Abstract N°: 6

Comprehensive Oat Benefits for Skin Health: Synergistic Effects of Oat Flour and Oat Beta Glucan on Hyaluronic Acid Production and Barrier Function Through Upregulation of Filaggrin and Loricrin

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Introduction
Oats (Avena sativa) have been used for centuries to treat various skin conditions. This study investigated the synergy between oat and its beta glucan (OBG) components in strengthening the skin barrier through upregulation of key barrier proteins (Filaggrin and Loricrin) and stimulation of hyaluronic acid (HA) production, particularly under stress conditions.

Materials and Methods
Human dermal fibroblasts were treated with OBG and oat flour under normal and cortisol-stressed conditions to evaluate HA production. Human skin explants were subjected to UV radiation to assess protective effects of oat components against HA, Filaggrin, and Loricrin degradation. 3D tissue models were used to evaluate barrier protein production. A clinical evaluating moisturization was also conducted.

Results
The combination of OBG with oat flour produced a synergistic effect, yielding HA levels significantly higher than either component individually and mitigated cortisol-induced HA reduction. Furthermore, both OBG and oat flour conferred significant protection from UV-induced degradation of HA and barrier proteins Filaggrin and Loricrin. In 3D tissue models, an oat-containing moisturizer increased filaggrin content by >500% and loricrin by 194% compared to untreated tissues. Moisturization benefits were confirmed via instrumental measures up to 48 hours after one application of an oat-containing moisturizer ($p<0.05$).

Conclusions
Oat flour and OBG significantly enhance skin barrier function through complementary mechanisms: upregulation of barrier proteins and enhanced hyaluronic acid synthesis, particularly under stress conditions. The synergistic effects between oat flour and oat betaglucan represent a promising approach for developing topical formulations with enhanced efficacy that strengthen the skin moisture barrier while counteracting environmental and physiological stressors.

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All authors were employees of Kenvue Brands LLC at the time of the research

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Abstract N°: 62

Early pruritus reduction following nemolizumab in atopic dermatitis and prurigo nodularis patients: A Real-World Study

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Introduction
Nemolizumab, a monoclonal antibody targeting the interleukin-31 receptor alpha (IL-31RA), has been approved in Europe since February 2025 for the treatment of moderate-to-severe atopic dermatitis and prurigo nodularis. Chronic pruritus represents one of the most burdensome and persistent symptoms in these conditions, often severely impairing quality of life over prolonged periods. By inhibiting IL-31 signaling, a key pathway in the pathogenesis of chronic pruritus, nemolizumab offers a targeted therapeutic approach. However, real-world data on the early therapeutic effects of nemolizumab in routine clinical practice remain limited.

Materials and Methods
Here, we evaluated early pruritus reduction of atopic dermatitis and prurigo nodularis patients during nemolizumab therapy in a single-center university setting in Germany. Pruritus severity was assessed using the Peak Pruritus Numerical Rating Scale (PP-NRS). Early response was defined as a reduction of ≥4 points on the PP-NRS within 7 days. Baseline patient characteristics including age, sex were collected.

Results
A total of 48 patients initiated nemolizumab therapy between February 2025 and June 2026. Of these, 43 patients had evaluable pruritus data and were included in the analysis. The cohort comprised 15 females and 28 males, with a median age of 65 years (range 14-90). In the overall cohort, the median baseline peak pruritus was PP-NRS 9/10 (range 4-10). Overall, 30 of 43 patients (69.8%) achieved an early response within 7 days (early responders), whereas 13 of 43 patients (30.2%) did not achieve a response within 7 days. Among early responders, the median baseline peak pruritus was PP-NRS 9/10 (range 4-10). At early response the median peak pruritus decreased to PP-NRS 0.5/10 (range 0-6), corresponding to a median reduction of 7 points (range 4-10).

Conclusions
In this real-world cohort, nemolizumab demonstrated a rapid and pronounced reduction in pruritus, with the majority of patients achieving a clinically meaningful response within the first week of treatment. Given the chronic and highly burdensome nature of pruritus in atopic dermatitis and prurigo nodularis, this early onset of itch relief is of particular clinical relevance. Further analyses are warranted to identify predictors of early response and mechanism underlying treatment variability to optimize long-term management strategies.

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Abstract N°: 114

Pruritic infiltrated papules and plaques: a diagnostic clue to systemic mantle cell lymphoma

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Introduction

Mantle cell lymphoma (MCL) is a rare and aggressive mature B-cell lymphoma, accounting for approximately 3–10% of non-Hodgkin lymphomas, It is characterized by the translocation t(11;14), leading to cyclin D1 overexpression. It commonly presents with nodal and extranodal involvement. However, cutaneous manifestations are uncommon, occurring in approximately 1% of cases, and usually indicate advanced disease with a poorer prognosis.
We report a case of systemic MCL presenting with cutaneous lesions as the initial manifestation.

Case Presentation

A 70-year-old man presented with multiple pruritic papules and plaques of progressive onset. Physical examination revealed disseminated erythematous-infiltrated lesions involving the trunk and extremities, associated with chronic bilateral lower limb edema. Given the nonspecific clinical presentation, a broad differential diagnosis was considered, including inflammatory dermatoses and cutaneous lymphoproliferative disorders.
Laboratory findings were unremarkable except for mild anemia. Serologic tests for HIV, hepatitis B and C viruses, toxoplasmosis, and Chagas disease were negative.
Imaging studies demonstrated a large pancreatic mass and multiple lymphadenopathies involving cervical, axillary, mediastinal, and retroperitoneal regions, consistent with systemic disease.
Histopathological examination of a skin biopsy revealed dermal and subcutaneous infiltration by atypical lymphoid cells with increased mitotic activity. Immunohistochemistry showed a B-cell phenotype with positivity for CD20, CD5, BCL2, MUM1, and cyclin D1, and a high Ki-67 proliferation index (≈60%), confirming cutaneous involvement by mantle cell lymphoma.
Fluorescence in situ hybridization (FISH) performed on a bone marrow aspirate confirmed the presence of the t(11;14) translocation.
The patient was referred to hematology and initiated on systemic therapy with R-CHOP, with a plan for subsequent autologous stem cell transplantation.

Conclusion

This case highlights that persistent pruritic papules and plaques may represent the initial manifestation of an aggressive systemic lymphoma. Early recognition and prompt skin biopsy are essential for accurate diagnosis and timely multidisciplinary management.

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Abstract N°: 193

Dramatic Improvement of Treatment-Refractory Prurigo Nodularis Following Initiation of Semaglutide: A Case Report

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Introduction

Prurigo nodularis (PN) is a chronic inflammatory dermatosis characterized by intensely pruritic hyperkeratotic nodules affecting the trunk and extremities. Despite an expanding therapeutic armamentarium including dupilumab and nemolizumab, a subset of patients remains inadequately controlled. Glucagon-like peptide-1 receptor agonists (GLP-1 RAs), widely used in the management of type 2 diabetes and obesity, have emerging evidence supporting immunomodulatory and anti-inflammatory effects in several chronic inflammatory dermatoses.

Case Presentation

A 64-year-old man was referred for a pruritic dermatosis evolving for 2 months despite the application of potent topical corticosteroids and levocetirizine. His medical history included childhood atopic dermatitis, obesity (BMI 36.29 kg/m^2), benign prostatic hyperplasia, and hyperthyroidism. His regular medications included dutasteride–tamsulosin and levothyroxine, both taken for several years. Clinical examination revealed approximately 50 excoriated prurigo lesions. The pruritus VAS score was 9/10, the patient reported significant sleep disturbances and impact on quality of life (DLQI = 22/30). Initial workup — including complete blood count, hepatic transaminases, CRP, creatinine, ferritin, hepatitis B and C and HIV serology, anti-skin antibody testing, and serum protein electrophoresis — was unremarkable. Histological examination revealed findings consistent with excoriated prurigo lesions, with negative direct immunofluorescence.Initial management consisted of dupilumab 300 mg every 14 days following a loading dose. After 4 months, the pruritus VAS score was 6/10 with persistent sleep disturbances, and a 50% reduction in the number of PN lesions was observed. A further 6 months of dupilumab therapy produced no additional clinical improvement. The patient was subsequently treated with methotrexate 22.5 mg/week; after 4 months, PN lesions had improved by approximately 50%, but pruritus remained unchanged. The patient self-discontinued treatment, resulting in a severe relapse (>100 PN lesions; pruritus VAS 9/10). Methotrexate was reintroduced at 25 mg/week for 5 months with incomplete control, after which dupilumab 300 mg every 14 days was added. After 6 months of combination therapy, partial symptomatic improvement was noted (pruritus VAS 5/10; 50 active PN lesions).After 3 years of follow-up for severe, multi-treatment-refractory PN, semaglutide was initiated for the management of obesity, with no modification to the ongoing PN treatment regimen. After 5 months of semaglutide, the patient had lost 12 kg; the pruritus VAS score decreased to 3/10, and only 15 active PN nodules were identified on examination. At 8 months, the pruritus VAS was 2/10 with only 3 active lesions remaining, and the patient had lost an additional 3 kg.

Conclusion

The temporal association between semaglutide initiation and clinical improvement suggests a potentially causal role of semaglutide in this case. Several mechanistic hypotheses may explain this finding: GLP-1 RAs exert indirect anti-inflammatory effects by reducing low-grade chronic inflammation, notably through downregulation of TNF-alpha, IL-6, and IL-1alpha, cytokines implicated in the inflammatory milieu of PN; GLP-1 receptors are expressed on multiple immune cells — including eosinophils, regulatory T lymphocytes, macrophages, and possibly mast cells — providing a plausible direct immunomodulatory pathway; modulation of the Th2 immune response has

been demonstrated with GLP-1 RAs in the context of asthma, though cutaneous evidence remains lacking; GLP-1 RAs may exert antinociceptive effects on pruritus through modulation of neuro-immune signaling at both central and peripheral levels, a particularly relevant mechanism given the prominent neurogenic component of PN.. This observation underscores the potential of GLP-1 RAs as adjunctive therapy in patients with inflammatory dermatoses refractory to conventional and biologic treatments.

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Abstract N°: 213

Potential Role of Chronic Medication Use in Prurigo Nodularis: A Case–Control Study

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Introduction
Prurigo nodularis is a chronic pruritic dermatosis associated with substantial quality-of-life impairment. Although systemic comorbidities have been increasingly recognized, the potential role of chronic medication exposure remains insufficiently characterized. This study aimed to evaluate comorbidities and regular medication use associated with biopsy-confirmed prurigo nodularis compared with chronic pruritus without a primary skin eruption.

Materials and Methods
We conducted a single-center retrospective case–control study including patients seen between December 2018 and July 2025. The prurigo nodularis group consisted of biopsy-confirmed cases, while controls had chronic pruritus lasting at least 6 weeks without a detectable primary skin eruption on dermatologic examination. Demographic characteristics, body mass index, age at symptom onset, comorbidities, regular medication use, ferritin, and vitamin B12 levels were recorded. Variables significant in univariable analyses were entered into a multivariable logistic regression model.

Results
A total of 156 patients were included, comprising 77 patients with prurigo nodularis and 79 with chronic pruritus. The mean age was 55.61 ± 17.29 years in the prurigo nodularis group and 59.38 ± 17.56 years in the chronic pruritus group, with no significant difference between groups (p=0.492). Likewise, sex distribution was similar (female/male: 51/28 vs 58/21; p=0.229). Median age at symptom onset was significantly lower in patients with prurigo nodularis than in controls (50 [33.5–60.5] vs 60 [41–70] years; p=0.008). Median body mass index did not differ significantly between the groups (27.95 [23.77–32.42] vs 27.34 [24.12–31.25]; p=0.624). Ferritin and vitamin B12 levels were also comparable, with median ferritin values of 24.85 [11.95–43.70] and 21.40 [11.30–45.60] (p=0.881), and median vitamin B12 levels of 228 [165–304] and 250 [156–380] (p=0.485), respectively. Among comorbidities, hypertension (46.8% vs 44.3%; p=0.884), type 2 diabetes mellitus (36.4% vs 32.9%; p=0.766), and thyroid disease (13.0% vs 17.7%; p=0.550) were similarly distributed, whereas hyperlipidemia was less frequent in the prurigo nodularis group (11.7% vs 29.1%; p=0.013). Most medication classes, including calcium channel blockers, angiotensin receptor blockers, angiotensin-converting enzyme inhibitors, thiazide diuretics, loop diuretics, beta blockers, insulin, dipeptidyl peptidase-4 inhibitors, metformin, sodium–glucose cotransporter-2 inhibitors, aspirin, and ADP receptor antagonists, did not differ significantly between groups. However, chronic nonsteroidal antiinflammatory drug use (32.5% vs 16.7%; p=0.036) and antidepressant use (30.3% vs 12.7%; p=0.013) were significantly more common in patients with prurigo nodularis. In multivariable logistic regression analysis, chronic nonsteroidal antiinflammatory drug use (odds ratio 2.443, 95% confidence interval 1.091–5.469; p=0.030) and antidepressant use (odds ratio 2.634, 95% confidence interval 1.110–6.247; p=0.028) remained independently associated with prurigo nodularis, whereas hyperlipidemia (odds ratio 0.469, 95% confidence interval 0.187–1.175; p=0.106) and age at symptom onset (odds ratio 1.017, 95% confidence interval 0.997–1.036; p=0.091) were not independently associated after adjustment.

Conclusions

Biopsy-confirmed prurigo nodularis was independently associated with chronic nonsteroidal antiinflammatory drug and antidepressant use compared with chronic pruritus controls. These findings support the importance of structured medication review during the clinical assessment of prurigo nodularis and warrant prospective studies to clarify temporality and underlying mechanisms.

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Abstract N°: 270

Dupilumab for Cancer Pruritus: A Promising and Safe Therapeutic Alternative

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Introduction
Pruritus and other cutaneous toxicities in cancer patients, especially those related to antineoplastic treatments or immunotherapy, represent a significant therapeutic challenge due to their impact on quality of life and the limitations of prolonged use of systemic corticosteroids. Dupilumab, a monoclonal antibody targeting the IL-4/IL-13 pathway, has emerged as a potentially safe alternative in this context. The objective of this study was to evaluate the efficacy and safety of dupilumab in cancer patients with pruritus and active or remitting cancer treated at the San Cecilio University Hospital in Granada, Spain.

Materials and Methods
A prospective observational study was conducted that included six cancer patients treated with dupilumab for moderate-to-severe pruritus and/or refractory inflammatory dermatoses between June 2025 and January 2026. Demographic variables, age range, type of neoplasm, concomitant cancer treatments, dermatological indication, clinical response measured using the NRS pruritus scale, changes in the Dermatologic Life Quality Index (DLQI), concomitant treatments, and adverse events were collected. Dupilumab was administered for 16 weeks, after which treatment was interrupted to assess response and its maintenance for at least three months after discontinuation.

Results
A total of six patients with cancer-related pruritus treated with dupilumab were included. The mean age was 65.0 ± 13.2 years. All patients were male (n = 6; 100%) and presented with chronic, difficult-to-control pruritus. The mean baseline NRS score was 9.83 and the mean baseline DLQI score was 17.83. All patients had received systemic corticosteroids and non-sedating H1 antagonists; 2/6 cases also received phototherapy, and 1 case received aprepitant with prior phototherapy, all with a poor response to these treatments. All patients showed at least a 75% improvement in both indices (NRS and DLQI) at 16 weeks of treatment.

Conclusions
Dupilumab appears to be an effective and safe therapeutic option for the management of pruritus and inflammatory dermatoses in cancer patients, allowing for symptomatic control without compromising antineoplastic treatment.

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Abstract N°: 280

Sleep Disturbance in Prurigo Nodularis : A cross-sectional study

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Introduction
Prurigo Nodularis (PN) is a chronic, highly pruritic dermatosis that can impair sleep quality. The aim of our study was to determine the prevalence and severity of sleep disturbance in patients with NP and to evaluate the improvement in sleep quality under treatment.

Materials and Methods
This was a monocentric cross-sectional study conducted in May 2025, including adult patients with PN. The severity of skin lesions was assessed using the Prurigo Nodularis Investigator Global Assessment (PN-IGA), scored from 0 to 4, and pruritus intensity was evaluated using a visual analog scale (VAS), scored from 0 to 10. Sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI), scored from 0 to 21. A PSQI score greater than 5 defined poor sleepers. Correlations were analyzed using Pearson's test.

