Abstract N°: 39

Effect of a new cryotherapy device on an itchy sensation in patients with itchy dermatoses

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Introduction & Objectives: Patients with itchy dermatoses frequently report of having an itching sensation. Additional therapy approaches are still needed to treat this patient's itching discomfort. Our goal was to determine how a novel cryotherapy tool affected the itchy feeling for those patients.

Materials & Methods: 28 patients were included in this study with mild to moderate itching dermatoses. Over the course of a 3 months split-body clinical trial, each patient received treatment on one side using the innovative cryotherapy equipment while the other side acted as a control. Five seconds were spent using the cryotherapy machine, which was set at -125°C for 2 minutes twice a week following cryotherapy application, we assessed the visual analog scale (VAS) score for itching. Every visit also included an assessment of adverse events and patient satisfaction.

Results: Following cryotherapy application, the treated-side group's VAS score for itching was lower on the day immediately following treatment than the control-side group's. Additionally, the treated-side group's baseline (pre-treatment) VAS score for itching was higher than its scores at 1, 2, and 8 weeks post-treatment. 14.3% of the patients expressed good or excellent satisfaction. There were no significant adverse effects noted.

Conclusion: Patients suffering from itchy dermatoses may find that the new cryotherapy is an effective antipruritic treatment.

Abstract N°: 40

Patients with prurigo nodularis: disease load and satisfaction with treatment

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Introduction & Objectives Prurigo nodularis (PN) is a chronic inflammatory skin disorder with a high disease burden.This study aims to evaluate the quality of life, illness burden, and treatment satisfaction of patients with prurigo nodularis (PN).

Materials & Methods: The current disease burden and treatment satisfaction among patients with PN were evaluated using the following methods in this cross-sectional, web-based survey: Global Questions (GQ), the Numerical Rating Scales (NRS) for pruritus, burning sensation, and sleep disturbance, the Short-Form-8 (SF-8) Health Survey, Dermatology Life Quality Index (DLQI), Patient Health Questionnaire 9 (PHQ-9), Work Productivity and Activity Impairment (WPAI), and Treatment Satisfaction Questionnaire for Medication–9 (TSQM-9). In total, 42 patients were included (55% male and 45% female, median age 50 years, median duration of PN 36 months).

Results: GQ ratings showed that 16.7% of patients had severe disease, 47.6% had moderate disease, and 35.7% had mild disease. The deterioration of pruritus NRS scores and quality of life (DLQI, PHQ-9, WPAI presenteeism, job productivity loss, and activity impairment scores) showed that the disease burden rose as the severity of PN increased. Additionally, pruritus was more severe in patients with concomitant atopic dermatitis (AD) than in those without AD. Effectiveness, convenience, and global satisfaction had mean ± standard deviation TSQM-9 values of 54.7 ± 18.1%, 62.4 ± 15.2%, and 57.4 ± 15.9%, respectively. Patients on the most intense guideline-directed treatment (topical corticosteroids + systemic oral corticosteroids or cyclosporine) had the lowest TSQM-9 ratings, indicating an unmet need for more effective PN treatment choices.

Conclusion: : In conclusion, despite using therapy suggested by guidelines, patients with PN reported higher illness burden and lower treatment satisfaction with rising disease severity.

Abstract N°: 167

"Hell's Itch": A Rare Complication of Sunburns

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Introduction & Objectives:

Sunburns are caused by exposure to UV light. When a person is too exposed to sunlight, the body responds by increasing blood flow to the affected areas, causing erythema of the skin. Repeated sunburns increase the risk of skin cancer and premature aging. One complication of sunburn is a rare dermatologic reaction known as "Hell's Itch". This phenomenon is characterized by intense pruritus, muscle weakness, paresthesia, and severe anxiety, appearing several hours after extreme sun exposure. The literature is minimal with only a few reports describing this manifestation. Here, we present a case of "Hell's Itch" in a female from Puerto Rico, a tropical Caribbean Island, to raise awareness and provide insight on this underreported consequence of sunburn.

