Abstract N°: 99

Updated Meta-Analysis on Headache Risk and Patient Compliance with Topical PDE4 Inhibitors versus Vehicle in Dermatological Treatments

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Introduction & Objectives:

Randomized controlled trials (RCTs) demonstrate the safety and efficacy of topical PDE4 inhibitors (Roflumilast and Crisaborole) for treating various skin conditions, including chronic plaque psoriasis and eczema. The most common adverse event associated with topical treatment is application site pain, which may limit therapy use. However, the risks of headache, nasopharyngitis, and patient compliance with PDE4 inhibitors remain less understood.

Materials & Methods:

We searched PubMed, Scopus, and Cochrane databases for RCTs comparing topical PDE4 inhibitors (Roflumilast or Crisaborole) to vehicle in patients with inflammatory skin conditions, reporting on the following outcomes: (1) headaches, (2) discontinuation due to adverse events (including treatment-emergent adverse events), and (3) nasopharyngitis. Heterogeneity was assessed using I2 statistics, and a random-effects model was applied for outcomes with high heterogeneity**.**

Results:

Seven RCTs (five separate RCTs and one pooled analysis by Paller et al.) involving 4054 patients (2627 treated with PDE4 inhibitors) were included. The risk of discontinuation due to adverse events (RR 1.09; 95% CI 0.62-1.92; p = 0.77) and nasopharyngitis (RR 1.27; 95% CI 0.67-2.41; p = 0.46) did not differ significantly between PDE4 inhibitor and vehicle treatments. However, the risk of headaches was nearly three times higher in patients treated with PDE4 inhibitors compared to vehicle (RR 2.89; 95% CI 1.27-6.58; p < 0.05). A subgroup analysis of topical Roflumilast, stratified by dose (0.15%, 0.3%, and combined), showed no significant increase in headache risk for the 0.15% (RR 3.10; 95% CI 0.65-14.72; p = 0.16) and 0.3% (RR 2.50; 95% CI 0.47-13.34; p = 0.28) subgroups. However, for the combined dose group, the risk of headache was more than twice as likely with Roflumilast compared to vehicle (RR 2.67; 95% CI 1.02-7.03; p = 0.05), with a clinically significant relative risk despite the borderline p-value

Conclusion:

These findings suggest that topical PDE4 inhibitor therapy has a relatively safe profile, with no significant increase in the risk of treatment discontinuation compared to vehicle. However, the risk of headache is notably higher, particularly with topical Roflumilast. Further RCTs are needed to better assess the safety profile of topical PDE4 inhibitors, especially concerning headache risk.

Abstract N°: 589

Restoration of the epidermal barrier in the treatment of patients with acne: results of using a complex of cosmetic products with a sebum-regulating complex.

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Introduction & Objectives: The results of the latest global studies indicate the presence of epidermal barrier defects in patients with acne, primarily concerning such parameters as skin hydration, acidity, and transepidermal water loss (TEWL). Therefore, the search for new safe skin care products prone to acne that can restore damage to the epidermal barrier is an urgent task. The aim of this study was to determine the epidermal barrier parameters before and after a course of use of the «STOP-ACNE» sebum-regulating complex (extract of magnolia bark, mangosteen bark, and pomegranate) in adolescents with mild acne.

Materials & Methods: A prospective single-center observational program was conducted at the St. Petersburg State Pediatric Medical University from May to December 2024. 30 adolescents with mild acne, whose legal representatives signed voluntary informed consent were enrolled. Participants used a set of cosmetic products twice a day for 84 days. The program included 4 visits, each of which included an objective examination with a count of rash elements, an assessment of moisture, sebum, pH, TEWL of the skin using the Multi Skin Test Center 750 device (Germany), collection of data on adverse events, assessment of quality of life and satisfaction with the use of external products.

Results: 30 patients with mild acne aged 11 to 17 years (average age 14.5 years, 13 boys, 17 girls) completed the program according to plan. All program participants showed partial and complete regression of rashes. The observation group demonstrated a 67.4% decrease in the TEWL index (from 4.6 to 1.5), a 3.4% increase in skin hydration (from 58.8 to 60.8), a 37.7% decrease in sebum production, a 12.6% shift in acidity to the acidic side (from 5.92 to 5.19), and an improvement in quality of life according to the CDLQI questionnaire by 51.7% (from 20.9 points to 10.1 points). The average number of comedones in the observation group decreased by 82.9% (from 24.5 to 4.2); papules/pustules - by 86.2% (from 5.8 to 0.8), inflammatory elements - by 91.2% (from 3.4 to 0.3). The patients did not experience any adverse events while using the studied external agents. 97% (29/30) of patients rated the experience of participating in the program as excellent.

