ADCARE
Atopic Dermatitis Centers of Reference and Excellence
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1.

Atopic dermatitis in adults: Comparison of early-onset versus adult-onset cases in a 27-year cohort from Turkey

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Abstract

Background: Atopic dermatitis (AD) is a chronic inflammatory skin disease affecting individuals of all ages and presenting with variable clinical and morphological features in children and adults. In adults, AD may represent either persistence of childhood disease or true adult-onset disease.

Objective: To compare the demographic, clinical, and laboratory characteristics of adult AD patients with early-onset and adult-onset disease.

Methods: In this single-centre retrospective study (1996-2022), patients aged ≥18 years diagnosed with AD according to the Hanifin&Rajka criteria in our allergy unit were included. Patients were classified as early-onset (<18 years) or adult-onset (≥18 years) according to age at onset. The groups were compared with respect to demographic, clinical, and laboratory features. Disease severity was assessed using the SCORAD index.

Results: Of 1349 registered AD patients, 379 (28.1%) had adult AD, and 187 (49.3%) of these were adult-onset cases. Age in the adult-onset group ranged from 18 to 67 years (median 30 years). Male sex was more frequent in the adult-onset group ($p<0.05$). Rates of mucosal atopy, food allergy, elevated total IgE, and eosinophilia were similar. The number of Hanifin&Rajka criteria was lower in adult-onset disease (major criteria $p=0.056$; minor criteria $p<0.001$). Metal sensitivity, ear lobe fissures, cheilitis, and food-related exacerbations were less frequent in adult-onset patients. Symmetrical facial involvement at onset was more common in early-onset disease ($p<0.001$), whereas periorbital, trunk, and extensor involvement were more frequent in adult-onset disease ($p<0.001$); flexural involvement was similar. Classical eczematous morphology and isolated classical patterns were less frequent in adult-onset patients, while nummular morphology and severe disease were more common ($p<0.05$).

Conclusion: Adult-onset AD accounts for a substantial proportion of adult AD. It is characterised by a higher proportion of males and severe disease, fewer classical morphological features, and fewer Hanifin&Rajka criteria. Recognition of these features may facilitate accurate diagnosis and management.

2.

Could mindfulness be a protective factor against internalized stigma in adolescents with atopic dermatitis? – Results from a multicenter prospective study of 255 patients

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Abstract

Background: The intense itching and the visible nature of atopic dermatitis (AD) may lead to psychosocial problems in adolescents and their families.

Objective: We aimed to investigate the impairments in quality of life of adolescents with AD and their families due to AD symptoms, and the relationship between mindfulness and stigma.

Methods: In this prospective study, from 21 different Dermatology and/Pediatrics departments, adolescents with AD, were enrolled. We collected the data using Mindful Attention Awareness Scale-Adolescent (MAAS-A), the Internalized Stigma of Mental Illness Scale-Adolescent Form (adapted to AD) (ISMI-AF), the Child Dermatology Quality of Life Index (CDLQI) for patients and also using The Adolescent and Adult Mindfulness Scale (AAMS) scale and the Family Dermatology Quality of Life Index (FDLQI) for parents.

Results: A total of 255 adolescents were included. Stigma scores were positively correlated with CDLQI scores ($p<0.001$) and FDLQI scores ($p<0.001$). Increased disease severity was associated with higher risk of stigma ($p=0.002$) and worse patient ($p=0.021$) and family quality of life ($p=0.031$). Stigma scores ($p=0.45$), CDLQI ($p=0.41$), and FDLQI scores ($p=0.41$) did not differ by gender. On the other hand, MAAS-A scores were significantly higher in male adolescents ($p=0.035$). CDLQI scores were significantly worse in patients with head and neck involvement ($p=0.015$). We found that those with a lower age of disease onset had worse FDLQI scores ($p=0.001$), and that earlier age of onset was significantly associated with more severe disease ($p=0.029$). The age of disease onset and the risk of stigma, were also negatively correlated.

Conclusion: As mindfulness increased among adolescents with AD, the risk of stigma decreased. Furthermore, as stigma increases among adolescents, the quality of life for both the adolescent and their families deteriorates. Mindfulness-based cognitive therapies may be useful for adolescents with AD to reduce the disease burden and improve their quality of life.

3.

Atopic Dermatitis Mimicking Mycosis Fungoides: A Case with Clinical Suspicion

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Abstract

Background:

Atopic dermatitis is a chronic, relapsing inflammatory skin disorder. It results from the interaction of immunedysregulation, epidermal genetic defects, and environmental factors, leading to epidermal barrier dysfunction and intensely pruritic lesions.Clinically, atopic dermatitis may mimicvarious inflammatory, infectious, neoplastic, and photodermatoses. Early-stage mycosis fungoides may present as eczematous patches, closely resembling inflammatory dermatoses. Therefore, adult-onset eczematous eruptions require a broad differential diagnosis, including atopic dermatitis, contact dermatitis, mycosis fungoides / cutaneous T-cell lymphoma, psoriasis, and scabies.

Objective:

We aimed to add to the literature by describing the diagnostic approach that led to a definitive diagnosis of atopic dermatitis, based on histopathological evaluation, in a patient whose clinical presentation mimicked both early-stage mycosis fungoides and atopic dermatitis.

Case report:

A 62-year-old man with diabetes mellitus presented with a five-year history of persistent pruritus. Physical examination showed mildly erythematous, lichenified, hyperpigmented, pruritic patches with excoriations on the lower extremities, gluteal region, and inguinal areas. Due to clinical suspicion of early-stage mycosis fungoides, punch biopsies were obtained to exclude cutaneous T-cell lymphoma. Although histopathological findings were suggestive of early-stage mycosis fungoides, multidisciplinary review and immunohistochemical analysis (CD3 90%, CD4 80%, CD8 30%) supported a final diagnosis of atopic dermatitis.

Conclusion:

Although rare, atopic dermatitis can be challenging to differentiate from mycosis fungoides both clinically and histopathologically. Careful assessment of clinical features, patient history, and skin biopsy is therefore essential. Recognizing the distinguishing features of atopic dermatitis and its mimickers enables accurate and timely diagnosis and appropriate treatment. This case is presented to contribute to the literature by highlighting atopic dermatitis as a clinical and histopathological mimicker of mycosis fungoides.

Keywords:atopic dermatitis, mycosis fungoides

4.

RIPK2 expression in the skin of atopic dermatitis may define Th1/Th2 cytokine profile

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Abstract

Background: Receptor-interacting protein kinase 2 (RIPK2) is a critical mediator of innate and adaptive immune signaling through the NOD1/2 pathways, leading to NF-κB activation and production of pro-inflammatory cytokines such as interleukin (IL)-6, IL-17, and tumor necrosis factor-α (TNF-α). RIPK2 has been implicated in multiple inflammatory diseases (e.g., inflammatory bowel disease, rheumatoid arthritis, asthma), particularly in regulating T helper type 1 (Th1) and type 2 (Th2) immune responses. However, its role in the pathogenesis of atopic dermatitis (AD) has not been previously defined.

Objective: To assess RIPK2 expression in the skin of adults with moderate-to-severe AD and to evaluate the association of $RIPK2^{positive}CD4^{+}$ T cells with Th1-, Th2-, and Th17-related cytokine expression in lesional skin.

Methods: Skin biopsies from 15 patients with chronic moderate-to-severe AD and 7 healthy controls were collected. RIPK2 expression was examined by immunohistochemistry, and co-localization with $CD4^{+}$ T cells was determined by double immunofluorescence. An OPAL multiplex immunohistochemistry panel was used to simultaneously detect Th1 (TNF-α), Th2 (IL-4, IL-13), and Th17 (IL-17) cytokines in $CD4^{+}$ $RIPK2^{positive}$ and $CD4^{+}$ $RIPK2^{negative}$T cells. Quantitative image analysis was performed, and group comparisons were made using non-parametric Mann-Whitney tests.

Results: $RIPK2^{positive}$ cells were significantly more abundant in AD lesional skin than in normal skin (~12-fold increase; 39.1 ± 2.7 vs 3.1 ± 1.6 cells/μm^2, $p<0.0001$). Double-staining confirmed that most $RIPK2^{positive}$ cells in AD skin were $CD4^{+}$ T cells, with $CD4^{+}$ $RIPK2^{positive}$ cell counts ~11-fold higher in AD than in controls (60.0 ± 2.4 vs 5.3 ± 2.2 cells/μm^2, $p<0.0001$). Among $CD4^{+}$ $RIPK2^{positive}$ T cells, there was a marked increase in cells co-expressing Th1, Th2, and Th17 cytokines simultaneously: the frequency of $CD4^{+}RIPK2^{positive}$ T cells producing TNF-α, IL-17, IL-4, and IL-13 was ~1.8-fold higher in AD skin than in healthy skin (70.0 ± 4.7 vs 37.8 ± 10.3 cells/μm^2, $p<0.01$). In contrast, $CD4^{+}$ $RIPK2^{negative}$ T cells in AD did not show elevated Th2 cytokines compared to controls (no significant differences in IL-4 or IL-13 positive cells), and $IL\text{-}17^{+}$ cell counts were only marginally increased. Notably, $TNF\text{-}\alpha^{+}CD4^{+}RIPK2^{negative}$ T cells were significantly higher in AD lesions (2-fold increase over controls, 46.2 ± 6.3 vs 22.5 ± 8.5 cells/μm^2, $p<0.05$).

Limitations: The sample size was modest and the study was single-center and observational, which may limit generalizability.

Conclusion: RIPK2 expression is substantially up regulated in the skin of patients with chronic AD, predominantly in infiltrating $CD4^+$ T cells. $RIPK2^{positive}$ T cells are associated with a mixed Th1/Th2 cytokine profile in AD skin, whereas $RIPK2^{negative}$ T cells are associated with Th1 cytokine profile only. We suggest that RIPK2 expression may serve a marker for better definition of T cell profile in AD.

5.