Results
A total of 20 patients were included, with a mean age of 52.6 years and a marked female predominance (sex ratio 0.25). The mean disease duration was 5.7 years. A history of anxiety and depression was reported in 30% of cases. Skin involvement and pruritus were associated with paresthesia in 65% of patients. The mean pruritus VAS score was 6.5, and the mean PN-IGA score was 2.8. The mean PSQI score was 14.5, with 95% of patients classified as poor sleepers. Pruritus was the main cause of sleep disturbances (85%), particularly affecting sleep latency (95%), nocturnal awakenings (85%), and daytime functioning (70%). Antihistamines, although prescribed in 80% of cases, failed to relieve symptoms in 62% of patients. Combination therapy was used in 70% of patients, without success in 55% of cases. Significant correlations were found between higher PSQI scores and pruritus intensity ($p<0.05$), PN-IGA ($p<0.05$), and antihistamine use ($p<0.05$).

Conclusions
Our results demonstrate a marked impairment in sleep quality in NP, reflecting the major psychosocial impact of this dermatosis beyond its cutaneous manifestations. The persistence of elevated PSQI scores under conventional treatments shows their limitations in breaking the inflammation–pruritus–insomnia cycle. This lack of efficacy supports the use of more targeted therapies that integrate sleep as a key severity parameter and a primary therapeutic objective. In this context, dupilumab and nemolizumab appear to be promising therapeutic approaches, with the latter showing a particularly notable direct impact on sleep quality, as demonstrated in recent clinical trials. Finally, the integration of psychosomatic management, focused on sleep regulation, appears essential.

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Abstract N°: 674

A Prospective Cohort Study on the Immediate Efficacy and Long-Term Repair of 4-tert-Butylcyclohexanol Combined with Soothing Ingredients in Improving Pruritus of Sensitive Skin

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Introduction

To explore the immediate relief and long-term improvement effects of 4-tert-butylcyclohexanol combined with dihydroavenanthramide and bisabolol on pruritus of sensitive skin, clarify their synergistic value in skin barrier repair, redness and roughness improvement, and provide a new reference scheme for the clinical care of pruritus in sensitive skin.

Materials and Methods

A prospective cohort study design was adopted. Thirty-two subjects with sensitive skin aged 20-54 years (positive lactic acid sting test and obvious pruritus symptoms) were selected and uniformly used a skin-moisturizing and antipruritic lotion containing 4-tert-butylcyclohexanol. At baseline (D0), 15 minutes after the first use (T15min), 24 hours after the first use (T24h), and after 28 consecutive days of use (D28), the efficacy was comprehensively evaluated through the subjects' subjective self-assessment of symptom scores such as pruritus, redness and tightness, combined with instrumental measurements of stratum corneum hydration, transepidermal water loss (TEWL), skin roughness (Ra/Rq) and a* value of facial red areas. SPSS 25.0 software was used for statistical analysis, and $P<0.05$ was considered statistically significant.

Results

The skin-moisturizing and antipruritic lotion containing 4-tert-butylcyclohexanol had a prominent immediate antipruritic effect. At T15min, the pruritus scores of facial and body skin decreased by 46.13% and 47.25% compared with D0, respectively (both $P<0.01$), the facial redness score decreased by 30.55% ($P<0.01$), and the stratum corneum hydration increased by 50.68% ($P<0.01$). At T24h, TEWL decreased by 10.51% ($P<0.01$), the a* value of red areas decreased by 3.68% ($P<0.01$), and pruritus and tightness symptoms continued to improve. After 28 consecutive days of use, the pruritus score decreased by 68.56%-72.10% ($P<0.01$), TEWL further decreased by 15.77%, stratum corneum hydration increased by 31.38%, and the skin roughness parameters Ra and Rq decreased by 3.46% and 2.93%, respectively (both $P<0.05$). No adverse reactions occurred throughout the study, 100% of the subjects recognized that the product was mild and non-irritating, and the Actimood fragrance had an emotional soothing effect.

Conclusions

The skin care product containing 4-tert-butylcyclohexanol can quickly initiate the pruritus relief mechanism of sensitive skin, and cooperate with repair ingredients to achieve a stepwise improvement effect of "immediate antipruritus - barrier enhancement - symptom stabilization", while taking into account the improvement of accompanying problems of sensitive skin such as redness and roughness. This prospective cohort study confirms that the skin care product with this ingredient is safe and effective, providing a scientific basis for the daily care

and clinical auxiliary intervention of pruritus in sensitive skin, and its fragrance auxiliary design is more in line with the comprehensive care needs of sensitive skin.

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Abstract N°: 689

MODULATION OF MU-OPIOID PATHWAY FOR THE TREATMENT OF PRURITUS: A SYSTEMATIC REVIEW OF 1,146 PATIENTS

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Introduction
Pruritus is a debilitating symptom and conventional therapies often provide incomplete relief. The μ-opioid receptor (MOR) pathway is a key regulator of itch, and μ-pathway–modulating agents are increasingly used off-label for refractory pruritus. This systematic review evaluated the efficacy, safety, and real-world use of μ-opioid pathway modulators for pruritus of dermatologic and systemic origin.

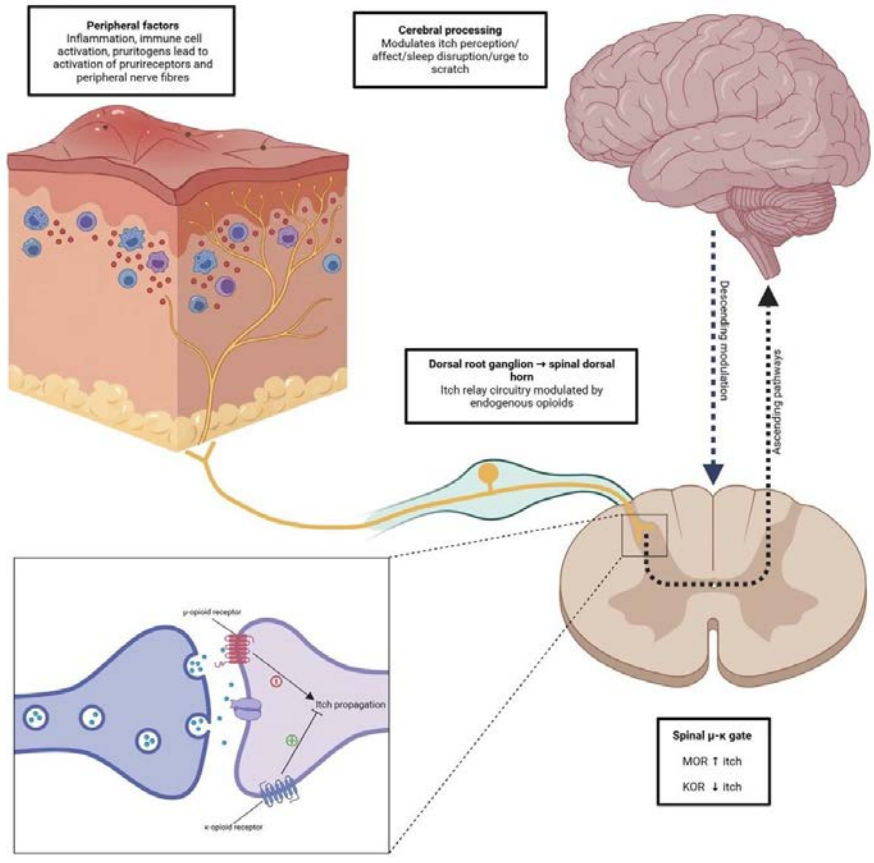


Figure 1: Diagram illustrating the proposed mechanisms and signaling pathways by which pruritus is

modulated by the opioid system. Pruritus arises from peripheral activation of pruriceptors with transmission to the dorsal root ganglion and spinal dorsal horn itch-relay circuitry, with ascending projection to supraspinal regions mediating perception, affect and sleep disturbance. Endogenous opioidergic signaling modulates itch gain: -opioid receptor activity biases toward itch facilitation, whereas k-opioid receptor activation suppresses itch transmission. -opiod modulators reduce itch by MOR antagonism or combined MOk antagonism and agonism. The cutout illustrates the particular role of u and receptors at the level of the sensory neuron, highlighting their roles in amplifying (u-opioid receptor) or inhibiting (k-opioid receptor) pruritogenic neural transmission. MOR: mu opioid receptor; KOR: kappa opioid receptor.

Materials and Methods

Following PRISMA guidelines (PROSPERO CRD420251207101), a comprehensive search of four databases identified 3,274 records, of which 69 studies met inclusion criteria, comprising 14 randomised controlled trials (RCTs; n=795) and 55 non-randomised studies (n=351). Owing to substantial clinical and methodological heterogeneity, findings were narratively synthesised.

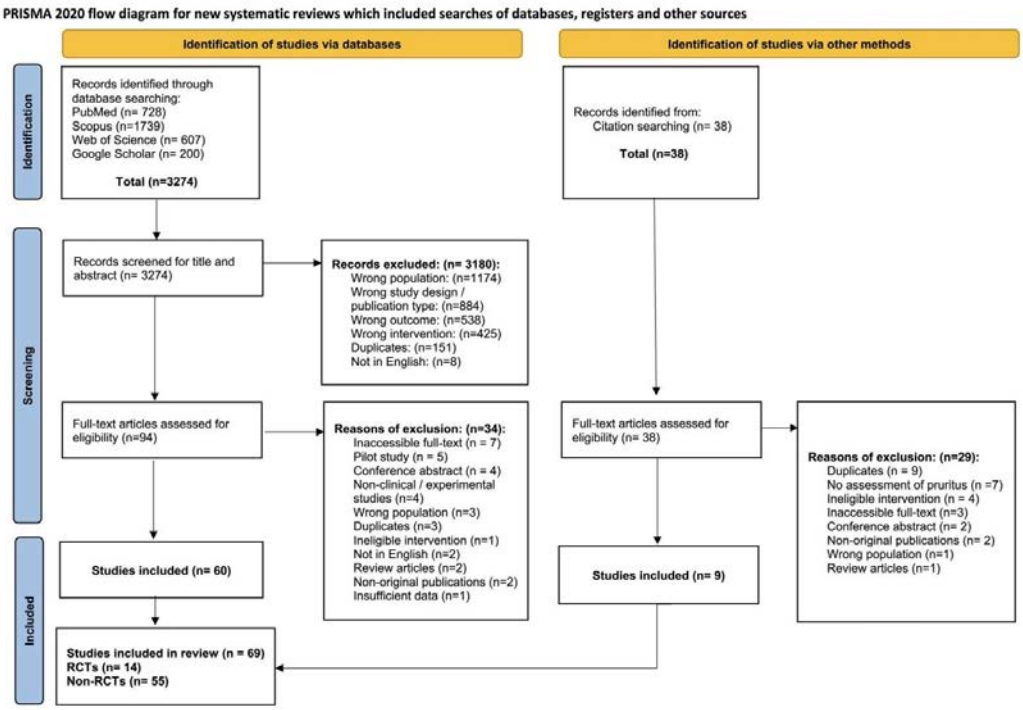
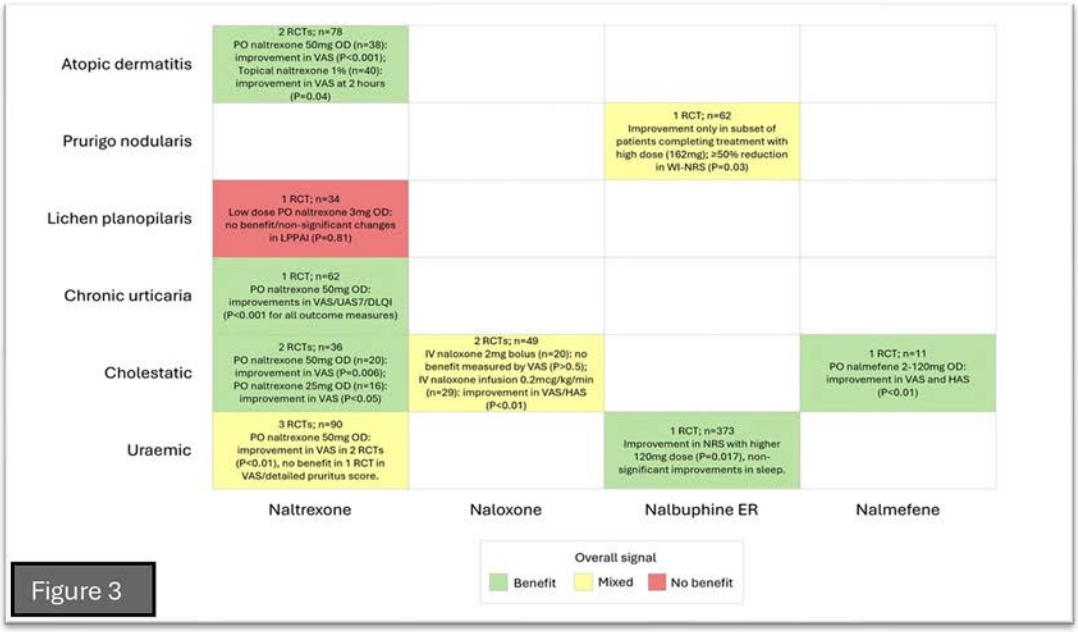


Figure 2. PRISMA flow diagram of study selection.

Results

Five RCTs evaluated dermatologic conditions, including atopic dermatitis, prurigo nodularis, chronic urticaria, and lichen planopilaris, while nine RCTs assessed systemic pruritus, predominantly cholestatic and uraemic pruritus. RCTs investigated oral or topical naltrexone, intravenous naloxone, nalmefene, and extended-release nalbuphine, with most demonstrating clinically meaningful reductions in pruritus intensity using validated itch scales. Non-randomised studies reported improvement across a wide range of dermatologic and systemic conditions, with adverse events generally mild and well tolerated.



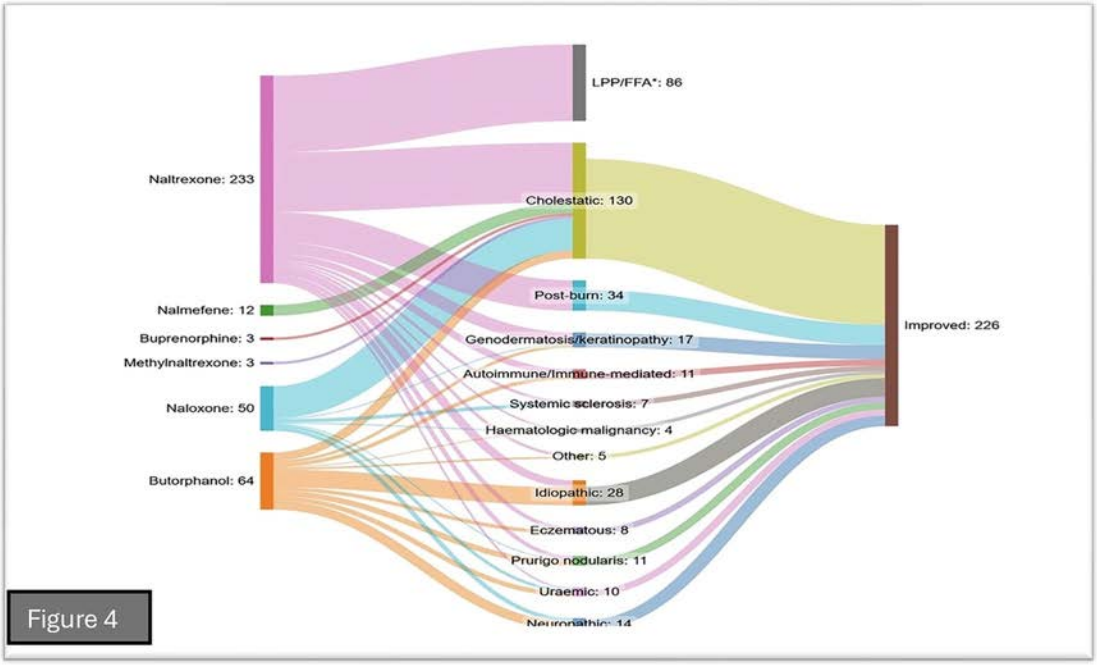


Figure 3. matrix highlighting the evidence from randomized studies. Conditions are listed vertically along the left of the figure and agents are listed horizontally across the bottom. Each box summarizes the evidence for each agent for a particular condition, and colors indicate overall signal of benefit or non-benefit. Figure 4. Sankey diagram of non-randomized studies. The left side of the chart shows agents used, flowing into the different conditions they were used in (center of the diagram). The right side of the chart shows how many patients for each condition had reported improvement in pruritus symptoms. Conditions were grouped together based on common pathophysiology/dermatosis subtype. 'Genodermatosis/keratinopathy' includes Hailey-Hailey disease, Darier disease, Grover's disease, Kyrle's disease, epidermolysis bullosa and perforating collagenosis. 'Autoimmune/immune-mediated' includes psoriasis, lichen sclerosis, dermatomyositis, dermatitis herpeti- formis and PD-1 inhibitor associated pruritus. 'Idiopathic' includes chronic pruritus of unknown origin, unspecified dermatitis, vulvovaginal pruritus, lichen sclerosus, elderly pruritus and chronic urticaria 'Eczematous' includes atopic dermatitis, eczema senilis, intrinsic eczema 'Other' includes aquagenic pruritus, psoriasiform derma- titis, post-scabies pruritus and acne excoriée. LPP = lichen planopilaris; ffa = fibrosing frontal alopecia. *Data for individual patients with LPP/ffa was limited and so we were not able to quantify how many patients improved, therefore there is no line connecting this group to the right side of the chart.