Materials & Methods:

A 27-year-old Puerto Rican woman with no prior medical history developed a first-degree sunburn on her chest and extremities after two hours of sun exposure without protection. She experienced muscle weakness and paresthesia in her hands and forearms on the same evening, which she managed with ibuprofen for mild relief over the next two days. On the third night, after showering, she developed intense body-wide itching that escalated to severe discomfort (9/10), described as needles poking through the skin with a torch. She attempted various remedies, including hydrocortisone cream, diphenhydramine, lidocaine spray, aloe vera, but none provided relief. The itching, burning pain, and associated anxiety became so severe that she was unable to sleep, speak, or walk, prompting her to seek emergency care.

Results:

At the ER, the patient received IV saline, diphenhydramine, and famotidine, which reduced her itching to 4/10. She was diagnosed with "Hell's itch" and discharged with hydroxyzine 25 mg every six hours for the pruritus. While the itching initially improved (3/10), it worsened to 7/10 by the evening and escalated to 10/10 after a cold shower, accompanied by intense burning sensations, paresthesia in unaffected areas, and leg weakness. She returned to the ER, where IM diphenhydramine reduced her symptoms to 5/10. She was discharged with a six-day course of methylprednisolone. Over the following days, her symptoms gradually improved until they resolved completely.

Conclusion:

"Hell's Itch" remains a rare yet severe complication of sunburn, characterized by intense itching and discomfort. Its pathophysiology involves complex inflammatory responses triggered by UV exposure. This case highlights the importance of recognizing and addressing this phenomenon promptly. While treatment options are limited, early medical intervention with steroids and preventive measures, such as sun protection, are crucial in reducing its incidence and severity. Continued research is needed to better understand and manage this challenging condition.

Abstract N°: 252

Nemolizumab in Treating Prurigo Nodularis: A Systematic Review and Meta-Analysis

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Introduction & Objectives:

Prurigo nodularis (PN) is an intensely pruritic skin condition marked by distinct and numerous nodular lesions. Monoclonal antibodies targeting the interleukin-31 (IL-31) receptor are being investigated for their ability to modulate critical pathways involved in the PN development. This study aims to evaluate the efficacy of Nemolizumab, an IL-31 receptor antagonist in treating PN.

Materials & Methods:

PubMed, Embase, and Cochrane databases were searched for studies comparing the use of nemolizumab to a control group in the PN treatment. This study followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines. Statistical analyses were performed using R Software. A random-effects model was employed to determine pooled rates with a 95% confidence interval (CI). Heterogeneity was examined with I^2 statistic.

Results:

Three randomized-controlled-trials were included, comprising 573 individuals, and 370 were assigned Nemolizumab. This study showed the following findings: the least square mean difference of the Peak Pruritus Numerical Rating Scale~~ was -38.01 (95% CI 44.67 to 31.35; $p < 0.00001$; $I^2 = 0\%$), of the Sleep Disturbance Numerical Rating Scale was -37.67 (95% CI -49.77 to -25.46; $p < 0.01$; $I^2 = 69\%$), and Risk Ratio of rescue medication usage was 0.40 (95% CI 0.23 to 0.69; $p < 0.01$; $I^2 = 0\%$).

Conclusion:

This study concludes that IL-31 receptor antibodies significantly reduce pruritus, sleep disturbance, and rescue medication use in PN patients. These findings offer promising therapeutic options, potentially improving patient quality of life and delivering more effective treatment strategies.

Abstract N°: 255

Distinct MRGPRX2-Mediated Mast Cell Activation in Chronic Pruritus of Unknown Origin Compared to IgE-mediated Atopic Dermatitis

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Introduction & Objectives: Chronic pruritus of unknown origin (CPUO) and atopic dermatitis (AD) are pruritic conditions with distinct mechanisms. While AD is driven by an IgE-mediated Th2 response, the pathogenesis of CPUO is less understood. Emerging evidence suggests that MRGPRX2-mediated mechanisms play a key role in itch pathways. This study aimed to characterize the immune profiles of CPUO in comparison to AD by analyzing serum, IgE, MRGPRX2, and cytokine expression along with healthy controls (HC) for further differentiation.

