Abstract N°: ID-23

Topic: Pigmentary disorders

MELATIDE Trial: Efficacy of Microneedling Combined with Topical GLP-1 Receptor Agonists for Recalcitrant Melasma

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Introduction
Recalcitrant melasma remains a therapeutic challenge despite multiple available modalities. GLP-1 receptor agonists (GLP-1 RAs) have recently demonstrated anti-inflammatory, antioxidant, and melanogenesis-modulating effects, suggesting potential utility in pigmentary disorders. This study evaluates the effectiveness and safety of combining microneedling with topical GLP-1 RAs in patients with resistant melasma.

Materials and Methods

The MELATIDE-66 Trial was a prospective, parallel-arm, assessor-blinded randomized controlled study conducted at a tertiary dermatology center between January 2025 and September 2025. A total of 66 adults (18–55 years) with clinically confirmed epidermal or mixed-type recalcitrant melasma—defined as persistent disease for ≥12 months with inadequate response to at least two prior standard treatments—were enrolled. Participants were randomized in a 1:1 ratio using computer-generated block randomization into an intervention arm (n = 33) and a control arm (n = 33).

The intervention arm received automated microneedling (needle depth 1.0–1.5 mm based on anatomical site) immediately followed by the application of a topical GLP-1 receptor agonist gel, which was also self-applied once daily throughout the study. The control arm received the same microneedling protocol followed by a standard depigmenting topical regimen (azelaic acid, kojic acid, or triple combination), continued daily. All participants were instructed to use a standardized SPF 50+ sunscreen.

Treatments were administered at baseline, Week 4, and Week 8, with follow-up visits at Week 12 (primary assessment) and Week 24 (relapse assessment). Standardized digital photographs were obtained at each visit. The primary outcome was change in modified Melasma Area and Severity Index (mMASI) from baseline to Week 12, assessed by an independent dermatologist blinded to allocation. Secondary outcomes included: blinded Global Aesthetic Improvement Scale (GAIS) scores, patient-reported satisfaction (0–10 Likert scale), changes in quality of life (MELASQoL-short form), relapse rate (≥25% increase in mMASI at Week 24), and adverse events graded per CTCAE dermatology criteria. Data were analyzed using intention-to-treat principles.

Results
All 66 randomized participants completed treatment, with comparable baseline characteristics across groups. At Week 12, the microneedling + topical GLP-1 RA (semaglutide) group demonstrated a significantly greater reduction in mMASI compared to controls (48.2% vs 27.5%, $p < 0.001$), with a markedly higher ≥50% responder rate (63.6% vs 21.2%). Blinded GAIS assessments showed superior improvement in the intervention arm, with 57.6% achieving marked or very marked improvement versus 18.2% in the control group. Patient-reported outcomes similarly favoured the GLP-1 RA arm, with higher satisfaction scores (8.1 vs 5.9, $p < 0.001$), greater subjective lightening, and larger MELASQoL improvements. At Week 24, relapse rates were significantly lower in the intervention group (12.5% vs 34.3%, $p = 0.029$), indicating more durable pigmentation control. Both treatments were well tolerated, with transient erythema and mild irritation being the most common adverse events; importantly, post-inflammatory hyperpigmentation occurred less frequently in the GLP-1 RA group (6% vs 15%). Overall, the intervention demonstrated superior efficacy, patient

satisfaction, and durability of response with a favourable safety profile.

Conclusions

The MELATIDE Trial shows that combining microneedling with topical GLP-1 RAs is a safe, well-tolerated, and significantly more effective approach for recalcitrant melasma compared with microneedling alone. This novel synergistic therapy may represent a promising addition to the pigmentary disorder treatment paradigm.

Abstract N°: ID-100

Topic: Pigmentary disorders

Quality of Life in Patients with Vitiligo: Associations with Disease Severity and Clinical Characteristics

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Introduction
Vitiligo is a chronic skin disorder that may be cosmetically disfiguring and is often associated with a substantial psychosocial burden, including stigmatization, anxiety, low self-esteem, social isolation, and impaired quality of life (QoL). Several studies have demonstrated a reduction in QoL among patients with vitiligo; however, data from Greece remain limited. The aim of this study was to assess quality of life using the Dermatology Life Quality Index (DLQI) in patients with vitiligo and to investigate its association with disease severity, clinical characteristics, and patient-reported outcomes.

Materials and Methods
A total of 104 patients with vitiligo were enrolled at their first visit to the outpatient dermatology clinic of the Dermatology Department of Heraklion, Crete, Greece, between January 2019 and August 2023. All participants completed the DLQI questionnaire. Demographic data, clinical characteristics, vitiligo subtype, disease duration, body surface area involvement, involvement of visible body areas, Vitiligo Extent Score (VES), physician's global assessment (PGA), patient-reported outcome score (0–10), comorbidities, and current or previous treatments were recorded. Statistical analysis was performed using SPSS version 25.0, with significance set at $p \leq 0.05$.

Results
The study included 104 patients (55.8% female, 44.2% male), with a mean age of 50.44 ± 19.74 years. The mean disease duration was 16.99 ± 16.62 years, and the mean age at disease onset was 34.50 ± 19.25 years. Segmental vitiligo was present in 30.8% of patients. At the time of evaluation, 41.3% of patients were not receiving treatment, 51.0% were on topical therapy, and 7.7% were undergoing phototherapy. The mean patient-reported outcome score was 4.49 ± 2.78.

DLQI scores were significantly correlated with genital involvement ($p < 0.004$), trunk involvement ($p < 0.006$), lower limb involvement ($p < 0.04$), vitiligo subtype ($p = 0.047$), VES score ($p = 0.027$), patient-reported outcome score ($p < 0.035$), physician's global assessment ($p < 0.01$), and the presence of a mental health disorder ($p < 0.01$).

Conclusions
Vitiligo is associated with a significant negative impact on quality of life, particularly in patients with greater disease extent, involvement of sensitive or visible body areas, and coexisting mental health disorders. Assessment of quality of life using validated instruments such as the DLQI may provide valuable insight into disease burden and support a more comprehensive, patient-centered approach to vitiligo management.

Abstract N°: ID-172

Topic: Pigmentary disorders

Efficacy and safety of Kligman's formula in the treatment of melasma: a systematic review and meta analysis

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Introduction
Abstra is a chronic pigmentary disorder with significant therapeutic challenges Kligman's formula, a triple combination of hydroquinone, tretinoin, and fluocinolone acetonide, has been widely used due to its efficacy in reducing hyperpig-mentation. However, its long-term effectiveness and comparative advantage over alternative treatments remain unclear. This systematic review and meta-analysis assess the efficacy and safety of Kligman's formula in melasma treatment by analyzing changes in modified Melasma Area and Severity Index (mMASI) and Melasma Area and Severity Index
(MASI) scores.

Materials and Methods
A systematic search of PubMed, Google Scholar, Web of Science, Wiley, EBSCO, and OVID identified randomized controlled trials and comparative studies evaluating Kligman's formula in melasma management. Studies reporting baseline and maintenance phase mMASI and MASI scores were included.

Results
Meta-analysis was performed using a random-effects model, and heterogeneity was assessed using the I statistic. The pooled analysis included studies from Iran, Brazil, the USA, and India, with diverse participant characteristics. At baseline, the difference in mMASI scores between intervention and control groups was not significant (Estimate: 0.209; 95% CI -0.861 to 1.279; P=0.702). At the maintenance phase, the difference in mMASI scores remained insignificant (Estimate: -0.793; 95% CI -2.535 to 0.949; P=0.372), as did MASI scores (Estimate: 0.421; 95% CI -0.346 to 1.188; P=0.282).

Conclusions
Kligman's formula does not provide a statistically significant advantage over alternative treatments in reducing melasma severity. High heterogeneity across studies suggests that genetic, environmental, and methodological factors affect outcomes. Further well-designed trials are needed to optimize melasma management and explore alternative therapies with improved efficacy and safety.

Abstract N°: ID-173

Topic: Pigmentary disorders

Comparison of The efficacy and safety of fractional erbium: YAG laser in combination with Tranexamic acid delivery by different methods versus Tranexamic acid alone: A systematic review and meta-analysis

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Introduction
Melasma is a chronic hyperpigmentary disorder characterized by light-brown to bluish-gray patches. No single treatment is universally efficacious. Thus, a combination treatment should be applied. This Systematic review and meta-analysis aims to evaluate the efficacy of fractional erbium: YAG laser combined with tranexamic acid (TXA) delivery methods compared to TXA alone for melasma treatment.

Materials and Methods
A comprehensive search was conducted across PubMed, Google Scholar, and Web of Science, including Randomized controlled trials (RCTs), cohort studies, and case series of patients diagnosed with melasma, excluding studies with high bias risk or low quality, studies involved patients with active skin infections, inflammatory skin conditions, or systemic diseases affecting healing, patients with keloid history or with concurrent anticoagulant or steroid use, and non-compliance with protocols. Studies should report at least one of the following outcomes such as improvement in melasma, incidence/severity of adverse events, objective pigment reduction, or treatment effect duration and relapse time. The risk of bias was assessed using the Newcastle-Ottawa Scale and the meta-analysis was conducted using a random-effects model (restricted maximum-likelihood estimator) to account for study variability.

Results
We included 13 studies involving a total of 585 participants. Most studies involved between 30 and 60 participants. Subgroup analysis of the modified Melasma Area and severity index showed no overall effect (standardized mean differences (SMDs) = -0.0802, p=0.8685), with high heterogeneity (1 = 92.5%, p<0.0001). A large positive effect was observed at 3 months (SMD=1.9802) and a negative effect at 6 months (SMD = -0.7190) with significant differences. The overall effect of interventions on the Melasma Area and severity index was minimal (SMD=0.0039, p=0.9877), with moderate heterogeneity (Iº = 50.3%, p=0.1337). A small negative effect at 6 months was observed (SMD = -0.4234) and no significant effects at 3 months.

Conclusions
There is no consistent or significant long-term impact on melasma severity. While some short-term improvements were observed, they often declined over time. Future studies are needed to better define the long-term effectiveness and safety.

Abstract N°: ID-194

Topic: Pigmentary disorders

Single-Cell Transcriptomic Profiling of PBMC and Skin Identifies Distinct Endotypes in Vitiligo

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Introduction
Vitiligo exhibits marked clinical heterogeneity, suggesting the presence of biologically distinct endotypes. Active progressive vitiligo (APV) and Koebner-dominant vitiligo (KDV) represent clinically meaningful subgroups, yet their immune and melanocyte programs remain incompletely defined.

Materials and Methods
We performed scRNA-seq on paired skin tissues-nonlesion, perilesion, and lesion-and peripheral blood mononuclear cells (PBMCs) from 10 vitiligo patients. PBMCs from 7 healthy donors served as controls. We analyzed cell composition, differentially expressed gene expression, and intercellular communication patterns between healthy control, APV and KDV.

Results
Across cell frequency, melanocyte numbers were significantly decreased in perilesional and lesional skin compared to healthy control ($p<0.05$). HLA-DR+ keratinocytes were markedly increased in perilesional skin compared to nenlesion or lesion, suggesting enhanced antigen-presenting capacity and local immune response in vitiligo. Regulatory T cells (Tregs) in vitiligo skin exhibited elevated expression of Th1 markers such as *CXCR3*, *CXCR6*, and *IFNG*, indicating functional plasticity toward a Th1-like phenotype and impaired immune regulation. Although the overall Treg proportion was unchanged, circulating Tregs in vitiligo patients showed increased expression of *SELPLG* expression (encoding skin-homing molecule PSGL-1), suggesting enhanced infiltration of Tregs into inflammatory skin in vitiligo.

Across PBMC immune compartments, APV demonstrated a pro-inflammatory, activation-biased signature characterized by antigen presentation, DAMP/innate signaling, and metabolic reprogramming (notably in Tregs), alongside leukotriene-pathway and lysosomal/antigen-processing programs in T cells and myeloid populations. In contrast, KDV was enriched for negative-feedback regulators, cytokine-signal dampening (e.g., SOCS-related programs), stress-adaptation responses, and transcripts consistent with homeostatic restraint. In skin, non-lesional melanocytes in APV showed patterns suggestive of intrinsic melanocyte vulnerability, including dedifferentiation-associated and stress-related programs, whereas KDV was comparatively aligned with regulatory and compensatory responses.

Conclusions
APV and KDV show distinct, cell type–specific transcriptional architectures consistent with (i) DAMP-driven inflammatory amplification and intrinsic melanocyte stress in APV versus (ii) negative-feedback and stress-adaptation programs in KDV. These endotype-specific modules provide a framework for mechanistic stratification and support future integration of paired skin controls, cell–cell interaction, and trajectory analyses.