Conclusions

Overall, μ-opioid pathway modulators show promising efficacy with acceptable short-term safety across diverse pruritic conditions, although larger high-quality RCTs are required to define optimal dosing and support clinical translation.

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Abstract N°: 786

Application of LPA Fiber Skin-Friendly Repair Technology in Moisturizing, Repairing and Soothing Dry Sensitive Skin- A Self-Controlled Before-and-After Study of 32 Cases

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Introduction

To explore the moisturizing, epidermal barrier repair and soothing effects of LPA Fiber Skin-Friendly Repair Technology in improving dryness, redness, and barrier damage of dry sensitive skin, and to provide scientific experimental evidence for a wearable, non-invasive daily skincare solution for sensitive skin.

Materials and Methods

This study was approved by the Ethics Committee (Approval No.: HZP-2025-014). A total of 32 healthy Asian subjects aged 24–56 years with clinically confirmed dry sensitive skin were enrolled in a self-controlled before-and-after study. Subjects wore LPA fiber-containing corn-derived comfort homewear suits for a cumulative period of no less than 12 hours per day for 14 consecutive days. Objective physiological parameters, including stratum corneum hydration, transepidermal water loss (TEWL), erythema index, and hemoglobin concentration, were measured using professional instruments such as CK Corneometer CM825, CK TM300, MX18, and Antera3Dcs at baseline (Day 0), Day 3, and Day 14. Comprehensive analysis was conducted combining investigator's visual assessment and subject's subjective questionnaire evaluation. Statistical analysis was performed using SPSS 25.0 software: paired t-test was used for normally distributed quantitative data, and non-parametric tests were used for non-normally distributed data and ordinal data. A P-value < 0.05 was considered statistically significant.

Results

All 32 subjects completed the study successfully, with no treatment-related adverse events reported (incidence of adverse events: 0%), indicating excellent skin safety of LPA Fiber Skin-Friendly Repair Technology. Objective instrumental test results showed that stratum corneum hydration was significantly increased at Day 3 and Day 14 compared with baseline ($P<0.001$), with the rate of change reaching 21.21% and 69.85%, respectively. TEWL was significantly decreased at Day 14 compared with baseline ($P<0.001$), with a rate of change of -14.53%. Erythema index was significantly reduced at both Day 3 and Day 14 ($P<0.01$, $P<0.001$). Hemoglobin concentration was significantly decreased at Day 3 ($P<0.05$), with a rate of change of -18.60%. Investigator's visual assessment revealed that scores of skin redness and dryness were significantly lower at Day 3 and Day 14 than at baseline ($P<0.05$/$P<0.01$), and scaling score was also significantly reduced at Day 14 ($P<0.05$). Subjective evaluation showed that scores of sensitive symptoms such as skin tightness, redness, dryness, pruritus, and desquamation were significantly decreased at Day 3 and Day 14 ($P<0.001$), and the subjective approval rate of the test sample's fabric in terms of comfort, softness, skin-friendliness, and breathability reached 100%.

Conclusions

The LPA fiber-based skin-friendly repair technology exhibits excellent safety when applied to dry sensitive skin care. It can significantly increase stratum corneum hydration, improve skin dryness, effectively reduce TEWL, repair

the epidermal permeability barrier, and significantly decrease erythema index to alleviate sensitive symptoms such as redness, pruritus, and desquamation, while providing excellent wearing comfort and user experience. This technology provides a safe and convenient wearable non-invasive skincare solution for dry sensitive skin, with good clinical application value in daily sensitive skin care.

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Abstract N°: 1072

Correlation Between STAT-1, STAT-3 and STAT-6 Expression and Clinical Outcomes with Oral Tofacitinib in Prurigo Nodularis: A Prospective Single-Arm Study

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Introduction

Interleukin (IL)-4, IL-13, IL-17, IL-22 and IL-3 are overexpressed in prurigo nodularis (PN). They mediate their action via the Janus Kinase (JAK) Signal transducer and activator of transcription (STAT) pathway.
The aim was to study the expression of tissue STAT1, STAT3 and STAT6, and the efficacy of tofacitinib in prurigo nodularis.

Materials and Methods

A prospective study was conducted in a tertiary care hospital. Patients with prurigo nodularis were recruited after excluding secondary causes. Pruritus was graded using Pruritus Grading System Score (PGSS). All cases underwent histological assessment using immunohistochemical markers for STAT1, STAT3, and STAT6 in both lesional and perilesional skin. Tofacitinib was initiated at a dose of 5 mg twice daily or 11 mg once daily and then tapered to a maintenance dose. The final PGSS at the time of data evaluation, as well as the occurrence of remissions and relapses, was assessed.

Results

The majority of the 17 patients included in the study had moderate to severe disease. Immunohistochemical analysis revealed marked tissue expression of STAT6 in 13 and STAT3 in 10 patients, while STAT1 expression was seen in only 4 patients [$p < 0.05$], suggesting a Th2/Th17 tissue response. The mean onset of action of tofacitinib was 11.2 ± 6.44 days and the mean duration of treatment was 5.6 ± 2.2 months. A significant reduction in PGSS was noted after treatment (66.1%, P value 0.0004). Fourteen of the patients maintained remission on low-dose therapy (5 mg OD or A/D) while one patient experienced a relapse. No serious adverse effects were noted.

Conclusions

The efficacy of tofacitinib in prurigo nodularis is based on its inhibitory effect on Th2 and Th17 cytokines, which is dependent on STAT6 and STAT3.

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Abstract N°: 1173

In Vivo Assessment of Novel Emollient, DPF 19, for Dry and Itchy Skin in Older Subjects

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Introduction

A user evaluation was conducted to assess the acceptability of DPF19, an innovative emollient that addresses a critical safety concern: the fire risk associated with oil-based emollients. DPF 19 has fire retardance properties and is developed for the management of dry skin which may also be itchy. This cosmetic study was designed to evaluate real-world user experience across a range of product attributes, with a focus on skin effects and suitability for daily use in elderly subjects.

Case Presentation

The study was a 28-day user evaluation involving 120 male and female subjects aged 50 years or over, who had dry or very dry skin and previous history of eczema, psoriasis, elderly pruritus or other dry and itchy skin conditions. Subjects were asked to apply the product once daily to dry itchy skin for 28 consecutive days. Over the course of the study, the volunteers were asked to complete 5 questionnaires. These were completed before first use, after initial use, after 7 days, after 14 days and after 28 days. Where appropriate, the questionnaires were completed 30 minutes after application of the test product.

107 subjects completed the study. The product achieved superior performance in skin hydration, with all moisturising endpoints (smoothness, soothing effect, softness, and overall hydration) exceeding the 70% acceptability threshold. The product was also highly rated for itch relief effectiveness and its long-lasting moisturising effect and more than three quarters of subjects (77.57%) confirmed that the formulation was suitable for once daily use. Notably, 74.77% of subjects indicated they would like to continue using DPF19, reflecting high overall satisfaction.

Conclusion

This user evaluation study successfully assessed the cosmetic acceptability of DPF19 gel, an innovative emollient that addresses a critical safety concern: the fire risk associated with oil-based emollients, in a large cohort of subjects with dry and itchy skin. The study demonstrated high satisfaction across all evaluated product attributes including gel consistency, absorption properties, itch relief, and moisturising effect.

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Abstract N°: 1248

Succesful dupilumab treatment of prurigo nodulatis in a patient with pityriasis rubra pilaris

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Introduction

Prurigo nodularis is a chronic dermatosis presented with firm, itchy noduls. The disease lowers the quality of life and negatively affects the patients' psyche. Pityriasis rubra pilaris is also a bothersome entity. This scaly follicular eruption may progress to erythroderma. We present a patient suffering from both diseases simultaneously. Both had a severe course requiring systemic therapy.

Case Presentation

We present a male patient who was suffering from pityriasis rubra pilaris. The disease was resistant to therapy. The lesions showed a tendency towards erythroderma. Eventually, improvement was achieved using acitretin. Once the patient’s leasions had healed, numerous itchy nodules appeared, the clinical and histopathological presentation of which was consistent with prurigo nodularis. The patient was suffering from severe itch. An attempt to reduce acitretin resulted in a recurrence of pityriasis rubra pilaris. Systemic steroids were added, which temporarily alleviated prurigo nodularis. As the patient had contraindications to many systemic drugs due to numerous comorbidities, it was decided to initiate treatment with dupilumab. The patient is currently being treated with acitretin and dupilumab, with good tolerance and a positive clinical response. Remission of both types of skin lesions was achieved.

Conclusion

The coexistence of prurigo nodularis and pityriasis rubra pilaris may present a diagnostic and therapeutic dilemma, particularly in patients with multiple comorbidities.

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Abstract N°: 1391

Validation of the Scratch Sign Score – a Universal Score for Scratch-Induced Lesions in Pruritic Diseases

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Introduction

Chronic pruritus (CP) is a highly prevalent debilitating condition. CP is typically accompanied by scratching potentially leading to skin lesions that may vary individually. Up to now, no objective clinical assessment tool for the documentation of scratch-induced lesions is available. The aim of this study was the development and validation of a universal scoring system for scratch-induced lesions.

Materials and Methods

Physicians evaluated scratch-related skin lesions using an experts-created two-component scoring system, termed the Scratch Sign Score (SSS, range 0-20), including scratch-related lesion severity and percentage of affected body surface area. In the SSS validation phase, patients with CP of various etiologies were included, encompassing atopic dermatitis (AD), chronic pruritus on non-lesional skin (CPNL) including chronic pruritus of unknown origin (CPUO), and chronic prurigo (CPG). Disease severity was assessed using SCORAD for AD and Investigator Global Assessment (IGA) for CPG. All patients completed validated self-report instruments, including a numerical rating scale to assess pruritus intensity and DLQI and ItchyQoL to assess the impairment of quality of life (QoL).

Results

71 patients (mean age 59.3 years, 40 women) with CP across all origins (AD, n = 32; CPG, n = 18; CPNL, n = 21) were included. Total SSS was highest in CPG (mean 8.5), followed by AD (5.0) and lowest in CPNL (0.6). The SSS correlated with objective disease severity assessed by IGA in CPG ($r = 0.853$ and 0.919, $p < 0.001$) and SCORAD ($r = 0.850$, $p < 0.001$), as well as with subjective pruritus intensity ($r = 0.711$ and 0.646, $p < 0.001$) and QoL ($r = 0.544$ and 0.512, $p = 0.029$ and 0.004) scores. Moreover, the SSS correlated with the subjective scratching reported by patients, assessed by item 5 of the ItchyQoL ($r = 0.393$, $p = 0.002$). The test-retest reliability (Kendall's W 1.0), inter-rater reliability (intraclass correlation coefficient 1.0) and inter-item correlation ($r = 0.790$, $p < 0.001$) were high.

Conclusions

The SSS demonstrated robust validation results and performed consistently across different pruritic conditions, underscoring its use as a universal scoring system for the objective assessment of scratch lesions in routine practice and clinical trials. Integrating the SSS into routine assessment will improve diagnostic precision and

support longitudinal monitoring of affected patients.

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Abstract N°: 1669

Dupilumab and nemolizumab for chronic pruritus in cancer patients under oncologic treatment – a multicentric retrospective study from the EADV Task Force dermatology for cancer patients

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Introduction
Pruritus is one of the most prevalent and burdensome dermatological toxicity in cancer patients. Type 2 cytokines (IL-4, IL-13 and IL-31) are key in the pathogenesis of chronic pruritus, supporting the use of dupilumab, an IL-4Rα antagonist. Nemolizumab, a humanized monoclonal antibody that targets the interleukin-31 receptor alpha (IL-31RA), is a promising therapy for atopic dermatitis and prurigo nodularis. Given the limitations of systemic immunosuppressive treatments in oncology, there is a need to evaluate targeted, steroid-sparing therapies and non-immunosuppressive treatments for these quality-of-life-impairing disorders.

Materials and Methods
We conducted a multicentric, retrospective study at the EADV Task Force "Dermatology for Cancer Patients". Patients included were adults with a solid malignancy receiving or having received antineoplastic treatment 12 months before inclusion, presenting clinical-pathological chronic pruritus with a basal Investigator Global Assessment ≥ 3 and/or Itch Numeric Rating Scale ≥ 7, who had been treated for at least 3 months with dupilumab or nemolizumab with a clinical follow-up for at least 6 months after treatment initiation. Our primary objective was to evaluate the clinical efficacy and safety of dupilumab and nemolizumab in chronic pruritus in cancer patients using validated pruritus intensity and patient-reported outcome measures.

Results
Seventeen patients were included from 8 referral centers. Mean age was 64 years old, and associated cancers were: seven patients non-small cell lung cancer, 3 hepatic cancer, 3 cholangiocarcinoma, 2 renal carcinoma, and 2 breast cancer. 41% of the patients received combined immunotherapy plus another agent, 35% had immunotherapy monotherapy, 12% received targeted therapy and 12% had chemotherapy and targeted therapy. None had previous history of prurigo nodularis. Main histopathological results were spongiotic eczema (7 patients) and prurigo nodularis (4 patients). Mean time from oncology treatment initiation and the onset of pruritus was 4.6 months (range 1 -20). 88% of the patients received topical corticosteroids, mostly high potent ones. Regarding to systemic treatments, 16 patients received antihistamines, 9 had corticosteroids, 5 phototherapy, 2 antidepressants, 1 pregabalin, 1 aprepitant, and 1 patient had nicotinamide and doxycycline.

Due to treatment failure, all patients finally received dupilumab and one had nemolizumab. At baseline, mean Investigator Global Assessment (IGA) for prurigo was 3 (10 atients) and for atopic eczema was 3 (6 patients), mean Prurigo Activity and Severity Score (PAS) was 9, mean Prurigo Control Test (PCT) was 15, mean Itch Numeric Rating Scale (Itch-NRS) was 7.7 and mean Itchy Quality of Life index (ItchyQoL) was 77. At week 12, mean IGA was <1 for prurigo and for atopic eczema, mean PAS was 2, mean PCT was 3.8, mean Itch-NRS was 1.3 and mean ItchyQoL was 34. Finally, at week 24, mean IGA for prurigo and for atopic eczema was <1, mean PAS was 1.4, mean PCT was 2.7, mean Itch-NRS was 1.3 and mean ItchyQoL was 39. There were no adverse events related to the biologic therapy. Of note, there were no modifications on cancer treatments related to dermatological toxicities once the biologic therapy was introduced.

Conclusions

Dupilumab and nemolizumab seem to be therapeutic alternatives for prurigo nodularis and refractory pruritus in cancer patients. In most cases, these therapies controlled the symptoms and skin manifestations while maintaining a good safety profile, allowing the patients to avoid immunosuppressive agents and continue their oncologic treatment. Hereby we present the experience of a multicentric case series of chronic pruritus related to anticancer therapies successfully treated with dupilumab or nemolizumab conducted by the EADV Task Force “Dermatology for Cancer Patients”.