Dupilumab-associated ocular surface disease in atopic dermatitis: results from the BioDay registry

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Abstract

Background

Dupilumab-associated ocular surface disease (DAOSD) is a frequently reported side effect in atopic dermatitis (AD) patients treated with dupilumab.

Objective

This study aimed to investigate the frequency and severity of DAOSD and the effect of dupilumab on conjunctival goblet cells (GCs) in a large prospective real-world cohort.

Methods

This prospective cohort study included adult patients with moderate-to-severe AD from the BioDay registry. Patients were treated with dupilumab at the University Medical Center Utrecht, the Netherlands, between February 2020 and January 2025. Ophthalmological and dermatological examinations were performed at baseline (start of dupilumab), week 4, and week 28. Ocular surface disease (OSD) severity was assessed using the Utrecht Ophthalmic Inflammatory and Allergic disease (UTOPIA) score. DAOSD was defined as a ≥3-point

increase from baseline. Conjunctival impression cytology was performed to study the quantity and function of conjunctival GCs.

Results

OSD was present in 94.0% (n=141/150) of patients at baseline, while only 60.0% (n=90/150) of patients reported ocular symptoms. During 28 weeks of dupilumab treatment, 30.7% (n=46/150) of patients developed DAOSD. At week 4 and week 28, 56.7% (n=85/150) and 64.7% (n=97/150) of patients regularly used ophthalmic medication, respectively. GC numbers remained stable between baseline and week 28, while Mucin 5AC (MUC5AC) production in Cytokeratin 19-CD45-MUC5AC+ cells significantly decreased.

Conclusion

This study highlights the high prevalence of OSD in moderate-to-severe AD patients before dupilumab treatment. DAOSD was observed in 30.7% of patients, despite the potential protective effect of ophthalmic treatment. While conjunctival GC numbers remain stable but low, dupilumab seems to impair GC function.

6.

Long-term ophthalmological follow-up in patients with moderate-to-severe atopic dermatitis treated with dupilumab: results from the BioDay registry

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Abstract

Background

Dupilumab-associated ocular surface disease (DAOSD) is the most reported side effect in dupilumab-treated atopic dermatitis (AD) patients. However, little is known about its long-term ocular safety.

Objective

To investigate the effect of long-term dupilumab treatment on ocular surface disease (OSD), conjunctival goblet cells (GCs), and tear fluid dupilumab levels and proteins.

Methods

This prospective study included moderate-to-severe dupilumab-treated AD patients from the BioDay registry at the University Medical Center Utrecht, the Netherlands, between February 2020 and December 2024. Ophthalmological and dermatological examinations were performed at baseline (before dupilumab initiation), week 28, and the last follow-up visit (≥2 years). OSD

severity was assessed using the Utrecht Ophthalmic Inflammatory and Allergic Disease (UTOPIA) score, with DAOSD defined as a ≥3-point increase from baseline. Conjunctival GC quantity and function were assessed with conjunctival impression cytology. Dupilumab levels and proteins were measured in tear fluid.

Results

OSD characteristics were present in 90.9% (n=40/44) of patients at baseline, week 28, and the last follow-up. DAOSD was observed in 22.7% (n=10/44) of patients, of which 40.0% (n=4/10) persisted or newly developed at last follow-up. Tear break-up time decreased while tear production increased. Dupilumab levels and AD-, Th2, and some Th1-related proteins in tear fluid decreased over time. Conjunctival GCs significantly decreased at the last follow-up compared to baseline and week 28. Mucin 5AC (MUC5AC) production in Cytokeratin 19-CD45-MUC5AC+ cells decreased at week 28 and remained stable at last follow-up.

Conclusion

DAOSD can be persistent or newly developed in long-term dupilumab-treated AD patients, highlighting the need for awareness among dermatologists of potential long-term ocular side effects. Dupilumab levels and AD-related inflammatory proteins in tear fluid significantly decreased over time. Although MUC5AC production decreased at week 28 and then remained stable, the significant decrease in GC numbers at last follow-up suggests an overall reduction in MUC5AC.

7.

Acroangiodermatitis of Mali in a 53-year-old Filipino male: a case report

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Abstract

Background: Chronic lower limb ulcers are commonly attributed to diabetes, vascular occlusion, or infection. However, rare entities such as acroangiodermatitis (AAD), a benign vascular proliferation that clinically and histologically mimics Kaposi sarcoma, may be overlooked. Misclassification can result in unnecessary amputations.
Objective: To highlight acroangiodermatitis of Mali as an important diagnostic consideration in chronic lower limb ulcers and demonstrate the value of dermoscopy and histopathology in guiding limb-salvage management.

Methods: We describe a 53-year-old Filipino male with a 20-year history of a non-healing left dorsal foot ulcer following minor trauma, with prior right below-knee amputation initially diagnosed as Buerger's disease. Clinical examination, dermoscopy, skin biopsy with immunohistochemistry, and duplex vascular studies were performed. Management involved multidisciplinary wound care with antimicrobial support, nutritional optimization, regular debridement, cadexomer iodine dressings, and compression therapy.

Results: Examination revealed a well-defined dorsal foot ulcer with erythematous base, irregular pink-to-yellow margins, and surrounding hyperpigmented plaques with black satellite

papules, accompanied by non-pitting edema and varicosities. Dermoscopy showed a pink structureless background with yellow-white zones, dark clods, and white linear "rail-like" streaks. Histopathology demonstrated acanthosis with elongated rete ridges and lobular proliferation of small capillaries lined by plump endothelial cells without atypia; CD34 highlighted diffuse endothelial positivity consistent with a benign vascular proliferation. Duplex scanning revealed mixed arterial stenosis and venous reflux. Progressive wound healing was achieved within 10 weeks, with reduced pruritus, decreasing satellite papules, improved granulation, and interval wound closure.

Conclusion: Acroangiodermatitis should be considered in chronic ulcers misdiagnosed as vasculitic or occlusive disorders. Dermoscopy and confirmatory biopsy are essential to distinguish AAD from Kaposi sarcoma and guide appropriate conservative care. Multidisciplinary wound management and compression can improve outcomes and help prevent unnecessary amputations.

8.

Photobiomodulation in the management of atopic dermatitis

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Abstract

Background:
Atopic dermatitis (AD) is a chronic, relapsing inflammatory skin disease characterized by pruritus, impaired skin barrier function, and immune dysregulation. Conventional therapies, including topical corticosteroids and immunomodulators, may be limited by adverse effects, reduced long-term tolerability, and patient non-adherence. Photobiomodulation (PBM), a non-invasive light-based therapy, has emerged as a potential adjunctive treatment due to its anti-inflammatory and tissue-regenerative properties.

Objective:
To evaluate the therapeutic potential and mechanisms of photobiomodulation in the management of atopic dermatitis.

Methods:
A narrative review of experimental and clinical studies was conducted, focusing on the effects of PBM using visible and near-infrared wavelengths on inflammatory pathways, skin barrier restoration, and clinical outcomes in atopic dermatitis. Parameters including wavelength, fluence, treatment frequency, and safety profile were analyzed.

Results:
Photobiomodulation has demonstrated the ability to modulate immune responses by reducing pro-inflammatory cytokines such as IL-4, IL-13, and TNF-α, while enhancing mitochondrial activity and cellular repair. Clinical studies report improvements in pruritus, erythema, skin hydration, and disease severity scores (SCORAD/EASI), with minimal adverse effects. PBM also appears to support epidermal barrier function and reduce oxidative stress.

Conclusion:
Photobiomodulation represents a promising, safe, and well-tolerated adjunctive therapy for atopic dermatitis. Its anti-inflammatory, immunomodulatory, and regenerative effects may complement conventional treatments and improve long-term disease control. Further randomized controlled trials are warranted to establish standardized treatment protocols and long-term efficacy.

9.

Sleep Disorders in Children and Adults with Atopic Dermatitis

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Abstract

Background:
Sleep disorders are among the most prevalent and burdensome comorbidities in patients with atopic dermatitis (AD), affecting both children and adults. Chronic pruritus, nocturnal scratching, skin inflammation, and psychosocial stress contribute to impaired sleep quality, which in turn exacerbates disease severity and reduces quality of life.

Objective:
To review the prevalence, mechanisms, and clinical consequences of sleep disturbances in patients with atopic dermatitis and to discuss implications for management.

Methods:
A narrative review of clinical, epidemiological, and mechanistic studies was conducted, focusing on sleep disorders associated with atopic dermatitis, including insomnia, sleep fragmentation, circadian rhythm disruption, and obstructive sleep apnea.

Results:
Sleep disturbances are reported in up to 60–80% of children and adults with atopic dermatitis. Pruritus and nocturnal scratching are the primary drivers of sleep fragmentation, while immune dysregulation, elevated nocturnal cytokine activity (e.g., IL-4, IL-13, IL-31), altered melatonin secretion, and stress-related neuroendocrine changes further impair sleep regulation. In children, sleep loss is associated with behavioral problems, impaired cognitive performance, and attention-deficit/hyperactivity disorder–like symptoms. In adults, chronic sleep disturbance contributes to fatigue, mood disorders, reduced work productivity, and increased cardiometabolic risk. A bidirectional relationship exists whereby poor sleep worsens skin inflammation and disease activity.

Conclusion:
Sleep disorders represent a critical yet often underrecognized component of atopic dermatitis. Effective management of AD should include routine assessment of sleep quality and targeted interventions addressing pruritus, inflammation, and psychosocial factors. Integrating sleep-focused strategies into atopic dermatitis care may significantly improve disease control, overall health, and quality of life across all age groups.

10.

Beyond the Skin: Comorbidities in Atopic Dermatitis in Children and Adults

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Abstract

Background:
Atopic dermatitis (AD) is a chronic inflammatory skin disease affecting both children and adults and is increasingly recognized as a systemic disorder rather than a skin-limited condition. Patients with AD frequently present with multiple comorbidities involving allergic, infectious, metabolic, cardiovascular, psychiatric, and autoimmune systems, which significantly impact quality of life and long-term health outcomes.

