TOPIC HIGHLIGHTS

- Epidemiology and Pathogenesis
- Treatment Goals and Approaches
- Core Therapy
- Microbial Colonization and Infection
- Adherence Issues
- Topical Steroids: Choices and Issues
- HPA-Axis Suppression
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Dr Paller has disclosed that she is a consultant to Astellas, Novartis, SkinMedica, and Stiefel.

Dr Smith has disclosed that she is a consultant to Coria, SkinMedica, and Stiefel.

Introduction

Atopic dermatitis is a chronic relapsing skin disorder that manifests as itchy, dry skin and a rash that cycles through periods of exacerbation and remission. Prevalence estimates range from 7% to 21% of the population in the United States. Approximately 60% of cases arise during the first year of life, and an additional 25% of cases develop between 1 and 5 years of age.[1-3]

The appearance of skin symptoms early in life marks the beginning of what many clinicians and scientists describe as the "atopic march." At least half of all children with atopic dermatitis develop asthma or allergic rhinitis later in life, suggesting an ongoing atopic process.[4]

Atopic dermatitis has no cure, but the condition can be controlled with carefully designed therapeutic strategies that encompass induction, flare control, and maintenance therapy. Topical steroids have long formed the basis of treatment for atopic dermatitis. Other therapies include antibiotics, antihistamines, and topical calcineurin inhibitors. Emollients, barrier compounds, and careful attention to hygiene and environmental control also figure prominently in strategies designed to control atopic dermatitis.

The most recent addition to the therapeutic armamentarium for atopic dermatitis is the formulation of the low-potency (class VI) steroid desonide in a proprietary hydrogel formulation that is approved for use in patients as young as 3 months. Clinical studies have demonstrated safety and efficacy, including a low risk of hypothalamic-pituitary-adrenal axis suppression.

In this supplement, a group of specialists in pediatric and adult dermatology discuss the current clinical state of atopic dermatitis, review relevant data, and offer their informed opinion about effective strategies to manage atopic dermatitis. The discussion was chaired by Lawrence F. Eichenfield, MD, of the University of California, San Diego. He was joined by Robert G. Greenberg, MD, who practices in San Ramon, California, Leon H. Kircik, MD, of Indiana University Medical Center, Louisville, Kentucky, Amy S. Paller, MD, of Northwestern University Feinberg School of Medicine in Chicago, Illinois, and Rebecca L. Smith, MD, of Fort Mill Dermatology in Fort Mill, South Carolina.

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Epidemiology and Pathogenesis

Dr Eichenfield: Atopic dermatitis is a complex disease that involves both immune dysfunction and barrier dysfunction. The disease can manifest with inflammation, dry skin, and pruritus. Secondary colonization with *Staphylococcus aureus* may also contribute to the pathogenesis. The condition affects a substantial proportion of the population, and many cases continue into adulthood.

Dr Kircik: The prevalence of atopic dermatitis is increasing worldwide,[1] affecting 3% of the population, or about 15 million patients in the United States.[2] The condition affects between 5% and 20% of all children.[1] A majority of diagnoses occur during the first year of life, and as many as 90% of diagnoses occur before age 5.[3,4] In contrast to the perception that individuals "outgrow" atopic dermatitis, 40% of cases persist into adulthood (See **Table 1**).[3]

Dr Smith: With respect to etiology and pathogenesis, atopic dermatitis has a clear association with genetic predisposition, as about three fourths of patients have a family history of atopic dermatitis, eczema, asthma, or allergic rhinitis.[3] Environmental factors, including pathogens, allergens, and irritants, play a role. Other contributing factors include inflammation, skin barrier dysfunction, and microbial colonization and infection.[5,6]

Dr Eichenfield: Because atopic dermatitis is a chronic disease, there is a need for ongoing, long-term therapy that usually involves a combination of prescription and nonprescription agents. Given the multifactorial etiology and pathogenesis of the condition, a multifaceted approach to treatment is required.

Treatment Goals and Approaches

Dr Kircik: Treatment encompasses several key goals, including restoration of the barrier function and healing of the skin barrier, reduction in itching and associated inflammation, and prevention of flares and maintenance of long-term remission. Of these goals, the importance of reducing itching cannot be overestimated. Itching is the driving force in atopic dermatitis.