Conclusion: Damage to the epidermal barrier is an important aspect of acne pathogenesis. When treating patients with acne, it is important to use products that can restore its characteristics, in particular acidity, moisture, TEWL and sebum levels. Therefore, a set of cosmetics with a sebum-regulating complex in the composition can be recommended as an additional to therapy or an isolated care regimen that meets all the requirements for effectiveness and safety for adolescents with mild acne.

Abstract N°: 645

Use of botulinum toxin A for uncommon medical uses, a case series at an intermediate complexity hospital

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Introduction & Objectives: Botulinum toxin A (BTA) has been used in neurologic and ophthalmologic disorders for the release inhibition of acetylcholine in the presynaptic motor plaque neuron. It also inhibits cholinergic transmission in postganglionic sympathetic fibres of the sweat glands and has local effects (inflammatory mediators, neurotransmitters, vascularisation, wound healing). We present our experience at an intermediate complexity hospital with intradermal BTA.

Case series: Patient (P)1-60-year-old man with severe hyperhidrosis on residual lower limb stump, difficulting prosthetic adjustment. BTA 100 IU were administered covering the prosthetic area. The good response on the 5^{th} day was maintained in the following 5 months.

P2-67-year-old man with a chronic fissure in the lateral third of the right upper lip refractory to topical treatments and dental filing. BTA 4 IU (2 on each side of the fissure) were administered. After 15 days, it decreased in size, becoming millimetric from 6 months to 25 months later.

P3-A 63-year-old woman consulted for a right upper lip chronic fissure refractory to topical treatments, intralesional triamcinolone acetonide 0.1% + ampicillin 0.1%, salivation stimulants and surgical excision. After 2 years, a second fissure appeared on the left side. BTA 4 IU (2 on each side) were administered on the right one, with no response after 4 months, when the left fissure was infiltrated. At 6 months, the left fissure had disappeared and the right one was imperceptible. At 10 months, the right one was infiltrated with 8 IUs (4 on each side), with no recurrence after 20 months.

P4- 42-year-old woman with Hailey- Hailey disease (HHD) of 3 years' evolution refractory to topical treatment which limited her physical activity. BTA 50 IU, distributed in both groins, were administered, with good efficacy after 2 years; 100 IU distributed in both axillae were administered a year and a half ago, with no recurrence.

P5-71-year-old woman with contact allergy to multiple corticosteroids and HHD of more than 30 years' evolution refractory to topical and systemic treatment. BTA 100 IU were distributed between axillae and groins. Same administration pattern was repeated at one and, at 10 years, in the inguinal region.

P6- A 70-year-old woman with fibromyalgia, severe osteoporosis with spondylarthrosis and several vertebral crushes consulted for notalgia paraesthetica. The use of orthopaedic bracing, analgesics and rehabilitation exercises was combined with BTA administration every 6 months. Initially, 28 IU were administered in the affected region, progressively escalating to 100 IU. Good control of pruritus was maintained after 10 years of follow-up.

Conclusion: We report our experience using BTA for the treatment of 4 underreported difficult-to-treat pathologies with a high impact on patients' quality of life. We propose the off-label usefulness of BTA as a minimally invasive alternative with a good medium-term safety-effectiveness profile.

Abstract N°: 691

Metabolomic of Lactiplantibacillus plantarum IS-10506 lysate: Lactic acid, hyaluronic acid, and lipoteichoic acid

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Introduction & Objectives:

Lactiplantibacillus plantarum produces a wide range of cellular structures and metabolites. Ultrasonication improves the bioactivity of probiotics by efficiently releasing intracellular molecules. The *L. plantarum* lysate contains bioactive compounds as metabolite products that could promote skin health when applied topically. This study aimed to characterize the key metabolites in *L. plantarum* IS-10506 lysate, particularly lactic acid, hyaluronic acid, and lipoteichoic acid.

Materials & Methods:

Probiotic *Lactobacillus plantarum* IS-10506 (Lp) was cultivated in Whole milk powder, Dextrose, Dipotassium hydrogen phosphate, Yeast extract MRS Broth medium (Oxoid, Basingstoke, UK) at 37 °C, pH 6.2 for 8 hours in a fermentor (Sartorius, DCU, Germany) with 60 rpm agitation. Lp was harvested by centrifugation (Thermo, Germany) at 4 C, 3,600 rpm, for 20 min and washed with Phosphate Buffer Saline (PBS), two times, and then *L. plantarum* lysate was prepared with ultrasonication process. *L. plantarum* lysate is no longer alive. The viability was confirmed by plate counting in de Man, Ragosa, and Sharpe (MRS) agar (Oxoid, Basingstoke, UK). Metabolomic profiling was performed through ultra-high-performance liquid chromatography (UHPLC) using Thermo Scientific™ Vanquish™ Horizon UHPLC with Binary Pump (Thermo Scientific, Germering, Germany) coupled to Orbitrap Exploris 240 High-Resolution Mass Spectrometry. Data analysis was performed using Thermo Scientific Compound Discoverer 3.3 (Thermo Scientific, San Jose, USA).