Objective:
To review the spectrum of comorbidities associated with atopic dermatitis in children and adults and to highlight age-related differences, shared pathogenic mechanisms, and clinical implications.

Methods:
A narrative review of epidemiological, clinical, and mechanistic studies was performed, focusing on allergic, neuropsychiatric, metabolic, cardiovascular, and autoimmune comorbidities in pediatric and adult AD populations.

Results:
In children, atopic dermatitis is strongly associated with the "atopic march," including food allergy, allergic rhinitis, and asthma. Increased susceptibility to skin infections, attention-deficit/hyperactivity disorder, and sleep disturbances is also observed. In adults, AD is linked to persistent allergic disease, chronic pruritus, anxiety, depression, and reduced work productivity. Emerging evidence suggests an association between moderate-to-severe AD and metabolic syndrome, obesity, hypertension, and cardiovascular disease. Shared mechanisms include skin barrier dysfunction, Th2-driven inflammation, microbial dysbiosis, and systemic immune activation. Disease severity and chronicity appear to correlate with comorbidity burden across all age groups.

Conclusion:
Atopic dermatitis is a multisystem inflammatory disease with significant age-dependent comorbidities in both children and adults. Early recognition and multidisciplinary management of associated conditions are essential to optimize patient outcomes. A comprehensive, life-course approach to AD may reduce long-term morbidity and improve overall health and quality of life.

11.

Association between atopic dermatitis severity, atopic dermatitis-related school absenteeism and scholastic competence among patients in a tertiary center in the Philippines: A cross-sectional study

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Abstract

Introduction: Atopic dermatitis (AD) is an inflammatory skin condition characterized by intense pruritus and a chronically relapsing course, which commonly affects children. Studies on the burden of AD have often focused on their associated economic costs, with little focus on other aspects such as school absenteeism.

Objectives: The study aimed to determine the prevalence of atopic dermatitis-related school absenteeism (ADSA) among patients aged 8-15 years old in a tertiary center, and whether this is influenced by disease severity. Additionally, the study sought to determine whether ADSA is significantly associated with the patient's scholastic competence, defined as their perceived cognitive competence as applied to school work.

Methods: A cross-sectional study was conducted among AD patients aged 8 to 15 years in a tertiary center in the Philippines. Patients were profiled using the sociodemographic and clinical profile questionnaire, atopic dermatitis-related school absenteeism questionnaire, and scholastic competence scale. AD severity of participants were also assessed using the scoring atopic dermatitis (SCORAD) tool. Statistical analyses included descriptive summaries of sociodemographic and clinical characteristics, ADSA prevalence, and AD severity. Group differences were assessed using t-tests or Mann–Whitney U tests based on normality (Shapiro–Wilk). Linear regression examined the effect of ADSA on scholastic competence. All analyses were performed in SPSS version 26, with significance set at $p<0.05$.

Results: Nearly half (45.95%) of participants reported school absenteeism in the past 12 months due to atopic dermatitis, most of whom had moderate-to-severe disease (64.71%). Notably, median intensity scores ($p=0.033$) and sleeplessness scores ($p=0.031$) were significantly higher among students with absenteeism compared to their counterparts. Those with absenteeism also report consistently lower scores across all scholastic competence domains, with significantly lower ratings in "being able to figure out answers to questions" ($p=0.036$).

Conclusion: School absenteeism is prevalent among children suffering from atopic dermatitis. Targeted interventions aimed at reducing disease severity and improving sleep quality may reduce school absences and improve academic outcomes.

12.

Adjunctive Dupilumab and Acitretin in Lamellar Ichthyosis with Concomitant Atopic Dermatitis: A Case Report

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Abstract

Background:
Lamellar ichthyosis (LI) is a rare genodermatosis within the congenital autosomal recessive ichthyosis spectrum, characterized by defects in epidermal differentiation and barrier formation. Although traditionally considered a structural keratinization disorder, emerging evidence suggests that immune dysregulation—particularly type 2 (Th2)–skewed inflammation—may modulate disease expression in selected patients, especially in the presence of atopic comorbidity.

Objective:
To report the clinical course and therapeutic response of a patient with congenital LI and concomitant atopic dermatitis treated with adjunctive dupilumab and acitretin.

Methods:
A 20-year-old male with congenital LI presented with extensive plate-like scaling, palmoplantar keratoderma, bilateral ectropion, severe xerosis, and marked pruritus. He had clinical features consistent with atopic dermatitis. Despite long-term acitretin therapy (35 mg/day), disease control remained inadequate. Dupilumab had been initiated at an external center (600 mg loading dose followed by 300 mg every two weeks). After two months of therapy, the patient relocated to Istanbul and was referred to our clinic for continued management.Treatment was continued in combination with ongoing acitretin, and clinical response was monitored. and the patient.

Results:
After five months of combination therapy, marked reduction in pruritus was observed. Hyperkeratosis demonstrated clinically meaningful softening with reduced fissuring and improved skin pliability. Ectropion showed notable improvement. The treatment was well tolerated without significant adverse events.

Conclusion:
This case suggests that dual targeting of keratinization abnormalities and Th2-mediated inflammation may provide meaningful clinical benefit in selected LI patients with an atopic background. Adjunctive cytokine-directed therapy may represent a rational strategy in treatment-refractory cases. Further studies integrating genetic and immunologic profiling are warranted to better define patients most likely to benefit from biologic intervention.

13.

Allergen Sensitization Profiles and Atopic Disease Risk: A Latent Class Analysis

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Abstract

Background: Allergen sensitization profiles vary significantly across geographic regions, and the relationships between sensitization and specific atopic manifestations remain complex and incompletely understood. This study aimed to identify latent patterns of sensitization to common allergens and to examine their associations with distinct clinical phenotypes.

Methods: We conducted a cross-sectional study of 1,359 patients with asthma, allergic rhinitis, atopic dermatitis, or urticaria who attended the Clinical Immunology and Allergy Center at Vinmec Times City Hospital, Hanoi, Vietnam, between 2021 and 2023. Specific (sIgE) to common inhalant and food allergens was measured using immunoblotting (EUROBlotOne). Sensitization was defined as an intensity score >5 or sIgE ≥ 0.35 U/mL. Latent class analysis (LCA) was used to identify sensitization patterns, and logistic regression assessed their associations with atopic diseases.

Results: LCA revealed five distinct sensitization patterns: (1) predominant house dust mite sensitization; (2) polysensitization to multiple inhalant and food allergens; (3) predominant food allergen sensitization, mainly egg and/or milk;(4) low sensitization ; and (5) combined sensitization to house dust mites, cockroach, and insect venom. Classes 1, 5, and 3 were associated with an increased risk of asthma, while s Classes 1, 2, and 5 were linked to a higher risk of allergic rhinitis, both in descending order of strength. Notably, only Class 2 was significantly associated with an increased risk of atopic dermatitis.

Conclusion: This study identified five distinct allergen sensitization profiles and their differential associations with atopic diseases. These findings may enhance diagnostic precision and support more refined phenotyping of atopic conditions.

14.

Evaluation of the Effectiveness of the "Atopic Dermatitis School" in the Education of Patients and their Families

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Abstract

Background: Atopic dermatitis (AD) is a chronic, relapsing inflammatory skin disorder that requires intensive daily care and imposes a significant burden on affected children and their families. Structured educational programs are fundamental to disease management, as they provide evidence-based knowledge and enhance parental confidence in disease care.

Objective: This study aimed to evaluate the impact of educational sessions designed for children with AD and their families.

Materials and Methods: The study was conducted at the Allergy Unit of the 2nd Department of Pediatrics, "P & A Kyriakou" Children's Hospital. Recruitment was voluntary and conducted via social media and the Unit's official website. Parents completed the Topical Corticosteroid Phobia (TOPICOP) and Family Dermatology Life Quality Index (FDLQI) questionnaires at baseline and one-month post-intervention. The sessions were evaluated using a five-item satisfaction questionnaire rated on a Likert scale (0-4). Statistical analysis was performed using Mann-Whitney and Wilcoxon Signed Ranks tests, with a significance level of 0.05.

Results: A total of 36 children (mean age 5.7 ± 3.9 years) and their parents participated, of whom 28 (78%) completed follow-up. No significant differences in disease severity or management were found between participants who completed the follow-up and those who did not. A statistically significant reduction in corticosteroid phobia was noted one month after the educational session (TOPICOP: 56% vs. 36%,$p<0.001$), although no significant change was observed in the family quality of life index (8.5 vs. 8,$p=0.9$). The intervention was highly rated with a mean usefulness of 3.93±0.26/4. All parents reported gaining new knowledge and resolving prior queries, while 96% reported increased confidence in managing daily skin care and disease flares. All participants stated that they would recommend the program to other families.

Conclusions: Structured educational programs are fundamental in AD management, as they provide expert knowledge and enhance parental confidence. The absence of substantial improvement in the family's quality of life may reflect the increased awareness of the demands associated with intensive daily care. The high acceptance and positive evaluation of these educational meetings underscore their beneficial clinical impact.

15.

Clinical Relevance of Patch Testing in Chronic Hand and Feet Eczema: Experience from Hospital Kuala Lumpur.

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Abstract

Background:
Chronic hand and feet eczema significantly impacts quality of life and is frequently associated with contact allergen sensitisation. Patch testing remains a vital diagnostic tool for identifying relevant allergens and guiding management.

Objective:
To assess the diagnostic yield and clinical relevance of patch testing in patients with chronic hand eczema, and to identify common allergens associated with persistent or treatment-refractory disease.

Methods:
This retrospective study reviewed patients with chronic hand and/or feet eczema who underwent patch testing at the Dermatology Clinic, Hospital Kuala Lumpur, from January 2023 to June 2025. Testing was performed using the European Baseline Series and extended series, including cosmetic, rubber, metal, shoe, and hairdressing allergens. Sensitisation patterns and allergen relevance were evaluated.