Dr Paller: Itching, discomfort, and sleep disturbance constitute the major complaints for many patients and parents. Cosleeping is a tremendous problem in atopic dermatitis. A recent study by Chamlin et al showed that 30% of parents of children with atopic dermatitis reported cosleeping, and two thirds of the parents described cosleeping as bothersome.[7] Nocturnal scratching and sleep disturbance can lead to disruptive behavior at school and the misperception that a child is hyperactive.

Dr Smith: Treatment comprises three basic strategies: (1) induction of flare

TABLE 1. Atopic Dermatitis Prevalence[1-4]

- Increasing prevalence worldwide
  - 5,265 cases per 100,000 individuals
  - 15.2 million (3%) of the 2004 US population
- Almost 75% of those affected have a family history that includes asthma, allergic rhinitis, and eczema
- Affects between 5% and 20% of all children
  - Most cases appear in the child's first year
  - 40% continue to experience atopic problems as adults

remission, typically involving use of topical steroids; (2) reduction in the number and frequency of flares; and (3) long-term maintenance with other topical agents such as skin barrier repair creams and topical calcineurin inhibitors. Ongoing proper skin care is an important adjunct to pharmacologic management of atopic dermatitis. Proper skin care includes use of gentle cleansers and moisturizers.

Dr Eichenfield: Physicians must emphasize the principles of proper bathing and use of moisturizers, which are key components of the core therapy for atopic dermatitis. Gutman et al described a simple but effective adjunctive strategy for managing inflammatory and pruritic skin conditions, including atopic dermatitis.[8] The study involved patients with various types of chronic, refractory pruritic eruptions. The strategy consisted of hydration in plain bath water before bedtime, followed by application of a mid- or high-potency topical steroid to the wet skin. The intervention led to complete clearing or dramatic improvement and was well accepted by patients.

Dr Kircik: Patient and parent education influences adherence to the principles of good skin care. Education should emphasize the importance of bathing, use of emollients and moisturizers, and avoidance of allergens and triggers of atopic dermatitis flares. Education has a role in the implementation of all treatment strategies and is a key to the success of clinical management.

Dr Paller: Taking the time to educate and to listen to patients and families makes a significant difference in the ability to manage atopic dermatitis, particularly moderate to severe disease. As with treatment regimens, education must be individualized to meet both the clinical needs and the personal circumstances of patients and families.

Core Therapy

Dr Eichenfield: The core treatment of atopic dermatitis includes regular and appropriate use of emollients, which serve multiple purposes.[9,10] Emollients occlude the skin surface and increase hydration of the stratum corneum. They also have anti-inflammatory and antipruritic effects. Emollients promote barrier healing, and they may decrease the need for prescription topical therapies.

Dr Greenberg: Nonprescription and non-medicated products have a major role in the overall management of atopic dermatitis. Physicians cannot overemphasize to patients and parents the value of regular use of these products to the control of the condition.

Dr Kircik: Many patients derive benefit from oral antihistamines. Specifically, sedating oral antihistamines at bedtime can help minimize itching and the resulting sleep disturbance.

Dr Eichenfield: Topical corticosteroids form the basis of therapy for atopic dermatitis. Physicians can choose among a multitude of formulations and vehicles. What factors should clinicians consider when choosing a topical corticosteroid?

Dr Smith: Several factors figure into the decision-making process, including flare severity, the location and size of body surface area that requires treatment, and patient age. Characteristics of the steroid vehicle also have to be considered. If a product causes stinging and burning, parents are much less likely to use it on their children.

Dr Paller: Topical steroids are the mainstay of treatment, particularly for nonfacial areas. Without question, the face is one of the most sensitive areas to treat, and use of halogenated steroids on the face provides some reason for concern. Nonhalogenated steroids are preferable for treating the face. Additionally, nonsteroidal alternatives, such as topical calcineurin inhibitors, offer another option for treating the face. In my own practice, topical steroids, even medium-strength preparations, have rarely caused problems when applied to nonfacial areas.

Dr Eichenfield: What is the current role of topical calcineurin inhibitors in the treatment of atopic dermatitis?

