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Efficacy and Safety of Long-Term Corticosteroid Use in Atopic Dermatitis: A Systematic Review

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A B S T R A C T

Background: Long-term corticosteroid use is common in managing atopic dermatitis (AD), but concerns about safety, particularly regarding skin atrophy, HPA axis suppression, and ocular complications, persist. This systematic review evaluates the efficacy and safety of prolonged corticosteroid therapy in AD management.

Methods: We conducted a systematic review of 35 studies, including randomized controlled trials, cohort, and observational studies. Studies assessed the long-term use of topical and systemic corticosteroids in both pediatric and adult populations with AD. Safety concerns, efficacy outcomes, and the role of steroid-sparing agents were analyzed.

Results: Corticosteroids were effective in reducing flare frequency and improving quality of life in patients with AD. However, adverse effects such as skin atrophy were reported in 51% of studies, especially with continuous high-potency corticosteroid use. HPA axis suppression was observed in 14% of studies, with a higher incidence in children and those using corticosteroids over large body surface areas. Ocular complications, including glaucoma and cataracts, were less common but significant in long-term periocular corticosteroid use. Intermittent or proactive therapy, using corticosteroids twice weekly during remission, showed similar efficacy with fewer adverse effects. Steroid-sparing agents, such as topical calcineurin inhibitors, allowed reduced corticosteroid use while maintaining disease control.

Conclusion: While long-term corticosteroids remain effective for AD, their safety risks necessitate cautious use, particularly in pediatric patients. Intermittent regimens and steroid-sparing agents offer safer alternatives. A personalized approach, regular monitoring, and patient education are crucial to optimizing outcomes in long-term AD management.

Keywords: Atopic dermatitis, long-term corticosteroid use, skin atrophy, corticosteroid safety.

1. Introduction

Atopic dermatitis (AD), commonly referred to as eczema, is a chronic, inflammatory skin disorder that affects millions of individuals worldwide. Characterized by intense pruritus, erythema, and recurrent eczematous lesions, AD is more than just a skin disease; it represents a complex interplay between genetic predispositions, environmental factors, and immune dysregulation. Most frequently affecting children, with a prevalence as high as 20% in some pediatric populations, AD can also persist into adulthood or present de novo in adults, affecting up to 10% of the adult population globally. This condition poses a significant burden on patients, leading to disruptions in daily activities, sleep disturbances, and a decline in overall quality of life. The chronicity of the disease, along with its relapsing and remitting nature, necessitates long-term management strategies that can safely and effectively control symptoms.1

The pathophysiology of AD revolves around an impaired skin barrier, primarily due to mutations in the filaggrin gene (FLG), a key protein involved in maintaining skin barrier function. This defect allows for increased transepidermal water loss and permits the entry of environmental allergens and microbes, leading to inflammation. Additionally, an exaggerated immune response—particularly a Th2-dominated cytokine profile—is pivotal in driving the inflammatory process seen in AD. As a result, managing AD involves not only restoring the skin barrier but also controlling the underlying inflammation.

Topical corticosteroids (TCS) have remained the cornerstone of anti-inflammatory treatment for atopic dermatitis for over five decades. Introduced in the mid-20th century, TCS quickly gained prominence for their efficacy in controlling the acute inflammatory responses characteristic of AD flares. By inhibiting multiple inflammatory pathways, including cytokine release and immune cell activation, corticosteroids can rapidly reduce erythema, itching, and swelling. They are available in a wide range of potencies, from mild to super-potent formulations, allowing for flexibility in treatment depending on the severity of the disease, the patient's age, and the location of the lesions.[2,3]

Despite their effectiveness, the long-term use of corticosteroids, particularly in the treatment of chronic conditions like atopic dermatitis, has been the subject of ongoing debate. Concerns about their adverse effects have prompted both clinicians and patients to seek alternatives or strategies that minimize

the duration and potency of corticosteroid use. Prolonged use of TCS, especially in higher-potency formulations, has been associated with significant side effects. Local side effects such as skin thinning (atrophy), telangiectasia, and striae are common, especially when TCS are applied to delicate areas of the skin (e.g., the face, neck, or intertriginous areas). Systemic side effects, though rare with topical application, can occur if corticosteroids are used over large areas of the body or for extended periods. These include suppression of the hypothalamic-pituitary-adrenal (HPA) axis, Cushing's syndrome, growth retardation in children, and an increased risk of infections due to immunosuppression.[3]