Results:
A total of 355 patients were tested, predominantly female (83.1%) and Malay (65.4%), with most aged between 20–39 years (51.5%). White-collar occupations were most common (37.5%), and 44.5% had a history of atopy. Positive reactions to the European Baseline Series occurred in 68.2% of patients. The most frequent allergens were nickel sulphate (28.7%), fragrance mix (15.8%), Peru balsam (14.1%), cobalt chloride (11.3%), and formaldehyde (11.0%). The extended series identified additional sensitizations, particularly to cosmetic (23.7%), own product (23.7%), rubber (8.5%), metal (4.5%), shoe (3.4%), and hairdressing (2.0%) allergens.

Conclusions:
A high rate of contact allergen sensitisation was observed in patients with chronic hand and feet eczema. Nickel, fragrance mix, and formaldehyde were among the most common allergens. Extended series testing adds diagnostic value, especially for occupational and cosmetic exposures, supporting tailored allergen avoidance strategies for improved clinical outcomes.

(*257 words)*

16.

Collagen XXIII: A novel risk factor for eczema herpeticum

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Abstract

Background: A subset of patients with atopic dermatitis (AD) develops a severe systemic herpes infection termed eczema herpeticum (EH). This potentially life-threatening complication affects approximately 22% of patients with moderate-to-severe AD at least once in their lives. While genetic factors play a crucial role in the pathogenesis of EH, many reported variants also increase susceptibility to AD itself, underscoring the need to identify EH-specific genetic risk factors.

Objective: To identify and characterize novel genetic variants that confer increased EH risk in AD patients.

Methods: We employed whole-exome sequencing to identify genetic variants associated with EH in AD patients and validated the candidate variants using TaqMan PCR in a cohort of 118 healthy controls, 117 AD patients with a history of EH (ADEH+), and 117 AD patients without a history of EH (ADEH-). Functional studies were performed in patient-derived keratinocytes and in the immortalized keratinocyte cell line, HaCaT.

Results: A heterozygous single-nucleotide polymorphism (SNP) rs2973744 in the gene encoding collagen type XXIII alpha 1 chain (COL23A1) was significantly associated with EH in AD patients (χ^2 test: $p=0.034$). Interestingly, EH-patient-derived hair keratinocytes carrying the variant allele exhibited elevated *COL23A1* mRNA and protein levels and higher susceptibility to herpes virus (HSV) infection compared to controls. COL23A1 overexpression in HaCaT cells increased the cell surface expression of HSV-1 attachment and entry factors

syndecan-1 and nectin-1, while suppressing antiviral response genes. These findings reveal a mechanistic link between elevated COL23A1 expression and enhanced HSV susceptibility in keratinocytes.

Conclusion: *COL23A1* variant rs2973744 may serve as a clinical biomarker to identify AD patients at increased risk of EH. Furthermore, these findings may offer insights into early risk assessment and personalized management of AD patients carrying the variant.

17.

Disease Exacerbation and Therapy Modifications in Pregnant Women with Atopic Dermatitis:
Insights from the PREG-AD Study

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Ab**stract**

Background: Atopic dermatitis (AD) frequently affects women of reproductive age. Although immunologic changes during pregnancy may influence disease activity, real-world patient reported data on AD development and treatment modifications during pregnancy remain limited.
Objective: To evaluate the course of AD during pregnancy, focusing on disease exacerbations and treatment modifications, and to assess postpartum disease course.

Methods: PREG-AD is a non-interventional, cross-sectional study including women with physician-diagnosed AD who were pregnant within the previous three years. Participants from 9 countries completed a 36-item questionnaire assessing disease severity, trimester-specific disease course, treatment patterns before and during pregnancy, exacerbation triggers, and postpartum outcomes. Descriptive statistics were performed.

Results: Among 77 women (mean age 31 years; mean age at pregnancy 29 years), 35 reported moderate and 7 severe AD before pregnancy. Disease worsening was reported by 32 women during the first trimester, 38 during the second trimester, and by 34 women during the third trimester, whereas improvement was reported by only 7.6–13.4% across trimesters. Among patients experiencing exacerbations, 22 attributed flares to treatment discontinuation or modification and 24 to stress.
Topical corticosteroids were used by 58 patients and their treatment regimen modified in 65.5% of cases, including discontinuation in 19%, reduction to flare-only use in 34.5% and switching to lower potency in 12.1%. Discontinuation occurred in 61.1% of topical calcineurin inhibitor users (11/18), 66.7% of systemic corticosteroid users (6/9), and 63.6% of biologic-treated patients (7/11), predominantly during the first trimester. Despite frequent exacerbations, pregnancy outcomes were largely favorable (94% live births). Postpartum, 30/65 women reported disease improvement.

Conclusion: Approximately half of women with AD experience disease worsening during pregnancy, peaking in the second trimester. Treatment discontinuation is common and frequently associated with exacerbations, indicating a substantial pregnancy-related treatment gap. Improved evidence-based counseling may help prevent avoidable flares while maintaining maternal and fetal safety.

18.

Serum protein analysis reveals early TARC elevation and distinct immune maturation in pediatric atopic dermatitis

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Abstract

Background

Atopic dermatitis (AD) is a chronic inflammatory skin disease affecting up to 25% of children worldwide. Pediatric AD has been shown to display immune protein profiles distinct from those observed in adult AD. However, it remains unclear to what extent these differences reflect normal age-related immune maturation versus disease-specific immune alterations in AD.

Objective

The aim of this study was to characterize age-dependent serum protein concentrations in children with AD and to compare these with healthy immune development, to identify disease specific immune-aging signatures.

Methods

Serum samples from 244 children with AD and 70 healthy controls aged 0–17 years were analyzed to identify age and disease associated proteins. Protein concentrations were measured using the Olink proximity extension assay, including the inflammation, cardiovascular disease, and immuno-oncology panels.

Results

Unsupervised analyses identified age as the primary driver of systemic protein variability in both AD patients and healthy controls, reflecting shared features of immune maturation. Nevertheless, samples from children with AD formed a distinct cluster independent of age. Indicating the presence of systemic differences between AD and healthy control samples. This difference was most well pronounced for CCL13 and CCL17, which were consistently elevated and stable in children with AD from early life onward. In addition, age-dependent protein trajectories differed between groups. For example, the concentration of the T-cell inhibitor PDCD1 gradually declined with age in both AD patients and healthy controls, but this decrease was more pronounced in children with AD.

Conclusion

These findings demonstrate the presence of disease specific protein concentration trajectory in pediatric AD that diverges from healthy immune maturation. Persistent elevation of CCL13 and CCL17 from infancy supports the existence of a sustained type 2 skewed immune profile,

while the progressive decrease in proteins like PDCD1 may reflect a disease-specific pattern of immune maturation.

19.

Real-World Experiences with Dupilumab and Oral JAK Inhibitors in Atopic Dermatitis with A New Promising Clinical Parameter: Life Limitation Score

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Abstract

Background: While dupilumab and Janus kinase (JAK) inhibitors have transformed atopic dermatitis (AD) management, real-world comparative data and efficient clinical assessment tools remain limited.

Objective: This study evaluated the real-world effectiveness and safety of dupilumab, upadacitinib, and abrocitinib, the "Life Limitation" (LL) score as a novel patient-reported outcome measure (PROM), and identified prognostic factors influencing treatment outcomes.

Methods: A 16-month prospective observational study (August 2024 – December 2025) followed 22 patients (aged 12–85) treated with these advanced therapies. Clinical severity was assessed using the Eczema Area and Severity Index (EASI), while PROMs included the LL score, Dermatology Life Quality Index (DLQI), and Atopic Dermatitis Control Tool (ADCT). Patients were monitored over 52 weeks, with JAK inhibitor cohorts receiving an additional early assessment at week 1.

Results: All treatments demonstrated sustained clinical efficacy over 52 weeks. Upadacitinib achieved the fastest pruritus relief (day 2), followed by abrocitinib (day 3) and dupilumab (day 7). Within the first 30 days, upadacitinib showed a more pronounced reduction in clinical severity scores compared to other groups. While JAK inhibitors significantly reduced C-reactive protein levels by day 7, they were associated with higher frequencies of mild infections and hematological fluctuations. At week 52, the LL score demonstrated strong convergent validity with DLQI ($r = 0.815$) and ADCT ($r = 0.878$). Notably, psychiatric comorbidities were significantly associated with delayed and attenuated therapeutic responses across all treatments.

Conclusion: Both dupilumab and JAK inhibitors are effective in real-world AD management, with upadacitinib providing superior early-phase improvement. The LL score is a, streamlined tool for rapid clinical assessment. Furthermore, screening for psychiatric comorbidities is essential, as they serve as a negative prognostic factor for treatment success.

20.

Therapeutic Patient Education Modalities in Atopic Dermatitis: An 18-Month Randomized Controlled Trial

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BACKGROUND: Atopic dermatitis (AD) is a prevalent chronic inflammatory dermatosis with significant patient burden. While Therapeutic Patient Education (TPE) is universally endorsed as a cornerstone of management, clinical implementation remains limited, and high-quality evidence defining the optimal educational modality and frequency is scarce.

OBJECTIVE: To evaluate the comparative efficacy of four distinct educational interventions—verbal counseling, structured written forms, illustrated leaflets, and digital video content—on disease severity, knowledge retention, and quality of life.

METHODS: A multidisciplinary, parallel-group, evaluator-blinded randomized controlled trial was conducted at a GA²LEN and ADCARE certified center. A total of 301 patients (aged 0–85 years) were randomized in a 1:1:1:1 ratio to receive: (1) verbal counseling only, (2) written forms, (3) illustrated leaflets, or (4) video content via QR code. Assessments were performed at baseline, short-term (7–14 days), and long-term (18 months) follow-up points. Outcome measures included the AD Knowledge and Awareness Test, Eczema Area and Severity Index (EASI), Dermatology Life Quality Index (DLQI), and pruritus severity scales.