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Abstract N°: 1785

Efficacy and Safety of SHR-1819 in Adult Patients with Prurigo Nodularis：Results from a Multicenter, Randomized, Double-blinded, Placebo-controlled Phase II/III Trial (The Results of the Phase II Trial)

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Introduction

Prurigo nodularis (PN) is a chronic inflammatory disease characterized by intensely pruritic, hyperkeratotic nodules, accompanied by type 2 inflammation. Topical corticosteroids are mainstay treatment, yet long-term use is often associated with various side-effects. SHR-1819 is a novel monoclonal antibody targeting IL-4R, blocking IL-4 and IL-13 signaling. SHR-1819 has shown a good efficacy and tolerability in patients with moderate-to-severe atopic dermatitis (AD).

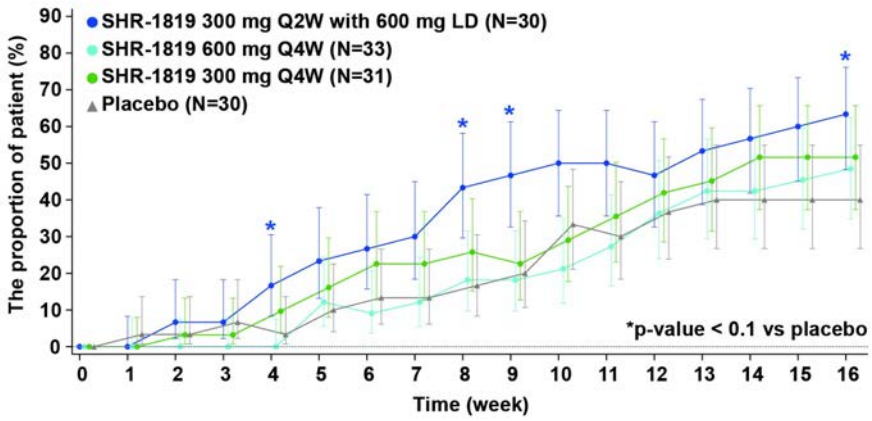
Materials and Methods

This multicenter, randomized, double-blind, placebo-controlled Phase II/III study (Clinicaltrials.gov, NCT06554509) aimed to evaluate the efficacy and safety of SHR-1819 in patients with PN. The results of the phase II study were reported. Eligible patients were randomized in a 1:1:1:1 ratio to receive SHR-1819 600 mg every four weeks (Q4W), SHR-1819 300 mg Q4W, SHR-1819 300 mg every two weeks (Q2W) with 600 mg loading dose (LD), or placebo. The primary endpoint was the proportion of patients with a ≥4-point reduction from baseline in the weekly average of the Worst Itch Numeric Rating Scale (WI-NRS) at Week 16.

Results

A total of 124 patients were included in this study, with 30 in SHR-1819 300 mg Q2W group, 33 in 600 mg Q4W group, 31 in 300 mg Q4W group, and 30 in placebo group. At week 16, the proportions of patients with a ≥4-point reduction of WI-NRS was 63.3% in SHR-1819 300mg Q2W group, 48.5% in 600mg Q4W group, 51.6% in 300mg Q4W group, compared to 40.0% in placebo group. Additionally, a higher proportion in the SHR-1819 groups achieved an IGA-CNPG (S and A) score of 0 or 1 at week 16(IGA-CNPG S: up to 33.3% in SHR-1819 groups vs 13.3% in placebo group; IGA-CNPG A: up to 51.6% in SHR-1819 groups vs 13.3% in placebo group). Patients in SHR-1819 300mg Q2W group achieved more rapid of pruritus. SHR-1819 showed a good safety profile. Most common treatment-emergent adverse events (TEAEs) were upper respiratory tract infection and hyperuricemia, with most being mild to moderate in severity. Upper respiratory tract infection was found in 12.8% of pooled SHR-1819 group vs 20.0% in placebo group; and hyperuricemia in 14.9% of pooled SHR-1819 group vs 6.7% in placebo group. The treatment-related adverse events (TRAEs) were reported in 39.4% in the SHR-1819 pooled group and 43.3% in the placebo group.

Figure. The proportions of patients with a ≥4-point reduction from baseline in the weekly mean of WI-NRS over 16 weeks



Data are proportion of patient ± 90% CI.

Conclusions

SHR-1819 demonstrated clinically meaningful improvement in PN symptoms and signs with a good safety profile. These findings support further development in phase Ⅲ trials.

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Abstract N°: 1937

Neurophysiological and Sleep-related Benefits of a Cosmetic Shampoo and Conditioner Regimen in Adults with Scalp Discomfort: An Exploratory EEG-driven study

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Introduction

Scalp discomfort, including itch and irritation, can negatively affect daily wellbeing and sleep quality. Cosmetic hair care products are primarily designed for cleansing and conditioning but emerging approaches suggest that they may also influence sensory perception and emotional responses. This study aimed to evaluate the non-therapeutic, neurophysiological and sleep-related effects of a shampoo and conditioner regimen in adults experiencing scalp discomfort.

Materials and Methods

This exploratory, intra-subject study included 21 participants with recent scalp discomfort and sleep disturbances. Following a washout week of restricted hair product use, participants used a shampoo and conditioner combination at least three times per week for 2 weeks. A multimodal assessment approach was applied, including electroencephalography (EEG) to evaluate objective neurophysiological responses (mood valence, relaxation, sleepiness, anger), wearable-based sleep tracking, and validated sleep questionnaires. In addition, subjective scalp condition and sleep-related perceptions were assessed weekly using structured questionnaires. Baseline measurements were compared with post-use data using appropriate statistical models.

Results

Use of the combination of products showed a significant increase in positive mood valence, measured by EEG ($p<0.05$), during prompted recall on sleep quality and scalp comfort, compared to baseline. A significant increase in sleepiness-related EEG signals was also observed, $p<0.05$, suggesting a shift toward a more relaxed physiological state conducive to sleep initiation. Objective sleep tracking showed an increase in deep sleep duration, with an improvement of up to 20.6% after two weeks of use in participants with below-average deep sleep duration during baseline ($p<0.05$). Subjective assessments showed a 24% improvement in overall sleep quality, a 31% reduction in daytime sleepiness, and a 36% reduction in insomnia symptom severity, all $p<0.05$. Scalp-related outcomes showed a 49% reduction in perceived itch intensity and a 41% reduction in the number of discomfort days, both $p<0.05$. Improvements in self-reported sleep quality were also observed, with an increase of 33%, $p<0.05$, suggesting a link between improved scalp comfort and enhanced sleep experience.

Conclusions

This exploratory study shows that a shampoo and conditioner regimen can provide measurable benefits beyond cleansing and dandruff control, including significant improvements in scalp comfort, emotional state, and sleep-related outcomes. The observed reductions in scalp discomfort and itch, together with improvements in sleep quality and deep sleep parameters, suggest a link between scalp condition and

overall wellbeing. The combined regimen supports an enhanced and more restorative subject experience.

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Abstract N°: 2080

Changes in Psychological Burden and Quality of Life in Patients with Pruritus Following Dermatologic Treatment

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Introduction
Pruritus is a common and distressing symptom across various dermatologic diseases that significantly impairs quality of life and contributes to psychological burden. Therefore, this study aimed to evaluate changes in itch severity, sleep disturbance, quality of life, and psychological burden following dermatologic treatment.

Materials and Methods
A total of 119 patients with pruritus due to diverse dermatologic conditions (chronic urticaria, atopic dermatitis, psoriasis, prurigo nodularis/lichen simplex chronicus, and others) were assessed at baseline and after 8 weeks of treatment. Outcomes included itch numeric rating scale (NRS), sleep disturbance, ItchyQoL, DLQI, PHQ-9, and GAD-7. Due to non-normal distribution, non-parametric tests were used. Changes after treatment were analyzed using the Wilcoxon signed-rank test, and correlations were assessed using appropriate non-parametric methods.

Results
All outcome measures showed significant improvement after treatment (all $p < 0.001$). No significant differences in improvement were observed among disease groups. Itch NRS showed significant correlations with all other outcome measures, while DLQI was significantly correlated with PHQ-9 and GAD-7 (all $p < 0.01$). Patients with higher baseline PHQ-9 scores demonstrated greater improvements across outcomes ($p < 0.001$).

Conclusions
Dermatologic treatment of pruritus leads to significant improvements in itch, quality of life, sleep disturbance, and psychological burden, regardless of underlying disease. These findings underscore the importance of comprehensive assessment and management, including psychological evaluation, in patients with pruritus.

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Abstract N°: 2115

Targeted therapies in refractory lichen amyloidosis: a case report and literature review

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Introduction

Background

Lichen amyloidosis (LA) is a chronic pruritic dermatosis characterized by amyloid deposition in the papillary dermis, traditionally attributed to the itch-scratch cycle and keratinocyte damage. However, this model does not fully explain the clinical heterogeneity, persistence despite antipruritic therapies, or occurrence in non-atopic individuals. Conventional treatments often provide incomplete and transient responses, highlighting an unmet therapeutic need.

Objectives

To report a case of extensive, treatment-refractory LA with sustained complete response to dupilumab and to discuss the emerging role of targeted therapies in the context of evolving pathogenic insights.

Case Presentation

A 72-year-old man with hypertension and monoclonal gammopathy of undetermined significance presented with a 15-year history of severe pruritus and widespread lichenified plaques with perifollicular accentuation, involving approximately 50% of the body surface area. Pruritus was associated with marked quality-of-life impairment. Histopathology from two punch biopsies showed features of lichen simplex chronicus with amyloid deposition in the papillary dermis, confirming LA. Extensive work-up, including autoimmune studies and patch testing, was unremarkable. Previous treatments included high-potency topical corticosteroids, narrowband UVB phototherapy, isotretinoin, and acitretin, with insufficient or only transient responses. Dupilumab was initiated (600 mg loading dose, followed by 300 mg every 2 weeks). After 6 months, complete resolution of pruritus and inflammatory lesions was achieved, with only residual hyperpigmentation. The response has remained stable over 3 years of follow-up, without relevant adverse events.

Conclusion

Discussion

The classical pathogenic model based solely on mechanical trauma is insufficient to explain all cases of LA. Increasing evidence supports a role for neuroimmune dysregulation, particularly involving type 2 cytokines, including interleukin (IL)-4, IL-13 and IL-31, which mediate both pruritus and cutaneous inflammation. A review of the literature identified 18 cases of refractory LA treated with advanced therapies. Dupilumab consistently induced rapid and sustained responses, while Janus kinase (JAK) inhibitors (baricitinib, upadacitinib, abrocitinib) demonstrated similarly robust efficacy, in some cases with faster onset. Notably, responses were observed in both atopic and non-atopic patients, challenging the traditional classification of LA as a variant of atopic dermatitis. These therapies likely act by interrupting pruritic signaling and downstream inflammatory cascades, disrupting the self-perpetuating itch–scratch cycle. Amyloid deposition may represent a secondary epiphenomenon rather than

the primary driver of disease.

Conclusions

LA should be reconsidered as a pruritus-driven inflammatory disorder with a central role for immune-mediated pathways. Targeted therapies, including biologics and JAK inhibitors, represent effective options for refractory disease and may contribute to redefining both the pathogenic framework and therapeutic approach to LA.

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Abstract N°: 2207

Clinical Characteristics, Comorbidities, Laboratory Findings, and Treatment Responses in Patients with AcquiredPerforating Dermatoses: A Retrospective Descriptive Study

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Introduction

Acquired Perforating dermatoses (APD) are a heterogeneous group of disorders characterized by transepidermal elimination of dermal material and are often associated with systemic comorbidities. However, real-world data on clinical characteristics, laboratory findings, and treatment responses remain limited.

Materials and Methods

We retrospectively evaluated patients diagnosed with APD at a tertiary dermatology center. Demographic data, disease duration, comorbidities, laboratory parameters, treatment modalities, and clinical responses were analyzed descriptively. Continuous variables were reported as mean ± standard deviation or median with interquartile range according to distribution.

Results

A total of 45 patients with biopsy-confirmed acquired perforating dermatosis were included. The mean age was 61.24 ± 15.57 years, and the mean age at disease onset was 57.11 ± 15.73 years. Comorbidities were frequent, including diabetes mellitus in 29 patients (64.4%), hypertension in 23 (51.1%), hyperlipidemia in 12 (26.7%), cardiac disease in 11 (24.4%), and chronic kidney disease in 10 (22.2%). Malignancy was present in 6 patients (14.0%); hematologic malignancies were the most common type, observed in 4 patients.

Treatment data were available for 36 records. Topical corticosteroids were the most frequently used treatment, administered in 22 patients (61.1% of treated patients); however, complete or near-complete response was achieved in only 2 patients (9.1%), while 10 patients (45.5%) had partial but inadequate response and 10 (45.5%) showed no response. Acitretin was used in 5 patients (13.9%), antihistamines in 4 (11.1%), systemic isotretinoin in 3 (8.3%), and tetracycline in 2 (5.6%). Overall, complete or near-complete response was observed in 6 patients (16.7%), partial but inadequate response in 18 (50.0%), and no response in 12 (33.3%). Among patients with available phototherapy session data, 5 of 6 patients (83.3%) achieved complete or near-complete response, while 1 patient (16.7%) had a partial but inadequate response.

Laboratory evaluation showed a mean monocyte count of 0.69 ± 0.24 $\times 10^9$/L, platelet count of 252.69 ± 82.42 $\times 10^9$/L, erythrocyte sedimentation rate of 23.66 ± 20.42 mm/h, and vitamin B12 level of 371.66 ± 267.66 pg/mL. Median values were 8.55 (6.82–9.69) $\times 10^9$/L for leukocyte count, 5.14 (3.71–6.08) $\times 10^9$/L for neutrophil count, 1.70 (1.28–2.58) $\times 10^9$/L for lymphocyte count, 0.20 (0.10–0.39) $\times 10^9$/L for eosinophil count, 3.81 (1.12–8.10) mg/L for C-reactive protein, 0.83 (0.70–1.13) mg/dL for creatinine, 119.00 (97.00–203.00) mg/dL for fasting glucose, 7.70% (6.90–9.60) for hemoglobin A1c, 19.10 (12.15–24.19) ng/mL for ferritin, 2.81 (1.69–4.32) for neutrophil-to-lymphocyte ratio, 144.10 (84.06–196.43) for platelet-to-lymphocyte ratio, 642.62 (386.38–1101.90) for systemic immune-inflammation index, and 1.71 (0.88–3.96) for systemic inflammation response index.

Conclusions

APD predominantly affected older adults and was associated with a high burden of metabolic, cardiovascular, renal, and malignant comorbidities. Despite being the most frequently used treatment, topical corticosteroids showed a low complete or near-complete response rate, highlighting the therapeutic challenge of this condition. In contrast, phototherapy demonstrated the highest descriptive response rate among evaluated treatments, suggesting that it may represent a valuable therapeutic option in selected patients. The relatively low ferritin levels observed in this cohort may warrant further investigation, particularly in relation to pruritus and treatment response.

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Dermatologic Evaluation of Chronic Generalized Pruritus Leading to the Diagnosis of Atypical Sézary Syndrome–Type CD4+ T-Cell Lymphoproliferation

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Introduction

Sézary syndrome (SS) is a rare and aggressive leukemic variant of cutaneous T-cell lymphoma (CTCL), classically characterized by erythroderma, lymphadenopathy and circulating malignant T cells. However, early or atypical presentations may lack the classical clinical triad and present predominantly with chronic generalized pruritus and subtle, nonspecific skin findings. In such cases, patients may be repeatedly treated symptomatically for eczema or nonspecific dermatitis, delaying recognition of an underlying lymphoproliferative disorder. We report a diagnostically challenging case in which careful dermatologic assessment of long-standing generalized pruritus, together with recognition of persistent lymphocytosis, led to the diagnosis of an atypical SS-type mature CD4+ T-cell lymphoproliferation in the absence of erythroderma.

Case Presentation

A 74-year-old man was referred to our Department of dermatology and venereology for severe generalized pruritus and burning sensations of the skin, reported as 10/10 in intensity, with symptoms present for several years. Before dermatologic referral, a drug-induced cause was considered because the patient had recently been treated with a dipeptidyl peptidase-4 inhibitor for newly diagnosed diabetes mellitus. The medication was temporarily discontinued and replaced with a sodium-glucose cotransporter-2 inhibitor. However, no clear association between the antidiabetic therapy and pruritus was established, and the original therapy was reintroduced.