Dr Greenberg: They have a steroid-sparing role in maintenance therapy for patients older than 2 years. Because of the recent US Food and Drug Administration-mandated black-box warning for these agents, calcineurin inhibitors should be avoided in patients younger than 2 years. In my opinion, even in older patients, calcineurin inhibitors' role should be considered no more than a component of short-term maintenance therapy.

Dr Smith: For difficult-to-control atopic dermatitis, calcineurin inhibitors still have a role in treating patients younger than 2 years. As a steroid-sparing therapy, calcineurin inhibitors also can be considered for step-down therapy before initiating use of a skin barrier–repair cream.

Dr Paller: In more than 10 years of use, I have yet to see any side effects from topical calcineurin inhibitors, other than occasional local irritation. More long-term follow-up is needed, but at this point, I think a black-box warning for this class of compounds was unwarranted. Many patients who could benefit from this therapy now have difficulty obtaining it. Clinicians should keep in mind that no evidence of an association with cancer in humans has been reported to date.

Microbial Colonization and Infection

Dr Eichenfield: Atopic dermatitis has a strong association with microbial colonization and overt infection, primarily with *Staphylococcus aureus*. How does antimicrobial therapy fit into treatment strategies?

Dr Paller: Infection is a driving force in atopic dermatitis. A significant percentage of my pediatric patients have their flares triggered by organisms. Most patients with atopic dermatitis are colonized by *S. aureus*, but *Streptococcus* is starting to emerge as a problem, as well. *S. aureus* elaborates toxins that tend to stimulate T-cell activation and probably contribute to the dermatitis itself.

Dr Greenberg: Initial therapy with oral antibiotics also is helpful, regardless of whether the patient has overt evidence of infection, such as pustules.

Dr Kircik: Physicians should be vigilant in the diagnosis and treatment of methicillin-resistant *S. aureus* (MRSA), which increasingly occurs as a secondary infection in children with atopic dermatitis.

Dr Smith: A dilute-bleach bath regimen can help with managing MRSA as an adjunct to antibiotic therapy. Pediatric patients should bathe in one half of a tub of water to which one eighth of a cup of bleach has been added. The patient should soak for about 5 minutes and then shower with a gentle cleanser prior to application of a topical corticosteroid or emollient.

Dr Eichenfield: The usual recommendation for adults is one fourth of a cup of bleach in a tub of water.

Adherence Issues

Dr Eichenfield: Any aspect of therapy for atopic dermatitis can be complicated by adherence issues. What are some of the principal concerns and recommendations regarding adherence?

Dr Greenberg: Persuading patients and parents to take an active role in the care of atopic dermatitis is one of the most challenging and one of the most difficult aspects of clinical management. The difficulty involves multiple issues and potential obstacles, including characteristics of the products, the difficulty of the regimen, and individual family dynamics. Products that are difficult to use or that cause side effects, such as burning and stinging, will be met with patient and parent resistance. The most important factor is treatment effect. If patients or parents do not see a benefit from a product, they will be less likely to use the product regularly.

Dr Eichenfield: A major challenge to effective therapy is the need to develop regimens that families find manageable. The more complex a regimen is, the more difficult it is for patients and families to adhere to it.

Dr Paller: Individualization is essential because every family and every patient have likes and dislikes. Those factors must be taken into account, because poor compliance usually results from use of a treatment or regimen that the patient or family dislikes.

Dr Kircik: Physician attitudes can present additional obstacles to effective treatment. Many patients who are referred to me are being treated with very-low-potency topical steroids, such as 1% and 2.5% hydrocortisone. Steroid phobia remains a problem among physicians.

Earlier this year, Feldman et al reported some interesting findings from a study of adherence to topical therapies.[11] The study involved the use of electronic monitors to assess patient adherence to a topical therapy that was to be applied twice daily. The results showed that patients are significantly more likely to be adherent near the time of office visits. The authors concluded that a follow-up clinic visit soon after initiating treatment might improve patient adherence and lead to better clinical outcomes.

Dr Eichenfield: An issue that relates directly to adherence is the sequence in which topical agents are applied. Many specialists recommend the application of a topical steroid or other topical medication before the application of moisturizers. The rationale is to promote penetration into the skin to minimize dilution of the medication by the moisturizers.