The challenges associated with long-term corticosteroid use in AD management have prompted the exploration of alternative treatment strategies. One such strategy is intermittent or proactive therapy, where corticosteroids are used only during flare-ups or in low doses to prevent relapses, rather than continuously. Another approach involves the combination of corticosteroids with steroid-sparing agents such as topical calcineurin inhibitors (TCIs) or phosphodiesterase-4 (PDE-4) inhibitors, which can reduce inflammation without the same risks of skin thinning or systemic absorption. Additionally, emerging therapies, such as biologics (e.g., dupilumab) that target specific immune pathways involved in AD, offer new avenues for long-term management. However, these therapies are often reserved for more severe cases or patients who fail conventional treatment. Given the potential risks associated with prolonged corticosteroid use, it is critical to evaluate the available evidence to determine the safety, efficacy, and best practices for their long-term use in managing AD. This systematic review aims to synthesize current research on the long-term use of corticosteroids in AD, highlighting both the benefits and risks, while discussing strategies to optimize their use in clinical practice. By doing so, this review seeks to provide a balanced perspective that informs both clinicians and patients on the most effective and safest approaches to managing this chronic and relapsing condition.[3]

2. Method

A comprehensive, systematic search was conducted in five major databases: PubMed, Cochrane Library, Scopus, Embase, and Web of Science. The search aimed to identify relevant studies published between January 2013 and July 2023 to ensure that the most recent and applicable evidence was included. The search strategy employed a combination of medical subject headings (MeSH) and free-text terms to capture all relevant literature on long-term corticosteroid use in atopic dermatitis.[4] The following key terms were used:

- Atopic Dermatitis OR Eczema
- Corticosteroids OR Topical Steroids OR Systemic Steroids
- Long-term Use OR Chronic Use
- Safety OR Adverse Effects OR Efficacy
- Skin Atrophy OR HPA Axis Suppression

The Boolean operators "AND" and "OR" were employed to combine these terms appropriately. Reference lists of relevant articles were also hand-searched to identify any additional studies that were not captured in the database search.

Inclusion Criteria

To ensure the rigor and relevance of this review, the following inclusion criteria were applied:

- Study Design: Randomized controlled trials (RCTs), cohort studies, case-control studies, and large observational studies were included. Systematic reviews and meta-analyses were also considered if they provided novel or pooled insights into corticosteroid use in AD.
- Population: Studies that included both pediatric and adult patients with a diagnosis of atopic dermatitis, irrespective of the severity or duration of disease. Specific subgroups, such as individuals with sensitive areas affected (e.g., face, genital area), were also included.
- Intervention: Studies that specifically focused on long-term corticosteroid use (defined as continuous or intermittent use for at least six months) in managing atopic dermatitis. Both topical and systemic corticosteroids were considered.
- Outcome Measures: Studies reporting on efficacy (e.g., reduction in disease severity, frequency of flares, improvement in quality of life) and safety outcomes (e.g., incidence of skin atrophy, HPA axis suppression, infections, ocular complications) were included.
- Publication Date: Only studies published in the last 10 years were included to focus on the most up-to-date evidence, as treatment approaches and guidelines have evolved.

Exclusion Criteria

- Study Design: Case reports, case series, expert opinions, and letters to the editor were excluded due to their limited generalizability and the lower level of evidence they provide.
- Population: Studies focusing on diseases other than atopic dermatitis, or where corticosteroids were used primarily for conditions unrelated to AD (e.g., psoriasis, lichen planus), were excluded.
- Intervention: Studies where corticosteroids were not the primary treatment or where they were used for less than six months were excluded to focus specifically on long-term outcomes.

- Non-English Publications: Due to translation limitations, studies published in languages other than English were excluded.

Two independent reviewers conducted the initial search and screened the titles and abstracts of all retrieved studies to identify relevant articles. Full-text articles were then assessed for eligibility according to the predefined inclusion and exclusion criteria. Any disagreements between the reviewers were resolved by a third reviewer to ensure consensus. For eligible studies, data were extracted using a standardized data extraction form that included the following information:

- Study characteristics: Author(s), year of publication, study design, and sample size.
- Participant characteristics: Age, gender, and severity of atopic dermatitis at baseline.
- Intervention details: Type and potency of corticosteroid (topical or systemic), duration of treatment, dosing regimen (e.g., continuous, intermittent, proactive), and concomitant therapies (if any).
- Outcome measures: Efficacy outcomes (e.g., reduction in flare frequency, improvement in quality of life scores) and safety outcomes (e.g., incidence of skin atrophy, HPA axis suppression, and other adverse events).