Results:

A total of 2.21x1011 CFU/ml of *L. plantarum* IS-10506* was identified. There were 107 metabolites identified in the *L. plantarum* IS-10506 lysate. The retention time (RT) of lactic acid, hyaluronic acid, and lipoteichoic acid was 0.66, 20.11, and 13.32 minutes, respectively. The calculated molecular weight of lactic acid, hyaluronic acid, and lipoteichoic acid was 90.03, 260.03, and 773.48, respectively.

Conclusion:

Among 107 metabolites identified, lactic acid, hyaluronic acid, and lipoteichoic acid were predominant bioactive compounds as notable findings.

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Abstract N°: 783

Ruxolitinib cream in re-pigmentation of vitiligo-like lesions of oncologic patients treated with immunotherapy: a case series

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Introduction & Objectives:

Cancer immunotherapies are increasingly associated with a variety of dermatological adverse effects, including vitiligo-like lesions. These amelanotic skin patches may represent immune-related side effects but can also impair patients' quality of life. The topical Janus kinase (JAK) inhibitor, ruxolitinib, has recently been explored as a treatment for vitiligo. This study evaluates the efficacy of ruxolitinib cream in treating vitiligo-like reactions in cancer patients undergoing immunotherapy.

Materials & Methods:

This study was conducted with a cohort of oncological patients who developed vitiligo-like lesions during treatment with immune checkpoint inhibitors. Patients were treated with ruxolitinib cream, applied twice daily for a period of 12 weeks. The primary outcome was the reduction in the size and severity of vitiligo-like lesions, assessed using clinical photographs and a standardized Vitiligo Area Scoring Index (VASI). Secondary outcomes included patient-reported quality of life (QoL), as measured by the Dermatology Life Quality Index (DLQI), and adverse events related to the cream.

Results:

We report results of 3 oncologic patients who completed the full 12-week treatment. Significant improvements were observed in lesion size and pigmentation, all patients experienced lesions improvement, with 2 patients showing a ≥50% reduction in VASI scores. Patient-reported QoL improved significantly, with a mean decrease in DLQI score from 14 to 8. The treatment was well tolerated, with minimal side effects, primarily mild local irritation at the application site.

Conclusion:

Ruxolitinib cream appears to be an effective and well-tolerated treatment option for managing vitiligo-like reactions in cancer patients undergoing immune checkpoint inhibitor therapy. These findings suggest that ruxolitinib may not only aid in controlling dermatological side effects but also improve patients' quality of life during cancer treatment. Further studies with larger number of patients are needed to confirm these results and explore long-term efficacy.

Abstract N°: 971

An Investigation of Sun Screen Marketed as Cruelty Free at Multiple Online Retailers

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Introduction and Objectives: Vegetarianism and veganism are growing globally, with approximately 19% of Asia's population identifying as vegetarian or vegan. Concerns for animal welfare underlie the demand for cruelty-free and vegan products. This study aims to assess the certification, ingredient composition, pricing, and SPF/UV protection of cruelty-free sunscreens on Amazon and Walmart.

Materials and Methods: We conducted a comprehensive analysis of the top 50 sunscreen listings from Amazon and Walmart using the search term 'Cruelty Free Sunscreen'. Each product was systematically evaluated for cruelty-free certification by recognized organizations like PETA, vegan ingredient status, cost per volume, Sun Protection Factor (SPF), and broad-spectrum UV coverage.

Results: Analysis of Amazon sunscreens revealed that 82% (41/50) were certified cruelty-free, with 74% (37/50) confirmed as vegan. The median cost was $4.20 per fluid ounce, with a median SPF of 50. Nearly all sunscreens (49/50) had an SPF above 30, and all were listed as Broad Spectrum. Walmart sunscreens showed even higher percentages, with 92% (46/50) certified cruelty-free and 94% (47/50) confirmed vegan. The median cost for Walmart sunscreens was $3.86 per fluid ounce, also with a median SPF of 50. Forty-five out of 50 Walmart sunscreens had Broad Spectrum coverage, and 45 had an SPF above 30. Potential non-vegan ingredients identified across both retailers included glycerin, Glyceryl Stearate, and non-explicitly vegan beeswax.