Abstract N°: ID-238

Topic: Pigmentary disorders

Beyond Prescriptions-A large cross-platform analysis of digital patient narratives revealing behavioral determinants of melasma outcomes

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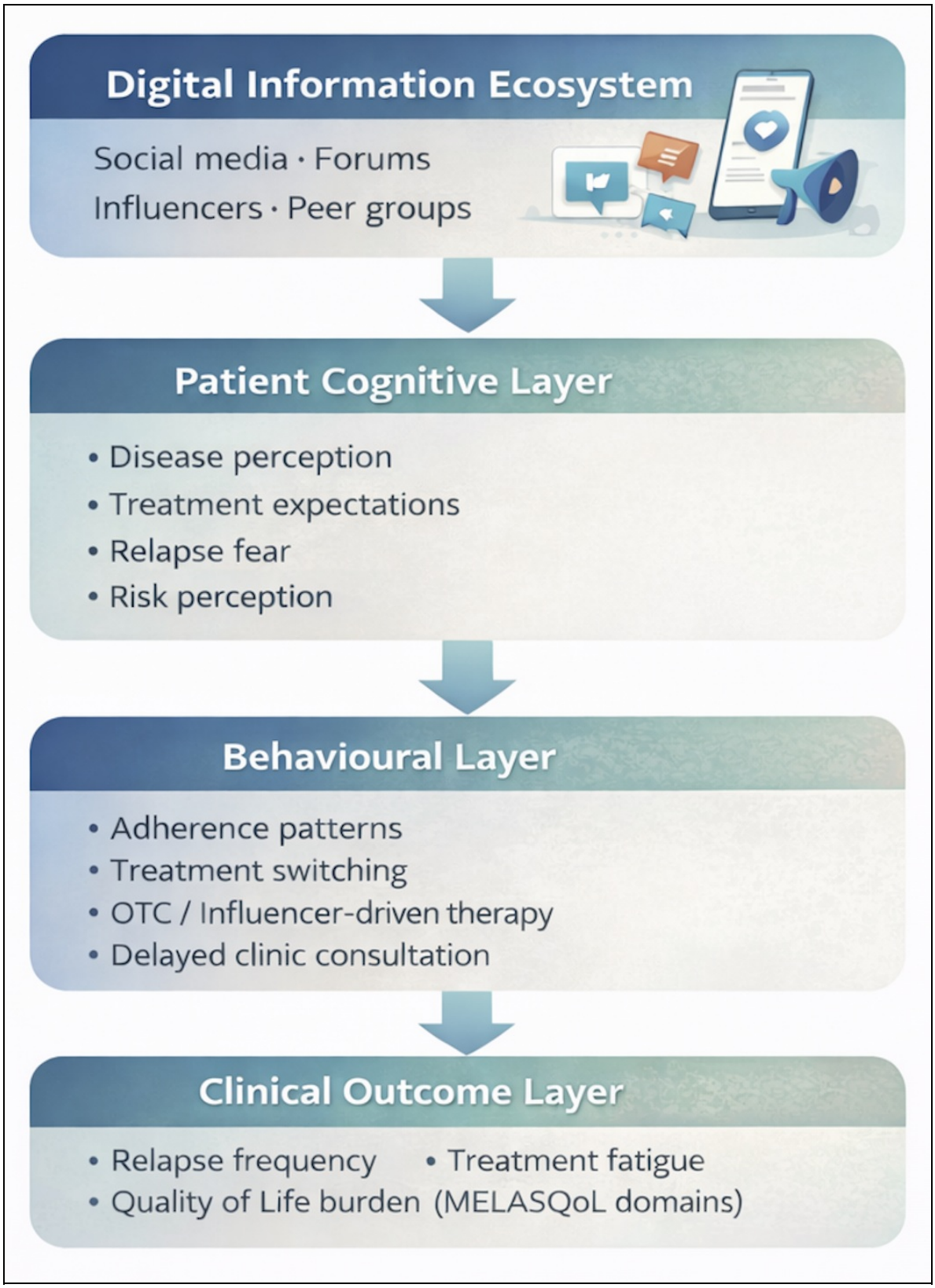
Introduction

Melasma is a chronic relapsing pigmentary disorder associated with significant psychosocial morbidity,particularly in individuals with skin of colour. Although multiple therapeutic options are available, long-term disease control remains challenging due to high relapse rates and variable treatment adherence. In parallel, patient perceptions of disease chronicity, treatment expectations, and therapeutic decision-making are increasingly influenced by digital health information sources. However, real world patient experiences and behavioural factors influencing treatment outcomes remain underrepresented in traditional clinical research. Large scale analysis of publicly available digital patient narratives offers an opportunity to better understand real-world disease burden, treatment behaviour, and gaps between clinical management and patient perceived outcomes.

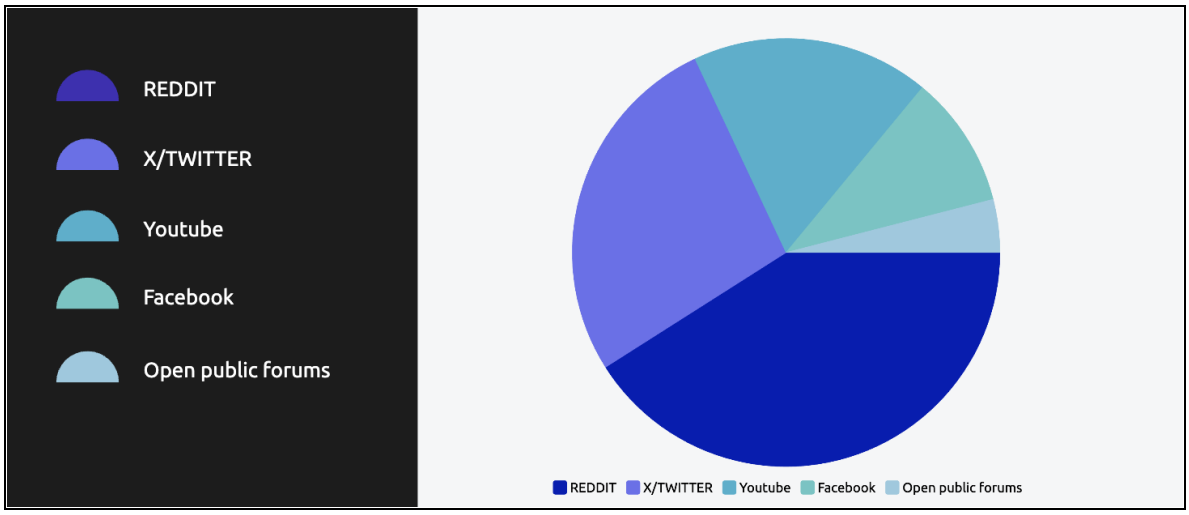


Conceptual Framework Linking Digital Patient Ecosystems to Real-World Melasma Outcomes

Materials and Methods

A retrospective mixed-methods social media listening study was conducted using publicly available posts from June 2015 to January 2024 across Reddit, X/Twitter, YouTube, Facebook, and public skincare forums. Posts were de-identified, screened using predefined inclusion and exclusion criteria, and duplicates were removed prior to analysis. Non-English posts, promotional content were excluded to ensure dataset relevance.Only publicly accessible posts were included in the analysis. No identifiable personal data were collected or stored, and analysis was performed in accordance with ethical standards for research using publicly available digital data.**Quantitative analysis** included platform distribution mapping, topic modelling, and sentiment analysis. **Qualitative thematic analysis** was performed using a hybrid

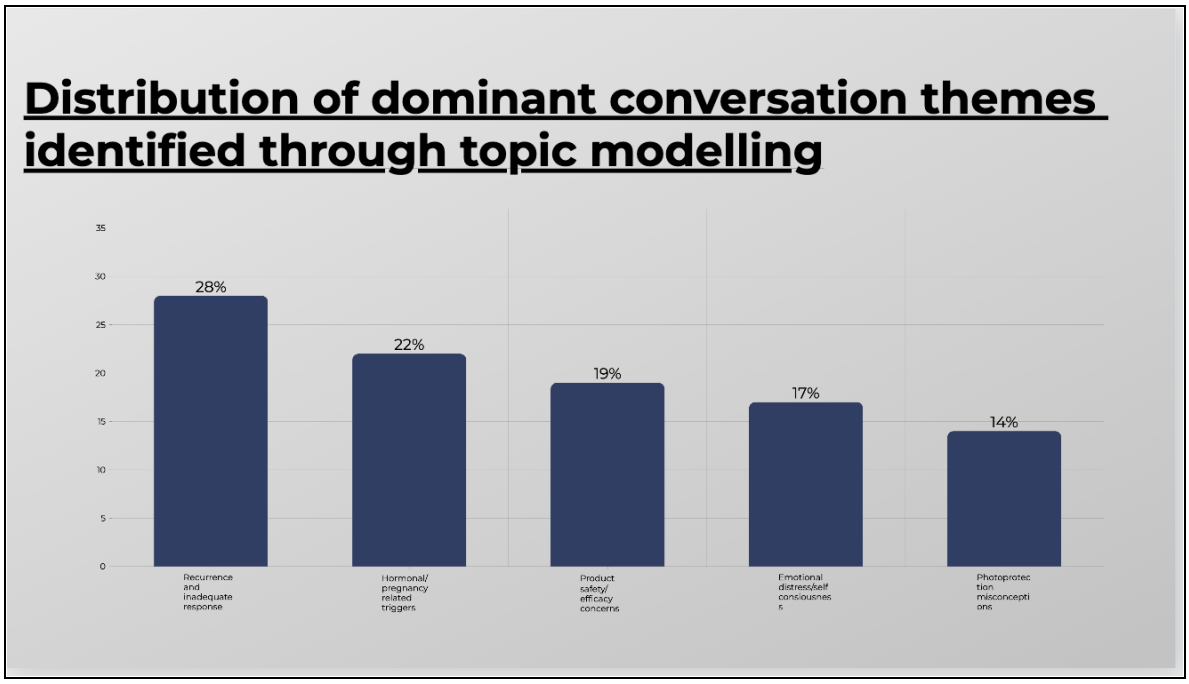
deductive–inductive framework. Thematic coding was performed to ensure consistency in classification. Identified themes were mapped to validated **MELASQoL domains** to quantify quality of life burden and behavioural treatment drivers.



Distribution of Melasma-Related Public Social Media Posts Across Digital Platforms (2015–2024)

Results

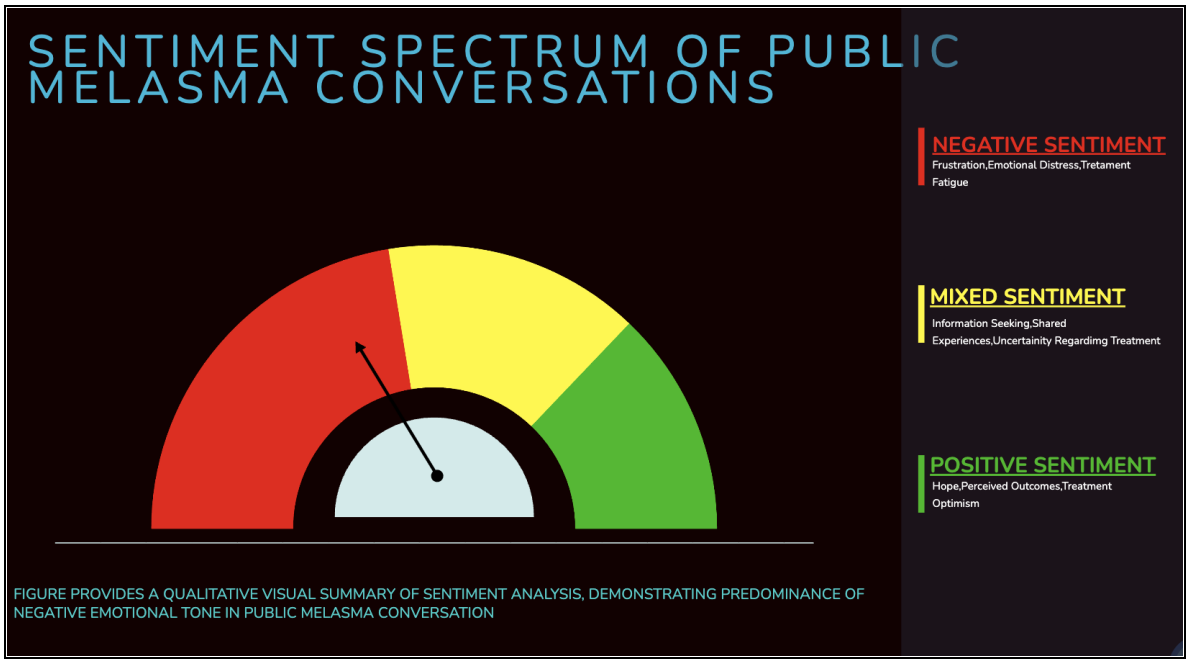
A total of **18,462 posts** were identified, with **12,708 posts** included after screening and deduplication. Contributors predominantly self-identified as individuals with skin of colour (68%), with most posts authored by women aged 20–45 years (72%). Reddit accounted for the largest proportion of discussions (41%), followed by X/Twitter (27%), YouTube (18%), Facebook (10%), and public forums (4%). Topic modelling identified **five dominant patient concern clusters**: recurrence and inadequate treatment response (28%), hormonal and pregnancy-related triggers (22%), product safety and efficacy concerns (19%), emotional distress and self-consciousness (17%), and misconceptions regarding photoprotection practices (14%). Sentiment analysis demonstrated predominantly negative emotional tone, with 61% of posts expressing frustration related to relapse and treatment fatigue. Sustained improvement was reported by 32% of users, while 29% described relapse following treatment discontinuation. Dermatologist consultation was referenced in only 12% of posts, while over 65% of users relied primarily on peer or influencer-driven advice, indicating a digitally mediated treatment decision pathway. MELASQoL mapping demonstrated emotional well-being (42%) and social functioning (31%) as the most affected domains.



Distribution of Dominant Melasma-Related Conversation Themes Identified Through Topic Modelling

Conclusions

Large scale cross-platform social listening reveals a measurable disconnect between clinician-directed treatment models and patient-perceived disease control in melasma. High relapse anxiety, treatment fatigue, and reliance on non-medical digital advice appear to directly influence treatment adherence, treatment escalation patterns, and long-term disease outcomes. Integrating digital patient behaviour insights into routine dermatology practice may enable targeted counselling, improved relapse expectation setting, and earlier therapeutic optimisation. Incorporation of behaviour-informed care strategies has the potential to improve long-term disease control and reduce psychosocial burden, particularly in skin of colour populations.