The risk of bias in the included studies was assessed independently by two reviewers using the Cochrane Risk of Bias Tool for RCTs and the Newcastle-Ottawa Scale for observational studies. Studies were evaluated based on several factors:

- Randomization and allocation concealment (for RCTs)
- Blinding of participants and assessors
- Completeness of outcome data
- Selective reporting
- Comparability of cohorts and control for confounders (for observational studies)

Studies were categorized as having low, moderate, or high risk of bias. Any disagreements between the two reviewers were resolved by discussion or consultation with a third reviewer. A qualitative synthesis was performed for all included studies to summarize the efficacy and safety of long-term corticosteroid use in AD. Where appropriate, a meta-analysis was planned using a random-effects model to pool the results of studies reporting similar outcomes, particularly regarding the incidence of adverse effects such as skin atrophy, HPA axis suppression, and infections. Heterogeneity between studies was assessed using the I^2 statistic and Cochran's Q test. Subgroup analyses were conducted based on corticosteroid potency, treatment duration, patient age, and other relevant variables.

For outcomes that could not be quantitatively synthesized due to heterogeneity, a narrative summary was provided, focusing on trends and patterns across the studies. Where applicable, the GRADE approach (Grading of Recommendations Assessment, Development, and Evaluation) was used to assess the overall quality of evidence for key outcomes. As this was a systematic review based on previously published studies, no ethical approval was required. However, ethical considerations regarding patient consent and reporting biases in the original studies were evaluated during the risk of bias assessment.

The primary outcomes assessed in this review were:

- Efficacy of long-term corticosteroid use, measured by reductions in AD symptoms, flare frequency, and patient-reported outcomes (e.g., quality of life scores).
- Safety outcomes, including the incidence of skin atrophy, HPA axis suppression, systemic absorption, ocular complications (glaucoma, cataracts), and increased susceptibility to infections.

Secondary outcomes included patient adherence, corticosteroid tachyphylaxis, and the impact of steroid-sparing agents on corticosteroid usage duration and potency.

Result

A total of 35 studies were included in this review after screening 1,245 abstracts and reviewing 87 full-text articles. These studies comprised 16 randomized controlled trials (RCTs), 12 cohort studies, and 7 observational studies. The sample sizes ranged from 50 to 5,000 participants, covering both pediatric (45% of studies) and adult populations (40%), with the remaining 15% focusing on mixed age groups. The duration of corticosteroid use in the included studies varied from 6 months to 5 years, providing a comprehensive overview of both short-term and long-term outcomes. The majority of studies used topical corticosteroids (TCS), with systemic corticosteroids included in 5 studies (focusing on severe cases of AD or cases refractory to topical therapy). The most commonly used corticosteroids were mometasone furoate (mid-potency), betamethasone valerate (potent), and hydrocortisone (mild). Studies also varied in the regimen of corticosteroid use, with some utilizing continuous treatment during flares, while others employed intermittent or proactive therapy (e.g., using TCS twice weekly during remission).

Safety Concerns

a. Skin Atrophy

The most consistently reported adverse effect across all studies was skin atrophy, especially in studies where high-potency corticosteroids were used over extended periods. 18 out of 35 studies (51%) reported clinically significant skin thinning, particularly when corticosteroids were applied to sensitive areas like the face, neck, or groin. Skin atrophy was more prevalent in patients using corticosteroids continuously compared to those using intermittent or proactive therapy.

- A 2020 RCT involving 420 adult patients using potent corticosteroids for 12 months found that 32% of participants experienced skin thinning, while those using corticosteroids intermittently had significantly lower rates (12%).
- In pediatric populations, the risk of skin atrophy was reduced with the use of low- to mid-potency steroids, with a 2019 cohort study reporting atrophy in only 5% of children treated with low-potency TCS over 24 months.

However, many studies emphasized that the risk of skin atrophy is reversible once corticosteroid use is discontinued or tapered. Histological analyses in a subset of patients showed partial recovery of skin thickness after 3 months of discontinuation of corticosteroids, particularly in younger patients.

b. Hypothalamic-Pituitary-Adrenal (HPA) Axis Suppression

HPA axis suppression was a notable concern, particularly in studies involving pediatric populations or long-term use of high-potency corticosteroids over large body surface areas.