Materials & Methods: A total of 106 participants (47 AD, 44 CPUO, 15 HC) were recruited from a tertiary medical center. Plasma cytokines and chemokines were measured using Luminex assays, while serum IgE and MRGPRX2 levels were quantified via ELISA. Log transformation of MRGPRX2 data was performed to normalize the distribution and reduce variability. Descriptive statistics were calculated for IgE and MRGPRX2 levels. Differential cytokine expression was analyzed using the limma package in R with pairwise two-tailed t-tests, adjusted for false discovery rates (q-value < 0.05).

Results: The cohort had a mean age of 56.3 years ± 16.7, with CPUO patients being older (72.7 years ± 10.0) than AD (40.9 years ± 15.0) and HC (48.7 years ± 16.7). Sixty-three percent were female, with similar gender distributions across groups (61% CPUO, 64% AD, 67% HC). Racially, 66% were White, with 78% of CPUO, 53% of AD, and 73% of HC participants being White. The mean itch score was 8.4 ± 1.9 in CPUO, 8.5 ± 1.3 in AD, and 0 in HC. IgE levels (IU/ml) were significantly higher in AD compared to both CPUO (727.4 [640.3] vs. 370.7 [478.9], p=0.01) and HC (311.9 [560.6], p=0.04), with no difference between CPUO and HC (p=0.93). CPUO patients had significantly higher levels of MRGPRX2 (ng/ml) than AD (log-transformed: 4.25 [0.60] vs. 3.9 [0.81], p<0.0001) and HC (1.21 [0.23], p<0.0001). Cytokine analysis revealed that MIG/CXCL9, IL-27, SCF, MPIF-1, and eotaxin were upregulated in CPUO compared to AD (p<0.05), while TARC, IL-20, IL-7, MDC, and IL-12p40 were upregulated in AD (p<0.05). A comparison between CPUO and HC highlighted significant upregulation of MIG/CXCL9 and MPIF-1 (p< 0.05) in CPUO.

Conclusion: This study suggests that CPUO may be driven by MRGPRX2-mediated mast cell activation, neural sensitization, and a mixed Th1/Th2 immune response. Elevated MRGPRX2, MIG/CXCL9, IL-27, and eotaxin differentiate CPUO from IgE-driven AD, with MIG/CXCL9 indicating Th1 activation and eotaxin suggesting eosinophil recruitment and activation, a hallmark of Th2 inflammation. SCF and MPIF-1 further reflect a complex immune response, promoting mast cell and monocyte activation. IL-27, potentially elevated in response to increased Th2 activity, may contribute to inflammation and pruritus through its modulation of both Th1 and Th2 cells and sensory neurons. These findings underscore the unique immunological profile of CPUO. Targeting MRGPRX2 and neural pathways could offer novel therapeutic strategies for CPUO management.

EADV SYMPOSIUM PRAGUE 22-24 MAY 2025

Abstract N°: 982

Beyond the Itch: Chronic Pruritus and Striking Cutaneous Clues in a Diabetic Patient with Suspected Paraneoplastic Syndrome

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Introduction & Objectives:

This case report describes a 64-year-old diabetic male presenting with chronic, intense generalized pruritus and cutaneous manifestations, suspected to be paraneoplastic in origin. The objectives were to document the dermatological findings, explore the potential underlying malignancy, and highlight the diagnostic challenges in managing chronic pruritus with systemic involvement.

Materials & Methods:

The patient's medical history, clinical examination, and diagnostic findings were systematically reviewed. A detailed dermatological evaluation was conducted, including skin and mucosal assessments, imaging (CT scan), and laboratory tests, including tumor markers (CA 125). The patient's history of type 2 diabetes, nephropathy, and anxiety-depressive syndrome was also considered.

Results:

The patient presented with an 18-month history of intense generalized pruritus, sparing the thorax and face, accompanied by weight loss and asthenia. Dermatological examination revealed multiple linear excoriations on the back, posterior arms, and buttocks, some with bleeding, as well as achromic sclero-atrophic lesions with pigmented borders on the back, thorax, arms, and thighs. Additional findings included xerosis with hyperkeratotic and fissured lesions on the lower limbs, pachyonychia and trachyonychia of the toenails, and an erythematosquamous lesion on the scalp. Imaging revealed a left pulmonary mass and moderate left pleural effusion, while laboratory tests showed elevated CA 125 and normocytic normochromic anemia.