Dr Greenberg: One goal of using a barrier cream is to try to reduce steroid use; therefore, I typically recommend applying the different classes of products at various times during the day. For example, I might recommend that a patient apply the steroid in the morning, the barrier cream at night, and an emollient in the morning and at night.

Persuading patients and parents to take an active role in the care of atopic dermatitis is one of the most challenging and one of the most difficult aspects of clinical management.

Dr Eichenfield: What role do systemic steroids have in the management of atopic dermatitis?

Dr Smith: Most physicians try to avoid the use of systemic corticosteroids in pediatric patients with atopic dermatitis.

Dr Greenberg: In adults, systemic corticosteroids cause problems because patients often want to take the medication because of its simplicity, as well as its efficacy. When they see how well systemic corticosteroids can work, they want to continue the therapy. That is not in patients' best interest.

Topical Steroids: Choices and Issues

Dr Eichenfield: Steroids are at the center of many adherence issues. One problem is the broad selection of available agents and formulations. Deciding which agent to use for a specific patient can be complicated. Have the products distinguished themselves in ways that can be useful in the clinical decision-making process?

Dr Kircik: One of the basic distinctions relates to the applicable patient population. A couple of topical steroid products are approved for use in patients as young as 3 months. Others are approved for use in patients as young as 1 year. Some have approval for use in patients 2 years or older. An issue of particular relevance to pediatric patients is the evaluation of products for hypothalamic-pituitary-adrenal (HPA)-axis suppression.

HPA-Axis Suppression

Dr Kircik: Some products have good data on HPA-axis suppression, and others do not. Mometasone cream, for example, has been tested, and both the initial and the repeat tests were positive for HPA-axis suppression. It is approved for use in patients 2 years or older. The ointment formulation also is approved for patients 2 years or older but also produced HPA-axis suppression. Mometasone lotion has approval for use in patients 12 years or older.

Alclometasone cream and ointment are approved for patients 1 year or older, but they also have tested positive for HPA-axis suppression. Prednicarbate cream has approval for patients as young 1 year and caused no HPA-axis suppression in clinical studies. Prednicarbate ointment is approved for use in older children.

Fluticasone cream, which has tested positive for HPA-axis suppression, can be used in children as young as 3 months, but the ointment formulation has no indication for use in pediatric patients. Fluticasone lotion is approved for patients as young as 1 year, and studies have demonstrated no HPA-axis suppression. All formulations of hydrocortisone butyrate have demonstrated HPA-axis suppression and are not approved for use in children.

Desonide gel and desonide foam are both approved for use in patients as young as 3 months. The gel formulation resulted in HPA-axis suppression in one of 37 patients tested, but that one patient was complicated by some technical issues, such as venipuncture problems. Desonide foam also caused HPA-axis suppression but not on repeat testing.

Dr Eichenfield: The HPA-axis data for desonide hydrogel came from a study involving 40 children aged 3 months to 6 years.[12] The patients had a substantial body surface area involved: 58% in younger patients (3 months to 3 years) and 44% in the older group. As you noted, Dr Kircik, one patient in the older-age group was judged to have HPA-axis suppression, even though the patient did not receive the

TABLE 2. Hydrogel Technology: New Trend in Gel Delivery

- Aqueous-based
  - No alcohol
  - No fragrances
  - No surfactants
- Moisturizing formulation
- Well tolerated with minimal irritation

Reference:

Trookman NS et al. Poster presented at: 65th Annual Meeting of the American Academy of Dermatology; February 2-6, 2007; Washington, DC. Poster 730

full dose of cosyntropin and the post-stimulation blood draw was later than stipulated in the protocol. Desonide hydrogel was well tolerated and without treatment-related adverse events. The results showed that when used appropriately, even on a large body surface area, topical absorption is inadequate to affect a child's normal ability to produce cortisol.

Dr Greenberg: HPA-axis suppression studies have involved only branded products, not generics. Are there any concerns that generic agents in different vehicles could give different results? Would HPA-axis effects be different if they were repeated with generic products?

Dr Eichenfield: No database exists to permit comparisons of branded and generic products. Manufacturers of topical generic products are not required to provide data on equivalence.