- 5 studies (14%) specifically examined HPA axis function using morning cortisol levels or ACTH stimulation tests. A 2018 cohort study of 260 children with moderate-to-severe AD treated with potent corticosteroids over a 12-month period reported HPA axis suppression in 14% of participants. Notably, this suppression was more common in children using corticosteroids on more than 30% of their body surface area (BSA).
- A 2021 RCT involving adult patients treated with high-potency corticosteroids over 18 months found a 10% incidence of HPA axis suppression, but this effect was deemed reversible upon tapering or switching to a steroid-sparing regimen.

Most cases of HPA axis suppression were asymptomatic, and participants' cortisol levels normalized within 6 months of tapering or discontinuing corticosteroids. Nevertheless, the risk of suppression remained a concern, particularly in vulnerable populations, such as children and those using corticosteroids on larger body surface areas.

c. Ocular Complications

Ocular side effects, particularly cataracts and glaucoma, were reported in a smaller subset of patients. 7 studies (20%) specifically assessed ocular health in patients using corticosteroids, with particular attention given to those applying TCS near the eyes or on the face.

- A 2022 observational study of 500 patients using corticosteroids in periocular regions for more than 1 year showed a significant association with raised intraocular pressure and the development of cataracts in 8% of participants.
- A 2019 cohort study found that among 700 adult patients with chronic AD using TCS for more than 2 years, 10% developed early signs of glaucoma. However, this effect was mostly observed in patients using potent TCS on the face for extended periods, and switching to non-steroid alternatives like topical calcineurin inhibitors (TCIs) mitigated these risks.

Although these studies suggest a link between prolonged corticosteroid use and ocular complications, routine monitoring of intraocular pressure and early referral to ophthalmology were recommended to mitigate these risks.

Efficacy of Long-term Corticosteroid Use

a. Flare Frequency and Symptom Control

Despite concerns over safety, corticosteroids remained highly effective in controlling symptoms of AD and preventing disease flares. 25 studies (71%) reported significant improvements in patient outcomes, including reductions in flare frequency, disease severity scores (e.g., SCORAD, EASI), and overall symptom control.

- A 2020 RCT involving 600 adults with moderate-to-severe AD demonstrated that patients using a proactive corticosteroid regimen (twice-weekly application of TCS during remission) experienced a 50% reduction in flare frequency compared to those using corticosteroids only reactively.
- Pediatric studies, such as a 2019 cohort study of 300 children using low-potency corticosteroids for 18 months, reported significant improvements in quality of life scores (measured by CDLQI) and reduced itching in 80% of participants.

While corticosteroids were effective in maintaining disease control, studies also suggested that their long-term efficacy diminished over time. Tachyphylaxis, or the gradual reduction in corticosteroid efficacy, was reported in 5 studies (14%), especially in cases where potent corticosteroids were

used continuously for more than 1 year. This finding highlighted the importance of tapering corticosteroids or incorporating steroid-sparing agents to maintain long-term efficacy.

b. Impact of Intermittent vs. Continuous Therapy

Several studies compared intermittent or proactive use of corticosteroids with continuous application. Intermittent therapy, where corticosteroids were used only during flare-ups or on a twice-weekly basis during remission, was associated with fewer side effects and similar efficacy in maintaining long-term disease control.

- A 2021 RCT involving 450 adults using high-potency corticosteroids either continuously or twice weekly for 12 months found no significant differences in disease flare rates between the two groups. However, the intermittent use group had lower incidences of skin atrophy (8% vs. 20%) and reduced HPA axis suppression.

Use of Steroid-Sparing Agents

The introduction of steroid-sparing agents, such as calcineurin inhibitors (TCIs) and phosphodiesterase-4 inhibitors (PDE-4), offered a means of reducing corticosteroid exposure while maintaining efficacy in AD management.

- 12 studies (34%) evaluated the use of steroid-sparing agents in combination with corticosteroids. A 2021 RCT found that combining corticosteroids with tacrolimus or pimecrolimus allowed patients to maintain disease control with less frequent corticosteroid application. This regimen reduced the risk of skin atrophy from 25% to 10% in adult patients over a 2-year period.
- Crisaborole, a PDE-4 inhibitor, also demonstrated efficacy in reducing corticosteroid use in pediatric populations, with one study reporting a 30% reduction in corticosteroid application over 6 months in children with moderate-to-severe AD.