A detailed dermatologic examination was performed to distinguish primary dermatosis from secondary scratch-induced lesions. The skin examination revealed mainly nonspecific findings, including lichenification, excoriations and scattered papules, without erythroderma. Given the chronicity, generalized distribution and severity of pruritus, together with persistent lymphocytosis, a broader diagnostic work-up was initiated. Symptomatic dermatologic treatment included intensive emollient therapy, oral H1-antihistamines, short courses of topical corticosteroids and topical tacrolimus.

Serial laboratory testing documented leukocytosis with absolute lymphocytosis and mild microcytic anemia, without B symptoms. Cross-sectional imaging showed no clinically significant lymphadenopathy or hepatosplenomegaly. Repeated bone-marrow immunophenotyping demonstrated a dominant mature T-cell population (CD3 91%, CD4 80%, CD5 92%) with marked loss of CD7 expression (CD7 22%). An aberrant CD3+CD4+CD5+CD7− subset accounted for approximately 72% of T cells and 23% of all bone-marrow cells and remained stable on repeat testing.

The immunophenotype was interpreted as a mature CD4+ T-cell lymphoproliferation compatible with Sézary

syndrome. Notably, the patient had no erythroderma, no palpable lymphadenopathy and no radiologic evidence of clinically significant nodal or visceral involvement. With supportive dermatologic therapy, pruritus improved from severe generalized symptoms to intermittent mild episodes, reported as 2/10. Active multidisciplinary follow-up by dermatology and hematology was recommended.

Conclusion

This case highlights the essential role of dermatologic evaluation in the diagnostic pathway of chronic generalized pruritus. In older patients, persistent pruritus with minimal or nonspecific skin changes should not be managed only by rotating topical and systemic symptomatic therapies, especially when accompanied by unexplained lymphocytosis. Careful skin examination, exclusion of common dermatologic and drug-related causes, recognition of hematologic “red flags” and timely referral for flow-cytometric immunophenotyping may reveal an underlying CTCL/SS-spectrum lymphoproliferative disorder even in the absence of erythroderma. The case emphasizes that dermatologists are central to the early recognition of atypical Sézary syndrome and to the coordination of multidisciplinary diagnostic assessment and long-term monitoring.

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Cutaneous Sensory Syndromes: Diagnostic challenges and therapeutic implications

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Introduction

Cutaneous sensory syndromes (CSS) are a heterogeneous group of disorders characterized by itch, burning, pain, or dysesthesia occurring on normal or minimally altered skin. These conditions share overlapping neurobiological mechanisms, including aberrant small-fiber signaling, central sensitization at spinal and supraspinal levels, and neuroimmune interactions that sustain symptom chronicity and the itch–scratch cycle. We aimed to synthesize current understanding of the pathophysiology, clinical evaluation, and management of common cutaneous sensory syndromes encountered in adult dermatologic practice.

Materials and Methods

A narrative review was conducted, integrating contemporary literature on neurocutaneous biology and clinical management. Seven representative CSS entities were examined: scalp dysesthesia, vulvodynia, scrotodynia, brachioradial pruritus, notalgia paresthetica, burning mouth syndrome, and psychogenic itch.

Results

CSS share a convergent pathophysiologic framework involving peripheral pruriceptor activation, altered dorsal horn processing, cortical modulation, and dysregulated descending inhibitory pathways. Contributions from the brain–skin axis and autonomic nervous system further modulate symptom expression. A pragmatic clinical evaluation includes focused history-taking, symptom mapping, identification of red flags, limited laboratory testing, and selective use of imaging, biopsy, or patch testing when indicated. Management strategies emphasize patient education, trigger avoidance, and targeted therapies. Topical neuromodulators are effective for localized symptoms, while systemic neuromodulatory agents are reserved for more widespread or refractory disease. Integration of psychodermatologic principles such as addressing mood, attention, sleep, and behavioral reinforcement improve outcomes. Disorder-specific approaches provide tailored first-line and adjunctive treatments.

Conclusions

Cutaneous sensory syndromes require a mechanism-based, multidisciplinary approach to optimize diagnosis and treatment. Incorporating neurobiological insights into clinical practice enables more effective patient counseling and individualized care. Our findings provide a concise, practical framework to improve outcomes in patients with CSS.

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Clinical phenotypes of scalp pruritus: a cluster analysis of the SCALP-PR study

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Introduction
Scalp pruritus is a heterogeneous entity with dermatological, inflammatory, psychological and idiopathic components. The identification of clinical phenotypes may facilitate a more individualised approach and improve the selection of non-steroidal treatments.

The objective is identify clinical phenotypes of scalp pruritus, describe their baseline characteristics and analyse their response to a non-steroidal emollient gel.

Materials and Methods
This is a *post-hoc* analysis of the observational SCALP-PR study. Objective and subjective baseline clinical variables were included: age, sex, pruritus and scratching intensity (numerical rating scale), Dermatology Life Quality Index (DLQI), dermatological aetiology and triggering factors. A Gower dissimilarity matrix and a partitioning around medoids (PAM) algorithm were used. Three- to five-solution clusters were evaluated, with the four-cluster solution selected based on clinical coherence. Changes in pruritus, scratching and DLQI were compared at 15 days, as well as the proportion of responders (improvement ≥4 points in pruritus and/or DLQI).

Results
A total of 215 patients distributed among four phenotypes were analysed. Phenotype 1 ('female sensitive/idiopathic scalp') showed the greatest improvement in pruritus and DLQI, with more than 90% of responders. Phenotype 2 ('female seborrheic inflammatory pruritus') demonstrated a good clinical response. Phenotype 3 ('male psychodermatological/environmental pruritus') showed the greatest baseline impact on quality of life and a marked improvement in DLQI. Phenotype 4 ('chronic idiopathic/senile pruritus') displayed improvement in pruritus with limited benefit in quality of life.

Table 1. Baseline characteristics and clinical response according to scalp pruritus phenotype

Phenotype	1 Female sensitive/idiopathic scalp	2 Seborrheic inflammatory pruritus (young female profile)	3 Psychodermatological/environmental pruritus (male profile)	4 Chronic idiopathic/senile pruritus
n	56	80	53	26
Age, years (mean ± SD)	58.6 ± 18.8	42.5 ± 15.6	56.5 ± 17.0	64.7 ± 17.3
Baseline pruritus NRS (0-10)	7.07 ± 1.53	6.42 ± 1.85	6.35 ± 1.79	6.90 ± 1.49
Baseline scratching NRS (0-10)	6.53 ± 2.69	5.99 ± 2.39	5.91 ± 1.82	7.16 ± 2.40
Baseline DLQI	5.96 ± 4.26	5.91 ± 4.60	6.09 ± 5.07	4.88 ± 4.76
Δ pruritus (0-10)	-3.7 ± 2.5	-2.9 ± 2.5	-3.1 ± 3.0	-3.1 ± 2.6
Δ DLQI	-3.9 ± 4.6	-2.6 ± 2.9	-2.8 ± 2.6	-0.7 ± 3.7
Pruritus responders*	92.9%	88.8%	92.5%	92.3%
DLQI responders†	85.7%	87.5%	94.3%	69.2%

Caption:

The table shows baseline demographic and clinical characteristics, as well as the response to non-steroidal treatment, according to the four clinical phenotypes of scalp pruritus identified using cluster analysis (PAM on Gower distance). Continuous variables are expressed as mean ± standard deviation. Clinical response was defined by the improvement in pruritus intensity and DLQI at 15 days. Pruritus responders were participants with an improvement ≥4 points on the pruritus numerical rating scale*, while quality of life responders were those with an improvement ≥4 points on the DLQI†. These cut-off points correspond to clinically relevant changes described in the dermatological literature.

*Improvement ≥4 points in the pruritus NRS.
†Improvement ≥4 points in the DLQI.

Conclusions

Scalp pruritus is organised into at least four clinical phenotypes with distinct aetiologies and therapeutic response profiles. The sensitive/idiopathic and psychodermatological/environmental phenotypes show a particularly favourable response to emollient gel, while other phenotypes may require complementary strategies focused on skin manifestations and quality of life.

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Abstract N°: 2476

Extensive Viral Warts and Prurigo Nodularis Revealing Severe Immunosuppression Secondary to Systemic T-Cell Lymphoma

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Introduction

Peripheral T-cell lymphomas are rare lymphoproliferative disorders associated with marked immune dysregulation and cutaneous manifestations. Chronic pruritus and prurigo-like lesions may precede the diagnosis for months or even years, representing important paraneoplastic clues. Profound T-cell dysfunction may predispose affected patients to opportunistic viral infections, including human papillomavirus (HPV)-related lesions.

Disseminated viral warts in adults are uncommon and should raise suspicion of underlying immunosuppression, especially when associated with systemic symptoms and generalized lymphadenopathy.

We report a case of diffuse verrucosis associated with severe chronic prurigo-like lesions in a patient with systemic lymphadenopathy, constitutional symptoms, hypereosinophilia, polyclonal hypergammaglobulinemia, and positive T-cell clonality testing, highlighting the role of cutaneous findings as markers of underlying lymphoproliferative disease and secondary immunosuppression.

Case Presentation

A 68-year-old male patient sought dermatological evaluation due to diffuse pruritus affecting the entire skin surface for aproximately three years. About one year after symptom onset, he developed cutaneous lesions that progressively disseminated throughout the body, associated with an unintentional weight loss of approximately 15 kg.

Physical examination revealed generalized lymphadenopathy involving the occipital, submandibular, submental, cervical, axillary, and bilateral inguinal lymph node chains, in addition to splenomegaly. Dermatological examination demonstrated multiple keratotic lesions disseminated throughout the skin surface, predominantly affecting the lower limbs, as well as diffusely distributed hyperchromic papules and nodules, most of them excoriated.

Laboratory investigations demonstrated microcytic hypochromic anemia and leukocytosis (21,880/mm^3) associated with eosinophilia and lymphocytosis. Elevated LDH levels and a polyclonal gammaglobulin peak were also observed. Chest computed tomography revealed multiple enlarged and coalescent lymph nodes, the largest measuring 5.6 cm. An excisional biopsy of a mandibular lymph node was performed with immunophenotypic investigation for hematologic malignancies. Subsequently, an epigastric lymph node biopsy demonstrated positive T-cell clonality testing.

Two skin biopsies were performed. The first, obtained from a lesion on the right elbow to investigate the diagnosis of viral warts, demonstrated epidermal hyperkeratosis, acanthosis, papillomatosis, and uniform epithelial cells, some with clear cytoplasm or hyaline granules. The dermis showed edema and congested vessels. The second biopsy, performed on an excoriated lesion to support the diagnosis of prurigo secondary to hematologic disease, demonstrated acanthosis, parakeratosis, mild spongiosis, elongated rete ridges, and dermal perivascular/periappendageal lymphocytic infiltrate with congested vessels.

The patient experienced partial improvement of pruritus with naltrexone 3 mg daily and phototherapy and is

currently awaiting oncohematologic treatment.

Conclusion

This case highlights the importance of dermatologic findings in the early recognition of systemic lymphoproliferative disorders. Severe chronic pruritus, prurigo-like lesions, and disseminated viral warts in adults should prompt investigation for underlying immunosuppression, particularly when associated with constitutional symptoms and generalized lymphadenopathy.

The coexistence of diffuse verrucosis and chronic prurigo likely reflects profound immune dysregulation secondary to T-cell lymphoproliferative disease. Early recognition of these cutaneous manifestations may contribute to faster diagnosis, appropriate hematologic investigation, and improved patient management. Dermatologists should remain aware that extensive HPV infection and refractory pruritic dermatoses may represent important warning signs of occult T-cell lymphoma.

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Real-world long-term effectiveness and safety of dupilumab for chronic prurigo: A multicenter analysis from the Spanish Pruri-Go! Registry

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Introduction
Chronic prurigo (CPG) is an inflammatory skin disease characterized by chronic itch, scratching and hyperkeratotic lesions that significantly impact quality of life. While pivotal Phase 3 trials established the efficacy of dupilumab, long-term real-world data are essential to understand treatment trajectories and clinical response over time. This study reports the multicenter experience with dupilumab from the Spanish Pruri-Go! registry.

Materials and Methods
Time-to-event analyses used Kaplan–Meier methods to estimate cumulative response rates and treatment persistence over time. Response was assessed using the Investigator's Global Assessment for CPG-Stage (IGA-CPG-S), Worst Itch Numeric Rating Scale (WI-NRS), and Dermatology Life Quality Index (DLQI). A composite endpoint (IGA 0/1 plus ≥4-point WI-NRS reduction) was also assessed.

Results
The registry included 134 patients, of whom 110 (82.1%) received dupilumab. Seventy patients were evaluable for combined clinical and patient reported outcomes (PROs). The cohort was 60% female with a median age of 55.6

years. Atopy at diagnosis was present in 35.4% of patients. The median interval from PN diagnosis to dupilumab initiation was 1.1 years.

- **Comorbidities and neoplasms:** Top individual coded ICD-10 comorbidity categories included disorders of lipoprotein metabolism (11.2%), diabetes mellitus (9.7%), and essential hypertension (9.0%). Neoplasms were recorded in 12.7% (n=14) of the dupilumab cohort. Ten occurred before treatment and four during follow-up. Malignancies identified during follow-up included adenocarcinomas of the rectum, breast, and prostate.
- **Clinical efficacy (IGA):** In 68 evaluable patients, the median time to reach IGA-CPG-Stage response (≥2-point improvement) was 27.1 weeks (95% CI 23.9–48.7). Cumulative response rates were 20.3% at week 16, 39.7% at week 24, 66.6% at week 52 and 78.8% at week 104. For clear/almost clear skin (IGA 0/1), the median time was 48 weeks, with response rates of 15.7% (W16), 27.4% (W24), 54.0% (W52), and 71.9% (W104).
- **Symptomatic and QoL response:** In 57 evaluable patients, for itch (WI-NRS ≥4-point reduction), the median time was 27.1 weeks, with response rates of 36.6% (W16), 46.3% (W24), 78.5% (W52), and 94.3% (W104). For DLQI (≥4-point reduction), the median time was 24.9 weeks, with response rates of 29.0% (W16), 46.4% (W24), 71.4% (W52), and 95.9% (W104). At baseline, 69.4% of patients reported a 'very large' or 'extremely large' effect on quality of life, which decreased to 17.4% by week 52.
- **Composite endpoint (IGA 0/1 + WI-NRS ≥4):** The median time to response was 63 weeks, with response rates of 13.6% (W16), 20.8% (W24), 45.2% (W52), and 67.5% (W104).
- **Treatment persistence and safety:** Treatment persistence was high, with 96.7% at week 16 and 88.6% at week 52 and 78.8% at week 104. Discontinuation occurred in 11.8% of patients, primarily due to patient factors or therapeutic failure. Adverse events (AEs) were reported in 7.3% of the cohort, most commonly conjunctivitis and application site reactions. Only one patient discontinued dupilumab due to grade 3 AEs (dupilumab-associated facial erythema and psoriasiform dermatitis).

Rescue therapy: During follow-up, 28.6% of patients required additional specific treatments (excluding topical steroids), most commonly gabapentinoids (n=8) or phototherapy (n=4).

Conclusions

In this real-world multicenter cohort, dupilumab demonstrated robust and sustained effectiveness in patients with chronic prurigo. While the median time to clinical clearance (IGA 0/1) is longer than for itch relief, over 70% of patients achieve clear/almost clear skin within two years of treatment. High treatment persistence and low incidence of adverse events further support the long-term safety and tolerability of dupilumab in this population.

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Defining the Itch Controlled State in Chronic Prurigo: Identification of a Patient-centered NRS Threshold

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Introduction

Chronic prurigo (CPG) is a chronic inflammatory skin disease characterized by multiple pruriginous lesions and severe, persistent pruritus, resulting in substantial impairment of health related quality of life (HRQoL). A patient-relevant cutoff value on the Numerical Rating Scale (NRS) that defines an itch control state has not yet been established. This absence limits the ability to operationalize treatment targets and to implement treat-to-target strategies in CPG. Therefore, identifying such a threshold is crucial for advancing patient-centered care, optimizing therapeutic strategies, and ensuring that clinical endpoints reflect outcomes that are meaningful to patients.

Materials and Methods

In this prospective single-center study, 120 patients diagnosed with CPG were recruited and stratified into two groups based on their current worst itch intensity, assessed using the Numerical Rating Scale (WI-NRS/24h), which ranges from 0 (no itch) to 10 (worst imaginable itch). Each group consisted of 60 patients (WI-NRS/24h≤3 vs. >3).