Conclusion: The study reveals a robust market for cruelty-free and vegan sunscreens across two major retailers, with high certification rates and competitive pricing. Potential variations in vegan certification and ingredient sourcing suggest the need for continued scrutiny and transparency in product labeling. Future research should expand the sample size, include more retailers, and analyze additional product categories to provide a comprehensive understanding of the cruelty-free cosmetics marketplace.

Abstract N°: 1021

Analysis of the impact of oral antifungals self-medication on severity of onychomycosis and microscopic examination results

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Introduction: Onychomycosis is the most common fungal nail infection worldwide. KOH is one of the gold standard techniques for onychomycosis diagnosis which can be quickly performed, but its sensitivity depends on subjective and objective factors. The amount of required therapy determined according to disease severity which can be evaluated by calculating the Scoring Clinical Index for Onychomycosis (SCIO). Calculation of SCIO is based on the clinical form of onychomycosis, depth of the nail involvement, degree of hyperkeratosis, the location of the nails damage and the age of the patient.

Objectives: To evaluate the impact of oral antifungals self-medication on severity of onychomycosis and microscopic examination results.

Materials & Methods: A total of 38 patients elder 18 age with laboratory confirmed onychomycosis were included in the clinical study. We performed a clinical examination, such as the history and inspection with evaluation of the disease severity based on SCIO. Mycological identification was done by direct microscopic examinations. When first KOH microscopy results were negative, we repeated it up to three times. Patients were allocation to groups: the 1st consisted of 10 patients who used systemic antifungal self-medication before they went to take a dermatology care; the 2nd – 11 patients without any self-medication with false-negative rates of KOH in first light microscopy; the 3rd – 17 patients without previous therapy with the first positive fungal scraping. Statistical analyses were performed using a descriptive analysis and Kruskal-Wallis test.

Results: In the 1st group the median age was 63[48,5Q1;75,2Q3], female to male ratio was 2,33:1; the 2nd group - 56[52,5Q1; 69,5Q3] and 0,57:1; the 3rd group - 67[62Q1;71Q3] and 1,12:1, respectively. Out of the1st group, 4 patients used self-medication with itraconazole, 4 - fluconazole, 2 - terbinafine. Of these, only 2 patients (20%) had false-negative results of KOH in the first microscopic examination. Mean SCIO index value in patients of the 1st group was 22,9±7,2; 2nd - 24±5,9; 3rd - 25±5,2. There were no statistical difference between age in the groups (H=0,583; p=0,747) and their SCIO index values (H=1,626; p=0,444).

Conclusion: Majority of our patients had severe to very severe onychomycosis. There were no differences in age and SCIO index values among patients used oral antifungals self-medication and patients without previous treatment. According to our findings, female patients were more commonly used self-treatment than male. Furthermore, there were no correlation of previous self-medication with the microscopic examination results.

Abstract N°: 1033

** Long-term experience with Afamelanotide in patients affected by Erythropoietic protoporphyria **

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Introduction & Objectives:

Erythropoietic protoporphyria (EPP) is a rare autosomal recessive inherited disorder of haem biosynthesis that severely affects patients' quality of life by causing severe phototoxic reactions.

These reactions may be elicited by as little as a few minutes of sun-exposure. Until the 2000s, no effective therapy to either prevent or treat phototoxic reactions in EPP existed.

Afamelanotide is an analogue of the hormone α-MSH, approved for the prevention of phototoxicity in patients with EPP. The European Medicines Agency (EMA) recommended approval of afamelanotide in the European Union in December 2014 under exceptional circumstances, with strict monitoring of safety and effectiveness through a post-authorisation safety study (PASS).

Our clinic is an active centre for diagnosis and treatment of porphyrias, and we have extensive experience in treating EPP patients with afamelanotide. We first participated in early clinical trials with afamelanotide in 2008-09, and after the end of the trial, we were able to continue administering the drug until its commercial release in 2016. Compassionate use programs up to 2010 and thereafter in Italy facilitated access to treatment.

So far, the only long-term observational study in EPP patients treated with afamelanotide was Biolcati et al. (2015). For the first time, we will present clinical and effectiveness data in EPP patients after over 15 years of continuous use of afamelanotide.

Materials & Methods:

We administered about 770 afamelanotide implants in patients affected by Erythropoietic protoporphyria from 2008 to 2024. Prior to the first dose and during treatment, patients were monitored with a dermatological examination and laboratory safety tests.

Results:

Patients showed increased pain-free time after sun exposure as well as a lower number of phototoxic reactions in the treatment. Only minor adverse events attributable to afamelanotide, predominantly nausea, were recorded.

Conclusion:

The positive effect of afamelanotide in EPP administered subcutaneously improve tolerance to sunlight with an excellent safety profile. Over the 15 years of afamelanotide use in our EPP patient population, no melanoma diagnoses have been made.

