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ARTS, HUMANITIES AND CONTEMPORARY SOCIAL ISSUES IN PEDIATRIC DERMATOLOGY

Atopic dermatitis made easy: The Schachner Ladder

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Abstract

The vast majority of atopic dermatitis follows a mild, chronic relapsing course. In this article, we highlight the art and practice of treating atopic dermatitis based upon a foundation of maintenance care and a ladder of therapy that can teach patients and their families how to best tailor their pharmaceutical options to optimize the management of their disease.

KEYWORDS
atopic dermatitis, corticosteroid - topical, eczema, therapy - topical

1 | DISCUSSION

Atopic dermatitis is a chronic, relapsing skin disease that presents with clinical features of pruritus, inflammation, and xerosis. The lesions present in a characteristic distribution aligned with the age of the patient, and it often coincides with a family history of atopy, asthma, and allergic rhinitis. Most patients present before 6 months of age, and the typical course follows a mild pathway of disease.

Simple preventative measures, such as daily topical emollients beginning at birth, can decrease the incidence of atopic dermatitis at 6 months by upwards of 50%.[1] In addition, recent developments have further enhanced therapeutic options for atopic dermatitis. Dupilumab, a novel biologic agent that works through IL-4 receptor inhibition, has been approved for moderate-to-severe atopic dermatitis, and crisaborole, a unique topical phosphodiesterase 4 inhibitor, has been approved for mild-to-moderate atopic dermatitis.[1-3] However, as fortunate as we are to have these additional medications, a solid foundation of care for the patient must still be implemented. Basic sensitive skin care and a consistent topical regimen lay the framework for treatment. Treatment escalation or deescalation can be tailored as needed based upon the patient's presentation and individual needs.

Individualized care based on severity is essential for atopic dermatitis as physicians must find a balance between providing enough therapy that targets the inflammation while also balancing the side effects of the potential medications. Several action plans for atopic dermatitis have been published; Boguniewicz et al recently published a comprehensive update on step-up therapy, also known as their "Atopic Dermatitis Yardstick," which describes methods to tailor therapy as needed based on patient severity.[4]

TABLE 1 The Schachner Ladder for (A) mild-to-moderate disease starting therapy, (B) moderate-to-severe disease starting therapy with the most potent corticosteroid and tapering down. Therapy is in addition to twice daily emollient use always.

(A)	Medication	Duration
If moderate	Triamcinolone (medium potency CS) + TCI or PDI	Twice daily for 3-5 d
If mild	Alclometasone (low potency CS) + TCI or PDI	Twice daily for 3-5 d
Controlled	TCI or PDI to areas of predilection	Twice daily for 2 wks
Maintenance	TCI or PDI to areas of predilection	Twice weekly
(B)		
If severe	Clobetasol (high potency CS) + TCI or PDI	Twice daily for 3-5 d
If moderate	Triamcinolone (medium potency CS) + TCI or PDI	Twice daily for 3-5 d
If mild	Alclometasone (low potency CS) + TCI or PDI	Twice daily for 3-5 d
Controlled	TCI or PDI to areas of predilection	Twice daily for 2 wks
Maintenance	TCI or PDI to areas of predilection	Twice weekly

Abbreviations: CS, Corticosteroid; PDI, Phosphodiesterase 4 inhibitor, TCI; Topical calcineurin inhibitor

Dr. Lawrence Schachner previously published on limiting the time of a medium potency topical corticosteroid therapy to a 3-day course in childhood atopic dermatitis; balance is key in these patients to reduce the overall amount of steroid needed.[5] The parents can also become engaged with this type of practice, learning to recognize the signs and flares of inflammatory skin disease and knowing when to increase use of certain medications. We share a technique coined the "Schachner Ladder" by the dermatology residents at the University of Miami Department of Dermatology and Cutaneous Surgery.

The Schachner Ladder is based upon the routine use of emollients and topical corticosteroids, starting with the most potent topical corticosteroid needed and tapering down every 3-5 days as tolerated by the patient. The basic algorithm is exhibited below and is further divided into treatment plans for mild-to-moderate disease and moderate-to-severe disease (Table 1A,B). The Schachner Ladder hinges on initiating the most potent topical corticosteroid twice daily for 3-5 days and then deescalating therapy to a mid-potency corticosteroid, followed by a low-potency corticosteroid, all while simultaneously incorporating maintenance measures. Similarly, patients and/or their parents then have the tools to go "back up the ladder" or escalate therapy as needed for flares. They learn that the more potent medication may be better for very red and inflamed skin, while another milder medication is better for pink or stable areas. Topical calcineurin inhibitors or topical phosphodiesterase-4 inhibitors can additionally be added to the ladder to help transition off corticosteroids in cases where topical emollients alone would not be sufficient. The family then learns how to treat the disease and can apply medications in a habitual fashion.

This regimen is discussed in length at the patient's first visit, taking less than 5 minutes to explain, and a printed handout with instructions is provided to the family (Figure S1). This initial patient encounter requires due diligence to educate the family about this ladder of care to provide them with the lifelong skills to address their condition. Adjunctive measures, such as antihistamines for pruritus, antibiotics for secondary impetiginization, and basic rules of skin care and bathing must also be assessed and discussed. The handout also contains this information, highlighting short baths, short nails, cotton clothing, a cool environment, and a hypoallergenic, fragrance-free detergent as the "basic rules" for atopic dermatitis patients. Bath care is expanded by detailing the instructions for taking a bleach bath if there is concern or history of *Staphylococcal* infections.

As discussed, the first visit divulges a significant amount of information, and a handout can provide a summary of care for the family to help with compliance. Nonadherence to therapy is a chief contributor to poor outcomes; studies have shown an adherence rate of approximately 40% for 5 day treatments and 30% for 8-week treatments for atopic dermatitis.[6-8] Therefore, we find a long-term comprehensive and flexible plan for the family and use subsequent visits to reiterate escalation therapy as needed, which benefits patients with chronic disease. This concept underscores the relapsing nature of the disease to help instill realistic parental expectations. We know that caring for a child with atopic dermatitis can have a profound impact on emotional, social, and financial perspectives of families, and we therefore share this algorithm to enhance the care of our atopic dermatitis patients.[9]

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SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

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