In addition to itch intensity, data were collected on demographic characteristics, itch characteristics, disease duration and HRQoL impairment using the Dermatology Life Quality Index (DLQI). Participants were further asked to define the itch intensity on the NRS they would consider representative of an itch control state (ICS-NRS) and to evaluate terminology describing this ICS-NRS.

Results

Among the 120 participants, 53.3% were female (n=64), 45.8.% male (n=55), and one individual identified as diverse (0.8%). The mean age was 61.6±14.4 years, the average disease duration was 5.2±7.4 years.

Patients identified an itch control state corresponding to a median ICS-NRS value of 3.0. The most frequently selected ICS-NRS value was 3.0 (n = 40, 33.3%), while the mean ICS-NRS across the total study population was 3.1±1.4

Notably, patients with lower current pruritus intensity defined the ICS-NRS at significantly lower NRS thresholds compared to those experiencing higher itch levels (WI-NRS/24h≤3: 2.7±1.1 vs. WI-NRS/24h>3: 3.4±1.5; p=0.025). Based on these findings, an itch intensity threshold of ≤3 on the NRS was identified as a central criterion for defining ICS-NRS particularly for patients with a current WI-NRS/24h>3. Regarding the nomenclature, less affected patients (WI-NRS/24h≤3) reported that a pruritus intensity of 1 or 2 on the NRS should be described using the terminology “minimal pruritus”.

As an additional objective, determinants of achieving an itch control state from patients' perspective were investigated. Beyond itch intensity, further factors significantly associated with itch control state included the frequency of pruritus attacks categorized as "rare" or "not at all" ($p<0.001$) and less HRQoL impairment (DLQI<10; $p<0.001$). In contrast, disease duration was not linked to an itch control state ($p=0.549$), suggesting that patients' perception of disease control is primarily influenced by current symptom burden rather than chronicity.

Conclusions

The present findings indicate that a complete absence of CP, defined as NRS/24h=0, is not a prerequisite for achieving a patient-perceived state of itch control in CPG. Rather, the perception of the ICS-NRS appears to be influenced by the currently experienced intensity of pruritus. Additionally, an itch control state can be understood as a multidimensional construct driven by pruritus intensity, frequency of pruritus attacks, and HRQoL impairment.

While the proposed cut-off values provide a meaningful and clinically relevant framework for assessing itch control, they should be further validated in larger, independent cohorts to confirm their generalizability and robustness. Nevertheless, the current findings provide a foundation for future research and represent an important step toward improving clinical decision-making and establishing treatment goals in CPG, as the patient-centered cut-off scores of the ICS-NRS can serve as target values.

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Abstract N°: 3046

Does the European definition of chronic prurigo fit real-world patient characteristics? - Evidence from the German National Prurigo Registry CPGBest

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Introduction

In 2017, European experts reached a consensus on the definition of chronic prurigo (CPG; syn: prurigo nodularis) within the framework of the EADV European Prurigo Project (EPP). According to this definition, CPG is a neuroimmune inflammatory skin disease characterized by the core symptoms of chronic pruritus, repetitive scratching behaviour, and the presence of multiple pruriginous lesions. In addition, associated criteria were established by the EPP group to further delineate the disease.

The present study aims to evaluate the applicability of the current clinical definition of CPG in real-world settings by analyzing data from the ongoing multicenter registry CPGBest.

Materials and Methods

Patients were enrolled into CPGBest at specialized centers, and all had either been receiving or had previously received treatment, reflecting a pretreated population. Demographic characteristics, as well as disease-specific data, were analyzed to quantify the frequency of core symptoms and associated criteria of CPG.

Results

Real-world data were collected from a cohort of 141 patients diagnosed with CPG (54.6% female; mean age 60.5 ±10.8 years) with a mean disease duration of 12.4 ± 11.9 years. Pruritus intensity was nevertheless moderate (mean worst itch NRS 4.6 ± 3.0). Beyond itch, a substantial proportion of patients reported additional sensory symptoms, including pain (79.4%), sharp sensations (77.3%), and burning (79.4%), thereby corroborating the associated criteria of the CPG definition.

Clinical presentation was categorized into the predominant morphological subtype of CPG, mainly nodular (83.7%), followed by papular (2.8%) CPG. Plaque, linear, and umbilicated prurigo were not observed in this cohort but most of the patients showed more than one type of pruriginous lesions at the same time. The distribution of disease severity ranged from clear (8.5%) to severe (1.4%). The majority of patients presented with moderate prurigo (38.3%), followed by mild prurigo (32.6%), while 18.4% exhibited almost clear disease. Core diagnostic features were highly prevalent, including the distribution of pruriginous lesions on scratch-accessible areas; the lower legs were most frequently affected (68.0%), whereas facial involvement was rare (2.1%). Furthermore, 56.4% of patients exhibited a substantial lesion burden exceeding 20 lesions, in 87.2% accompanied by excoriations.

Importantly, the burden of CPG extends beyond cutaneous manifestations. Functional impairment was considerable, as reflected by a reduced quality of life (DLQI mean 7.63 ±5.84) and temporary work absenteeism in

50% of employed patients. Intrusive and distressing thoughts were frequently reported, including “I can’t endure it any longer” (75.1%), “the itching keeps getting worse” (78.3%), and “I will scratch myself until I bleed again” (81.6%). Emotional burden was also substantial; psychiatric comorbidities were present in 17.0% of patients. Feelings of aggression (37.6%) and being tortured (56%) due to itch, as well as shame (57.4%) and helplessness (“I cannot do anything about it”; 83.7%), were commonly reported.

Conclusions

In summary, baseline registry data are consistent with and support the European definition of CPG, reflecting key diagnostic criteria such as chronic pruritus, characteristic lesion morphology and distribution, and substantial functional and emotional disease burden. The findings further highlight the multidimensional impact of CPG on patients’ quality of life. Notably, patients in this cohort were already undergoing treatment. Consequently, it can be assumed that untreated patients may present with even higher pruritus intensity, greater overall disease burden, and a higher number of lesions and excoriations.

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Abstract N°: 3105

Modafinil Induced Pruritus.

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Introduction

Pruritus is a common symptom associated with numerous overlapping dermatologic and systemic diseases and represents a significant diagnostic and therapeutic challenge. It may arise secondary to systemic, psychiatric, neurologic etiologies, as well as drug intake. Chronic pruritus is frequently refractory to treatment and can substantially impair quality of life, often resulting in significant psychological distress. We report a case of medication-induced generalized pruritus.

Case Presentation

A 26-year-old female with a history of a well-controlled seborrheic dermatitis developed generalized pruritus. Laboratory investigations, including normal complete blood count and comprehensive metabolic panel, were unremarkable. Further assessment revealed that the onset of symptoms coincided with initiation of modafinil for the management of idiopathic hypersomnia.
The generalized pruritus improved significantly within 48 hours following discontinuation of modafinil. Seborrheic dermatitis improved after initiation of a topical phosphodiesterase-4 (PDE-4) inhibitor, roflumilast foam 0.3%, applied once daily and continued to be effective.

Conclusion

This case report illustrates that although Modafinil is well tolerated, it can rarely cause generalized pruritus. Clinicians should be aware of this rare cutaneous adverse effect.

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Abstract N°: 3150

Ultra-Sensitive Detection of Circulating IL-31 Reveals Elevated Levels Across Pruritic Skin Diseases

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Introduction
Interleukin-31 (IL-31) is a key pruritogenic cytokine implicated in the pathogenesis of inflammatory and chronic pruritic disorders, including atopic dermatitis (AD), chronic pruritus of unknown origin (CPUO), and prurigo nodularis (PN). However, circulating IL-31 is typically present at very low concentrations and is inconsistently detectable using conventional immunoassays, limiting its utility as a systemic biomarker of itch.

Materials and Methods
We developed an ultra-high sensitivity NUcleic acid–Linked Immuno-Sandwich Assay (NULISA™) capable of quantifying IL-31 in human plasma and serum. Analytical performance was evaluated across parameters including sensitivity, precision, linearity, recovery, and matrix compatibility. The validated assay was applied to plasma and serum samples from three different study centers comprising healthy controls (HC, n=70) and patients with AD (n=33) or chronic pruritus (CP, n=73). Circulating IL-31 concentrations were compared between groups and assay performance was benchmarked against established platforms including SIMOA and Luminex.

Results
The NULISA™ assay demonstrated robust analytical performance with a lower limit of quantification of 0.005 pg/mL and a combined intra- and inter-assay coefficients of variation <10%. IL-31 was reliably quantified in both plasma and serum without evidence of matrix interference. In contrast to SIMOA and Luminex assays, which failed to quantify IL-31 in a subset of samples, NULISA™ enabled quantification across all samples analyzed. Circulating IL-31 levels were significantly elevated in patients with AD (median [IQR]: 0.196 [0.053-0.452] pg/mL; $p<0.0001$) and CP (0.044 [0.021-0.044] pg/mL; $p<0.0001$) compared with HC (0.019 [0.013-0.035] pg/mL). IL-31 levels in healthy individuals and pathologic pruritic populations were consistent across the three study centers. In a subset of patients for which itch visual analogue scale (VAS) was collected concurrently (n=35), a significant correlation was observed between VAS score and circulating IL-31 levels ($r=0.447$, $p=0.0071$).

Conclusions
Ultra-sensitive detection using NULISA™ enables reliable quantification of circulating IL-31 across clinically relevant concentration ranges. These findings support circulating IL-31 as a potential systemic biomarker of chronic pruritic disease and provide a new platform for investigating IL-31–driven itch mechanisms and therapeutic responses.

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Abstract N°: 3388

Comparative Effects of Itch, Skin Lesion Severity, and Treatment on Sleep Disturbance in Atopic Dermatitis and Prurigo Nodularis

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Introduction

Sleep disturbance is a major contributor to disease burden in both atopic dermatitis (AD) and prurigo nodularis (PN), driven largely by chronic itch and skin inflammation. Although these conditions share symptomatic features, differences in underlying mechanisms may result in distinct patterns of sleep impairment.

The objective is to evaluate the effects of treatment on sleep disturbance in AD and PN, and assess the relative contributions of itch intensity and skin lesion severity to sleep outcomes across diseases.

Materials and Methods

Data were analyzed from the pivotal nemolizumab clinical trials: ARCADIA (AD; N=1728; NCT03985943, NCT03989349) and OLYMPIA (PN; N=560; NCT04501666, NCT04501679). Patients in the AD and PN populations had mean ages of 34.1 and 55.2 years, with 49.0% and 59.6% female participants, respectively. Itch severity was assessed using the baseline mean Peak Pruritus Numerical Rating Scale (PP-NRS; 0 “no itch” to 10 “worst itch”) with mean baseline scores of 7.1 and 8.5 for AD and PN populations, respectively. Skin lesion severity was evaluated using the Investigator’s Global Assessment (IGA; 0 “clear” to 4 “severe”) with mean baseline scores of 3.3 in AD and 3.4 in PN. Sleep disturbance was measured by the Sleep Disturbance Numerical Rating Scale (SD-NRS; 0 “no sleep loss” to 10 “I did not sleep at all”).

SD-NRS was modeled longitudinally from baseline to week 16 as a function of PP-NRS, IGA, and treatment (nemolizumab vs placebo). Separate mixed-effect models were constructed for each covariate (itch, skin lesion severity, and treatment), including time-by-covariate interaction terms to assess changes over follow-up. Models included random intercepts to account for repeated measures within patients and used an unstructured covariance matrix. Least squares (LS) mean SD-NRS estimates with 95% confidence intervals were derived over time and summarized graphically.

Results

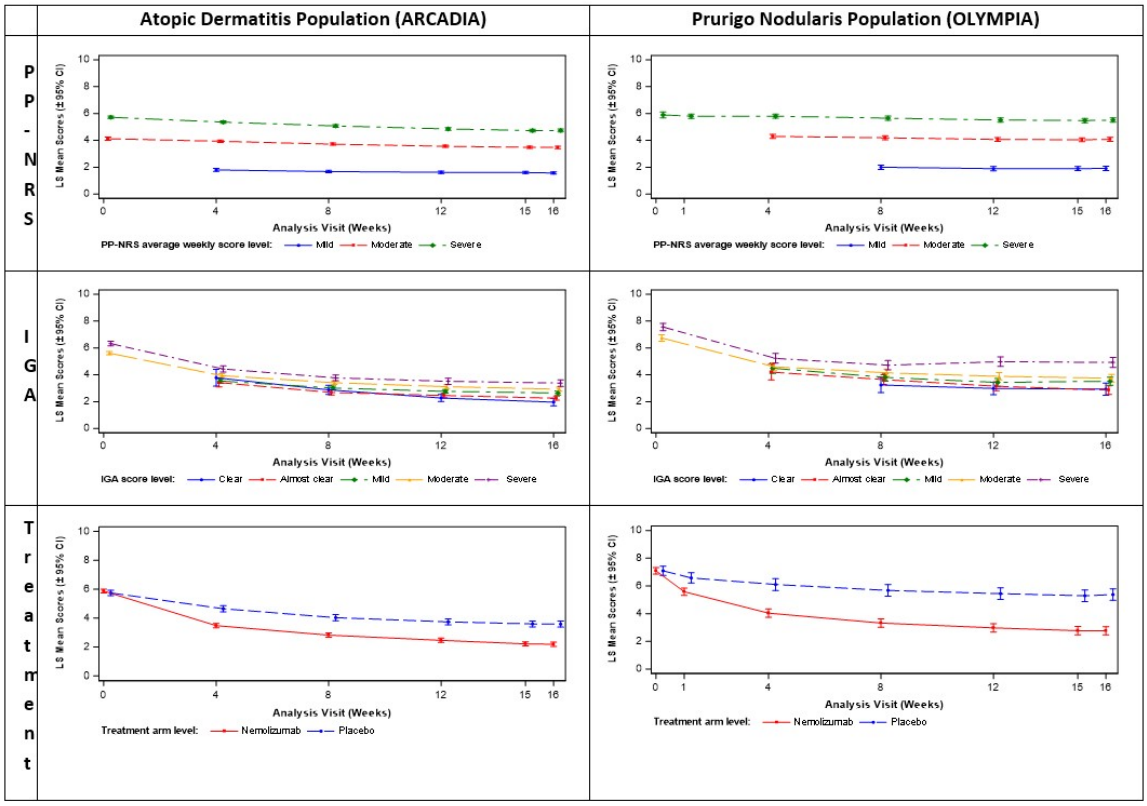
Itch intensity demonstrated a strong graded association with sleep disturbance in both AD and PN ($p<0.01$). In AD, mean SD-NRS at week 16 for PP-NRS cut points of 2, 5, and 7 were 1.6 (95% CI: 1.49–1.66), 3.5 (3.39–3.56), and 4.7 (4.63–4.84), respectively. In PN, mean SD-NRS scores at the same PP-NRS levels were 1.9 (1.75–2.06), 4.1 (3.93–4.21), and 5.5 (5.36–5.67) (Figure 1).

Skin lesion severity was also significantly associated with sleep disturbance ($p<0.01$), with higher skin lesion

severity associated with higher SD-NRS scores at week 16, ranging from 2.0 to 3.4 in AD and 2.9 to 4.9 in PN across IGA 0–4.

Nemolizumab significantly reduced sleep disturbance throughout follow-up compared to placebo in both AD and PN ($p<0.01$). At week 16 in AD, the estimated mean SD-NRS scores were 2.2 (2.03–2.33) with nemolizumab vs 3.6 (3.37–3.79) with placebo; in PN, estimated mean SD-NRS scores were 2.8 (2.47–3.06) vs 5.4 (4.96–5.79).

Figure 1. LS Mean Estimates of Sleep Disturbance by Itch (PP-NRS), Skin (IGA), and Treatment



Abbreviations: CI = Confidence interval; IGA = Investigator's Global Assessment; LS = Least square; PP-NRS = Peak Pruritus Numerical Rating Scale. Notes: Lines for selected PP-NRS and IGA categories begin after baseline due to trial inclusion criteria and distribution of observed values, which limited representation of lower severity categories at earlier timepoints (e.g., Week 0–4 in AD and Week 0–8 in PN).