Abstract N°: 1126

Photodynamic therapy in dermatology: current applications and efficacy - abstract

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Introduction & Objectives: Photodynamic therapy (PDT) is a treatment method that has gained wide recognition in dermatology since the 1990s. PDT is based on the use of photosensitizers and light, which activate substances that produce reactive oxygen species that damage disease-affected cells. The method is used to treat a wide range of dermatological conditions, from cancerous lesions to inflammatory diseases, and has recently been gaining popularity. The purpose of this article is to review the literature on the current use of photodynamic therapy in dermatology.

Materials & Methods: A literature review was conducted in Pubmed, Embase, Scopus and Web of Science databases including keywords such as “photodynamic therapy” and “dermatology.” The search was as broad as possible, and the following inclusion criteria were applied, such as original research published in English up to 2020. Ten articles covering seven conditions were included in the final analysis.

Results: The results of the literature analysis indicate that photodynamic therapy (PDT) is an effective treatment for various dermatological diseases, offering a lower risk of scarring and recurrence compared to traditional therapies. The results of the analysis are presented collectively in the table.

Conclusion:

Photodynamic therapy is an effective treatment option for many dermatological diseases, especially in cases of early cancerous lesions and in the treatment of inflammatory conditions. Due to its advantages, such as minimal invasiveness and lower risk of scarring, it is a method that is gaining importance in dermatology. However, clinical research should continue in order to fully understand its potential and further optimize therapy.

Abstract N°: 1459

A Deeper Dive into 2% Ketoconazole Shampoo: A Systematic Review of Its Efficacy and Safety in the Management of Pityriasis Versicolor

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Introduction & Objectives:

Pityriasis versicolor (PV) is a common superficial fungal infection caused by fungi of the*Malassezia*** genus. Ketoconazole 2% shampoo is widely used as a preferred treatment due to its demonstrated efficacy, ease of application, and favorable safety profile. However, despite its extensive use, no comprehensive systematic review has been conducted to evaluate both the efficacy and safety of 2% ketoconazole shampoo for this condition. This study aims to systematically assess the therapeutic outcomes and adverse events associated with the use of 2% ketoconazole shampoo in the management of PV.

Materials & Methods:

A systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Data from various studies, including double-blind randomized and open-label trials, were analyzed. The inclusion criteria encompassed studies utilizing 2% ketoconazole shampoo as the treatment for PV. Key parameters assessed were clinical cure, defined as the absence of scales and other signs and symptoms; microscopic cure, confirmed by negative potassium hydroxide (KOH) examination; and adverse events, characterized by mild irritation and other ketoconazole shampoo-related events.

Results:

A total of seven studies involving 654 participants were included in the analysis. Clinical cure rates ranged from 63.3% to 100%, while microscopic cure rates varied between 70% and 95%. The studies demonstrated that 2% ketoconazole shampoo achieved optimal outcomes across various treatment regimens, including single application, three-day regimens, once-weekly application for three weeks, and daily use for 7 to 14 days. Adverse events were infrequent, with an incidence ranging from 0% to 28%, predominantly presenting as mild irritation. Relapse rates within three months were reported in several studies, ranging from 5% to 38.1%.

Conclusion:

Ketoconazole 2% shampoo is an effective and safe therapeutic option for managing pityriasis versicolor, demonstrating high clinical and mycological success rates with minimal adverse events. Longer treatment regimens appear to result in improved therapeutic outcomes. Further research is recommended to establish the optimal treatment duration while considering the patient's local environmental factors and to develop strategies for long-term relapse prevention.

Abstract N°: 1470

Clinical evaluation of a combined therapy based on phlebotomies and afamelanotide for the treatment of HEP, a severe form of porphyria

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Introduction & Objectives: Hepatoerythropoietic porphyria (HEP) is an extremely rare metabolic disorder due to severe deficiency of uroporphyrinogen decarboxylase enzyme. The disease manifests itself early in childhood with extreme skin fragility caused by the phototoxic damage due to porphyrins present in the skin. Patients also exhibit cutaneous lesions such as fluid-filled blisters that break and heal slowly, and scabs, scars, dyspigmentation in the areas exposed to light. Repeated sun exposure can lead to scleroderma-like changes until most serious outcomes resulting in loss of organ function as scleromalacia perforans and-photo-induced mutilation of distal phalanges. Since there are no effective treatments to counteract the progression of HEP, the photoprotection is the cornerstone of any therapeutic strategy aimed at preventing the exacerbation of clinical manifestations.

We present here the case of a 47 years old male HEP treated with an experimental protocol which combines iterative phlebotomies, to reduce porphyrin levels and iron overload, with the administration of afamelanotide as an adequate measure of photoprotection.