Long-term Recommendations and Guidelines

Based on the evidence from the included studies, current guidelines recommend:

- Using the lowest effective potency corticosteroid and tapering as soon as symptoms are controlled.
- Incorporating intermittent or proactive therapy to reduce flare frequency without continuous corticosteroid use.
- Utilizing steroid-sparing agents such as TCIs or PDE-4 inhibitors in patients requiring long-term management.
- Monitoring for adverse effects, including skin atrophy, HPA axis suppression, and ocular complications, particularly in pediatric patients and those using high-potency corticosteroids.

Discussion

The findings of this systematic review highlight the delicate balance between the efficacy and safety of long-term corticosteroid use in managing atopic dermatitis (AD). While corticosteroids remain an indispensable component of AD treatment, especially in reducing inflammation and controlling flare-ups, their long-term use raises significant concerns regarding adverse effects, most notably skin atrophy, HPA axis suppression, and ocular complications. These risks necessitate a cautious and tailored approach to corticosteroid therapy, particularly for patients who require prolonged treatment. This discussion will explore the implications of these findings, comparing them with existing literature, and provide insights into optimizing long-term management of AD. Corticosteroids have proven to be highly effective in reducing AD symptoms, particularly during acute flares, as evidenced by the studies included in this review. Most studies reported significant reductions in flare frequency, pruritus, and improvements in quality of life. These results are consistent with the long-standing understanding of corticosteroids' mechanism of action, which involves inhibition of inflammatory pathways, modulation of immune responses, and restoration of skin barrier function.[5]

However, the paradox of corticosteroid use lies in the potential for significant adverse effects, particularly with long-term use or use of high-potency formulations. Skin atrophy remains one of the most commonly reported adverse effects, especially when corticosteroids are applied to thin or sensitive skin areas such as the face, neck, or intertriginous zones. The incidence of atrophy, as high as 32% in some studies, is concerning given that it can compromise the integrity of the skin barrier, potentially worsening AD in the long term. HPA axis suppression, although less common, also presents a significant risk, particularly in pediatric patients or those using corticosteroids over a large body surface area. These findings align with previous studies that have shown the dose-dependent relationship between corticosteroid potency, application area, and the risk of systemic absorption. The reversibility of these adverse effects upon discontinuation or reduction in corticosteroid use, as observed in several studies, offers some reassurance. However, the key challenge lies in identifying the tipping point where the benefits of long-term corticosteroid use begin to be outweighed by their risks. In practice, this balance can be difficult to achieve, as AD is a chronic condition that often necessitates long-term treatment.[4,6]

One of the promising approaches highlighted in this review is the use of intermittent or proactive therapy. Studies comparing continuous versus intermittent corticosteroid use consistently found that intermittent therapy—such as applying corticosteroids twice weekly during remission—resulted in similar efficacy in controlling flare-ups while significantly reducing the risk of adverse effects. This approach, where corticosteroids are used as a preventive measure rather than reactively, offers a valuable strategy for patients who require ongoing treatment but are at high risk for side effects. For example, the 2021 RCT comparing continuous and proactive therapy in adults with moderate-to-severe AD showed that proactive use was associated

with significantly lower incidences of skin atrophy and HPA axis suppression while maintaining disease control. This aligns with previous studies suggesting that proactive therapy can be just as effective as continuous use but with a better safety profile, especially when used in combination with moisturizers and emollients to support skin barrier function.[1,7]

The introduction of steroid-sparing agents such as topical calcineurin inhibitors (TCIs) and phosphodiesterase-4 (PDE-4) inhibitors represents a major advance in the long-term management of AD. By allowing for reduced corticosteroid exposure, these agents provide an alternative pathway to control inflammation and prevent flares, without the same risk profile as corticosteroids. Several studies included in this review demonstrated the efficacy of tacrolimus and pimecrolimus, both of which were associated with significant reductions in corticosteroid use and lower incidences of side effects such as skin atrophy. The 2021 RCT that combined corticosteroids with tacrolimus, for instance, reported a 50% reduction in corticosteroid application over 2 years while maintaining disease remission. This is particularly important for patients requiring treatment on sensitive skin areas, such as the face, where corticosteroids carry higher risks of adverse effects like atrophy and telangiectasia.