RESULTS: Short-term analysis revealed that all interventions significantly improved AD knowledge, EASI scores, DLQI and pruritus scores ($p<0.05$). The illustrated leaflet group demonstrated the highest initial knowledge acquisition. Long-term follow-up (18 months) indicated that while all structured material groups (form, leaflet, video) sustained clinical improvements, the verbal-only control group did not maintain these gains ($p=0.120$). No statistically significant difference in long-term efficacy was observed among the three structured material formats.

CONCLUSION: While all educational modalities demonstrated initial effectiveness, the effects of verbal counseling alone dissipated by 18 months. Hybrid educational models incorporating structured materials constitute a clinical imperative for achieving sustained long-term disease control.

21.

Fluctuation of Health-Related Quality of Life Across the Academic Year in School-Aged Children with Atopic Dermatitis

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Abstract

Background: Atopic dermatitis (AD) is associated with impaired health-related quality of life (HRQOL) in children. Although seasonal variation in symptoms is recognized in clinical practice, longitudinal patterns of self-reported HRQOL across the academic year have not been sufficiently described in younger school-aged children.

Methods: This repeated-measures observational study was conducted within the EU-funded SynAir-G project (GA 101057271). Children aged 7–10 years with AD were recruited from five primary schools in the region of Attica. Participants completed the self-reported Pediatric Quality of Life Inventory (PedsQL) during two academic years (September–May). Scores were reverse-scored and transformed to a 0–100 scale, with higher scores indicating better HRQOL. Descriptive analyses were performed to assess overall HRQOL and month-to-month variation across physical, emotional, social, and school functioning domains.

Results: Fifty-one children contributed 118 assessments (mean 2.8 per child). The mean total PedsQL score across the academic year was 78.6 ± 16.0. Emotional functioning showed the lowest mean score (70.5 ± 22.6), while social functioning was least impaired (85.3 ± 16.2). Total HRQOL declined from early autumn to a nadir in January (72.9 ± 16.5) and increased in March (85.2 ± 11.7), representing a 12-point difference across the academic year. This magnitude exceeds established minimal clinically important differences for PedsQL. The greatest variability was observed in emotional (range 19.4 points) and school functioning (range 18.8 points), whereas physical functioning showed smaller variation (range 11.6 points).

Conclusions: Self-reported HRQOL in 7–10 years old children with AD fluctuates during the academic year, with lower scores observed in winter months. Emotional and school domains appear particularly affected, suggesting increased psychosocial and academic vulnerability during this period.

22.

Integrating the Patient´s Voice: Preliminary Insights into PROM use in Atopic Dermatitis.

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Abstract

Background: Atopic dermatitis (AD) constitutes a growing global health concern that severely impacts patients' quality of life (QoL). To improve patient-centred care and disease management, global health institutions advocate using Patient Reported Outcomes Measures (PROMs). These validated questionnaires measure patients' feelings, experiences and treatment responses. Despite their value, AD patients' perception, knowledge, experience, acceptance, and satisfaction regarding the use of PROMs remain under-explored.

Objective: Assess the knowledge, attitudes, perceptions, and satisfaction towards the use of PROMs by patients with AD.

Methods: An observational analytical cross-sectional multicenter study was performed with AD patients who can answer an expert-designed ad hoc questionnaire. For descriptive statistics, mean and standard deviation were used for quantitative variables, frequency and percentage for categorical variables.

Results: We included 430 AD patients (mean age 28.6±17.8; 53.5% male) predominantly from Latin America (70.1%) and Europe (29.9%), living in, the rural area (73.6%), and relied on public healthcare (73.1%). 71.1% had mild-to-moderate disease control (ADCT) and POEM scores reflected a mostly moderate (46.4%) to severe (51.7%) disease state.

Patients learned about PROMs from specialists (58.5%), and all respondents expect them to track disease severity, disease control, and QoL. Acceptance was highly favourable: over 80% agreed that PROMs improve symptom assessment (87.3%), empower patient involvement (89.4%), facilitate physician communication (82-84%), and grant better disease control (86%). Additionally, 60.4% disagreed that PROMs lack clinical value. Overall satisfaction was high (mean satisfaction 4,23±0.78), with 83.3% desiring to continue using PROMs and 79% reporting satisfaction with the improvements in their quality of life since their implementation.

Conclusion: Overall, patients' point of view displayed a positive perspective and experience towards the use of PROMs as a support tool during the medical consult and establishes the need for routine implementation in AD.

23.

Sleep quality in children with atopic dermatitis in early childhood and their parents

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Abstract

Background: Atopic dermatitis (AD) primarily affects early childhood, often requires a multifaceted approach to diagnosis and treatment, and imposes a significant physical and psychological burden on both the patient and their family, particularly affecting sleep quality.

Objective: To evaluate sleep quality of children with AD and their parents

Methods: This study included 92 patients aged 0–3 years diagnosed with AD according to the Hanifin-Rajka criteria, along with 86 healthy controls exhibiting typical development and no sleep issues, recruited between May and August 2022. The study evaluated patients' demographic, clinical, and laboratory characteristics, as well as SCORAD (Objective Severity Scoring of Atopic Dermatitis Index), VAS (Visual Analog Scale), BISQ-R (Brief Infant Sleep Questionnaire-Revised), and PSQI (Pittsburgh Sleep Quality Index) scores.

Results: There were no significant differences in age or gender between AD patients (n=92, median age [IQR]=7 months [5–11 months]) and healthy controls (n=84) ($p>0.05$). The BISQ-R scores for AD patients, including the infant sleep score ($p < 0.001$), parent perception score ($p = 0.001$), and total score ($p < 0.001$), were significantly lower than those of the control group; however, there was no significant difference in the parental behavior score ($p = 0.781$). According to the PSQI evaluation, a majority of the patients' mothers (n=66; 71.7%) experienced poor sleep quality. Additionally, there were significant negative correlations between the PSQI total score and the infant sleep score ($r=-0.426$; $p<0.001$), parent perception score ($r=-0.352$; $p=0.001$), and BISQ-R total score ($r=-0.388$; $p<0.001$).

Conclusion: The detrimental effect of AD on the sleep quality of both patients and their parents is significant and should not be overlooked. The key priority is to offer recommendations aimed at improving sleep quality for AD patients experiencing sleep disturbances as an integral part of their treatment.

24.

Development and Clinical Implementation of Patient-Educational Videos on Basic Therapy in Atopic Dermatitis

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Abstract

Background: Atopic dermatitis is a chronic inflammatory skin disease requiring consistent topical treatment. Poor adherence to emollients and concerns about topical corticosteroids ("steroid phobia") are well-recognized barriers to optimal disease control. In routine clinical practice, time constraints may limit thorough patient education. Structured, standardized educational tools may improve treatment understanding.

Objective: To develop and implement two evidence-based patient-educational videos addressing essential components of topical therapy in atopic dermatitis.

Methods: Two short educational videos were developed by our departement based on current national and international treatment recommendations. The first video focuses on the role, quantity, and frequency of emollient used as basic therapy. The second video explains potency classes, quantity, and safe application related to topical corticosteroids. The videos were designed for patients and caregivers and produced in a format suitable for use in outpatient clinics and digital platforms. The intervention was implemented in a dermatology outpatient setting as a supplement to standard verbal counseling.

Results: The videos provide standardized, visually guided instruction on correct topical treatment techniques and address common patient concerns, particularly regarding corticosteroid safety. They have been integrated into clinical consultations as an adjunct educational tool.

Conclusion: Structured, standardized educational tools may improve treatment understanding and increased treatment adherence. Such tools may facilitate consistent communication, address steroid-related concerns, and enhance patient understanding of guideline-based management in atopic dermatitis.

Link to videos: https://youtu.be/95960xxlmhA

https://youtu.be/92jL8cwJ0Ng

25.

Cross-cultural adaptation of the Atopic Dermatitis Control Tool (ADCT) into Brazilian Portuguese

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Abstract

Background: recent consensus statements recommend evaluating disease control to atopic dermatitis (AD). Several tools for assessing severity are widely available, however, there is no standardized instrument for evaluating disease control in Brazilian Portuguese language. The Atopic Dermatitis Control Tool (ADCT) is a self-administered questionnaire designed for use in clinical practice, validated in American English for individuals aged 12 and older.

Objective: to validate the cross-cultural adaptation of the ADCT for Brazilian Portuguese in adolescents aged 12 to 17 years.

Methods: the cross-cultural adaptation of the ADCT followed the standard methodology of forward translation and back-translation. The Brazilian Portuguese version, provided by the original author, was pretested in 18 adolescents with AD (aged 12–17) to assess comprehension. A consensus version was developed by the researchers and then back-translated into American English. All translations were reviewed, resulting in a final version. This version was administered and re-administered to 10 adolescents with AD in a test–retest protocol with an interval of 7 to 15 days. Internal consistency of the scale (Cronbach's alpha coefficient) and concordance (k=kappa) between responses was analyzed.

Results: no difficulties in comprehension were identified, and the back-translated version demonstrated conceptual equivalence with the original American English version. The overall Cronbach's alpha coefficient was 0.88, indicating acceptable internal consistency. Test-retest reliability at the item level was assessed using weighted Kappa coefficients, with excellent agreement in four items [Q1: (k:0.83, $p<0.01$) ; Q2: (k:0.85, $p<0.01$); Q5: (k:1.00, $p<0.01$); Q6: (k:1.00, $p<0.01$)] and moderate agreement in two others [Q3: (k:0.41, $p=0.03$); Q4: (k:0,43, $p=0.05$)].

Conclusion: the Brazilian Portuguese version of the ADCT proved to be a reliable and valid tool for assessing disease control in adolescents with AD.

26.