Materials & Methods: A clinical protocol for HEP was set up combining the repetition of phlebotomy sessions with administration of afamelanotide. Starting with removing of 200 mL blood every month until iron depletion, phlebotomies were conducted every two months in the subsequent maintenance phase. Concomitant off label use of afamelanotide was employed as photoprotective measure, since this drug is able to reduce severity of cutaneous symptoms in Erythropoietic Protoporphyria. The results of the treatment were monitored through biochemical analyses of porphyrins in urines and blood, and routine blood count analyses.

Results: The porphyrins accumulation was efficiently reduced by therapy. Porphyrins in urine and plasma have decreased more than 5-fold since the start of therapy. Chronic hepatopathy was ameliorated as shown from liver function analyses (transaminases blood level were reduced from 3X ULN to normal values). Iron overload was significantly reduced after 2 months of therapy as indicated by ferritin values decreased to the normal range. Clinical improvement was documented by the healing of the lesions on the scalp and arms. The patient has well tolerated the therapy without any adverse event.

Conclusion: Porphyrin-mediated phototoxic damage reaches extreme levels in HEP. We reported here how the combination of well-established phlebotomy regime with afamelanotide administration can ameliorate the outcomes of chronic damage from sun exposition. Considering the severity of the cutaneous lesions in HEP, early diagnosis of the disease and appropriate treatment could prevent the onset of devastating consequences.

Abstract N°: 1890

Fungal Infections as a Trigger for Psoriasis Flares: A Clinical and Immunological Study

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Introduction & Objectives:

Psoriasis is a chronic immune-mediated skin disease characterized by hyperproliferation of keratinocytes and systemic inflammation, often exacerbated by genetic and environmental factors. While bacterial infections have been widely studied in psoriasis pathogenesis, the role of fungal infections remains underexplored. Fungal colonization, particularly by Malassezia, Candida species, and dermatophytes, may act as a potential trigger for psoriasis onset and exacerbation, possibly through immune system activation and cytokine dysregulation. This study aims to evaluate the prevalence of fungal infections in psoriasis patients and their association with disease flares, emphasizing immunological and microbiological correlations.

Objectives:

1. To determine the prevalence of fungal infections in psoriasis patients through microbiological and molecular diagnostic techniques.

2. To assess the correlation between fungal colonization and psoriasis flares.

3. To analyze the immunological profile of psoriasis patients with and without fungal infections by measuring key inflammatory cytokines.

Materials & Methods:

A total of 108 patients diagnosed with psoriasis were enrolled in the study. Each patient underwent comprehensive dermatological, microbiological, and immunological assessments. The following diagnostic tests were performed:

• Molecular and Microbiological Analysis:

• PCR for dermatophytes

• PCR MycozoScreen for opportunistic molds

• Direct fluorescent microscopy

• Fungal culture tests

• Immunological Markers:

• IL-17, IL-4, TNF-α, and C-reactive protein (CRP) levels were measured to assess inflammatory responses in patients with and without fungal infections.

Results:

• Fungal infections were detected in 24.8% of psoriasis patients, with Malassezia, Candida species, and dermatophytes being the most frequently identified pathogens.

• Patients with fungal infections exhibited three times more psoriasis flares compared to those without fungal involvement.

• Immunological analysis revealed significantly elevated IL-17 and TNF-α levels in patients with concurrent fungal infections, indicating an exaggerated inflammatory response.

• No significant differences were observed in IL-4 levels, suggesting a predominant Th17-driven immune response rather than Th2-mediated pathways.

• CRP levels were moderately elevated in patients with fungal infections, reflecting systemic inflammation.

Conclusion:

This study provides strong evidence that fungal infections may act as a significant environmental trigger for psoriasis exacerbation, potentially through activation of the IL-17/TNF-α inflammatory pathway. Screening for fungal colonization in psoriasis patients may be beneficial for early intervention, and antifungal treatment could be considered as a potential adjunctive therapy in selected cases. Further large-scale studies are warranted to explore targeted antifungal approaches in psoriasis management.

Abstract N°: 2119

A Rare Case of Pustular Pyoderma Gangrenosum with a Coexisting Classical Form of the Disease

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Introduction & Objectives: Pyoderma gangrenosum (PG) is a rare condition with an incidence of 3-10 cases per million people annually. Its etiology is unknown, but it is often associated with inflammatory bowel disease, rheumatoid arthritis, hematological malignancies.

There are four major clinical forms described: ulcerative (classical), bullous, pustular, and superficial granulomatous (vegetative). The classical form begins as a papule or a pustule, progressing to a painful ulcer with a purulent base and necrotic, undermined border. The bullous form starts with blisters, while the vegetative form involves vegetating lesions. The pustular form manifests with pustules.