Dr Kircik: We do know that if the same steroid is formulated with different vehicles—such as a spray and an ointment and a gel and a foam—the results can differ. In all likelihood, the HPA-axis suppression results also will differ.

A New Steroid Option

Dr Eichenfield: The most recent addition to the options for topical therapy is desonide hydrogel. How does this product compare with or differ from other topical steroid therapies?

Dr Smith: The medication is formulated with a proprietary hydrogel that differs greatly from other vehicles used with topical therapies for atopic dermatitis. The gel contains no alcohol, fragrances, or surfactants, and patients report that it has a cooling, soothing effect (see **Table 2**). Compliance with the product is very good, and it is a good option for use on the face. The gel spreads very easily, so a small amount can cover a larger area. I have been impressed with the tolerability. I have personally applied it to open, excoriated wounds on young infants in my office, and they did not cry.

Dr Kircik: The hydrogel formulation represents a major development in topical therapy. The key ingredient in the gel is Carbopol 981, which does not cause drying or stinging, unlike other topical steroid formulations containing alcohol. The gel contains a minimal amount of propylene glycol, so sensitization does not occur. The remaining ingredients include glycerin, which is an emollient, and a humectant, which draws water to the top layer of the epidermis. The hydrogel vehicle has been shown to decrease transepidermal water loss, a measurement of skin barrier function, and improve hydration, even with the addition of the steroid.

Dr Eichenfield: Clinical trials, as well as clinical experience, have demonstrated good efficacy with the drug as compared with vehicle. As Dr Kircik stated, this product is approved for use in patients as young as 3 months. Pediatric dermatologists welcomed the approval of desonide hydrogel because so few medications for atopic dermatitis are indicated for infants, even though atopic dermatitis is common in that age group.

Dr Kircik: The product has a quick onset of efficacy that is apparent at week 2. That helps with compliance. If patients or parents see that a treatment is working, they will be more compliant and more likely to continue to use the medication appropriately.

Dr Eichenfield: Desonide hydrogel was compared with hydrogel vehicle in two phase III clinical trials involving almost 600 pediatric patients with atopic dermatitis.[13] The patients' age ranged from 3 months to 18 years, and 30% were younger than 3 years. The primary efficacy endpoint was improvement in the Investigator's Global Severity Score at week 4. The results demonstrated statistically significant ($P<0.05$) improvement in the primary endpoint and in all secondary endpoints (see **Table 3**). As Dr Kircik noted, marked improvement in redness, induration, and oozing and crusting was evident within 2 weeks, and the total affected body surface area decreased substantially.

Dr Kircik: I was particularly impressed by the improvement in pruritus, which is one of the most troublesome symptoms for patients. Pruritus had declined significantly by week 2, reflecting an early onset of action.

Dr Greenberg: I think pruritus was the most important indicator of disease activity. With this type of reduction at week 2, the therapy's activity was evident.

Dr Eichenfield: About 75% to 80% of patients reported moderate to severe pruritus at the beginning of the study, decreasing to 8% to 13% by the end. This represents marked improvement in a parameter that is crucial for adequate disease control.

Dr Kircik: Results with topical desonide compare favorably with those of low-dose topical hydrocortisone. Jorizzo et al reported one of the first direct comparisons, and those data are still relevant today.[14] Desonide ointment was compared with 1% hydrocortisone ointment in 113 pediatric patients (mean age, 4.8 years) with atopic dermatitis. The results showed superior efficacy for desonide at week 5 and at the end of a 20-week extension phase (see **Figure**). The desonide molecule showed greater efficacy, produced more rapid improvement, and demonstrated an equivalent cutaneous safety profile when compared with 1% hydrocortisone for up to 6 months. No differences in safety were observed between hydrocortisone and desonide.

Dr Eichenfield: Most experts believe that there is no discernable efficacy difference with 2.5% hydrocortisone ointment or cream versus 1%. I think data and clinical

TABLE 3. Summary of the Combined Treatment Success Rates*[13]

	Desonide Hydrogel (n=425)		Hydrogel Vehicle (n=157)	
	Week 2	Week 4	Week 2	Week 4
Success	80 (19%)	166 (39%)	4 (3%)	17 (11%)

*Defined as an IGSS of 0 or 1 at week 4 and at least a 2-point change in IGSS from baseline, last observation carried forward was implemented prior to dichotomization.