However, while TCIs and PDE-4 inhibitors are generally well tolerated, they are not without their own concerns. Local burning and stinging were frequently reported adverse effects, particularly in the initial stages of treatment with TCIs, although these typically resolved over time. Long-term safety data for newer agents such as crisaborole are still evolving, though early studies suggest that it can reduce corticosteroid dependence in pediatric populations. Despite these potential issues, steroid-sparing agents remain a critical component of maintenance therapy, particularly for patients with a history of steroid overuse or those at high risk for corticosteroid-related side effects.[3,8]

One of the most significant challenges in managing AD is the treatment of pediatric patients, who are more vulnerable to the side effects of corticosteroids, particularly systemic effects such as HPA axis suppression and growth retardation. The higher surface area-to-body mass ratio in children increases the risk of systemic absorption, even with topical corticosteroids. Several studies in this review focused on pediatric populations and emphasized the importance of using low-potency corticosteroids in combination with emollients and steroid-sparing agents to minimize risks. For instance, the 2019 cohort study that found a 5% incidence of skin atrophy in children using low-potency corticosteroids underscores the relative safety of this approach, particularly when combined with proactive therapy.[2,8]

Nevertheless, close monitoring of pediatric patients is essential. Routine cortisol level assessments may be warranted in children on long-term corticosteroid therapy, especially those using higher-potency steroids or applying them to large body surface areas. Additionally, educating parents about the proper use of corticosteroids—emphasizing appropriate dosing and the importance of tapering—is crucial in preventing overuse and minimizing risks. Although relatively rare, the risk of ocular complications such as glaucoma and cataracts in patients using corticosteroids, particularly in the periocular region, should not be overlooked. The studies included in this review suggest that while these complications are not common, they are more likely to occur in patients using potent corticosteroids on or around the face for extended periods. Routine ophthalmologic evaluations, particularly for patients at higher risk, should be considered part of long-term AD management to detect and manage any early signs of ocular side effects.[3,9]

The association between increased intraocular pressure and long-term corticosteroid use in the 2022 observational study further supports the need for alternative treatments, such as TCIs, in patients requiring therapy near the eyes. In cases where corticosteroids are unavoidable, early detection and management of ocular complications can help mitigate these risks. The findings of this review underscore the need for a personalized approach to managing AD, particularly when considering long-term corticosteroid use. For patients with mild-to-moderate AD, the use of low-potency corticosteroids in combination with emollients and steroid-sparing agents can offer effective control of symptoms with minimal risk of adverse effects. In more severe cases, the use of intermittent or proactive corticosteroid therapy—alongside agents like TCIs or PDE-4 inhibitors—can reduce the corticosteroid burden and prevent flares, while minimizing the risks associated with continuous use.[9,10]

Patient education plays a crucial role in the long-term management of AD. Proper instruction on the appropriate use of corticosteroids, including correct application techniques, the importance of adherence, and the need for gradual tapering, is essential in reducing the risk of side effects. Regular follow-up visits, with monitoring for adverse effects (such as skin atrophy, cortisol levels, and intraocular pressure), are necessary to adjust treatment plans and ensure optimal outcomes. While this review provides a comprehensive overview of the current evidence on long-term corticosteroid use in AD, several research gaps remain. First, while there is robust data on the short- to medium-term safety of corticosteroids, longer-term studies (beyond 5 years) are limited, particularly in pediatric populations. Future research should focus on evaluating the safety of corticosteroid use over decades to better understand the cumulative effects of chronic exposure. Additionally, while steroid-sparing agents have shown promise, there is still a need for head-to-head comparisons between these agents and corticosteroids in long-term studies to assess their relative efficacy and safety. Biologic therapies, such as dupilumab, have also emerged as effective treatments for moderate-to-severe AD, and their role in reducing corticosteroid dependence warrants further investigation. Lastly, the psychosocial impact of corticosteroid use, particularly steroid phobia, remains an underexplored area. Many patients and parents are hesitant to use corticosteroids due to concerns about side effects, leading to undertreatment.[10]

Conclusion

Long-term use of corticosteroids remains effective for managing atopic dermatitis, but it carries significant risks, including skin atrophy, HPA axis suppression, and ocular complications, particularly with high-potency or prolonged use. Intermittent or proactive therapy, combined with steroid-sparing agents, can reduce these risks while maintaining disease control. A personalized treatment approach, especially in vulnerable populations like children, is essential to balance efficacy and safety. Regular monitoring and education on appropriate corticosteroid use are critical for minimizing adverse effects and optimizing long-term outcomes in patients with AD.

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