Although typically only one specific type of PG occurs in a patient, and combinations of different clinical types are rare, some literature suggests the concomitant appearance of classical and pustular PG. This coexistence complicates the diagnostic process, particularly when the pustular lesions appear not only around the primary ulcer but also disseminate to different parts of the body.

Materials & Methods: A 33-year-old Caucasian male presented with a one-year history of a rash on extremities, starting as a small papule on his left lower leg and progressing to ulceration. Rapidly, nodules with a necrotic base and purulent-hemorrhagic crusts developed on the elbows and knees.

A clinical diagnosis of PG was made and confirmed by histopathology. Treatment was initiated with cyclosporine (200 mg), which promoted the healing of the ulcer, resulting in the formation of a large atrophic scar. Despite this improvement, the remaining lesions persisted, necessitating periodic adjustments in the cyclosporine dosage.

While on higher doses (400 mg) of cyclosporine, no new lesions appeared. However, lower doses (200 mg) failed to provide clinical improvement. Consequently, the patient decided to discontinue the treatment. Subsequently, new lesions developed on the palms and soles in the absence of treatment, prompting the patient to visit our clinic.

On clinical examination at our clinic, multiple discrete pustules were observed on both palms and soles. Additionally, papules and nodules with purulent-hemorrhagic crusts were seen on both elbows and knees, some exuding thick yellow pus. Lesions were also noted on the trunk. On the left lower shin, there was a confluent area of atrophic scarring with irregular and slightly erythematous borders and peripheral pustules. Similar atrophic lesions were found on the right shin.

Results: After routine tests were performed, a clinical diagnosis of pustular and ulcerative forms of PG was made. Considering the patient's drug history, including prior treatment with cyclosporine, systemic corticosteroids - another first-line treatment option - were initiated. The patient began therapy with 32 mg of methylprednisolone daily. Improvement was observed within the first week of therapy. After four weeks, the lesions on the palms and soles resolved completely, the nodules on the elbows and knees flattened, and the purulent inflammation subsided. The dosage of methylprednisolone was tapered down to 24 mg per day, and remission was maintained.

Conclusion: We present a rare case of PG involving two distinct clinical forms simultaneously. This case underscores the diagnostic and therapeutic challenges associated with PG, particularly when multiple clinical forms coexist.

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Oral Tofacitinib: An Appraisal of Its Role in Dermatology

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Introduction & Objectives: Tofacitinib, an oral Janus kinase inhibitor, is an emerging treatment modality which is increasingly used in various cutaneous and systemic inflammatory diseases considering it is a Pan JAK inhibitor. Here we present use of tofacitinib in 6 cutaneous diseases.

Materials & Methods:

Case 1: A-24-year-old man had a 4-year history of recurrent hidradenitis suppurativa (HS) of axillary area, already treated with oral isotretinoin, minocycline, clindamycin and rifampicin combination without significant improvement. He showed almost complete resolution and remission with oral Tofacitinib, 5 mg BD within 3 months of therapy.

Case 2: A 53-year-old man with a 10-year history of HS affecting bilateral axillae, who did not show improvement to oral retinoids, minocycline, rifampicin and clindamycin, was planned for adalimumab but could not afford it. He showed almost complete resolution and remission within 4 months of initiation of oral tofacitinib 5 mg BD.

Case 3: A 36-year-old female with 2-year history of urticarial vasculitis associated with severe pruritus, daily appearance of lesions and severe affection of quality of life, in spite of receiving oral antihistamines, methotrexate (3 months), azathioprine (2 months) oral steroids (tapering doses over 4 months). She was treated with Tofacitinib 5mg BD with complete resolution of lesions in 20 days and she in remission for 2 months

Case 4: A 65-year-old female with livedoid vasculopathy for past 10 years presented with recurrent episodes of ulcers on both legs with severe pain, burning sensation, edema feet and difficulty in walking. She has been treated with multiple courses of oral steroids and oral anticoagulants without significant improvement. Treatment with oral tofacitinib 5 mg BD showed almost complete resolution of lesions and symptoms in 15 days.

Case 5: A 32-year-old unmarried female, suffering from pustular psoriasis for past 5 years, managed with oral cyclosporine, methotrexate and apremilast with multiple recurrences. She was started with oral tofacitinib 5mg BD with remarkable improvement in two months duration.

Case 6: A 73-year-old lady presented with multiple large atrophic plaques over both the legs, entire abdomen and waist line, back, dorsum of hands and neck for past 8 months. She was diagnosed as generalized morphea. She was treated with tofacitinib 11 mg once a day for 5 months with significant improvement in skin sclerosis. After gradual reduction in dose the drug was completely stopped after 8 months without any recurrence.

Results: All patients showed significant improvement in disease activity without any side effects.