Overall Sentiment Distribution in Public Digital Conversations on Melasma (2015-2024)

Abstract N°: ID-295

Topic: Pigmentary disorders

Synthetic Data, Real Precision: A Sim-to-Real Deep Learning Approach for Objective Vitiligo Assessment

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Introduction

Objective assessment of skin conditions including vitiligo is essential for evaluating therapeutic response and standardising clinical endpoints. While visual scoring systems such as the Vitiligo Area Scoring Index (VASI) and Vitiligo European Task Force Index (VETF) exist, they remain subjective and labour-intensive. The automated objective tools using deep learning offer the potential for consistent, reproducible measurement, however their development is hindered by the scarcity of high-quality, correctly annotated clinical images. Privacy concerns and the extensive workload required for manual annotation further exacerbate this bottleneck. Additionally, small single-centre datasets often embed systematic biases such as uniform lighting conditions, limited skin type diversity that may further impair model generalisability. This study investigates a "Sim-to-Real" transfer learning approach, hypothesizing that pre-training on synthetic, biologically-inspired data can significantly enhance the performance and robustness of deep learning models when clinical data is limited.

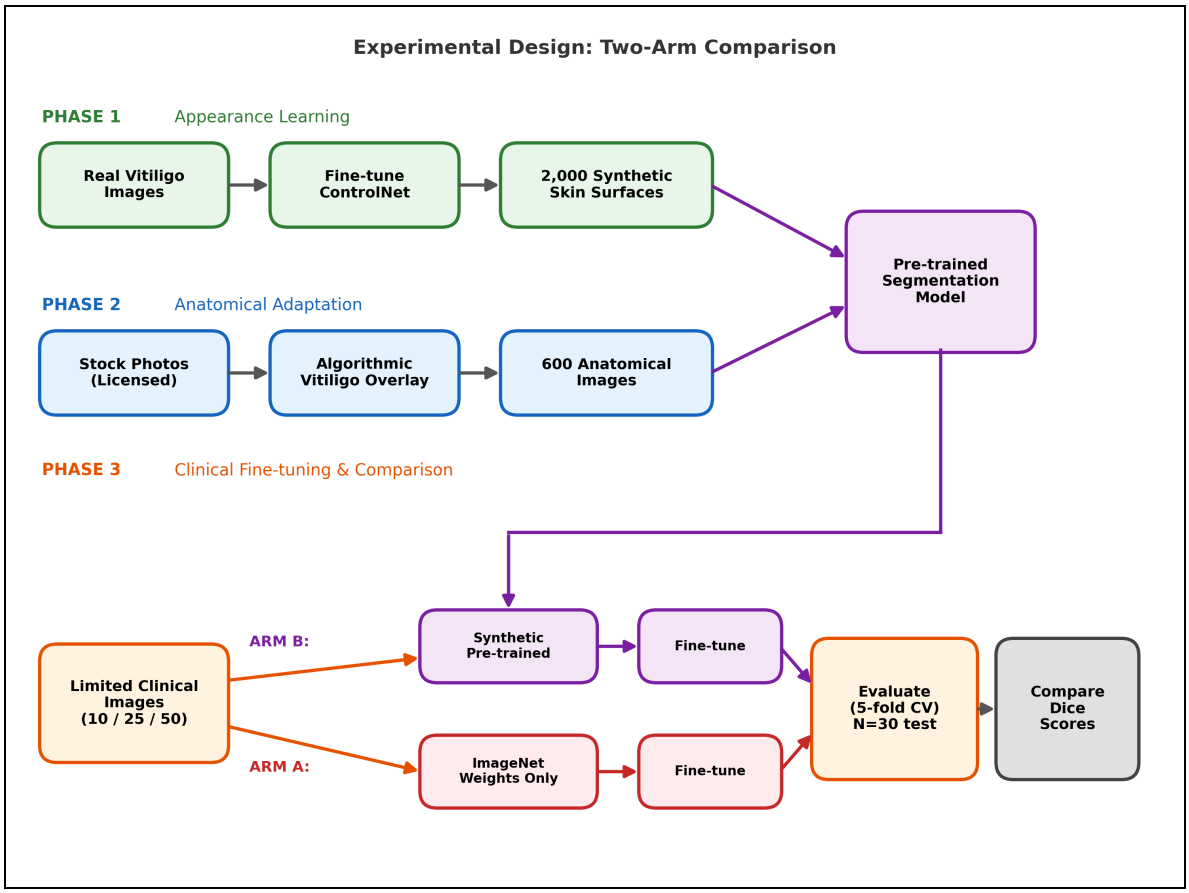
Materials and Methods

We employed a two-phase synthetic data generation pipeline, followed by a controlled comparison between models with and without synthetic pre-training. All experiments used an EfficientNet-B4 encoder with U-Net decoder for semantic segmentation; only the pre-training regimen differed between arms.

Phase 1 (Appearance Learning): A generative AI model (Stable Diffusion with ControlNet) was fine-tuned on a mixed dataset of dermatological images including both normal skin and vitiligo to learn realistic skin texture and lesion appearance, then generated 2,000 synthetic skin surfaces with procedurally-shaped depigmentation patterns - enabling the segmentation model to recognise vitiligo texture and boundaries without anatomical constraints.

Phase 2 (Anatomical Adaptation): 600 images were created using licensed stock photographs with algorithmically rendered vitiligo patterns, introducing realistic body topology and pose variation.

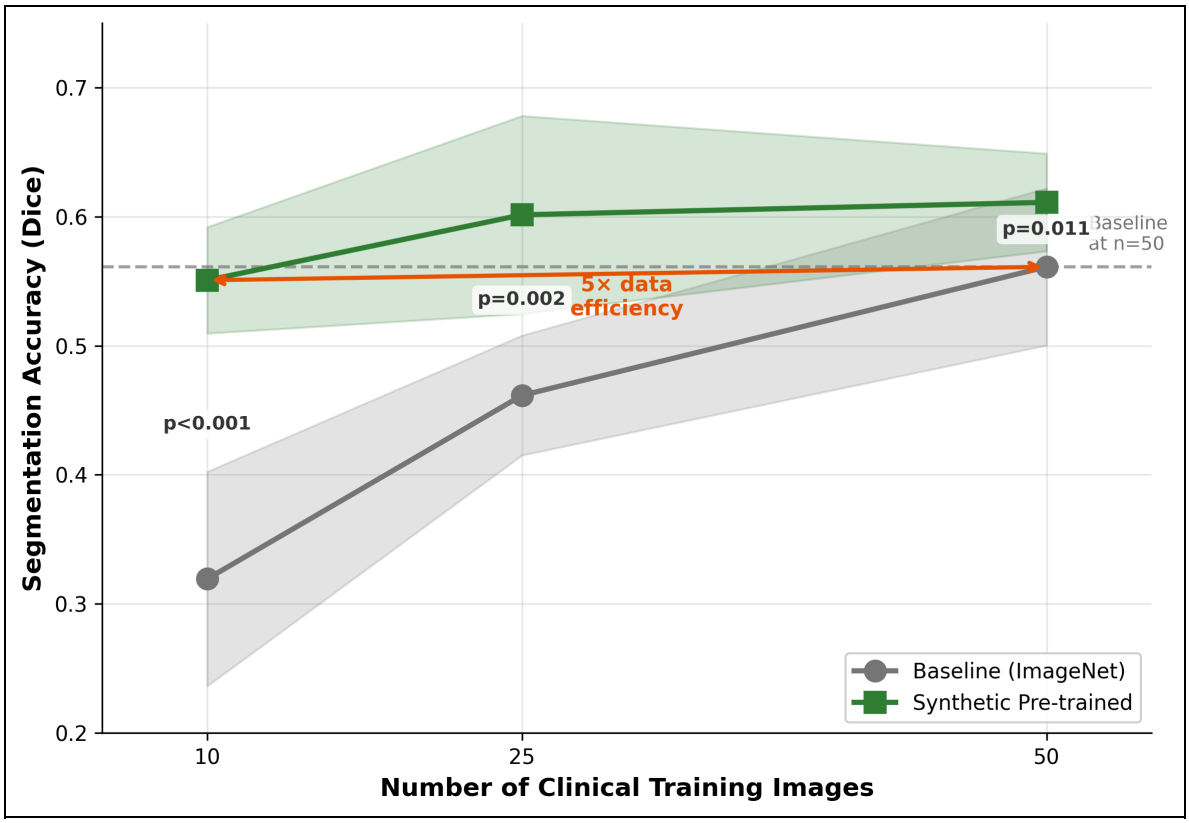
Evaluation: Two-arm comparison. ARM A (baseline): EfficientNet-B4 U-Net initialised with ImageNet weights only. ARM B (experimental): identical architecture pre-trained on synthetic data from Phases 1-2. Both armsfine-tuned on identical limited clinical datasets (10, 25, or 50 annotated cases) and evaluated using 5-fold Monte Carlo cross-validation with held-out test sets (N=30 images per fold). Segmentation performance measured using Dice coefficient; statistical significance assessed via paired t-tests.



Two-arm experimental design. Phase 1: ControlNet fine-tuned on real vitiligo generates 2,000 synthetic skin surfaces. Phase 2: Algorithmic vitiligo overlay on licensed stock photos creates 600 anatomical images. Phase 3: ARM A (ImageNet baseline) vs ARM B (synthetic pre-trained) fine-tuned on identical clinical data. Performance compared via 5-fold cross-validation (N=30 test images, Dice coefficient).

Results

Synthetic pre-training significantly improved segmentation accuracy across all data scarcity levels. With only 10 training images, the pre-trained model achieved Dice 0.55±0.02 vs 0.32±0.04 baseline ($p<0.001$). Similar gains at 25 images (0.60±0.04 vs 0.46±0.02, $p=0.002$) and 50 images (0.61±0.02 vs 0.56±0.03, $p=0.011$). Pre-trained model with 10 clinical images matched baseline at 50 images, representing 5-fold reduction in data requirements.



Segmentation accuracy (Dice coefficient) versus clinical training images. Grey: baseline (ImageNet); Green: synthetic pre-trained. Shaded areas: 95% CI (5 runs, N=30 test). Dashed line: baseline at n=50. Pre-trained model at n=10 matched baseline at n=50 (5-fold data efficiency). All comparisons p<0.05.

Conclusions

This study demonstrates that synthetic data generation offers a robust solution to data scarcity in the development of automated objective assessment tools. Specifically, hierarchical synthetic pre-training may reduce clinical data requirements for vitiligo segmentation by approximately 5-fold. This framework facilitates the creation of reliable assessment models using only a small number of annotated cases, bypassing the need for large-scale datasets. Future validation will focus on correlating these results with established clinical scores (VASI, VETF) and tracking longitudinal treatment response.

Abstract N°: ID-360

Topic: Pigmentary disorders

Lipid Metabolism Dysregulation in Solar Lentigo: A Multi-System-Level Analysis Reveals Membrane Instability and Energy Homeostasis Disruption

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Introduction
Solar lentigo is a common hyperpigmented skin condition caused by chronic ultraviolet exposure, primarily affecting photoaged skin. While previous investigations focused on inflammatory and melanogenic mechanisms, the comprehensive role of lipid metabolism in pathogenesis remains unclear. We aimed to investigate systemic alterations in lipid metabolism and their contribution to solar lentigo development.

Materials and Methods
We performed comprehensive analysis of RNA sequencing data from solar lentigo lesions and control skin samples (n=7 per group) using metabolic flux simulations, gene co-expression networks, and protein-protein interaction analysis. These multi-system approaches were integrated to identify coordinated alterations in lipid metabolic pathways

Results
Solar lentigo samples exhibited coordinated inhibition of fatty acid elongation, acetyl-CoA carboxylase activity, and sphingolipid biosynthesis, alongside impaired cholesterol synthesis via reduced squalene epoxidase and 7-dehydrocholesterol reductase activity. Compensatory upregulation of phospholipid synthesis enzymes and dihydroceramide desaturases was observed. Pathway disruption and altered calcium signaling, indicating aberrant cellular energy metabolism and membrane integrity.

Conclusions
These findings demonstrate that solar lentigo pathogenesis involves systematic lipid metabolism dysregulation beyond melanogenesis, causing membrane instability, energy homeostasis disruption and redox imbalance. The identification of specific metabolic bottlenecks reveals novel targets for lipid-based therapeutic approaches in pigmentary diseases.

Abstract N°: ID-455

Topic: Pigmentary disorders

Topical metformin for melasma: a prospective clinical study

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Introduction
Melasma is a common acquired facial hyperpigmentation, particularly prevalent in darker phototypes, and is associated with a significant psychosocial burden. Conventional treatments such as hydroquinone, azelaic acid, chemical peels, and laser therapies provide variable results and are often limited by adverse effects, cost, and poor long-term tolerance. Metformin, widely used for its metabolic effects, has recently demonstrated anti-inflammatory and depigmenting properties through modulation of oxidative stress and melanogenesis. This study aimed to evaluate the efficacy and tolerability of topical metformin in patients with melasma.

Materials and Methods
A prospective, single-center clinical study was conducted including 20 patients with melasma. A 30% topical metformin formulation was prepared from oral tablets incorporated into a standard hydroalcoholic vehicle. The product was applied once daily for 12 weeks. Clinical severity was assessed using the Melasma Area and Severity Index (MASI) at baseline and every four weeks. Safety and tolerability were evaluated by clinical examination and patient interview. Statistical analysis was performed using paired comparisons, with a significance threshold set at $p < 0.05$.

Results
The study included 20 patients (18 women, 2 men) with a mean age of 38.9 ± 7.1 years. Dark phototypes predominated. The mean baseline MASI score was 8.89 ± 6.6. After 12 weeks of treatment, the mean MASI decreased to 6.9 ± 5.6, corresponding to a mean reduction of 1.94 points (22.4%), which was highly significant ($p = 0.00008$). A moderate improvement (25–50%) was observed in 45% of patients, while 45% showed a mild improvement (<25%), 10% showed no response. The maximal individual improvement reached 40.4%. Tolerability was excellent, with only one transient case of mild erythema and dryness, without treatment discontinuation. Overall satisfaction was high, with 75% of patients reporting moderate to high satisfaction.