Conclusions

Sleep disturbance is strongly driven by itch intensity and, to a lesser extent, skin lesion severity in both AD and PN. Nemolizumab treatment was associated with clinically meaningful improvements in sleep disturbance in both indications. Improvements in sleep with nemolizumab were observed consistently over time, underscoring the clinical relevance of itch reduction beyond skin lesion improvement alone. These findings highlight the importance of assessing sleep disturbance as a meaningful component of overall disease burden and treatment benefit in both pruritic skin diseases.

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Abstract N°: 3526

Phase 2 trial demonstrating significant improvement in itch severity with MC2-25 PAD Technology based cream in patients with chronic kidney disease-associated pruritus

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Introduction

Often patients with chronic kidney disease (CKD) are afflicted by severe pruritus, referred to as CKD associated pruritus (CKD-aP). The pruritus often presents with fluctuating intensity, often worse during nighttime, resulting in sleep disturbances. The pathogenic mechanism leading to pruritus is unknown, but excessive protein carbamylation (binding of isocyanic acid on free amino acids and proteins) has been suggested as a possible mechanism. It has been hypothesised that dipeptide Alanyl-Glutamine (Ala-Gln) may reduce protein carbamylation and alleviate pruritus in CKD-aP patients. Because effective and tolerable treatment options for CKD-aP are limited, there is a high unmet need for a well-tolerated, efficient treatment option. The primary objective of this trial was to explore the clinical efficacy of MC2-25 dipeptide PAD-cream (Ala-Gln in a PAD Technology cream) compared to MC2-25 PAD-cream in adults with CKD-aP.

Materials and Methods

This phase 2, double-blinded trial included 111 subjects with CKD stages G3-G5 and at least moderate CKD-aP (defined as Worst Itch Numeric Rating Score (WI-NRS) ≥4 on an 11-point numeric rating scale from 0 [no itch] to 10 [worst imaginable itch]). The trial was conducted at 23 clinical sites across the United Kingdom and European Union. Eligible subjects were randomised in a 2:1 ratio to MC2-25 dipeptide PAD-cream or MC2-25 PAD-cream, respectively, and applied the assigned investigational medicinal product twice daily for 12 weeks. The primary endpoint was mean change in weekly mean WI-NRS (based on 7 days of scoring by the patient) from Baseline to Week 12 for MC2-25 dipeptide PAD
cream compared to MC2-25 PAD-cream and was analysed by a mixed model of repeated measures. Ninety-eight subjects completed the trial.

Results

A decrease from Baseline to Week 12 in weekly mean (SD) WI-NRS from 6.71 (1.802) to 2.89 (2.538) and from 7.02 (1.727) to 3.13 (2.814) was observed within the MC2-25 dipeptide PAD-cream and the MC2-25 PAD-cream groups, respectively. No significant differences between the two groups were seen.

For the key secondary endpoints of weekly mean WI-NRS, 49.3% and 50.0% obtained a ≥4 points improvement in the MC2-25 dipeptide PAD-cream group and the MC2-25 PAD-cream group respectively at Week 12.

Complete response was defined as scores equal to 0 or 1 in ≥80% of the non-missing WI-NRS values of the diary entries and alternative complete response was defined with a threshold of ≥70% of the non missing WI-NRS values. The percentage of subjects with complete response was about 35% at Week 12 in each treatment group without statistically significant difference. The percentage of subjects with complete alternative response increased by visit to 37.3% with MC2-25 dipeptide PAD-cream and 38.2% with MC2-25 PAD-cream at Week 12.

Subject Global Impression of Change (SGIC) indicated an improvement of WI and Sleep loss due to Itch (SI)

starting already in Week 1. In both treatment groups the percentage of subjects with a SGIC for WI and SI of ‘very much better’ increased until Week 12 without relevant difference between treatment groups. The improvement was considered as ‘important’ by most subjects in both treatment groups.

Safety assessments during the trial demonstrated that both treatments were well tolerated.

Conclusions

Both creams investigated in this trial, utilises PAD Technology, an oil-in-water formulation technology that readily enables high oil content with minimal emulsifier. The PAD-creams showed efficacy comparable to the results from a phase 3 clinical trial investigating 12 weeks difelikefalin systemically. The significant improvement in itch severity along a well-tolerated safety profile suggests that PAD-based emollients may represent a new class of innovative topical treatments for CKD-aP where therapeutic options remain limited.

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Abstract N°: 3571

Real-world demographics, clinical characteristics, and itch burden of patients with atopic dermatitis and prurigo nodularis receiving advanced systemic therapy in Canada using Artificial Intelligence-extracted data

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Introduction

Atopic dermatitis (AD) and prurigo nodularis (PN) are chronic immune-mediated inflammatory diseases characterized by severe pruritus and significant quality of life impairment, with itch spontaneously reported by up to 100% of patients with AD (1). Despite the availability of advanced systemic therapies, real-world data describing the burden of itch among patients receiving these treatments remain limited. This study aims to describe the proportions, demographics, and clinical characteristics of patients with AD and PN treated with advanced systemic therapies and the proportion of patients with documented itch following advanced systemic therapy initiation in the Canadian community dermatology setting.

Materials and Methods

This was a retrospective, multicenter, non-interventional cohort study using electronic health records (EHRs) from 16 Canadian community dermatology clinics between January 1, 2018 and June 30, 2025. Eligible patients had AD (age ≥12 years) and/or PN (age ≥18 years) between January 1, 2018, and December 31, 2024, and were receiving treatment during the follow-up period. Three nested panels were defined: (P1) all eligible patients; (P2) a subset of patients who initiated advanced systemic therapy (dupilumab; tralokinumab; lebrikizumab; upadacitinib; abrocitinib; baricitinib) on or after AD/PN diagnosis; and (P3) a subset of patients who initiated advanced systemic therapy and had documented itch any time after date of advanced systemic therapy initiation until date of last follow-up (last visit to the dermatologist before June 30, 2025). The validated DARWEN^{TM} AI data extraction engine was used to extract structured and unstructured clinical variables. Here we report pruritus (either Worst Itch or Peak Pruritus-Numeric Rating Scale (WI/PP-NRS) or dermatologist-documented itch), disease severity assessments (including body surface area [BSA] and Investigator Global Assessment [IGA]), and advanced treatment usage. All extracted clinical variables were documented by the dermatologist in the patient EHR. Descriptive statistics were used to summarize patient characteristics.

Results

A total of 28,810 eligible patients (P1) were included in the study: 26,779 with AD, 2,792 with PN, and 985 (3.4%) with AD+PN (groups are not mutually exclusive). Documentation of itch was more common in PN (78.2%) than in

AD (54.3%). Patients were predominantly female (AD: 61.2%; PN: 56.3%). Among patients with a documented BSA at diagnosis (AD: n=1,383; PN: n=112; AD+PN: n=87), mean (SD) BSA was 25.7% (23.8) for AD, 30.8% (22.4) for PN, and 35.0% (22.5) for AD+PN. Of patients who had documented IGA at diagnosis (AD: n=441; PN: n=44; AD+PN: n=38), mean (SD) IGA was 3.4 (0.9) for AD, 3.5 (0.7) for PN, and 3.6 (0.6) for AD+PN. Among patients who initiated advanced systemic therapy (P2) (AD: n=2,747; PN: n=342; AD+PN: n=272), many had itch documented following advanced systemic therapy initiation until date of last follow-up (P3) (AD: n=1,253 [45.6%]; PN: n=193 [56.4%]; AD+PN: 157 [57.7%]).

Conclusions

This Canadian real-world study provides evidence of frequently undocumented itch among patients with AD and PN treated in community dermatology practices. Notably, itch was documented in approximately half of AD patients and 78% of PN patients, which may be an underestimate of true prevalence given that pruritus is a cardinal feature and diagnostic criterion of both conditions. Nearly half of patients initiating advanced systemic therapy had documented itch sometime after initiation, which in several cases may suggest residual symptom burden associated with incomplete disease control and ongoing unmet need. AI-enabled EHR extraction provides scalable insight into disease control, symptom burden, and treatment patterns, supporting future evidence generation and care optimization.

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Abstract N°: 3745

Chronic Pruritus and Reticulated Hyperpigmentation: A Diagnostic Pitfall of Primary Localized Cutaneous Amyloidosis

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Introduction

Primary Localized Cutaneous Amyloidosis (PLCA) is a rare chronic dermatosis characterized by amyloid deposition limited to the skin. Due to its nonspecific clinical presentation, PLCA may mimic post-inflammatory hyperpigmentation, frictional melanosis, and other pigmentary disorders, resulting in prolonged diagnostic delay. Macular amyloidosis typically presents with chronic pruritus and reticulated hyperpigmentation, significantly affecting patients' quality of life.

Case Presentation

A 22-year-old woman presented with chronic pruritus, reticulated hyperpigmentation involving the upper back, shoulders, and upper chest, and significant aesthetic distress.

The disease had persisted for more than 8 years. The patient had previously consulted multiple dermatologists and undergone repeated skin scrapings, which were negative. No definitive diagnosis had been established before presentation. Clinical examination revealed hyperpigmented reticulated patches with mild infiltration and scattered excoriations. Dermoscopic examination demonstrated central hyperpigmentation with peripheral reticulated pigmentation, consistent with previously described dermoscopic patterns of macular amyloidosis. Given the chronic course and unclear clinical presentation, a skin biopsy was performed. Histopathological examination revealed amorphous eosinophilic deposits within the papillary dermis consistent with amyloid deposition. Congo red staining demonstrated characteristic apple-green birefringence under polarized light, confirming the diagnosis of macular amyloidosis.



Conclusion

PLCA remains an underrecognized cause of chronic pruritic hyperpigmentation and may clinically mimic more common pigmentary dermatoses for many years.

Persistent pruritus associated with reticulated hyperpigmentation should prompt consideration of cutaneous amyloidosis in the differential diagnosis, particularly in patients with longstanding unexplained disease.

This case highlights the diagnostic value of dermoscopy and the critical role of histopathological confirmation in avoiding prolonged diagnostic delay.



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Abstract N°: 3980

Maladaptive immunity to the microbiota promotes neuronal hyperinnervation and itch via IL-17A

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Introduction

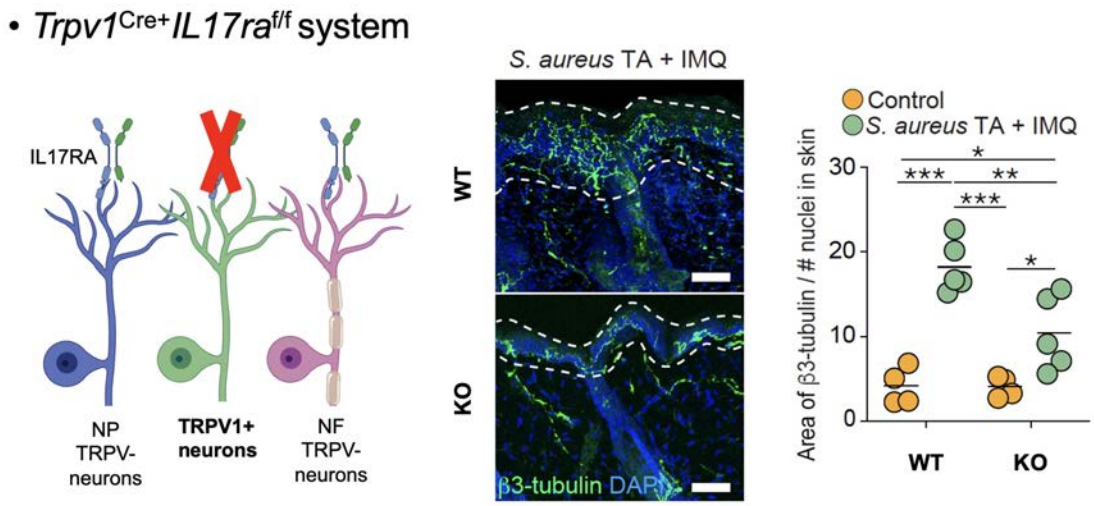
The interaction between the immune system and the somatosensory system plays a fundamental role in the regulation of diverse biological processes. Chronic itch is a common yet hard-to- treat symptom of many inflammatory skin conditions. One hallmark of chronic itch is the hyperinnervation of the skin by sensory fibers, yet what drives this aberrant nerve growth or how it contributes to disease progression remains unclear. Because barrier tissues are continuously exposed to commensal microorganisms that shape local immunity, we hypothesized that dysregulated responses to the skin microbiota could promote maladaptive sensory circuit remodeling during inflammation. Here, we identify IL-17A and microbiota-induced immunity as key drivers of sensory neuron plasticity, hyperinnervation, and pruritus.

Results

Using a murine model of psoriatic itch, we show that prior topical exposure to *Staphylococcus aureus* exacerbates imiquimod-induced skin inflammation, spontaneous scratching, mechanical itch sensitivity, and sensory fiber overgrowth. Microbial exposure alone does not induce overt inflammation or itch, indicating that microbiota-derived immune signals become pathogenic specifically in an inflammatory context. This effect is not restricted to S. aureus, as prior exposure to Candida albicans similarly enhances nerve growth, whereas intradermal bacterial infection does not reproduce the phenotype. These findings suggest that maladaptive immunity to commensal microbiota, rather than infection or a species-specific microbial effect, promotes sensory remodeling during skin inflammation.

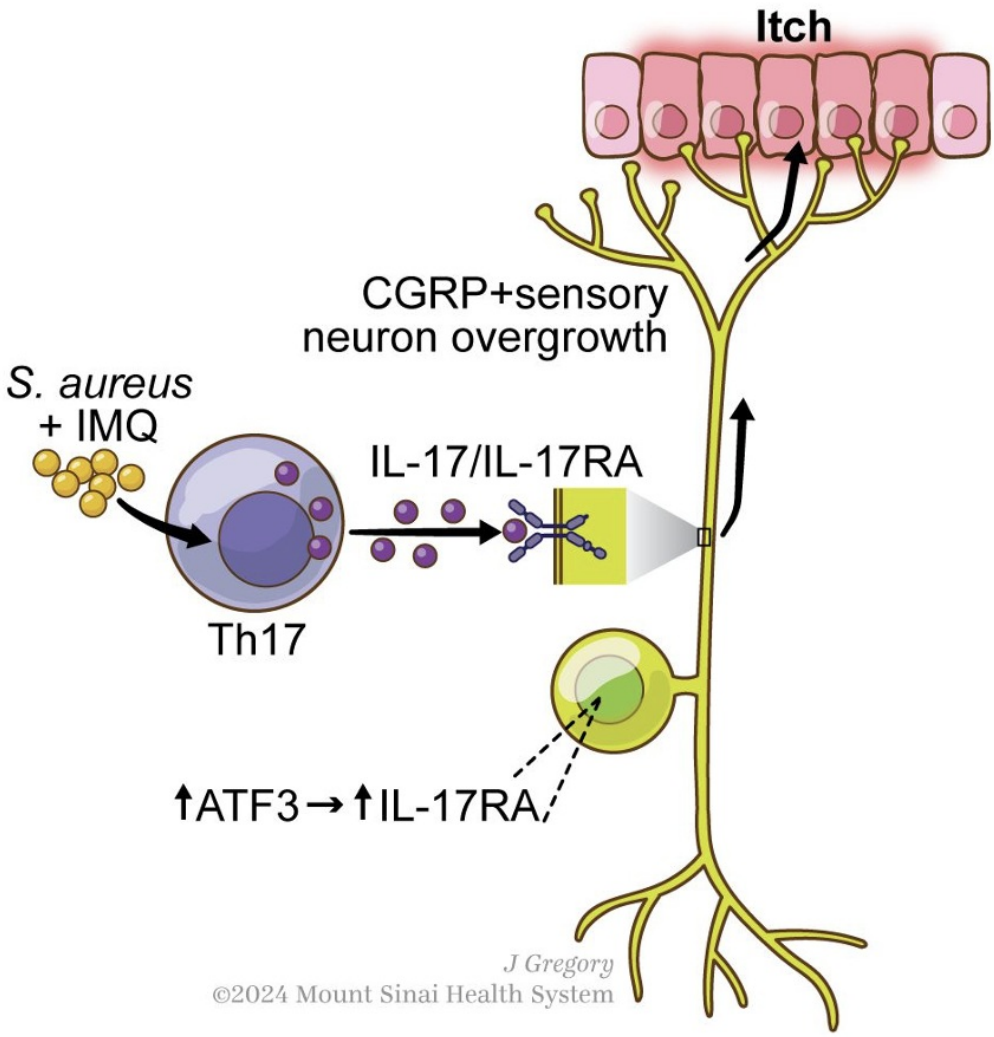
Accordingly, singlenucleus RNA sequencing of dorsal root ganglia reveals that microbiota-driven inflammation induces a regenerative transcriptional program in sensory neurons. This program includes the upregulation of genes associated with neuronal injury and regeneration, including Atf3, Sox11, and Ngfr, IL-17RA-associated signaling genes and neuropeptide-related transcripts such as Calca, Tac1, and Cartpt. These signatures support the concept that microbiota-driven inflammation induces a repair-like neuronal state that becomes maladaptive in the skin.