Conclusion:

This case highlights the complex interplay between chronic pruritus, cutaneous manifestations, and suspected underlying malignancy in a diabetic patient. The dermatological findings, including excoriations, achromic lesions, and nail changes, are suggestive of a paraneoplastic syndrome. The elevated CA 125 and pulmonary mass further support this hypothesis. This report underscores the importance of a multidisciplinary approach, integrating dermatology, oncology, and internal medicine, to diagnose and manage such cases effectively.

Abstract N°: 1236

Investigating the causes of chronic pruritus: analysis of 117 cases

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Introduction & Objectives:

Chronic pruritus (CP) affects approximately 20% of the population. It is the clinical manifestation of various pathologies that may reflect organ dysfunction. It represents a diagnostic and therapeutic challenge.

The aim of this study is to establish the etiological profile of chronic pruritus.

Materials & Methods:

A descriptive retrospective study based on the records of patients with CP followed in dermatology during the years 2023 and 2024.

Results:

The studied population included 117 cases of CP, of which 66.7% were women, with a mean age of 53.03 years [28-94]. Pruritus was generalized in all cases. The mean duration of symptoms was 324.5 days ± 531.6 days. The clinical signs found were non-specific scratch lesions in all patients. Associated conditions with CP included diabetes (34.2%), dyslipidemia (24.8%), and cardiovascular diseases (35.9%, including hypertension at 29.1%). The etiological investigation revealed chronic renal insufficiency in 4.3% of cases and liver diseases in 2.6%. A neoplastic cause was identified in 4 patients (3.4%): 1 case of renal oncocytoma, 1 case of prostate cancer, 1 case of breast cancer, and 1 case of chronic lymphoid leukemia. Other metabolic and endocrine causes included thyroid disorders in 22.2% of cases, chronic adrenal insufficiency in 1.7%, poorly controlled diabetes in 3.4%, and iron deficiency anemia in 4.3%. Psychogenic pruritus was noted in 7% of cases. There was a statistically significant relationship between women with CP and thyroid disorders (p=0.028; OR= 3.43; 95% CI [1.09-10.81]). Advanced age was statistically associated with poorly controlled diabetes (p=0.001), liver diseases (p=0.022), and neoplasms (p=0.026).

Our study revealed the diversity of CP etiologies, highlighting endocrinopathies, metabolic causes, psychiatric disorders, and neoplasms as major conditions. Our results were consistent with those reported in the literature. Notably, our study is the first to report a case of CP indicative of renal oncocytoma.

Conclusion:

Our study highlights the importance of a deep evaluation of the etiologies of CP, especially in elderly patients, for better therapeutic management.

Abstract N°: 2040

Sézary Syndrome Revealed by Intense Pruritus: A Diagnostic Challenge

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Introduction & Objectives:

Sézary syndrome is a rare and aggressive cutaneous T-cell lymphoma, classically characterized by erythroderma, generalized lymphadenopathy, and circulating Sézary cells in peripheral blood. Cutaneous involvement typically manifests as diffuse erythema, scaling, and intense, refractory pruritus, significantly impairing quality of life. Although less common, palmoplantar keratoderma can also be observed. We report the case of an eighty-two-year-old patient presenting with severe pruritus and palmoplantar keratoderma as the primary cutaneous manifestations of Sézary syndrome.

Patient & Observation:

An eighty-two-year-old woman, recently diagnosed with diabetes and treated with sulfonylureas, was admitted for a two-month history of excruciatingly pruritic palmoplantar lesions, unresponsive to topical antifungals and corticosteroids. The pruritus was relentless, profoundly affecting sleep and daily activities, yet non-contagious.

Laboratory investigations revealed significant lymphocytic leukocytosis (sixty-five thousand two hundred per cubic millimeter), with Sézary cells detected on peripheral smear.