Conclusions
Topical metformin 30% demonstrated a significant clinical improvement in melasma with an excellent safety profile. Its accessibility, low cost, and good tolerability make it a promising alternative or adjunctive therapy, particularly in settings where conventional treatments are limited by availability or adverse effects. Larger controlled trials with longer follow-up are warranted to better define its place in the therapeutic strategy for melasma.

Abstract N°: ID-458

Topic: Pigmentary disorders

Impact of melasma on quality of life: correlation between clinical severity and psychosocial burden

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Introduction

Melasma is a common pigmentary disorder characterized by brownish facial macules. Although clinically benign and asymptomatic, it may cause considerable psychological distress. By altering facial appearance, melasma affects self-image, self-esteem, and social interactions. This psychosocial burden is often underestimated and deserves specific attention. The aim of this study was to evaluate the impact of melasma on quality of life and to identify clinical, sociodemographic, and emotional factors associated with impaired well-being.

Materials and Methods

A prospective descriptive study was conducted over a five-month period including all patients consulting for melasma. Clinical severity was assessed using the Melasma Area and Severity Index (MASI), and quality of life was evaluated using the Melasma Quality of Life Scale (MELASQoL). The correlation between MASI and MELASQoL scores was analyzed using Spearman's rank correlation coefficient, with statistical significance set at $p < 0.05$.

Results

Forty-eight patients were included, comprising 43 women and 5 men, with a mean age of 38.8 ± 8.8 years. Most patients (73%) had a low socioeconomic status. Prolonged sun exposure was the main risk factor (73.7%). Among women, 47.3% used hormonal contraception and 52.6% reported onset or worsening during pregnancy. Dark phototypes predominated (89.6%), and the centrofacial pattern was the most frequent (62.2%).

The mean MASI score was 9.75 ± 5.09, with 50% mild, 43.7% moderate, and 6.3% severe forms. The mean MELASQoL score was 30.77 ± 11.03. A moderate, statistically significant positive correlation was observed between MASI and MELASQoL scores ($\rho = 0.45$, $p = 0.0012$). Quality of life impairment was more pronounced in women, particularly in younger, single, professionally active patients from lower socioeconomic backgrounds. Several patients reported discomfort in professional and social environments, highlighting the psychosocial burden of melasma.

Conclusions

Melasma, despite being clinically silent, has a substantial impact on quality of life. The identified vulnerability factors underline the need for a holistic management approach that addresses emotional and social dimensions. Systematic assessment of quality of life during follow-up may improve treatment individualization and long-term outcomes.

Abstract N°: ID-484

Topic: Pigmentary disorders

Targeting Oxidative Stress in Melasma: A Prospective Evaluation of Oral Melatonin 5 mg as an Adjuvant Therapy

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Introduction
Melasma is a chronic, relapsing hypermelanosis with complex pathogenesis involving oxidative stress, inflammation, and disrupted circadian rhythm. Conventional treatments often yield suboptimal or transient improvement. Melatonin, a potent antioxidant and hormonal regulator of skin homeostasis, may offer a novel adjunctive approach.

Objective: To evaluate the efficacy and safety of oral melatonin (5 mg daily) as an adjuvant therapy in patients with melasma compared with standard therapy alone.

Materials and Methods
In this prospective case-control study, 60 female patients aged 25–50 years with clinically diagnosed epidermal or mixed-type melasma were enrolled and divided into two groups (n=30 each). The case group received oral melatonin 5 mg nightly in addition to standard sunscreen and topical hydroquinone, while the control group received standard therapy alone. Outcomes were assessed at baseline, 4, 8, and 12 weeks using the Melasma Area and Severity Index (MASI) and patient-reported improvement scores. Serum oxidative stress markers were also measured.

Results
At 12 weeks, the mean MASI score reduction was significantly greater in the melatonin group (62.4% ± 8.1) compared to controls (38.6% ± 9.4; $p < 0.001$). Patients receiving melatonin reported earlier onset of improvement (by week 4) and enhanced satisfaction scores. Oxidative stress markers (MDA levels) showed a marked decline in the melatonin group, indicating systemic antioxidant benefit. No adverse effects or sleep disturbances were reported.

Conclusions
Oral melatonin 5 mg once daily is an effective and well-tolerated adjuvant therapy for melasma, providing superior pigment reduction and oxidative balance compared with standard treatment alone. These findings support melatonin's emerging role as a safe systemic antioxidant adjunct in pigmentary disorders.

Abstract N°: ID-506

Topic: Pigmentary disorders

The effectiveness of microneedling in conjunction with tacrolimus as opposed to either treatment alone for vitiligo

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Introduction

Combination treatments have been shown to increase vitiligo repigmentation. Drug distribution through the epidermal barrier is made easier by microneedling (Mn).To assess and contrast the safety and effectiveness of treating localized and stable vitiligo with either Mn alone or tacrolimus 0.1% ointment.

Materials and Methods

Three groups of sixty vitiligo patients were randomly assigned: group I had microneedling with tacrolimus, group II had microneedling alone every two weeks for twelve sessions, and group III had 0.1% tacrolimus ointment administered twice a day for six months. Both before and after therapy, skin biopsies were obtained. The Vitiligo Area Scoring Index (VASI) was used to evaluate repigmentation.

Results

When compared to the other groups, the combined group's overall improvement (76.6%) was noticeably greater. Excellent repigmentation was found in 66.6% of group I compared to 33.3% in the other two groups . Compared to the other groups, the combined group showed a highly significant improvement in the extremities (P <.001).

The combined group (I) reported fewer sessions than the microcroneedling group (II; P <.001). According to immunohistochemical findings, group I expressed HMB-45 substantially more than the other two groups . All groups experienced modest and manageable side effects.

Conclusions

Compared to the other two groups, the combination group has demonstrated encouraging outcomes.

Abstract N°: ID-538

Topic: Pigmentary disorders

Quality of Life Improvement in Patients with Non-Segmental Vitiligo Receiving Combined Phototherapy-Based Treatment

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Introduction

Vitiligo has a substantial negative impact on patients' quality of life, often disproportionate to the extent of skin involvement. While phototherapy remains the cornerstone of treatment, improvements in clinical outcomes do not always translate into patient-perceived benefit. This study aimed to assess changes in quality of life and patient satisfaction in individuals with non-segmental vitiligo undergoing phototherapy-based treatment.

Materials and Methods

A prospective study included 42 patients with stable non-segmental vitiligo treated with NB-UVB phototherapy for 12 weeks. Patients received either phototherapy alone or phototherapy combined with an adjunctive procedural intervention. Quality of life was assessed using the Vitiligo Quality of Life Index (VitiQoL), alongside physician global assessment and patient satisfaction scores.

Results

Both treatment approaches led to clinical improvement; however, patients receiving combined therapy demonstrated greater improvement in quality of life. Mean VitiQoL scores improved by 45% in the combination group compared to 31% in the phototherapy-only group. Higher patient satisfaction was observed in the combination group, correlating with greater perceived repigmentation. Physician global assessment supported these findings, indicating more favorable overall treatment responses in patients receiving adjunctive therapy.

Conclusions

Adjunctive treatment strategies combined with NB-UVB phototherapy may provide additional benefits beyond clinical repigmentation, leading to meaningful improvements in quality of life and patient satisfaction in individuals with vitiligo. Incorporating patient-reported outcomes may help optimize therapeutic decision-making in vitiligo management.

Abstract N°: ID-541

Topic: Pigmentary disorders

Enhancing the Efficacy of Phototherapy in Vitiligo Using Microneedling with Latanoprost

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Introduction
Vitiligo remains a therapeutic challenge despite advances in phototherapy. Although NB-UVB (311 nm) is the gold standard, repigmentation is often slow and incomplete. Prostaglandin F2α analogs, including latanoprost, have demonstrated melanocyte-stimulating properties that may potentiate the photobiological effects of UVB. This study aimed to explore whether combining microneedling with topical latanoprost could enhance the efficacy of NB-UVB therapy in stable non-segmental vitiligo.

Materials and Methods
A prospective, comparative study included 42 patients with stable non-segmental vitiligo. Participants were divided into two equal groups (n = 21 each). Group A received NB-UVB phototherapy alone, while Group B received NB-UVB phototherapy combined with weekly microneedling followed by topical application of 0.005% latanoprost solution. Treatment continued for 12 weeks. NB-UVB sessions were performed three times per week (Monday, Wednesday, and Friday). Clinical efficacy was evaluated using the Vitiligo Area Scoring Index (VASI), physician global assessment, and patient satisfaction scores. Safety and tolerability were monitored through local and systemic adverse event reporting throughout the study period.

Results
After 12 weeks of treatment, both groups demonstrated clinical improvement; however, the combination therapy group showed superior outcomes. In the NB-UVB–only group, the mean reduction in VASI score was 22.4%, whereas patients treated with NB-UVB combined with microneedling and latanoprost achieved a greater mean VASI reduction of 41.8%. According to Physician Global Assessment, marked or moderate repigmentation was observed in 38% of patients receiving phototherapy alone, compared to 67% in the combination therapy group. Patient satisfaction was higher in the combination group, with 71% of patients reporting high or very high satisfaction versus 43% in the NB-UVB–only group. The treatment was well tolerated. Adverse events were mild and transient, consisting mainly of local erythema and pruritus at microneedling sites. No systemic adverse effects were reported.

Conclusions
The addition of microneedling with latanoprost to NB-UVB phototherapy appears to enhance clinical outcomes in patients with stable non-segmental vitiligo. This combined approach resulted in improved repigmentation, higher patient satisfaction, and greater quality-of-life improvement compared to NB-UVB therapy alone, while maintaining a favorable safety profile. Microneedling with latanoprost may represent a promising adjuvant strategy for optimizing phototherapy-based vitiligo treatment.

Abstract N°: ID-542

Topic: Pigmentary disorders

Investigating Vitiligo Stability and Exacerbation Risk After Aesthetic Procedures in Patients with Vitiligo: A Retrospective Observational Study

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Introduction
Vitiligo is an acquired depigmenting disorder characterized by progressive loss of melanocytes. While laser and energy-based devices are widely used in aesthetic dermatology, concerns remain regarding their potential to induce Koebner phenomenon or exacerbate vitiligo lesions. There is limited clinical data evaluating the safety profile of these procedures in patients with a known history of vitiligo. The objective of this study is to evaluate the safety profile and risk of vitiligo exacerbation or new-onset depigmentation following various laser and aesthetic procedures in patients with pre-existing vitiligo.

Materials and Methods
This retrospective observational study reviewed medical records of patients with a clinical diagnosis of vitiligo who received energy-based devices or botulinum toxin treatments at a single dermatology center between January 2020 and June 2025. Data collected included patient demographics, vitiligo stability prior to treatment, types of procedures performed, treated anatomical sites, and any reported vitiligo recurrence or new lesion development during follow-up. New vitiligo lesions were assessed for anatomical correlation with the treatment site.

Results
A total of 45 patients with vitiligo (mean age, 49.44 years; 41 females and 4 males) were included. The mean duration of stable disease before undergoing aesthetic procedures was 1.65 years. In total, 78 anatomical sites received treatment, with some sites undergoing more than one type of procedure. Across all sites, the procedures performed included intense pulsed light (n = 28), picosecond Nd:YAG laser (n = 20), Er:YAG laser (n = 14), botulinum toxin injection (n = 9), fractional CO_2 laser (n = 5), monopolar radiofrequency (Thermage FLX; n = 4), micro-focused ultrasound (Ulthera; n = 2), pulsed dye laser (n = 2), mesotherapy with tranexamic acid and ascorbic acid (n = 2), vitamin C iontophoresis (n = 1), poly-L-lactic acid (Sculptra) injection (n = 1), and microwave thermolysis (n = 1). Only one patient (2.2%) developed a flare after intense pulsed light, which improved with ruxolitinib cream.

Conclusions
Cosmetic procedures have become increasingly popular in recent years; however, there are currently no established guidelines for performing such treatments in patients with vitiligo. To our knowledge, this is the first study to systematically investigate the potential risks of laser and energy-based therapies in this patient population. Our findings suggest that a notable proportion of patients may experience vitiligo exacerbation following treatment. These observations warrant further investigation, and clinicians should remain cautious when considering cosmetic procedures in individuals with vitiligo.

Abstract N°: ID-626

Topic: Pigmentary disorders

Real-World Psychosocial Burden, Quality of Life, and Disease Management of Non-Segmental Vitiligo in the United States

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Introduction

Non-segmental vitiligo (NSV) is an autoimmune-mediated disease leading to depigmented skin lesions. Beyond depigmentation, individuals may experience impacts to their psychosocial health, daily activities, and overall quality of life (QOL). However, impacts range substantially from none to very severe, indicating additional contextual factors beyond a diagnosis may impact disease burden. This study aims to quantify the burden of NSV in adults in the US and examine how different clinical presentations may contribute to heterogeneity in psychosocial and quality of life outcomes.

Materials and Methods

A non-interventional cross-sectional survey of adults with NSV was conducted in the US. Patients were referred into the study via physician who confirmed the NSV diagnosis. Data were collected between May and October 2025. Participation in the survey was voluntary. Patients were remunerated for their time only. The survey collected data on patient demographics, clinical characteristics, and outcome measures including the Self-Assessment Vitiligo Extent Score (SA-VES; a measure of % body surface area [BSA] with vitiligo lesions), Dermatology Life Quality Index (DLQI; a skin-specific QOL measure with scores ranging from 0 to 30 where a higher score indicates a greater impact), Vitiligo Impact Patient Scale (VIPs; a vitiligo-specific QOL measure with scores ranging from 1 to 95 where a higher score indicates a greater impact), and the Patient Global Impression of Severity (PGIS; a self-assessed measure of vitiligo severity). Variables were analysed descriptively and stratified by BSA, years since initial vitiligo diagnosis (disease duration), and affected body region.