Real-world comparison of dupilumab and tralokinumab in moderate-to-severe atopic dermatitis: a 12-month prospective observational study

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Introduction

Biologic therapies have substantially improved the management of moderate-to-severe atopic dermatitis (AD). Dupilumab, targeting IL-4 and IL-13 signaling, and tralokinumab, a selective IL-13 inhibitor, are widely used in routine clinical practice. However, real-world comparative data between these two agents, particularly with long-term follow-up, remain limited. The aim of this study was to compare the effectiveness of dupilumab and tralokinumab over 12 months in a real-world setting.

Materials and Methods

This prospective observational study included adult patients with moderate-to-severe AD treated with either dupilumab (n=60) or tralokinumab (n=42) in routine clinical care. Only patients who completed all scheduled visits (baseline, months 3, 6, 9 and 12) were included to allow paired longitudinal assessment.
Clinical outcomes included objective SCORAD (oSCORAD), body surface area (BSA), pruritus and sleep disturbance assessed by visual analogue scales, and Investigator's Global Assessment (IGA). Treatment response was additionally evaluated using oSCORAD-50/75/90 and achievement of IGA 0/1. Adverse events were recorded during follow-up visits. Descriptive and comparative statistical analyses were performed to evaluate changes over time and differences between treatment groups.

Results

Both biologics led to marked improvements in disease severity over the 12-month follow-up. Mean oSCORAD decreased from 45.2±15.4 at baseline to 15.0±13.6 at month 12 in the dupilumab group and from 38.6±11.7 to 15.3±9.1 in the tralokinumab group.
Patients receiving dupilumab showed a rapid reduction in disease activity, reaching the lowest mean oSCORAD values at month 9 (12.9±12.1), followed by a slight increase at month 12. In contrast, tralokinumab demonstrated a gradual and continuous improvement between month 9 (16.8±9.4) and month 12 (15.3±9.1). Similar trends were observed for BSA and pruritus scores.
Adverse events differed between the treatment groups. Conjunctivitis occurred more frequently in dupilumab-treated patients (17/60) compared with tralokinumab (8/42). Other ocular symptoms such as dryness and itching were reported in 7/60 patients receiving dupilumab and 12/42 receiving tralokinumab. Upper respiratory tract infections were observed only in the tralokinumab group (3/42), whereas musculoskeletal complaints such as joint or muscle pain were reported in dupilumab-treated patients (2/60). Herpes infections occurred in 4/60 patients treated with dupilumab and 1/42 receiving tralokinumab, while herpes zoster infection was reported in one patient treated with tralokinumab.

Conclusion

Both dupilumab and tralokinumab demonstrated substantial real-world effectiveness in moderate-to-severe atopic dermatitis over 12 months. Dupilumab showed a faster initial clinical response, whereas tralokinumab displayed a slower but continuously improving response trajectory. Differences were also observed in safety profiles, with conjunctivitis occurring more frequently during dupilumab therapy and infections being more commonly reported in the tralokinumab group. These findings suggest distinct response kinetics and adverse-event patterns that may help guide individualized biologic treatment decisions in clinical practice.

27.

Skin barrier changes in atopic dermatitis treated with biologics and JAK inhibitors

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Abstract

Background: Atopic dermatitis (AD) is strongly associated with impaired skin barrier function and altered stratum corneum lipid composition, particularly changes in ceramide levels. Skin barrier assessment can be clinically useful for lesion follow-up and therapy evaluation.

Objective: To characterize skin barrier changes during biologic or Janus kinase inhibitor (JAKi) treatment using electrical impedance spectroscopy (EIS) and ceramide profiling.

Methods: Stratum corneum impedance and deeper layer impedance were measured on lesional and non-lesional volar forearm skin of adult AD patients starting biologics (n=39) or JAKi (n=10) at baseline, week 4, and week 16. Controls included psoriasis patients (n=10) and healthy controls (n=10). Ceramides are currently being analyzed using liquid chromatography-mass spectrometry.

Results: At baseline, both lesional and non-lesional EIS scores were significantly lower in AD patients compared to healthy controls and psoriasis patients. By week 16, both stratum corneum impedance and deeper layer impedance improved significantly, and stratum corneum impedance no longer significantly differed from healthy controls. When comparing treatment groups, no significant differences in EIS change after 16 weeks of treatment were found. However, JAKi induced greater EIS change at week 4 than biologics. Preliminary ceramide analysis shows partial normalization of the ceramide subclass composition and chain length with treatment.

Conclusion: Systemic treatment with biologics and JAKi recovers skin barrier function in AD, as objectively measured by EIS. Barrier recovery was faster with JAKi, although differences levelled out by week 16. During treatment, EIS approached those of healthy controls, supporting its utility to monitor treatment response.

28.

Virtual Reality-Assisted Hypnosis in the Treatment of Chronic Itch: a Proof-of-Concept Study

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Background:
Chronic itch is a condition with a high disease burden. Virtual reality (VR), immersing users in a different environment, has shown temporary itch-reducing effects. In the case of severe atopic dermatitis, hypnosis, a state of focused relaxation, has demonstrated longer-term benefits. The effectiveness of hypnosis however, depends on an individual's hypnotic susceptibility. Combining VR with hypnosis (VRH) may facilitate hypnosis by assisting in imagination, retaining the potential longer-lasting effects of hypnosis. Although VRH is a promising approach, it has not yet been studied in chronic itch.

Objective:
This study aims to assess the effectiveness of a standardized VRH intervention in reducing chronic itch and its psychological burden.

Methods:
This randomized controlled pilot trial includes 30 adults (18-80 years) with chronic disabling pruritus lasting at least one year. Participants are randomized to either a VRH intervention group or a waiting-list control group. The intervention group receives six VRH sessions and daily guided self-hypnosis audio instructions. The primary outcome is itch intensity (0-10 numerical rating scale) at post-treatment and follow-up (approximately six weeks after the final session) compared with baseline in a between-group analysis. Secondary outcomes include subscales of the Impact of Skin Disease on Daily Life (ISDL), the Hospital Anxiety and Depression Scale (HADS), need for medical treatment, and sensitivity to cowhage-induced itch.

Results:
A VRH intervention was developed through co-design and heuristic evaluation with individuals with chronic itch. The intervention features a natural virtual environment with hypnotic suggestions targeting calmness, externally evoked sensations (e.g., pleasant cooling), and behavioral control over scratching. At the time of writing, 18 of the 30 participants have been included in the trial.

Conclusion:
Hypnosis-based interventions have shown promising effects. Recruitment for the present study is ongoing. As preliminary analyses were not included in the ethics protocol, results on the intervention's effectiveness will follow.

29.

Genomic and phenotypic signatures of *Staphylococcus aureus* in atopic dermatitis in Portugal

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Abstract

Background

Atopic dermatitis (AD) is a chronic inflammatory skin disease in which *Staphylococcus aureus* colonization contributes to disease pathophysiology. Despite the high burden of AD in Portugal, the molecular epidemiology of colonizing *S. aureus* remains poorly characterized. The impact of dupilumab therapy and mechanisms underlying lesion colonization and within-host adaptation are also unclear.

Objective

To characterize the molecular epidemiology of *S. aureus* in AD patients in Portugal and examine colonization patterns, within-host adaptation, and the impact of dupilumab therapy.

Methods

Swabs were collected from the anterior nares, lesions, and non-lesional skin of adult AD patients at a Portuguese hospital (2024–2025). *S. aureus* prevalence and bacterial load were assessed in patients with and without dupilumab treatment. Isolates were tested for biofilm formation, urease, and hemolysin production. A subset of the dominant sequence type underwent whole-genome sequencing (WGS) to assess genetic relatedness and adaptation across sites.

Results

Out of the 57 patients evaluated (median age 30y; 28M/29F), 82% carried *S. aureus.* Colonization was highest in the anterior nares (74%; 42/57), followed by lesional (53%; 30/57) and non-lesional (21%; 19/57) skin. Dupilumab treatment reduced bacterial load in lesional skin (mean $6.25x10^5$ vs $1.09x10^6$ CFU/mL). The most frequent clone was methicillin-susceptible *S. aureus* ST398 (MSSA-ST398), accounting for 47% of isolates. Compared with other lineages, ST398 showed reduced biofilm formation but increased hemolytic and urease activity. Comparative genomics with international isolates showed that most Portuguese ST398 isolates (84%) formed a distinct cluster. WGS demonstrated that strains from different body sites within the same patient were closely related (2–46 SNPs).

Conclusion

AD patients in Portugal appear to represent a reservoir of MSSA-ST398. The clustering of isolates suggests regional expansion of this lineage. High genetic

similarity between isolates from different sites supports endogenous lesion colonization, while genomic variation suggests adaptation to different skin environments.

30.

The Influence of Patient-Derived *Staphylococcus aureus* strains on Atopic Dermatitis: Preliminary Findings

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Atopic dermatitis (AD) is a chronic inflammatory skin disease, affecting up to 15-25% of children and 3-7% of adults. AD patients frequently show a dysbiosis within the skin microbiome, characterized by an overgrowth of *Staphylococcus aureus* (*S. aureus).* It is widely accepted that *S. aureus* contributes to AD pathology, and that colonization is associated with more severe disease symptoms. However, mechanistic studies frequently rely on model strains, which inadequately represent diversity and virulence of clinical isolates, potentially overlooking strain-specific interactions and effects.

This study aims to investigate the diversity and impact of clinical *S. aureus* isolates on AD pathology. We collected and sequenced a total of 110 *S. aureus* strains from the lesional skin and nose of 91 AD patients, along with associated patient information like disease severity (SCORAD), years since disease onset, and current therapy.

Clonal typing of patients-derived *S. aureus* strains identified 21 distinct multilocus sequence types (MLST) and 44 distinct spa types with no clonal type showing clear predominance in this cohort. Interestingly, clonal types previously reported to be associated with increased adhesion to keratinocytes or with skin and soft tissue infections are represented in this cohort. Furthermore, phylogenetic clustering of genomes revealed that strains clustered based on patient ID and clonal types, rather than sampling site. Additionally, a 3D air-liquid interface skin model with AD features was established for future investigations.