Conclusion:

Tofacitinib can be a promising therapeutic option in the treatment of difficult to treat dermatological disorders.

Abstract N°: 2214

Evaluation of the Effectiveness of Combined Therapy with Intravenous Immunoglobulin and Plasmapheresis in Patients with Steroid-Resistant Pemphigus Based on Cytokine Profile Assessment

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Introduction & Objectives:

Pemphigus is a life-threatening, genetically predisposed, autoimmune blistering condition that affects the mucous membranes and skin. This study aims to evaluate the effectiveness of combined therapy of intravenous immunoglobulin (IVIg) and plasma exchange in steroid-resistant patients with pemphigus, based on an investigation of the cytokine profile.

Materials & Methods:

The control group (Group 1) consisted of 65 patients with pemphigus vulgaris (PV) receiving systemic glucocorticoid (CSs) monotherapy. The main group (Group 2) included 30 steroid-resistant patients who received a combined therapy regimen comprising CSs, IVIg, and plasmapheresis. Steroid resistance (SR) was assessed according to the Murrell consensus (2008). All pemphigus patients were initially prescribed CSs at a dose of 80–100 mg/day, with subsequent gradual tapering according to European guidelines. The combined therapy protocol involved four sessions of discrete plasma exchange every other day, followed by the administration of IVIg immediately after the plasma exchange cycle, with a total dose of 2 g/kg per cycle. The levels of IL-4, IL-10, IL-15, and TNF-α were measured using the ELISA method.

Results:

We observed notable differences in cytokine profiles between the two patient groups. In patients receiving combined therapy, there was a statistically significant decrease in the levels of IL-4, IL-15, and TNF-α compared to those undergoing CS monotherapy ($p<0.01$). In Group 2, complete remission after the full withdrawal of CSs was achieved in one patient. Twelve patients attained complete remission while on a minimal dose of CSs, and two patients experienced partial remission at a dose of 10 mg/day. Among the patients, 5 (33.3%) maintained remission for two years, 4 (26.7%) for three years, and 3 (20%) for one year. Additionally, one patient (6.7%) had remission periods of 0.5, 1.5, and 4 years respectively.

Conclusion:

Our findings indicate a trend towards higher serum levels of IL-4 and IL-15 in steroid-resistant pemphigus patients receiving combined therapy with IVIg and plasma exchange compared to the control group. These cytokines may serve as potential biomarkers for refractory disease courses and could be considered therapeutic targets in future treatments. Furthermore, patients undergoing combined therapy with CSs, IVIg, and plasma exchange experienced prolonged remission, averaging two years, indicating immunomodulatory effect of IVIg.

Abstract N°: 2291

Efficiency of using platelet-rich plasma as an additional treatment method in dermatologic practice

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Introduction & Objectives: The success of modern medicine is largely determined by the development and implementation of new technologies that significantly change traditional ideas about treatment possibilities. One of the newest areas of scientific research is cellular technologies, namely platelet-rich plasma therapy. Intradermal plasma injections stimulate skin regeneration and provide immunomodulation. The biological effects of plasma, confirmed by numerous experimental clinical studies, allow considering such therapy as one of the promising methods in medicine.

Materials & Methods: We examined 21 patients (aged 16 to 35). The patients had complaints of papulopustular rash on the skin of the face, which occupied 20% of the lesion, scars - 10% of the lesion, comedones and hyperpigmentation - 25% of the lesion on the face, as well as unhealthy complexion. The patients were divided into 2 groups: 11 patients in the first group and 10 patients in the second group. All patients received a course of treatment according to acne treatment protocols, and patients of the first group additionally received plasma therapy injections (not in the acute period of the disease). The number of procedures was prescribed depending on the severity of the problem.

Results: The acne regression, smoothing of skin texture, reduced inflammation, significantly reduced scar depth, normalization of sebum production, narrowing of pores, and improved skin texture and colour were observed in all patients of the 1st group.

Whereas, these processes occurred much slower in the 2nd group. It should also be noted that in the 1st group, after a course of 10 procedures performed at intervals of 5 days, the improvement by 2 points on the EGSS scale was observed in 9 (80%) patients already in the second week of treatment and in 2 (20%) patients in the third week. At that, the improvement by 2 points on the EGSS scale was observed in patients of the 2nd group, who received standard treatment: in 5 (50%) patients - in the fourth week of treatment, in 3 (30%) patients - in the fifth, and the improvement was observed in 2 (20%) patients in the fifth week of treatment only by 1 point.

Conclusion: . To increase the effectiveness of treatment of patients with skin problems, it is advisable to use platelet-rich plasma as an additional method of therapy in the treatment of acne, post-acne, angioedema, and various skin imperfections, including chronic wounds.