Results

In the sample of 200 adults, mean age was 48.2 years, 64% were female, and 42% had been diagnosed in the last 5

years. 82% were diagnosed by a dermatologist. 28% were Fitzpatrick Skin Type (FST) I/II, 48% FST III/IV, and 25% FST V/VI. At the time of the survey, 48% used corticosteroids and 27% used a topical JAK inhibitor to manage their vitiligo. 9% of patients had received no treatment. Half of respondents described their vitiligo as stable in the last 3 months; 59% reported slow progression of vitiligo since diagnosis. 34% of respondents had vitiligo lesions on their face, 47% on the rest of their head and neck, 44% on their hands, 62% on remaining upper extremities, 16% on their genitalia/groins, 55% on their torso, and 55% on their lower extremities. Mean DLQI was 4.8; 26% patients reported a DLQI score corresponding to no effect, 41% a small effect, 24% a moderate effect, and 10% a very large or extremely large effect. Mean VIPs score was 25.2. 42% of patients indicated at least moderate severity of the vitiligo on their face, and 38% indicated at least moderate severity of the vitiligo on their total body. DLQI, VIPS, and face/body severity stratified by BSA, duration of disease, and affected body region are presented in **Table 1**. Disease burden varied across patient and clinically defined subgroups, with numerically higher mean DLQI scores among those with the shortest disease duration and vitiligo on the head/neck. Mean VIPS scores did not vary substantially across disease duration or body region. Both measures suggest non-linear relationships between QOL impacts and affected BSA. QOL impacts, measured by the DLQI, trended higher with greater severity on both the face and body.

	Total Sample	Duration of Disease (years)			Affected Body Region							% BSA Affected					
		≤5	6 to 10	>10	Face	Rest of head and neck	Hands	Rest of upper extremities	Genitalia/ Groin	Torso	Lower extremities	0-1%	2-5%	6-10%	11-25%	26-50%	>50%
DLQI Score[a]																	
Total N	**200**	**84**	**43**	**73**	**67**	**93**	**88**	**124**	**32**	**109**	**110**	**78**	**77**	**15**	**14**	**12**	**4**
Mean	4.8	5.0	5.9	3.8	4.4	5.7	4.6	5.2	4.0	5.0	4.9	3.0	6.0	6.2	7.2	4.2	2.5
SD	4.72	5.16	5.69	3.20	5.06	4.53	4.84	4.94	4.19	4.92	5.18	3.47	4.69	5.47	7.65	3.66	2.38
VIPS Score[b]																	
Total N	***200***	***84***	***43***	***73***	***67***	***93***	***88***	***124***	***32***	***109***	***110***	***78***	***77***	***15***	***14***	***12***	***4***
Mean	25.2	23.9	26.4	25.9	25.4	31.2	26.1	28.1	27.8	27.2	27.8	17.0	27.9	27.7	40.2	31.4	50.5
SD	21.83	19.90	24.88	22.27	23.92	22.15	23.49	22.31	26.25	23.15	23.17	16.85	20.83	18.16	31.18	26.08	32.48
Severity on the Face[c]																	
Total N (%)	***67***	***27***	***15***	***25***	***67***	***27***	***32***	***39***	***21***	***36***	***36***	***25***	***24***	***4***	***4***	***6***	***4***
None	4 (6)	1 (3.7)	1 (6.7)	2 (8)	4 (6)	1 (3.7)	2 (6.2)	1 (2.6)	1 (4.8)	1 (2.8)	2 (5.6)	1 (4)	2 (8.3)	-	-	-	1 (25)
Mild	35 (52.2)	15 (55.6)	6 (40)	14 (56)	35 (52.2)	13 (48.1)	15 (46.9)	22 (56.4)	13 (61.9)	14 (38.9)	20 (55.6)	20 (80)	9 (37.5)	2 (50)	3 (75)	1 (16.7)	-
Moderate	23 (34.3)	9 (33.3)	7 (46.7)	7 (28)	23 (34.3)	9 (33.3)	12 (37.5)	11 (28.2)	4 (19)	16 (44.4)	11 (30.6)	4 (16)	12 (50)	1 (25)	1 (25)	5 (83.3)	-
Severe	4 (6)	2 (7.4)	1 (6.7)	1 (4)	4 (6)	3 (11.1)	2 (6.2)	4 (10.3)	2 (9.5)	4 (11.1)	2 (5.6)	-	1 (4.2)	1 (25)	-	-	2 (50)
Very severe	1 (1.5)	-	-	1 (4)	1 (1.5)	1 (3.7)	1 (3.1)	1 (2.6)	1 (4.8)	1 (2.8)	1 (2.8)	-	-	-	-	-	1 (25)
Severity on the Total Body[d]																	
Total N (%)	***200***	***84***	***43***	***73***	***67***	***93***	***88***	***124***	***32***	***109***	***110***	***78***	***77***	***15***	***14***	***12***	***4***
None	18 (9)	6 (7.1)	4 (9.3)	8 (11)	6 (9)	4 (4.3)	9 (10.2)	6 (4.8)	1 (3.1)	5 (4.6)	9 (8.2)	8 (10.3)	5 (6.5)	2 (13.3)	1 (7.1)	1 (8.3)	1 (25)
Mild	107 (53.5)	57 (67.9)	17 (39.5)	33 (45.2)	31 (46.3)	40 (43)	41 (46.6)	61 (49.2)	11 (34.4)	54 (49.5)	55 (50)	61 (78.2)	36 (46.8)	4 (26.7)	2 (14.3)	4 (33.3)	-
Moderate	67 (33.5)	19 (22.6)	21 (48.8)	27 (37)	24 (35.8)	44 (47.3)	32 (36.4)	49 (39.5)	15 (46.9)	43 (39.4)	39 (35.5)	9 (11.5)	34 (44.2)	8 (53.3)	11 (78.6)	5 (41.7)	-
Severe	4 (2)	2 (2.4)	-	2 (2.7)	2 (3)	1 (1.1)	2 (2.3)	4 (3.2)	1 (3.1)	3 (2.8)	3 (2.7)	-	2 (2.6)	1 (6.7)	-	1 (8.3)	-
Very severe	4 (2)	-	1 (2.3)	3 (4.1)	4 (6)	4 (4.3)	4 (4.5)	4 (3.2)	4 (12.5)	4 (3.7)	4 (3.6)	-	-	-	-	1 (8.3)	3 (75)

BSA = body surface area; DLQI = Dermatology Life Quality Index; SD = standard deviation; VIPS = Vitiligo Impact Patient Scale.
[a]Score ranges from 0 to 30 with a higher score indicating greater impact on quality of life. Scores ranging from 0 to 1 correspond to no effect, 2 to 5 a small effect, 6 to 10 a moderate effect, and 11 to 30 a very large/extremely large effect on the respondent's life.
[b]Score ranges from 0 to 95 with a higher score indicating greater impact due to vitiligo.
[c]Self-assessed severity of vitiligo on the face only at the time of the survey.
[d]Self-assessed severity of vitiligo on the body (including the face) at the time of the survey.

Conclusions

Adults with NSV reported substantial psychosocial burden and QOL impacts, highlighting the burden of NSV extends beyond visible symptoms alone. Variations in QOL were observed across clinical subgroups and measurement instrument. This suggests multiple patient factors impact burden severity across a wide variety of dimensions of QOL. Despite the notable impacts of vitiligo, treatment utilization suggests ongoing gaps in available treatments, including reliance on conventional therapies associated with limited effectiveness and/or safety profiles that prohibit long term maintenance.

Abstract N°: ID-685

Topic: Pigmentary disorders

Patient-Reported Understanding of the Vitiligo Area Scoring Index, a Multi-Dimensional Clinician Reported Outcome for Vitiligo

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Introduction

Non-segmental vitiligo (NSV) is an autoimmune disease affecting skin pigmentation. Primary endpoints for many NSV clinical trials are based on the Vitiligo Area Scoring Index (VASI), a standardized clinician-reported outcome (ClinRO) used to assess the extent of vitiligo spread across specific body regions and to determine treatment benefit. VASI includes total body (T-VASI) and facial (F-VASI) assessments, where F-VASI is a component of T-VASI. These tools measure the percentage of body surface area (BSA) affected by NSV lesions and accounting of the levels of depigmentation within those lesions. This qualitative study sought to explore patients' experiences and treatment goals for vitiligo, as well as their understanding of T-VASI and F-VASI measures.

Materials and Methods

Online interviews were conducted with adults (n=18) and adolescents (12-17; n=9) with NSV covering at least 4% of total BSA. Interviews were conducted in the United States (n=8), United Kingdom (n=5), France (n=7), Germany (n=5), and Spain (n=2). Semi-structured interviews elicited NSV treatment experience and expectations and understanding and perceived relevance of T-VASI and F-VASI clinical measures. Participants completed a patient-friendly modification of the T-VASI and F-VASI on themselves with visual stimuli from the interviewer. Interviews were recorded, transcribed, and analyzed for themes.

Results

Mean age of participants was 32.3 and the majority were female (56%; n=15). Most participants (70%; n=19) had lesions on 6% or more of their BSA. Fitzpatrick Skin Type varied, including 30% (n=8) Type IV or V. NSV impacted daily life in diverse ways, and most participants had a complex relationship with the disease. Social and emotional/esteem impacts were each reported by 33% (n=9) of participants. A majority (81%, n=22) indicated that they were treatment-willing and would consider using a drug or medication to treat their NSV. A majority (89%, n=24) had used treatments before. Most participants reported experiencing progressive NSV, and underscored the desire for treatments that can stabilize the disease. The desired benefits of a NSV treatment included, among others, increased pigmentation (44%, n=12) and decreasing the size of lesions (11%, n=3). When prioritizing types of changes in their NSV, the majority selected repigmentation over patch size (56%, n=15) and treating the face over the body (59%, n=14).

Participants found a reduction in T-VASI or F-VASI meaningful, with the specific clinical outcomes of T-VASI50 (a 50% reduction of depigmentation on the total body) and F-VASI75 (a 75% reduction of depigmentation on the face) being confirmed as meaningful. The majority (60%, n=16) found the patient-friendly version of the instrument “easy” or “very easy” to complete; however, depigmentation was hard to assess for 44% (n=12), and only 37% (n=10) felt their answers were accurate. Most participants (63%, n=17) had not been asked these types of questions before. Having patients complete the T-VASI and F-VASI was effective at conveying, in principle, how the T-VASI and F-VASI measures depigmentation.

Conclusions

The study’s findings provided meaningful insights into participant experiences, treatment preferences, and the perceived impacts of vitiligo. The interviews confirmed that the main elements of the T-VASI and F-VASI, repigmentation and BSA, are critical to defining treatment benefit that is relevant to patients. Change in VASI, specifically T-VASI50 and F-VASI75, were reported as relevant and meaningful by study participants. Additional research is needed to examine how to effectively and efficiently communicate complex clinical measurements such as the T-VASI and F-VASI to patients, ensuring treatment expectations are clear and relatable.

Abstract N°: ID-687

Topic: Pigmentary disorders

Real-World Efficacy, Tolerance, and Quality of Life Impact of a Mercaptonicotinoyl Glycine Containing Serum in Patients with Hyperpigmentation Disorders: A Prospective Observational Study

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Introduction
Hyperpigmentation disorders pose a significant psychosocial burden, requiring effective and well-tolerated topical treatments for long-term management. Real-world evidence regarding the efficacy and safety of mercaptonicotinoyl glycine (2-MNG) as a depigmenting agent across diverse hyperpigmentation disorders remains limited. This study aimed to assess the clinical effectiveness and tolerability of a serum containing 2-MNG in reducing the severity of different pigmentary disorders. In addition, we evaluated patient-reported outcomes, including perceived improvements in skin quality, changes in social stigmatization, and overall quality of life (QoL).

Materials and Methods
This prospective, single-arm, observational study included adult patients diagnosed with melasma, post-inflammatory hyperpigmentation (PIH), or solar lentigo. Patients applied the 2-MNG-containing serum as part of their daily skin care regimen for 12 weeks. The primary efficacy endpoint was the change in the Investigator's Global Assessment (IGA) score (0-5 scale) from baseline to Day 84 post-treatment. Secondary endpoints included patient-reported assessments of radiance, evenness, spot surface area, and pigmentation intensity (0-10 scale), as well as QoL measured by the Patient's Unique Stigmatization Holistic Tool in dermatology (PUSH-D) questionnaire. Tolerance was evaluated by both dermatologists and the patient using a 4-point scale (low, average, high, excellent). Statistical analysis involved paired t-tests for pre-post comparisons. A multivariable linear regression model was used to adjust for baseline severity, age, gender, phototype, diagnosis group, concomitant medication use, and treatment adherence.

Results
Among the 85 patients included in the study, primary outcome data were available for 76 patients. The study population demonstrated a statistically significant reduction in the hyperpigmentation severity, with the mean IGA score decreasing from 3.17 ± 0.77 at Baseline to 2.05 ± 0.89 at Day 84 (Mean difference: -1.12; 95% CI: -1.32 to -0.92; $P < 0.001$). Significant improvements were observed across all diagnostic subgroups, with the largest relative reductions seen in patients with PIH (40.6%) and melasma (37.5%). In the adjusted model, only baseline severity was significantly associated with IGA improvement (Beta = 2.84 for Grade 5 compared with Grade 0-1; $P = 0.003$). Factors such as age, gender, skin phototype, and diagnosis type were not statistically associated with the change of IGA score ($P > 0.05$). For secondary outcomes,

patients reported statistically significant improvements in skin radiance, spot surface area, and pigmentation intensity, alongside a significant reduction in PUSH-D score across all diagnostic groups ($P < 0.05$). Regarding safety, the regimen demonstrated a favorable tolerance profile, with 79.7% of patients and 77.8% of dermatologists rating tolerance as "High" or "Excellent" at Day 84.