IGSS = Investigator's Global Severity Score

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experience shows that desonide is a highly effective agent that is clearly a step up in efficacy from hydrocortisone 1% or 2.5%. This is one of the reasons that desonide has been a relatively favored molecule amongst dermatologists for many years and in particularly newer formulations, allows it to be used in safe and effective regimens.

A study reported earlier this year at the American Academy of Dermatology annual meeting examined the effects of desonide hydrogel on the stratum corneum.[15] The results demonstrated a statistically significant increase in the moisture content in the skin and a rapid, marked, and persistent decrease in transepidermal water loss.

Dr Kircik: As mentioned previously, extrapolating results with branded products to generic formulations can be problematic. An indirect example of those problems was seen when desonide hydrogel was compared with desonide lotion. The hydrogel formulation caused little or no irritation—stinging and burning—whereas the lotion was moderately irri-tating and caused more stinging and burning (see **Table 4**).[16]

Dr Greenberg: In my experience desonide in the hydrogel vehicle promotes excellent compliance because patients are not bothered by burning and stinging.

Incorporating New Therapy Into Practice

Dr Eichenfield: How does desonide hydrogel fit into your clinical practice?

Dr Greenberg: Obviously, the safety data provide a greater comfort level for using the product over large areas of the body. Many of our patients with atopic dermatitis have significant disease, and we have to use a fairly large quantity of medicine over time in young patients. If we can do this without concern for HPA-axis suppression, we will be comfortable prescribing the medication for longer-term use. In very small children, 60 grams of desonide hydrogel would be adequate, and in older children, 120 grams would be a good choice of treatment.

Dr Kircik: The location of the affected area is another consideration. Desonide hydrogel provides reassurance that it can be used freely for treating areas such as the face and groin.

Dr Eichenfield: When a product is described as better than hydrocortisone, some physicians may interpret that as meaning the product is more dangerous.

TABLE 4. Summary of Cumulative Irritation[16]

Test Article	Cumulative Skin Evaluation Score vs Theoretical Maximum	Classification	Burning (n=213)	Stinging (n=213)
Hydrogel vehicle	454/7928	No significant irritation	4	0
Desonide hydrogel 0.05%	602/7928	No significant irritation	1	2
Desonide lotion 0.05%	4424/7928	Moderately irritating	19	5
Sodium lauryl sulfate 0.3%	3061/7928	Slightly irritating	10	7

The cumulative irritation score for each test article was obtained by summing subjects' scores from all irritation/induction-phase evaluation days.

In fact, desonide hydrogel appears to be very safe, as it is approved for use on all body surfaces.

Dr Greenberg: Unlike most older drugs, desonide hydrogel can be used as first-line and as maintenance therapy. The medication can be used initially to control a flare and then as part of a long-term maintenance program, which may make this a unique molecule among topical therapies for atopic dermatitis.

Dr Kircik: Currently, desonide hydrogel is indicated for continuous use for a maximum of 4 weeks.

Dr Eichenfield: There is a paucity of data on long-term safety and efficacy for topical steroids, and there are no approved indications for long-term use for any of the medications for atopic dermatitis. Physicians have to translate short-term safety and efficacy data into safe maintenance regimens. I think the data are reassuring that patients can use 140 grams of desonide hydrogel over a 4-week period.

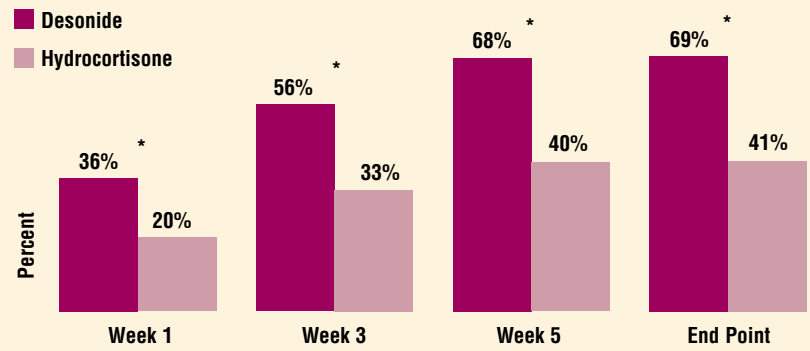
Dr Kircik: Barrier creams and topical immunomodulators figure prominently in long-term maintenance regimens. Those are steroid-sparing agents. One approach would be to put a patient on desonide hydrogel for 4 weeks, then off 4 weeks, then on again for 4 weeks.