These preliminary results suggest, that diverse *S. aureus* strains colonize patients in this AD cohort. We plan to investigate the impact of these clinical isolates on keratinocytes, as well as the adaptive immune response. This could potentially identify strain and virulence factor associations with specific AD phenotypes. These insights might have the potential to contribute to more targeted treatments of AD symptoms in the future.

31.

Real-world drug survival and treatment switching in severe atopic dermatitis: a single-centre study from Poland

BACKGROUND

Advanced systemic therapies, including biologics and Janus kinase (JAK) inhibitors, have expanded treatment options for severe atopic dermatitis (AD). However, many patients fail to achieve sustained disease control and require treatment changes. Real-world data on drug survival and treatment switching are needed to guide clinical decision-making.

OBJECTIVE

To analyse drug survival, treatment switching, and adverse events in patients with severe AD treated with advanced systemic therapies in a real-world clinical setting.

METHODS

This single-centre study included adult and paediatric patients with severe AD at a tertiary dermatology centre in Poland. Eligibility required EASI ≥20; adults must additionally have documented prior treatment failure or contraindications or intolerance to cyclosporin A. Therapies were approved and reimbursed sequentially: dupilumab (2021), upadacitinib and baricitinib (2022), abrocitinib and tralokinumab (2023), and lebrikizumab (2025). Of 188 treated patients, 31 (16.5%) discontinued or switched therapy and were included in current analysis.

RESULTS

The cohort comprised 16 males (51.6%) and 15 females, mean age 24.8±10.7 years (range 6-53), baseline EASI 34.0±12.4 and DLQI 19.7±5.6. Twenty two (71.0%) subjects switched to a subsequent therapy and 9 (29.0%) discontinued without switching. Dupilumab was the most common initial therapy (77.4%), followed by tralokinumab (9.7%), upadacitinib (9.7%), and abrocitinib (3.2%). At week 16, among switched patients (n=23), EASI-50 was achieved in 82.6% and EASI-75 in 26.1% of individuals, respectively. The most frequent reason for discontinuation was lack of effectiveness (45.2%), followed by adverse events (29.0%), family planning (12.9%), and patient decision (9.7%). Following adverse events led to treatment discontinuation: conjunctivitis (n=3), alopecia (n=2), eosinophilia (n=2), angioedema (n=1), and dyspnoea (n=1). Four patients (12.9%) required three consecutive therapies. Median drug survival was 34.5 weeks (IQR 17.8-62.8).

CONCLUSION

Despite meaningful clinical improvement at week 16, treatment switching and discontinuation were common in this cohort. These findings highlight the challenges of maintaining long-term disease control and emphasise the need for improved treatment sequencing strategies and predictive biomarkers in severe AD.

32.

Abstract: Oral Communication

Real-World Effectiveness, Safety, and Drug Survival of Dupilumab, Tralokinumab, and Upadacitinib in Atopic Dermatitis: An International Comparative Study

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Background Atopic dermatitis often requires long-term systemic therapy, yet comparative real-world evidence regarding effectiveness, safety, and drug survival remains limited.

Objective This study aimed to evaluate and compare the 52-week effectiveness, safety, and real-world drug survival of dupilumab, tralokinumab, and upadacitinib in patients with atopic dermatitis aged ≥12 years, specifically assessing treatment outcomes and retention between October 2017 and March 2023

Methods In this international multicenter study involving up to 2,038 treatments courses, effectiveness was assessed using the Eczema Area and Severity Index (EASI). Drug survival was analyzed using Kaplan–Meier estimators and proportional hazards Cox regression models to identify predictors of discontinuation.

Results Upadacitinib demonstrated superior effectiveness at week 52 (EASI 90: 76.6% vs. 66.2% for dupilumab and 32.9% for tralokinumab; $p < 0.001$). However, upadacitinib was associated with a higher incidence of adverse events (47.6%) compared to biologics. Overall drug survival at 24 months was highest for dupilumab (86.3%), followed by upadacitinib (78.7%) and tralokinumab (66.8%) ($p < 0.01$). In biologic-/JAKi

(Janus kinase inhibitors)-naïve patients, dupilumab and upadacitinib showed comparable 24-month survival (86.6% vs. 89.2%), both significantly higher than tralokinumab (66.0%). Male gender was associated with a higher risk of treatment discontinuation.

Conclusion While upadacitinib is more effective at achieving stringent clinical targets, dupilumab maintains superior overall drug survival in real-world practice. These findings highlight the need for a personalized therapeutic approach, balancing high efficacy with long-term safety and treatment retention based on individual patient profiles.

33.

Three Decades of Atopic Dermatitis Burden: A Comparative Global Burden of Disease Analysis of North America and Caribbean Small Island Developing States, 1990–2023

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Background
Atopic dermatitis (AD) is a chronic inflammatory skin disease and a major contributor to non-fatal disease burden through years lived with disability (YLDs). AD epidemiology has been widely studied in large populations. However, long-term comparative data for Caribbean Small Island Developing States (SIDS) remain limited. The Global Burden of Disease (GBD) Study provides a unique, standardized dataset that enables cross-jurisdictional comparisons over multiple decades.

Objective
To analyze long-term trends and highlight geographic disparities in AD burden across North America and Caribbean SIDS from 1990 to 2023, utilizing GBD data.

Methods
An ecological analysis was conducted using estimates from the Global Burden of Disease Study 2023, accessed via the Global Health Data Exchange (GHDx) Results Tool, to ensure transparency and reproducibility.

Results

From 1990 to 2023, age-standardized AD burden remained largely stable across countries included. Minimal changes are reported in prevalence and incidence. In 2023, age-standardized prevalence was approximately 4,200 per 100,000 in Caribbean SIDS, compared with 1,610 in the United States (US) and 1,460 in Canada (2.6-fold and 2.9-fold, respectively). Canada showed essentially no change in prevalence (−0.1%) and incidence (−0.2%). The US experienced a modest decline in incidence (−3.0%). In contrast, Caribbean SIDS consistently demonstrated higher prevalence, incidence, YLDs, and DALYs. Within the SIDS group, prevalence is similar with Saint Kitts and Nevis having the highest prevalence (~4,212 per 100,000), and Dominica (~4,193) and Trinidad and Tobago (~4,201) having lower rates. Not all SIDS reported individual data on AD.

Conclusion

Persistent regional geographic disparities in AD highlight ongoing disease challenges, emphasizing the importance of public health efforts, as Caribbean SIDS demonstrate approximately 2–3 times higher prevalence and disability burden than Canada and the United States from 1990 to 2023.

34.

A potential benefit of blocking of the IL-13Rα2 in atopic dermatitis (AD) and IgE mediated allergy.

1. Background

Until recently, the IL13Rα2 receptor was considered solely an IL-13 decoy receptor within the pleiotropic IL-4/IL-13 receptor system. However, studies have demonstrated dynamic regulation of IL13Rα2 in conditions such as neoplasia and fibrosis, showing that IL13Rα2 expression can be induced in macrophage- and monocyte-derived cell lines by IL-13 (or IL-4) in combination with TNFα. Current AD biologics target the IL-13 pathway differently: tralokinumab blocks IL-13Rα2, whereas dupilumab and lebrikizumab do not.

2. Objective

To provide a comprehensive overview of the mechanism of action of IL13Rα2 in the atopic inflammatory milieu.

Methods

PBMCs were isolated from the peripheral blood of AD patients and stimulated with cytokines (IL-4, IL-13, TNFα, IFNγ, etc.) or allergens for varying periods. Cells were stained for specific subpopulations and analyzed by flow cytometry, enabling precise identification of IL13Rα2-expressing target cells within the total population. Cell culture supernatants were collected for multiplex cytokine profiling of monocyte/macrophage-associated cytokines using flow cytometry–based assays and ELISA.

3. Results

The results show a functional effect of IL-13Rα2 blockade, which leads to a significant reduction in IgE levels in an in vitro PBMC model. Flow cytometry was used to detect intra- and extracellular expression of IL-13Rα2 in monocytes, which could be further upregulated by stimulation. This suggests that the IgE-lowering effect is indirectly mediated through monocyte-associated mechanisms. In further experiments, the blockade of IL-13Rα2 after stimulation with anti-CD40 and IL-4/IL-13 also led to changes in the cytokine expression pattern of monocytes.

4. Conclusion

Blockade of IL-13Rα2 has a functional impact on IgE production by B cells following stimulation in vitro. The underlying mechanism appears to involve IL-13 signaling via IL-13Rα2 on monocytes, which may indirectly modulate IgE production. These findings suggest that monocyte-associated signaling pathways could contribute to the pathophysiology of atopic dermatitis and could be relevant for future therapeutic strategies.

Efficacy and Safety of Oral JAK Inhibitors in Adolescent and Adult Patients with Moderate-to-Severe Atopic Dermatitis: Real-World Data from Turkey

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Background: Atopic dermatitis (AD) is a chronic inflammatory skin disease. Janus kinase (JAK) inhibitors targeting the JAK–STAT pathway have emerged as new systemic treatment options; however, real-life data on their efficacy and safety remain limited.

Objective: This study aimed to evaluate the real-life efficacy and safety of JAK inhibitors in patients with moderate-to-severe AD, including those previously treated with systemic therapies and biologics.

Methods: In this retrospective, observational, multicenter cohort study, adolescent and adult patients with AD from 15 centers who were treated with abrocitinib, upadacitinib or baricitinib between April 2023 and the present were included (n=300). Treatment effectiveness and adverse events were evaluated ($p<0.05$).