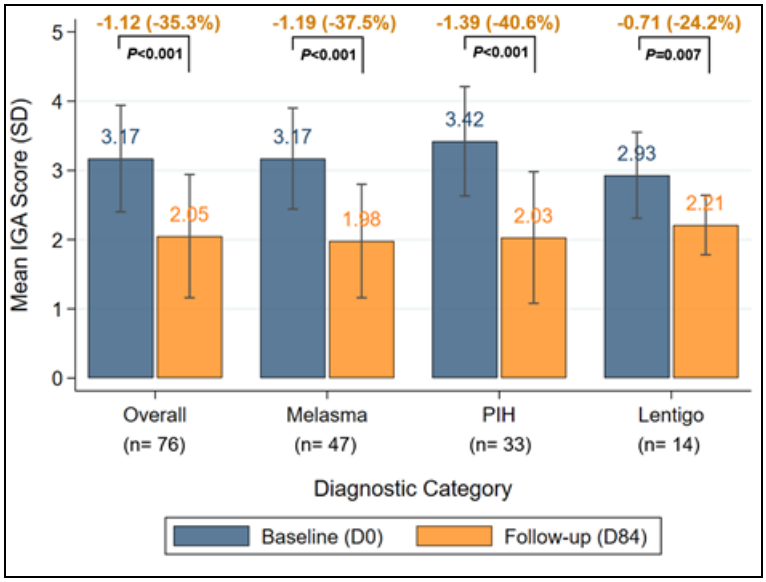

Figure 1. Absolute and Relative Changes in IGA Scores from Baseline (D0) to Day 84 Post-Treatment (D84). Note: the sum of the subgroup sample sizes exceeds the overall population because patients with multiple diagnoses (e.g., Melasma and PIH) are included in multiple categories. Abbreviations: D0, baseline visit; D84, follow-up visit after 3 months; IGA, Investigator's global score; PIH, Post-inflammatory hyperpigmentation.

Conclusions

The 2-MNG-containing serum demonstrated robust real-world efficacy in reducing the clinical severity of melasma, PIH, and solar lentigo, accompanied by meaningful improvements in patient QoL. The serum is effective across a broad range of demographics and skin phototypes. These findings support the use of the depigmenting serum in the management of diverse hyperpigmentation disorders.

Abstract N°: ID-865

Topic: Pigmentary disorders

Non-segmental acrofacial vitiligo in an adult female treated with ruxolitinib

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Introduction

Vitiligo is a chronic depigmenting disorder associated with a substantial psychosocial burden, particularly when it affects visible and cosmetically sensitive areas. Therapeutic management remains challenging; however, novel topical agents targeting immune-mediated pathways have demonstrated promising clinical outcomes. Ruxolitinib cream is a targeted immune-modulating therapy that inhibits Janus kinase (JAK) signaling, thereby reducing cutaneous inflammation and offering a novel treatment option for vitiligo.

Materials and Methods

A 53-year-old woman presented with progressive non-segmental acrofacial vitiligo involving the face, neck, dorsal aspects of the hands, and feet. The lesions had slowly expanded over a 20-year period. Previous treatments included topical corticosteroids, topical calcineurin inhibitors, and narrowband UVB (311 nm) phototherapy, all without clinical improvement. The patient was also receiving systemic therapy for arterial hypertension. Clinical examination revealed well-demarcated, irregularly shaped hypopigmented patches affecting the eyelids, perioral region, neck, hands, and feet. Mild erythema was noted at baseline. Topical ruxolitinib cream was subsequently initiated and applied twice daily to all affected areas. The patient was instructed to avoid the use of other topical products for at least two hours after application. Disease severity was evaluated using the Vitiligo Area Scoring Index (VASI) and Facial VASI (F-VASI) at baseline and after three months of treatment.

Results

At baseline, facial involvement was mild (F-VASI 0.16), while non-facial involvement was more pronounced (total non-facial VASI 1.32). After 3 months of treatment, facial vitiligo showed marked improvement, with F-VASI decreasing to 0.06 (62.5% reduction), achieving the F-VASI50 response threshold. Non-facial involvement improved more modestly, with total non-facial VASI decreasing to 0.84 (36.4% reduction), without reaching VASI50. No progression of depigmented areas was observed during follow-up. Quantitative changes from baseline to month 3 are summarized in **Table 1**.

Table 1. Changes in VASI scores from baseline to Month 3

Site	Baseline VASI	Month 3 VASI	Absolute change	Relative change (%)	Response threshold
Face (F-VASI)	0.16	0.06	−0.10	−62.5	F-VASI50 achieved
Hands (VASI)	0.58	0.36	−0.22	−38.0	VASI50 not achieved
Feet (VASI)	0.38	0.24	−0.14	−36.8	VASI50 not achieved
Neck (VASI)	0.36	0.24	−0.12	−33.0	VASI50 not achieved
Acral (hands + feet)	0.96	0.60	−0.36	−37.5	VASI50 not achieved
Total non-facial (hands + feet + neck)	1.32	0.84	−0.48	−36.4	VASI50 not achieved

Abbreviations: VASI, Vitiligo Area Scoring Index; F-VASI, Facial VASI.
Response definition: VASI50/F-VASI50 = ≥50% improvement from baseline.

Conclusions

Facial vitiligo responded more favorably than acral and other non-facial sites, achieving F-VASI50 at 3 months, while non-facial involvement showed moderate improvement. Topical ruxolitinib demonstrated good efficacy and tolerability, supporting its role as a targeted treatment option for vitiligo affecting cosmetically sensitive areas.

Abstract N°: ID-898

Topic: Pigmentary disorders

Efficacy and Safety of a Glycolic Acid-based Depigmenting Serum in Facial Post-Inflammatory Hyperpigmentation (PIH): A Prospective, Interventional Study in Indian Women

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[3]Sun Pharma Laboratories Limited, Mumbai, India

Introduction
Post-inflammatory hyperpigmentation (PIH) is a frequent dermatological concern, often impacting psychosocial well-being. Despite various depigmenting agents, effective and safe formulations remain limited. This study aimed to assess the efficacy and in-use safety of a glycolic acid-based depigmenting serum in healthy Indian female subjects with facial PIH.

Materials and Methods
A prospective, non-comparative interventional study was conducted in 128 female subjects (18–40 years) with Fitzpatrick skin types III–V and visible facial PIH. Test product was applied daily in the night with sunscreen in the morning for 84 days. Efficacy was evaluated using dermatological assessments including pigmentary intensity of hyperpigmented lesions, HASI (Hyperpigmentation Area and Severity Index) score, skin smoothness, melanin content of pigmentary spots through mexametry, skin brightening and skin tone through spectrophotometry, skin glow through glossymeter and subject-reported outcomes, along with safety evaluation. Change in tone evenness and skin brightness were expressed by ΔE and L* value, respectively. The study was registered on Clinical Trial Registry – India (CTRI/2025/02/081287).

Results
Of the total 128 subjects enrolled, 116 subjects completed the study. At day 84, significant improvements were observed in mean pigmentary intensity of hyperpigmented lesions from baseline with reduction from 3.03 to 2.19 (−27.06%,). Mean HASI score reduced from 5.30 to 2.68 (−48.49%), and skin smoothness improved by +35.31% at Day 84 compared to baseline. Mexametry showed a significant reduction of 4.35% in melanin content of pigmentary spot, while spectrophotometry showed significant improvement in skin brightness and even skin tone. Glossymeter analysis demonstrated a significant increase of 1.94% in skin glow ($p<0.001$). The direction and magnitude of change were internally consistent; a 27.1% reduction in pigmentary intensity, 48.5% reduction in HASI, 24.1% fall in ΔE and 2.5% rise in L*. Incremental gains in skin smoothness and glow, support the serum's robust, multi-domain benefit on PIH as well as overall skin quality. The serum was well appreciated through subject self-evaluation, and no adverse events were reported throughout the study.

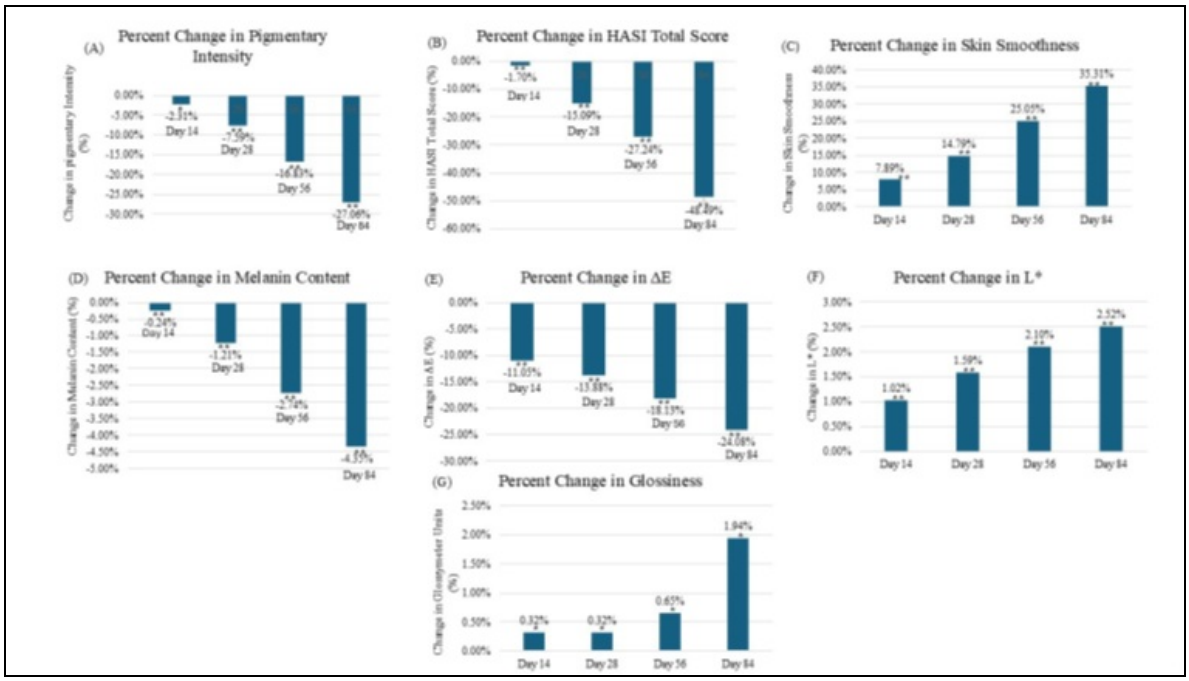

Figure 1. Study outcomes over the 84-day study period. Percent change in (A) mean pigmentary intensity; (B) HASI mean total score; (C) mean smoothness; (D) mean melanin content; (E) mean ΔE; (F) mean L* (G) Glossiness (mean Glossymeter Units) in the study subjects over time during the study period, expressed as percentage with reference to the value at baseline. Comparisons to baseline values were made using the Wilcoxon test. *p<0.01; **p<0.001

Conclusions

The glycolic acid-based depigmenting serum demonstrated clinically meaningful efficacy in reducing PIH and improving skin quality, with good tolerability and high user satisfaction. These findings align with evidence that PIH is persistent, cosmetically significant, and often recalcitrant. However, it is amenable to multi-modal topical regimens emphasizing melanogenesis modulation, barrier support, and strict photoprotection. Overall, it represents an effective and well accepted therapeutic option in the management of facial hyperpigmentation in Indian women.

Abstract N°: ID-900

Topic: Pigmentary disorders

Response of Combination Oral Isotretinoin and Q-Switched Nd:YAG Laser Toning in Lichen Planus Pigmentosus: A Retrospective Study in Skin Phototypes III, IV, and V

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Introduction

Lichen planus pigmentosus (LPP) is a chronic, relapsing pigmentary dermatosis characterized by insidious onset of diffuse or reticulate hyperpigmented macules, most commonly affecting sun-exposed and flexural areas. It predominantly involves individuals with darker skin phototypes and is frequently associated with significant cosmetic concern and psychosocial distress. Therapeutic management remains challenging due to ongoing interface inflammation, dermal melanophages, and the high risk of post-inflammatory dyspigmentation, especially in skin phototypes III–V. A combination approach targeting both inflammatory activity and pigment deposition may provide superior and sustained outcomes.

Objective:

To evaluate the therapeutic response, safety, and tolerability of a combination regimen comprising low-dose oral isotretinoin and Q-switched Nd:YAG LASER toning in patients with biopsy-proven LPP with skin phototypes III, IV, and V.

Materials and Methods

This retrospective study included eight histopathologically confirmed cases of LPP. All patients were women. One patient had skin phototype III, three had skin phototype IV, and four had skin phototype V. Oral isotretinoin was initiated at a dose of 20 mg daily for a duration of four months. In all patients, isotretinoin therapy was started only after a documented negative pregnancy test, with baseline liver function tests and lipid profile within normal limits. Adequate counseling regarding teratogenicity was provided, and strict contraception was advised throughout the treatment period.

Q-switched Nd:YAG LASER toning was performed at four-week intervals for a total of five sessions using the following parameters: wavelength 1064 nm, fluence 1.5 J/cm², spot size 8 mm, and frequency 5 Hz. All patients were additionally prescribed topical tacrolimus 0.1% once nightly.

Clinical evaluation was based on serial standardized clinical photographs, physician global assessment, and patient-reported outcomes. Therapeutic response was assessed four weeks after the final laser session. Adverse events, disease flares, and treatment tolerability were systematically recorded.