Mechanistically, we demonstrate that IL-17A is required for this aberrant neurocutaneous remodeling. Antibody-mediated blockade of IL-17A abrogates hyperinnervation and reduces inflammation. Microbiota-primed inflammation is associated with accumulation of Th17 cells in the skin and close spatial proximity between CD4+ T cells and sensory fibers. Genetic impairment of Th17 differentiation reduces nerve overgrowth and disease severity, implicating adaptive type 17 immunity as a source of pathogenic IL-17A. We further show that IL-17RA is preferentially expressed in TRPV1+ neurons during psoriatic itch. Global, pan-neuronal, or TRPV1+ neuron-specific deletion of IL-17RA markedly reduces cutaneous hyperinnervation, scratching, alloknesis, and skin inflammation. These results establish a direct causal role for IL-17A/IL-17RA signaling in sensory neurons in driving pathological nerve growth and pruritus.



Conclusions

Together, our data reveal a microbiota–IL-17A–sensory neuron axis that links dysregulated barrier immunity to aberrant neuronal remodeling. We propose that IL-17A-driven “regenerative itch” represents a maladaptive repair-like program in which sensory neurons activate growth and injury-response pathways, leading to persistent hyperinnervation, amplified itch, and feed-forward inflammation. This work positions sensory neurons not as passive recipients of inflammatory signals, but as active participants in disease propagation. By identifying IL-17RA signaling in sensory neurons as a key driver of microbiota-amplified pruritus, these findings provide a conceptual and therapeutic framework for targeting neuroimmune circuits in chronic inflammatory skin diseases


Itch
CGRP+sensory
neuron overgrowth
S. aureus
+ IMQ
IL-17/IL-17RA
Th17
↑ATF3 → ↑IL-17RA
J Gregory
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Abstract N°: 4005

Chronic idiopathic itch: successful treatment with Omalizumab – a case series

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Introduction

Chronic pruritus of unknown origin (CPUO) is defined as persistent itch lasting longer than 6 weeks in the absence of primary skin lesions or an identifiable underlying cause. Management is often challenging, with limited therapeutic options and scarce evidence supporting targeted therapies. Omalizumab, an anti-IgE monoclonal antibody approved for chronic spontaneous urticaria, has recently emerged as a potential treatment for pruritus related to inmune checkpoint inhibitors and mast cell mediated itch in the absence of hives. We report a case series of patients with refractory CPUO successfully treated with omalizumab.

Materials and Methods

We performed a retrospective observational study including six patients diagnosed with CPUO in a tertiary dermatology department. All patients underwent extensive laboratory and clinical evaluation to exclude systemic, hematologic, neurologic, infectious, and malignant causes of chronic pruritus. All had previously received high-dose antihistamines without satisfactory disease control. Clinical data collected included demographic characteristics, comorbidities, laboratory findings, omalizumab regimen, clinical response, and tolerability.

Results

Six patients (4 women, 2 men) with a median age of 68 years (range 42–84) and median disease duration of 1 year were included. Relevant comorbidities included hypothyroidism, asthma, and psoriatic arthritis treated with guselkumab. One patient presented elevated serum tryptase levels, although systemic mastocytosis was excluded. No patient showed eosinophilia and serum IgE levels were normal when available.

All patients received omalizumab 300 mg subcutaneously every 4 weeks, except one patient who required administration every 3 weeks. Five of six patients experienced clinical improvement, including marked reduction of pruritus intensity and improvement in quality of life. One patient achieved sufficient control to discontinue systemic corticosteroids she had been taking for the past 6 months. One patient experienced only partial response, while another showed no improvement after three doses and treatment was discontinued. Omalizumab was generally well tolerated, with no relevant adverse events reported.

Conclusions

CPUO remains a therapeutically challenging condition with limited evidence-based treatments. In our series, omalizumab demonstrated a favorable safety profile and clinically meaningful benefit in most patients with refractory chronic itch, even in the absence of hives, elevated IgE levels or eosinophilia. These findings support the hypothesis that IgE-mediated pathways may contribute to a subset of patients with chronic idiopathic pruritus. Larger prospective studies are needed to establish the role of omalizumab in CPUO management.

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Pruritus as a Primary Endpoint, not a Symptom: Reconciling Discrepant Phase 3 Placebo Responses in Prurigo Nodularis (Ruxolitinib Cream) to Decode the Placebo-Activated Neural Pathway

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Introduction
With regards to the TRuE PN phase 3 the trials for ruxolitinib cream for PN, the primary efficacy parameter (WI NRS ≥4 improvement) demonstrated us a strong differentiation in comparison to vehicle control. But the unexpected itch improvement that was observed within the placebo group i.e. (31.35%) and the persistence of itch control among some patients within the placebo arm following withdrawal is indicative of the placebo neural sovereignty, which implies that the state of placebo itself influences the neural network which regulates the itch, hence limiting the assessment of the drug's pharmacodynamic effects. In order to understand this mechanism, we conducted an extensive review of the literature.

Materials and Methods
We reviewed the published TRuE PN1/2 findings of 2024 2025, prespecified neuroimaging sub-studies of PN patients receiving sham vs vehicle cream while performing the MRI, and the mechanistic literature on placebo analgesia and pruritus networks. We applied a placebo response decomposition model with latent class analysis to cluster the itch trajectories over 12 weeks. Original sources from 2019-2025 on central itch modulation and placebo response were integrated.

Results
There were two distinct placebo response pathways that were presented as either 'classic placebo' which got week 6 restored to normal scratch after transient reduction in itch or 'neural entrained placebo' that got week 16 without treatment reduced itch by 50%. The 18% of placebo group demonstrated neural entrained placebo. The FMRI in the neural entrained group demonstrated the increased functional connectivity between PAG and rACC-likely related to descending inhibitory pathway activation. For active drug it demonstrated combined ruxolitinib-driven reduction of itch plus neural component once the neural placebo component is deconvolved from WI NRS estimate of drug's pharmacodynamic effect, the reduction in effect size is 1.8 points (Cohen's d goes from 0.82 to 0.61). Also, we noted that, disease sovereignty was 7.2 weeks for active drug versus 5.8 weeks for active drug when the neural entrained placebo effect was removed and 6.1 weeks for placebo only group.

Conclusions
It's really tricky thing to get a clear picture in studies of post-neuralgia because of how powerfully a placebo can stop that awful itching sensation. It's a big problem messing with the results. When we plan future studies that look at inflammation in the nervous system, we absolutely need to scan patients' brains as part of the study, and with use of some clever statistical techniques to separate out what the drug is really doing from the placebo effect. And, crucially, we have to start treating itchiness as something fundamentally going on in the brain, a

serious area for scientific study, not just as a number on a symptom list.

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Interleukin-31 as a Biomarker for Pruritus Severity and Treatment Response: A Systematic Review

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Introduction

Interleukin-31 (IL-31) is a cytokine implicated in the pathophysiology of pruritus; however, its utility as a biomarker across pruritic diseases remains uncertain. This review summarizes differences in IL-31 levels between patients and healthy controls, examines associations with pruritus severity, and evaluates treatment-related IL-31 dynamics.

Materials and Methods

We synthesized evidence from 43 primary studies across 13 pruritic conditions. Study designs included case–control (k = 21), cross-sectional (k = 8), pre–post (k = 5), randomized controlled trials (k = 7), and tissue-based biomarker studies (k = 2). IL-31 was predominantly measured in serum or plasma using ELISA, while a minority of studies assessed tissue IL-31 by immunohistochemistry, immunofluorescence, or IL-31 mRNA expression. Pruritus severity was evaluated using validated instruments, including VAS/NRS, SCORAD itch, the 5-D Itch Scale, and disease-specific measures.

Results

Twenty-seven studies compared patients with healthy controls. IL-31 levels were generally elevated in several pruritic disorders, including atopic dermatitis, chronic spontaneous urticaria, cutaneous T-cell lymphoma, prurigo nodularis, and chronic kidney disease–associated pruritus, whereas findings in psoriasis were heterogeneous. Across 29 analyses, associations between IL-31 and itch severity varied by disease. Atopic dermatitis showed the most consistent positive correlations with itch scores and SCORAD, supported in some cohorts by increased lesional IL-31 mRNA. In psoriasis, associations were largely absent. In cutaneous T-cell lymphoma, epidermal IL-31 correlated more closely with itch than serum levels. Treatment-response studies suggested context-specific utility: therapies such as nemolizumab, difelikefalin, and seladelpar reduced IL-31 levels and improved pruritus. Reported IL-31 concentrations varied substantially across assays and diseases.

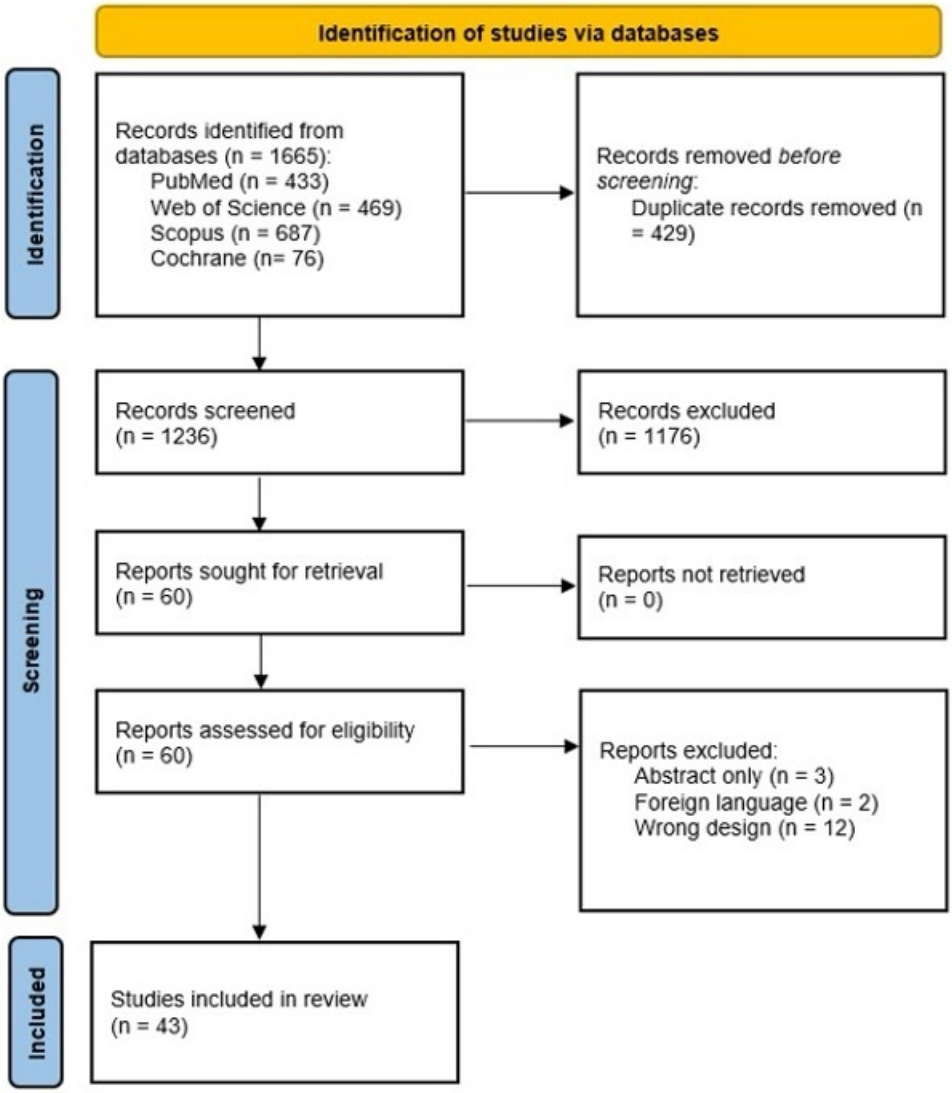

Fig 1. PRISMA Flowchart

Conclusions

IL-31 is frequently elevated in pruritic diseases, but its relationship with itch severity is disease- and compartment-dependent. Serial measurements may have potential for monitoring treatment response.

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Diagnostic delay and unmet needs in chronic prurigo: real-world data from the German CPGBest registry

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Introduction

Chronic prurigo (CPG) is a chronic inflammatory skin disease characterized by severe pruritus and scratch-induced nodular, papular or plaque-like skin lesions resulting from a chronic itch–scratch cycle. Major challenges in health care are delayed diagnoses and misdiagnoses which often prolong disease burden, impair quality of life, and delay adequate therapy. This results in considerable cumulative life course impairment in most patients. Despite the great burden, real-world data on diagnostic latency in CPG and routine care characteristics are limited. Therefore, we aimed to investigate diagnostic latency in patients with chronic prurigo enrolled in the German CPGBest registry and to assess differences in disease burden, patient-reported outcomes (PROs), and treatment patterns between patients with short and long diagnostic delay.

Materials and Methods

CPGBest is the first prospective multicenter German registry for chronic pruritus and chronic prurigo, launched in April 2025 (ethical approval: 2022-100895-BO-ff). The registry captures longitudinal real-world data on disease severity, diagnostic pathways, and treatment patterns. Physician-reported assessments include Prurigo Activity Score (PAS), investigator's Global Assessment for Chronic Prurigo – Stage (eIGA-S), and investigator's Global Assessment for Chronic Prurigo – Activity (eIGA-A). Patient-reported outcomes include Dermatology Life Quality Index (DLQI), Patient Benefit Index for Pruritus (PBI-P), and Psoriasis Satisfaction Questionnaire (PsoSat). Data are collected at baseline and months 6, 12, 18, and 24. As of May 2026, 215 patients had been enrolled across two active sites; current analyses included 141 patients. Diagnostic latency was defined as the time between pruritus onset and first correct diagnosis (Q1 (0–1 years), Q2 (2 years), Q3 (3–7 years), and Q4 (8–54 years)).

Results

Mean diagnostic latency was 6.9 years (median 3 years, range 0–54 years). Patients with the longest diagnostic delay (Q4) were older than those in Q1-Q3 (mean 62.9 vs. 58.3–60.6 years).

Disease burden remained high across all quartiles. Mean itch severity during the last 24 hours ranged from 3.0–4.6/10. Pruritus affecting multiple body regions was reported by 64.0% of patients. Nodular prurigo was the predominant phenotype (84.2%).

DLQI remained elevated and was highest in Q3 (mean DLQI 9.0), followed by Q1 (8.0), Q2 (7.7), and Q4 (5.6). Physician-reported disease severity was similar between quartiles, with comparable PAS (Q1 4.7, Q2 5.3, Q3 5.3, Q4 5.0), eIGA-S scores (1.8–2.2), and eIGA-A scores (1.9–2.3).

Patient-reported unmet needs remained high. Relief from itch, a clear diagnosis and therapy, and confidence in therapy were key treatment goals across all quartiles. While 70.7% of patients rated “finding a clear diagnosis and therapy” as “very important”, only 46.5% reported high treatment benefit. Similarly, 85.6% rated complete itch relief as “very important”, but only 26.4% reported high therapeutic benefit regarding itch reduction.

Treatment patterns were broadly comparable between quartiles and included topical corticosteroids, UVB phototherapy, antihistamines, and biologics. Among current biologic therapies, dupilumab and nemolizumab were the most frequently used biologics (58.6% and 27.1%, respectively). Longer diagnostic delay was associated with prolonged time to first treatment, increasing from 0.7 years in Q1 to 20.1 years in Q4 (overall mean 6.8 years, median 3 years). Despite substantial diagnostic delay, treatment satisfaction remained high, with 75.3% of patients reporting satisfaction with their current treatment. However, 50.0% still wished for improved therapeutic options.

Conclusions

Patients with chronic prurigo experience substantial diagnostic delay, with a median latency of 3 years. Disease burden and quality-of-life impairment remained high across all quartiles. These data highlight the need for earlier recognition, improved diagnostics and long-term management in CPG.