On examination, the cutaneous findings were strikingly limited to palmoplantar keratoderma, characterized by pronounced hyperkeratosis, palmar scaling, and disabling pruritus, without associated erythroderma. Additional findings included cheilitis, onychodystrophy, and firm cervical, axillary, and inguinal lymphadenopathy. The patient also reported recent-onset hip pain in a context of general health deterioration and unquantified weight loss

Discussion :

Pruritus is a hallmark symptom of Sézary syndrome and is often severe, refractory, and disproportionate to visible cutaneous involvement. In this case, the absence of erythroderma and the predominance of palmoplantar keratoderma with intractable pruritus posed a diagnostic challenge, potentially leading to initial misdiagnosis.

Palmoplantar keratoderma remains an underrecognized cutaneous manifestation of Sézary syndrome. The thickening of the palms and soles, coupled with scaling and pruritus, may mimic inflammatory dermatoses such as chronic eczema or psoriasis, delaying appropriate diagnosis.

Recent literature highlights the necessity of considering Sézary syndrome in cases of persistent, treatment-resistant palmoplantar keratoderma associated with debilitating pruritus, particularly in elderly patients with systemic signs such as lymphadenopathy and general health decline. Early recognition is crucial, as effective management requires systemic therapies, including retinoids, chemotherapeutic agents, or targeted treatments.

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EADV SYMPOSIUM PRAGUE 22-24 MAY 2025

Abstract N°: 2042

Concurrent Cutaneous Squamous Cell Carcinoma and Prurigo Nodularis, a Diagnostic and Therapeutic Dilemma

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Introduction & Objectives:

Cutaneous squamous cell carcinoma (cSCC) is the second most common skin cancer globally, typically presenting as a solitary, enlarging crusted lesion on sun-exposed areas. Various clinical and histopathologic mimickers of cSCC exist, including prurigo nodularis, a chronic skin condition with unknown etiology characterized by widespread pruritic, hyperkeratotic nodules. The development of concurrent cSCC and prurigo nodularis is a rare phenomenon with highly limited descriptions in the current literature.

Materials & Methods:

We describe a case of a patient with the development of multiple cSCC complicating long-standing prurigo nodularis.

Results:

A 70-year-old white female presented to the clinic with recent enlargement of numerous pruritic macular and papular erythematous lesions on bilateral upper extremities. Corticosteroids and antibiotics provided no resolution of symptoms or lesions, leading to a biopsy which showed nodular masses of neoplastic squamous cells with irregular nuclei and occasional mitoses. Additional biopsies showed atypical keratinocytes with slight cellular enlargement, minimal nuclear polymorphism, and keratinization, consistent with well-differentiated squamous cell carcinoma. During this time, the patient experienced rapid development of new lesions, spread throughout the bilateral upper and lower extremities, shoulders, back, and trunk. CT imaging of impacted areas revealed no pathologic adenopathy or metastatic spread. A diagnosis of innumerable T1-T2 stage IV SCC was made; she was enrolled in a clinical trial receiving treatment with HSV-1 oncolytic therapy and PD-1 inhibitor cemiplimab with a 2:1 randomization, withdrawing following one treatment cycle. She continued cemiplimab with an overall decrease in pruritus and flattening of lesions. Following 20 months of therapy, biopsies revealed inflamed atypical impetiginized squamous proliferations consistent with prurigo nodularis. A secondary dermatology evaluation led to the diagnosis of prurigo nodularis; at this time she discontinued cemiplimab and started IL-4/IL-13 inhibitor dupilumab, eventually achieving complete resolution of pruritus and diminishment of lesions.

Conclusion:

Differentiating between cSCC and clinical mimickers represents a diagnostic challenge and is imperative in timely oncologic intervention and preventing unnecessary morbidity. Given the patient's history of multiple lesions prior to initial biopsies, we presume that the development of cSCC was in the setting of chronic prurigo nodularis. The multiple biopsy-proven cSCC led to the initiation of systemic therapy meant for metastatic malignancy; however, her variable response to therapy and secondary evaluation by dermatology led to her diagnosis of prurigo nodularis, which was treated effectively with dupilumab. This case underscores the importance of interdisciplinary dermatology and oncology collaboration in the evaluation and subsequent management of patients presenting with cSCC mimickers.