Results

All patients demonstrated measurable clinical improvement following combination therapy. Two patients achieved greater than 75% reduction in pigmentation, four patients showed approximately 50% improvement, and two patients exhibited around 25% improvement. Improvement was evident both in terms of color

lightening and uniformity of pigmentation. Patients with skin phototypes III and IV exhibited a more robust and faster response compared to those with phototype V.

Patient-reported outcomes correlated well with physician assessments, with most patients expressing high satisfaction due to visible lightening and stabilization of disease activity. Importantly, no significant adverse effects were observed. There were no instances of scarring, paradoxical hyperpigmentation, hypopigmentation, textural changes, or disease exacerbation during the treatment or follow-up period. Oral isotretinoin was well tolerated, with no clinically significant alterations in liver enzymes or lipid profile, and no patient required discontinuation of therapy.

Conclusions

The combination of low-dose oral isotretinoin and Q-switched Nd:YAG LASER toning appears to be a safe, well-tolerated, and effective therapeutic strategy for LPP in skin phototypes III, IV, and V. This multimodal approach targets both the inflammatory component and dermal pigmentation, facilitating pigment clearance while minimizing the risk of adverse effects commonly associated with laser therapy in darker skin. Although encouraging, these findings are limited by the small sample size and retrospective design. Larger, prospective, controlled studies are warranted to validate these results, determine optimal treatment parameters, and establish long-term efficacy and relapse rates.

EA SYMPOSIUM DV 2026
ATHENS 7 - 9 MAY

Abstract N°: ID-1053

Topic: Pigmentary disorders

A prospective cohort study to determine the prognostic factors in non-segmental vitiligo from a tertiary care centre.

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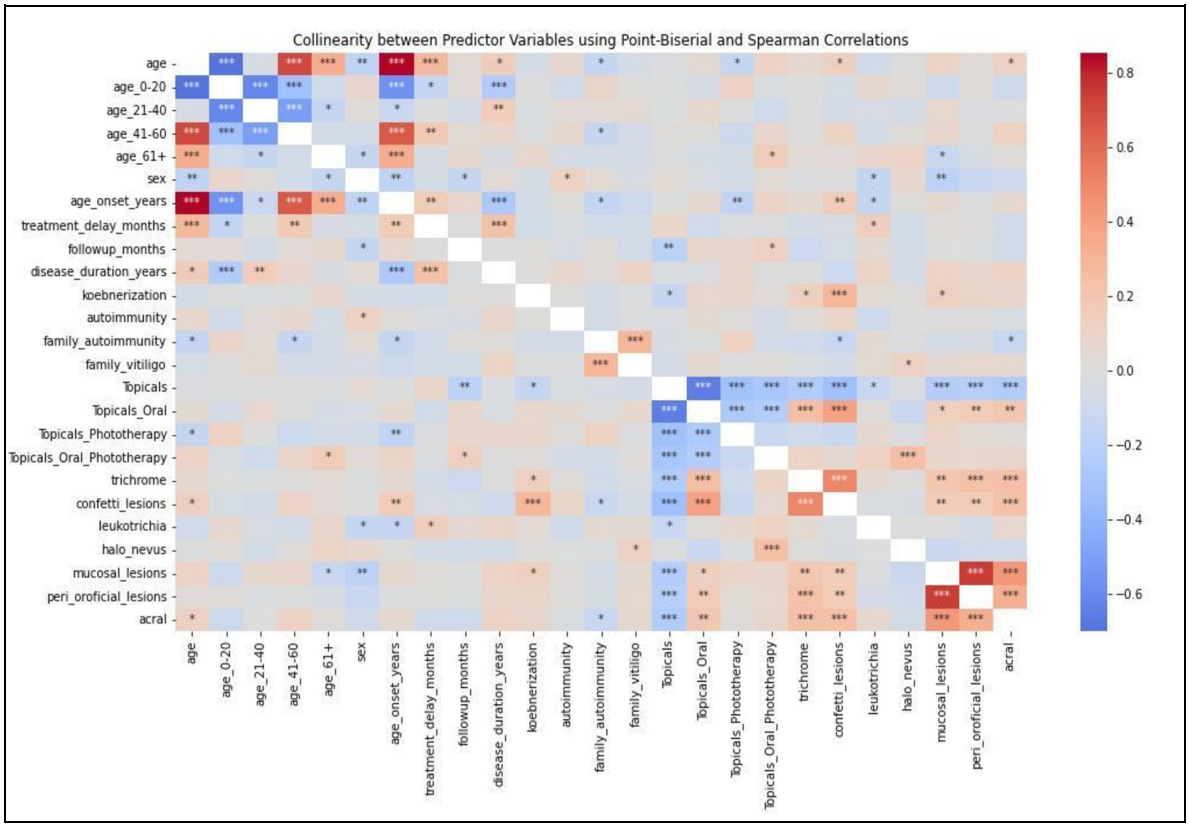
[2]Bioinformatics Scientist, TCS Research, Life Sciences R&D, Tata Research Development and Design Centre, Pune, India

Introduction

Non-segmental vitiligo (NSV) shows a highly variable and unpredictable course. Although clinical markers of activity such as Koebnerization, trichrome, and confetti lesions have been proposed, robust longitudinal data on their prognostic significance remain limited. Early risk stratification is essential to guide treatment intensity, counselling, and duration of therapy.

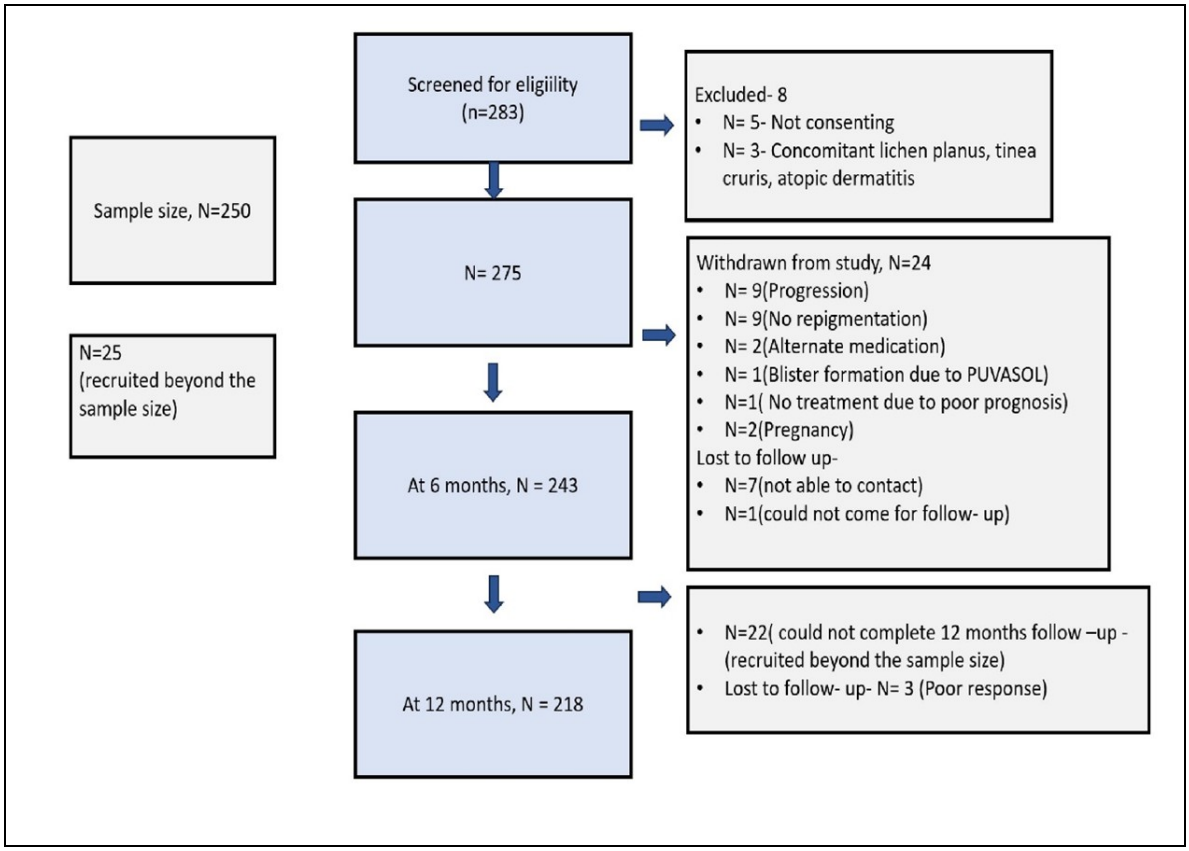


Heatmap showing collinearity among variables at baseline

Materials and Methods

This single-center prospective cohort study (July 2023–June 2025) enrolled 275 patients with clinically diagnosed NSV or mixed vitiligo. Detailed assessment of 16 variables—including age of onset, disease duration, treatment delay, autoimmune history, family history, leukotrichia, trichrome and confetti patterns, Koebnerization, and site involvement —was performed. Body surface area (BSA) was calculated using the Lund–Browder chart. Outcomes at 6 and 12 months included progression, extensive disease (≥5% BSA), repigmentation by Investigator Global Assessment, treatment dependency(new lesions with or without loss of previous repigmentation), Vitiligo Noticeability Scale (VNS), and quality-

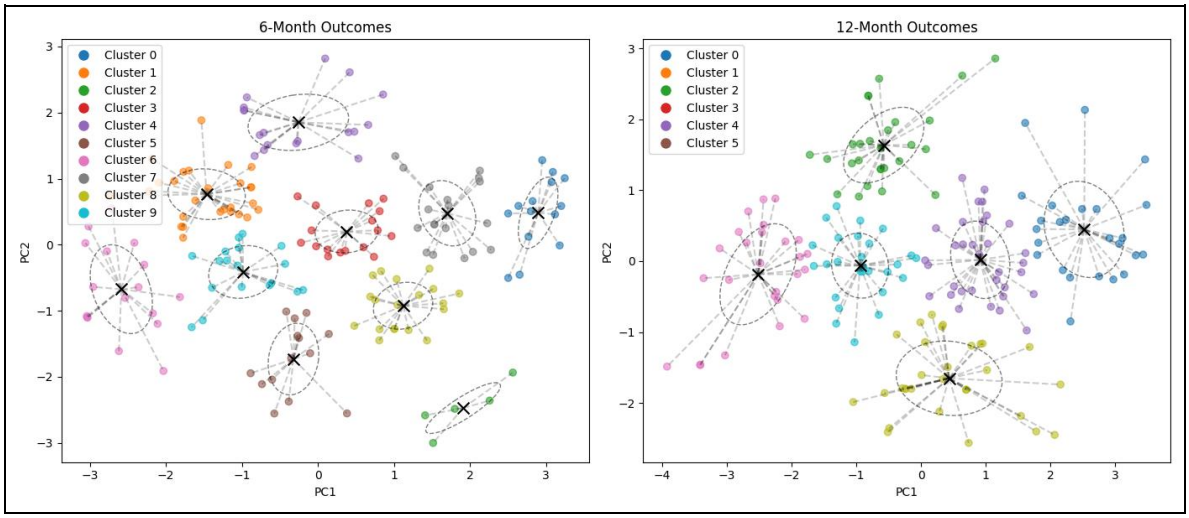
of-life measures (VISS-22, DLQI/C-DLQI, Family-VIS). Multivariable and cluster analyses were conducted.



The methodology of the study (CONSORT flowchart)

Results

Late onset disease was associated with larger baseline BSA, whereas early onset (0–15 years) was protective. Koebnerization, trichrome and confetti lesions, leukotrichia, acral and periorificial involvement strongly predicted greater disease extent at baseline and 12 months. Family history of autoimmunity emerged as a significant predictor of progression at 12 months (OR 3.15; p=0.03). Leukotrichia was the most consistent predictor of poor repigmentation at both 6 and 12 months (OR 2.50 and 2.71). Confetti lesions and trichrome pattern were significantly associated with treatment dependency across time points. Higher vitiligo noticeability was independently associated with leukotrichia and acral involvement, while combination therapy with oral immunosuppresant and phototherapy showed a protective effect. Early-onset disease and Koebnerization were linked to greater family psychosocial burden (F-VIS), whereas onset at 16–30 years, leukotrichia, mucosal and periorificial lesions were associated with poorer DLQI. Cluster analysis identified distinct phenotypes: clusters characterized by leukotrichia, confetti/trichrome patterns, and mucosal–acral involvement showed persistent disease activity, higher treatment dependency, and poorer quality of life, whereas clusters with minimal activity markers demonstrated better repigmentation and satisfaction.



Principal Component Analysis (PCA) of Clustered Patient Outcomes at 6 (a) and 12 Months (b) With Cluster

Centroids and Confidence Ellipses. Scatter plots display PCA-reduced representations of patient outcome profiles at 6 months (left) and 12 months (right). Each point represents an individual patient colored according to the assigned cluster. Black “X” markers denote cluster centroids. Dashed ellipses depict the 95% confidence boundaries for each cluster, and dashed lines connect individual patients to their respective centroids, illustrating intra-cluster cohesion.

Conclusions

Leukotrichia, trichrome and confetti patterns, Koebnerization, and mucosal/periorificial involvement are key indicators of poor prognosis, greater extent, and reduced repigmentation in NSV. Family history of autoimmunity predicts long-term progression and therapeutic dependence. Early-onset disease is associated with lesser extent but higher psychosocial burden in the family. Incorporation of these markers into routine assessment can enable early risk stratification, individualized treatment planning, and targeted counselling.

Abstract N°: ID-1093

Topic: Pigmentary disorders

Incidence of Cardiovascular Outcomes in People With Vitiligo: Evidence From a Large English Population-Based Cohort Study

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Introduction
Vitiligo is an autoimmune disease causing depigmentation, often with unsatisfactory treatment outcomes. As therapies evolve, robust epidemiological data are needed to contextualise adverse events. The relationship between vitiligo and cardiovascular disease is complex, with some studies suggesting reduced incidence. We examined 13 cardiovascular outcomes in the largest English vitiligo cohort to date.