Results: A total of 300 patients were included: 159 received upadacitinib, 128 abrocitinib, and 13 baricitinib. All had previously received conventional systemic therapy, and 74 (24.7%) had an inadequate response to targeted therapies such as omalizumab and/or dupilumab. JAK inhibitor treatment significantly reduced disease severity over a median follow-up of 16 weeks. EASI and SCORAD scores decreased significantly over time ($p < 0.001$), with no significant differences in EASI improvement between treatment groups ($p = 0.939$). Although SCORAD scores differed among groups ($p = 0.005$), post-hoc analysis showed no difference

between upadacitinib and abrocitinib, while baricitinib had higher scores compared with upadacitinib. Patient-reported outcomes also improved significantly. DLQI and PP-NRS scores decreased in all groups, with upadacitinib showing the greatest reduction in pruritus severity and the greatest improvement in quality of life, followed by abrocitinib, while baricitinib showed comparatively less improvement. The most pronounced early reduction in PP-NRS was observed with upadacitinib at week 2. IGA scores also differed significantly between groups, with abrocitinib and upadacitinib demonstrating better clinical responses than baricitinib. The most common adverse event was acne ($n = 25$). No significant differences were observed among treatment groups regarding adverse events ($p > 0.05$) and CK elevation rates were similar between groups ($p = 0.29$).

Conclusion: JAK inhibitors may be an effective treatment option for patients with moderate-to-severe AD in daily clinical practice, including those who are resistant to other targeted therapies.

36.

Atopic dermatitis serum proteomics reflect non-lesional skin barrier abnormalities more than lesional

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Abstract

Background: Transepidermal water loss (TEWL) is one way to quantify barrier disruption in atopic dermatitis (AD). In the AD Research Network (ADRN)09 trial, lesional (Les) and non-lesional (NL) TEWL values did not correlate significantly with Eczema Area and Severity Index (EASI). Additionally, we found that only NL barrier measures correlated with *Staphylococcus aureus* NL abundance and serum LDH, s-IL2Ra and CCL17.

Objective: We performed serum proteomics to better understand the systemic features of AD barrier defects.

Methods: This post-hoc analysis evaluated moderate-severe, adult AD participants (n=38). Les and NL TEWL (AquaFlux) were measured, and NL TEWL AUC (Stratum Corneum [SC] integrity) was calculated from TEWL measures after 5, 10, and 15 tape-strips. Serum proteomics (Olink® Explore 3072) quantified 2870 proteins. Using the Human Protein Atlas database and HPAStainR, we identified tissues with detectable staining of barrier-associated serum proteins.

Results: We observed a wide range of Les TEWL (median $g/m^2/h$ [range]; 31.4 [10.6-98.1]) NL TEWL (15.1 [5.8-54.7]), and SC integrity (93.3 [22.9-603.2]) values. NL TEWL correlated with 72 proteins (positively; $r>0.5$), and SC integrity correlated with 115 (113 positively and 2 negatively; $r>0.5$ or $r<-0.5$), of which 16 proteins were shared. Les TEWL positively correlated with only NDST1 ($r=0.68$). Based on the HPA database, a significant number of NL TEWL protein correlates were detected in skin-keratinocytes (38/72, $p=0.02$), whereas SC integrity protein correlates were detected in bone marrow-hematopoietic cells (91/115, $p=0.01$).

Conclusions: Only NL barrier measurements are reflected in serum proteins. NL barrier appears to indicate epithelial damage or repair, whereas SC integrity is likely more reflective of immune pathways.

37.

Management of atopic dermatitis at a university dermatological department

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Atopic dermatitis (AD) has gained much attention in medical research over recent years, leading to the introduction of novel, effective and well-tolerated systemic therapies. The Department of Dermatology at the University Hospitals Erlangen is a center with extensive expertise in the diagnosis and treatment of AD and has actively been involved in these developments. The aim of this study was to provide a detailed description of the population of patients with AD in Erlangen to improve future disease management. This included both epidemiologic and clinical characteristics of the patients, as well as the various therapeutic and diagnostic procedures. Additionally, the efficacy and tolerability of systemic therapies were evaluated. A secondary objective was to analyze the quality of patient record documentation to optimize data collection and its systematization.

For this study, data from patients diagnosed with " atopic eczema" (ICD code L20.8) who were treated at the department of Dermatology Erlangen as inpatients, outpatients or day care patients between December 1, 2019, and December 1, 2021, were retrospectively extracted and evaluated. The data were collected using Microsoft Excel (Version 2208 Build 16.0.15601.20072) and subsequently analyzed using descriptive statistics.

The study cohort included 858 patients, 55.8% of them female. The average age was 33 years covering all age groups from a few months to 93 years. During the study period 12.4% were treated as inpatients. 58.5% of them were male with an average age of 41.70 years. 71.0% of all patients had been seen in the hospital for the first time. Initial visits were either as emergencies, with or without an appointment or by referral from dermatologists or other specialists. Associated atopic conditions were common. 38.0% of the patients suffered from allergic rhinoconjunctivitis, 16.9% from allergic bronchial asthma, 11.0% from food allergies, and 9.3% from oral allergy syndrome. Additionally, 13.2% of the patients showed type IV sensitizations. Prevalence rates comparable to large meta-analyses were found only for allergic rhinoconjunctivitis and a positive family history of atopy. The prevalence of psychological disorders was 14.4%, with stress and depressive symptoms being the most frequently recorded. UV-therapy was performed at least once in 11.5% of the patients, with UVB-311 being the most frequently used treatment. Systemic therapies were used in 12.8% of the cohort. The three most commonly used systemic therapies were dupilumab, ciclosporin, and baricitinib.

Baricitinib showed the best tolerability (88.9%), followed by dupilumab (74.4%) and ciclosporin (59.6%). Regarding efficacy, dupilumab demonstrated the highest efficacy (72.0%), followed by baricitinib (55.6%) and ciclosporin (46.8%). At the end of the study period, dupilumab was the most frequently used therapy (67.0%) and was preferred as the first initiated systemic therapy during the study period. The Departement of Dermatology Erlangen was highly active in participating in patient registries and clinical studies. In contrast, important clinical scores were not consequently documented on site for adequate statistical analysis, DLQI (8.4%), EASI (10.7%), SCORAD (5.2%), and the Erlangen Atopy Score (14.7%).

This retrospective data analysis of AD patients at the Department of Dermatology of the University Hospitals Erlangen reveal several methodological limitations and biases. The data collection was limited to two years 2019 to 2021 with therapeutic approaches available at that time. A similar study is ongoing covering years 2023 to 2025. The results regarding the many diverse patient characteristics, as well as the efficacy and tolerability of the initiated systemic therapies were not always comparable with the available literature. Overall, the insufficient documentation of many parameters (e.g. scores such as DLQI, EASI, SCORAD, psychological factors, Fitzpatrick skin type) was a central issue, making statistical analysis difficult. A consequent and standardized documentation of these parameters would allow for better analyses. However, the data confirm the high number of patients treated annually for AD at the Department of Dermatology of the University Hospitals Erlangen and the comprehensive range of diagnostics and therapies offered.

38.

Long-Term Disease Modification Two Years After Discontinuation of House Dust Mite Sublingual Immunotherapy in Atopic Dermatitis

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Abstract

Background: Atopic dermatitis (AD) is associated with house dust mite (HDM) allergy. Although HDM sublingual immunotherapy (SLIT) has been shown to improve disease severity, it remains unclear whether it induces long-term disease modification after treatment discontinuation.

Objective: To determine whether HDM SLIT provides sustained disease control two years after therapy withdrawal.

Methods: Patients from a randomized double-blind placebo-controlled trial entered an 18-month open-label extension. Patients initially treated with HDM-SLIT (n=9) continued therapy, while those previously receiving placebo (n=12) initiated HDM-SLIT after a 3-month induction. Disease severity (SCORAD, EASI and IGA) was assessed at extension baseline, at the end of active treatment (month 36), and two years after treatment discontinuation (month 60). During follow-up, two patients were excluded due to initiation of biologic or systemic immunosuppressive therapy, and two patients were lost to follow-up, leaving 17 patients for the long-term analysis.

Results: During the blinded phase, HDM-SLIT induced rapid and significant clinical improvement, whereas placebo-treated patients showed no meaningful change. After SLIT initiation, the former placebo group demonstrated a rapid response and achieved disease control at 18 months, comparable to patients treated with HDM-SLIT for 36 months. Importantly, clinical improvement persisted after treatment discontinuation. At month 60, SCORAD remained stable in both the group of patients who received HDM-SLIT for 36 months (16.1 and 15.4, respectively) and the group who received placebo for 18 months followed by HDM-SLIT for 18 months (16.3 to 10.2, respectively), with similar sustained control observed for EASI and IGA.

Conclusion: HDM sublingual immunotherapy induced durable clinical improvement in mite-allergic patients with AD, which persisted for at least two years after treatment withdrawal. These findings support a true disease-modifying and tolerance-inducing effect of allergen immunotherapy in AD, reinforcing its role beyond symptomatic treatment.

39.

Atopic dermatitis in Indian skin

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- Background Color differences in skin are due to the amount and distribution of epidermal melanin. The number of melanocytes is almost the same in all skin types, but higher phototypes exhibit more melanocytes. Asian skin tends to present postinflammatory hyperpigmentation, melasma, and hypopigmentation.
- Damage to the basement membrane and basal keratinocytes, which release melanin in large quantities in response to inflammation, can also lead to PIH in the dermis.
- In the upper dermis, the pigment is phagocytosed by macrophages, giving the skin a darkened appearance; this type of hyperpigmentation can be either prolonged or permanent

2. Objective

To differentiate various hypopigmentation and hyperpigmentation changes in atopic dermatitis.

3. Methods

Pigmentary changes in 50 atopic dermatitis patients from age group 1 to 65 years were recorded.

4. Results

Most common changes were hypopigmentation and hyperpigmentation followed by lichenification in 23 patients.

5. Conclusion

Differential diagnosis of pityriasis alba, leprosy, Hypomelanosis and Vitiligo needs clinical examination with woods light and dermascope.

Skin diseases behave differently in Indian skin

Hyperpigmentation and hypopigmentation are sequelae to healing

Accurate diagnosis needs good clinical examination and experience

Erythema and inflammation is often missed due to dark skin

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