Dr Greenberg: We really haven't defined the next step that comes after four continuous weeks of therapy. I think use as needed is a reasonable approach. Of course, the adult population will be managed differently from the pediatric population because absorption differs. There is considerable opportunity for using this drug in adult patients with atopic dermatitis.

Dr Eichenfield: The hydrogel formulation leaves very little residue on the skin. Is that advantageous?

Dr Smith: Absolutely, particularly for patients with facial involvement. This medication does not stain clothing, making it an attractive option for treating intertriginous areas.

FIGURE. Percentage of Patients With Clearing or Marked Improvement[14]



*Chi-square test, $P<0.05$.
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Dr Greenberg: Another advantage of this product is that it can be used on a variety of areas. Many other products are difficult to use on areas such as the scalp, and physicians end up having to use multiple medications. With desonide hydrogel, one product can be used on multiple areas.

Dr Eichenfield: For patients who have severe atopic dermatitis that involves a large body surface area, I tend to use mid-potency topical steroids or topical immunomodulators. However, some patients cannot tolerate the stinging and burning caused by many topical corticosteroids. Desonide is a reasonable alternative for those patients, because it is usually well tolerated.

Dr Kircik: For some adults with involvement of a large body surface area, desonide hydrogel can still be problematic. Even though formulation is a major improvement, a patient still has to smear the product on in the morning, put clothes on, go to work, come back at night, and take clothes off. I often treat those types of patients with phototherapy because it's easier for them. Even though the patients have to come to the office, they do not have to deal with applying medication all over their body two or three times a day.

Dr Eichenfield: What is the relationship between atopic dermatitis and contact dermatitis?

Dr Kircik: Many children with atopic dermatitis are prone to contact dermatitis. If the contact dermatitis can be prevented by use of an appropriate vehicle, the parents will be very happy. One of the most common causes of contact allergy is propylene glycol. Desonide hydrogel has only a 7% concentration, whereas most other topical steroids contain 20% to 30%. That is an especially important consideration in not using generics that may contain large amounts of propylene glycol. A vehicle with only 7% propylene glycol is very inert. When used in concentrations under 10%, it acts as a humectant, drawing water into the skin.

Summary Comments and Observations

Dr Eichenfield: As we bring the discussion to a close, do you have any final comments or observations?

Dr Greenberg: A safe and effective therapy that can be used on all parts of the body and in all age groups is a wonderful therapeutic option for physicians and their patients.

Dr Kircik: The vehicle matters. Desonide hydrogel offers the combination of a safe, well-known topical steroid and a new formulation that is safe for pediatric patients.

Dr Smith: Tolerability and patient/parent preference are clearly advantageous. The vehicle base is hydrating, so in effect this is two products in one; it is both a moisturizer and a medication.

Many of our patients with atopic dermatitis have significant disease, and we have to use a fairly large quantity of medicine over time in young patients. If we can do this without concern for HPA-axis suppression, we will be comfortable prescribing the medication for longer-term use.

Dr Paller: There is clearly a role for agents such as desonide hydrogel. Even in children who are covered with open, excoriated areas, the product causes minimal stinging. I have gotten great satisfaction from being able to use desonide hydrogel in two circumstances. One is the circumstance wherein patients or parents are not putting on any type of treatment in the morning because they don't like ointments. Getting an additional daily application of a therapy that pleases patients has been very helpful. The other situation relates to the fact that it rarely stings. I only occasionally have had pediatric patients who could not tolerate it. Nothing is a panacea, but I certainly think that desonide hydrogel is probably the first of many nongreasy, cosmetically acceptable agents to come. Desonide also is available in a foam-based emollient that disappears into the skin.

Dr Eichenfield: It is always good to have new products that have excellent safety profiles so they can be incorporated readily into treatment regimens for such an incredibly prevalent disease that has such a major impact on individuals and families.

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