Materials and Methods
People aged ≥12 years registered in CPRD Aurum between 2012-2023, with linked secondary care and death registration data, were eligible. People with vitiligo (cases) were identified and matched 1:5 with unaffected controls. Incidence rates (IRs) for cardiovascular events were calculated, and incidence rate ratios (IRRs) comparing cases with controls were estimated using Poisson regression, unadjusted and adjusted for age and sex.

Results
20,968 cases were matched to 102,948 controls. Baseline cardiovascular conditions were common in cases, including dyslipidaemia (12.1% vs 10.7% in controls), hyperlipidaemia (15.1% vs 14.2%), hypertension (16.4% vs 15.9%), and diabetes (7.4% vs 7.1%). Cases had similar or numerically lower IRs for some cardiovascular outcomes compared with controls; arterial thromboembolism (43.4 per 100,000 person-years; 95% CI [confidence interval]=31.4, 58.5 vs. 45.9; 95% CI=40.0, 52.4), heart failure (310.6; 95% CI=276.8, 347.5 vs. 347.9; 95% CI=331.2, 365.1), ischemic stroke (182.5; 95% CI=156.8, 211.2 vs. 232.8; 95% CI=219.3, 247.0), haemorrhagic stroke (53.6; 95% CI=40.1, 70.0 vs. 69.3; 95% CI=62.0, 77.3), and cardiovascular death (102.9; 95% CI=83.9, 124.9 vs. 137.2; 95% CI=126.9, 148.2). Adjusted IRRs showed a 14% lower incidence of heart failure (p=0.001), a 24% lower incidence of ischemic stroke (p<0.001), and a 29% lower incidence of cardiovascular death (p<0.001) in cases compared to controls.

Conclusions

Despite comparable cardiovascular risk factors at baseline, this study shows that cases did not demonstrate increased incidence of selected cardiovascular outcomes and associated mortality compared with controls. These findings support cardiovascular safety in vitiligo trials and guide personalised care in vitiligo.

Abstract N°: ID-1130

Topic: Pigmentary disorders

Non-cultured Cellular Grafting of Stable Vitiligo with Viticell™ System

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Introduction

Viticell™ is a CE certified bench-top system that is commerically available for non-cultured cellular grafting of vitiligo.

Materials and Methods

The aim of our study was to assess the safety and efficacy of the Viticell™ system for surgical treatment of stable vitiligo. We treated 5 patients with stable vitiligo during 1-year period. The duration of vitiligo in the patients varied between 5 to 10 years, and the stability between 3 and 8 years. The disease activity according to Vitiligo Disease Activity Score (VIDA) at the time of surgery was 0 in all cases. Two patients had segmental while the other three had vitiligo vulgaris. The recipient sites of the surgical grafting were face (n=3), neck and upper chest (n=1), and leg (n=1).

Results

There was no poor outcome. Repigmentation greater than 75% was recorded in all the patients treated. The color of the repigmented area when compared with the adjacent normally pigmented area were excellent in 3 patients and good in in the other 2 cases. No adverse effects were recorded.

Conclusions

Viticell™ is a simple, bench-top system that is safe and effective for surgical grafting of vitiligo. Compared to laboratory based techniques, this system is simpler, less time consuming, and does not require sophisticated equipment.

Abstract N°: ID-1197

Topic: Pigmentary disorders

Comorbidities associated with pediatric versus adult vitiligo. a review

Reham Doss*[1]

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Introduction
Vitiligo, a pigmentation disorder that affects approximately 0.5% to 2% of the world population. In the recent years, there is growing interest in the comorbidities associated with vitiligo.

Materials and Methods
A comprehensive search of MEDLINE and EMBASE from the inception to October 2025 was conducted.

Results
Studies revealed association between adult vitiligo and thyroid diseases, autoimmune diseases, diabetes mellitus, metabolic syndrome, sensorineural hearing loss, and ophthalmic abnormalities.

Evidence to date suggests that pediatric vitiligo is associated with an increased risk of atopic dermatitis, alopecia areata, autoimmune thyroid disease, psychiatric disease, and decreased quality of life.

Systematic review and meta-analysis in adults and children showed that compared with controls, vitamin E, vitamin D, and zinc levels were lower in vitiligo patients, selenium and folic acid were higher, and vitamin B12 and copper levels did not differ.

Bullying, difficulty making friends, and self-consciousness were among the reasons cited for high rates of depression and adjustment disorder seen in children with vitiligo.

The psychological burden of vitiligo underscores the importance of early psychosocial interventions, including counseling and support, to mitigate long-term mental health issues.

Conclusions
vitiligo in adults and children is associated with various systemic diseases. Physicians should evaluate and screen for the most prevalent comorbidities and nutritional deficiencies during the management of vitiligo.

Abstract N°: ID-1201

Topic: Pigmentary disorders

Use of Intradermal Undiluted Tranexamic Acid in the Treatment of Melasma: A 24-Week Prospective Observational Study

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[1]Bansal Hospital, Dermatology, Bhopal, India

Introduction

Melasma is a chronic acquired hyperpigmentation disorder with a multifactorial etiology, including ultraviolet radiation, hormonal influences, genetic predisposition, vascular factors, and inflammation. Despite the availability of multiple therapeutic options, melasma remains difficult to treat due to frequent relapses and variable response. Tranexamic acid (TA), an antifibrinolytic agent, has gained attention for its role in inhibiting ultraviolet-induced melanogenesis and melanocyte–keratinocyte interaction. While oral and topical formulations of TA have been extensively studied, data regarding the efficacy and safety of intradermal undiluted tranexamic acid injections, particularly with extended follow-up, remain limited. This study aimed to evaluate the clinical efficacy, patient satisfaction, and safety profile of intradermal undiluted tranexamic acid in patients with melasma over a 24-week period.

Materials and Methods

This prospective observational study included 16 patients diagnosed with melasma. The study population comprised 10 females (62.5%) and 6 males (37.5%), with Fitzpatrick skin types III to V. Patients received intradermal injections of undiluted tranexamic acid, administered as 1–2 units per session, at four-week intervals for a total of three sessions. All patients were advised strict photoprotection and regular sunscreen use. Clinical evaluation was performed at baseline and at Weeks 4, 8, 16, and 24. Treatment response was assessed using the modified Melasma Area Severity Index (mMASI) and patient satisfaction score. Adverse effects were recorded at each follow-up visit.

Results

The mean age of patients was 38.6 years (SD ± 5.1), with Fitzpatrick skin types ranging from III to V. The mean duration of melasma was 5.2 years (SD ± 1.9) and 43.75% of patients reported a positive family history. Minimal improvement in mMASI scores was observed at Week 4. Progressive reduction in mMASI scores was noted at Weeks 8 and 16, with statistically significant improvement achieved by Week 16 and sustained through Week 24. Patient satisfaction scores showed gradual improvement over time, with approximately 56% of patients reporting satisfaction by Week 8. The highest level of patient satisfaction was observed from Week 16 onward, with 75% of patients satisfied at Week 16 and 81% at Week 24. The treatment was well tolerated; mild transient injection-site bruising was observed in a few patients, with no serious or systemic adverse effects reported.

Conclusions

Intradermal undiluted tranexamic acid injections demonstrated significant clinical improvement in melasma with high patient satisfaction over a 24-week follow-up period. The intradermal route utilizes a substantially lower cumulative

dose compared to oral therapy, offering a favorable safety profile, particularly for patients with contraindications to systemic treatment. Maintenance therapy and strict photoprotection remain essential components of long-term melasma management. Larger controlled studies with longer follow-up are required to evaluate recurrence rates and long-term outcomes.

Abstract N°: ID-1260

Topic: Pigmentary disorders

Idiopathic intertriginous lentiginosis: an exceptional and misleading presentation

Romaissaa Boufetama*[1], Kawtar Diaa[1], Meriem Chaouki[1], Narjess Er-Rachdy[1], Najoua Ammar[1], Mariame Meziane[1], Nadia Ismaili[1], Laila Benzekri[1], Syrine Hamada[1]

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Introduction
Idiopathic intertriginous lentiginosis is an exceptionally rare benign condition characterized by pigmented macules confined to intertriginous areas, without drug-related or systemic association. This entity remains poorly recognized and may represent a true diagnostic challenge. Its recognition is essential to avoid unnecessary invasive investigations and to reassure patients.

We report the case of a 45-year-old woman with no significant medical history in order to highlight this poorly described entity and emphasize the importance of an accurate diagnosis.

Materials and Methods
N/A

Results
A 45-year-old woman with dark skin phototype and no medical or drug history presented with multiple, well-demarcated, asymptomatic hyperpigmented macules localized exclusively to the axillary, cervical, inframammary, and inguinal folds.

Dermoscopy revealed homogeneous and regular brown pigmentation without atypical structures. Histopathological examination confirmed an increased number of basal melanocytes without cytological atypia or signs of malignancy.

Conclusions
Discussion

Idiopathic intertriginous lentiginosis is a rarely reported entity in dermatological literature. The presentation observed in our patient is notable for its strictly intertriginous distribution and absence of medical or drug-related history, making it an exceptional observation.

In patients with dark skin, the wide spectrum of causes of intertriginous hyperpigmentation makes the differential diagnosis particularly challenging, highlighting the importance of a thorough clinical evaluation. Dermoscopy and histopathological examination play a key role in confirming the benign nature of the lesions.

This case emphasizes the need to include this rare entity in the differential diagnosis in order to avoid excessive investigations, inappropriate treatments, and unnecessary patient anxiety.

Idiopathic intertriginous lentiginosis is a benign but exceptional and diagnostically misleading condition. The present case of a 45-year-old woman with dark skin and no medical history contributes to expanding current knowledge by highlighting the importance of a rigorous diagnostic approach combining clinical examination, dermoscopy, and

histopathology.

Abstract N°: ID-1263

Topic: Pigmentary disorders

A retrospective audit on the addition of liposomal 0.2% tofacitinib spray to liposomal 0.2% spray tacrolimus and narrowband UVB in the treatment of facial vitiligo

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Introduction

Vitiligo is a common depigmenting skin condition characterised by the loss of melanin, caused in part by immune dysregulation leading to the destruction of melanocytes. It can be seen as disfiguring, with some patients reporting low self-esteem and negative body image. Current treatment options include topical agents and narrowband ultraviolet B (NB-UVB) phototherapy. Topical tacrolimus, an immunosuppressive calcineurin inhibitor, is commonly used for facial vitiligo and demonstrates partial efficacy when combined with NB-UVB. More recently, tofacitinib, a Janus kinase (JAK) inhibitor which inhibits the inflammatory signalling pathway, has demonstrated some benefit when used in combination with NB-UVB in one study. However, neither treatment combinations reliably result in repigmentation. Given the limited efficacy of existing regimens, this retrospective audit evaluates the addition of topical tofacitinib to a combination of topical tacrolimus and NB-UVB phototherapy in adults with treatment-resistant facial vitiligo.

Materials and Methods

This retrospective audit examined images of 12 patients with intractable facial vitiligo. All patients were over 18 years of age and had failed previous therapies, including topical tacrolimus 0.1%, topical ruxolitinib, NB-UVB phototherapy, or combinations of these treatments.

Patients were instructed to purchase a personal NB-UVB device for home use, as home-based phototherapy combined with topical agents has been shown to be safe and moderately effective. Treatment consisted of a liposomal formulation of tacrolimus 0.2% spray and tofacitinib 0.2% spray applied twice daily to the affected facial areas, in combination with NB-UVB phototherapy administered two to three times weekly. Patients were reassessed every three months, with photographs obtained at each visit. Treatment duration ranged from three to six months. Pre- and post-treatment F-VASI scores were compared to assess clinical response, and adverse effects were documented.

Results

Pre- and post-treatment F-VASI scores demonstrated improvement in most patients. Percentage repigmentation ranged from −2.3% to 97.4%, with a mean repigmentation of 46.7%. Eight of the twelve patients achieved more than 25% repigmentation, with three patients exceeding 80% repigmentation. The treatment was well tolerated, with mild burning sensations reported at the application site, consistent with the known side-effect profile of topical tacrolimus.

Conclusions

In this small retrospective audit, the combination of topical liposomal tacrolimus and topical liposomal tofacitinib with NB-UVB phototherapy appeared to be a safe and potentially effective treatment option for adults with treatment-resistant vitiligo. This triple-therapy regimen may offer improved clinical outcomes compared with previously used treatment combinations and provides evidence for the role of tofacitinib as an adjunct in vitiligo management. However, the findings are limited by the small sample size, and larger studies are required to confirm efficacy, durability of response, long-term safety, and cost-benefit implications.

Abstract N°: ID-1325

Topic: Pigmentary disorders

Comparative Efficacy and safety of topical 5% methimazole versus 2% hydroquinone in melasma: A randomized split-face clinical and dermoscopic study

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Introduction
Melasma is a common acquired hypermelanosis affecting sun-exposed areas, particularly in women with darker skin phototypes. Despite multiple therapeutic options, management remains difficult due to high recurrences and adverse effects associated with standard depigmenting agents. Hydroquinone, which remains the gold standard, acts by inhibiting tyrosinase and causing melanocyte damage. However, its melanocytotoxic mechanism is associated with irritant dermatitis, post-inflammatory hyperpigmentation, and concerns regarding mutagenicity lead to the search for safer non-cytotoxic alternatives. Methimazole, an antithyroid drug, inhibits melanogenesis by blocking copper-dependent tyrosinase activity without destroying melanocytes. Few studies suggest that topical methimazole is effective in melasma. However, controlled comparative studies, particularly incorporating dermoscopic evaluation, are limited. This study aims to compare the efficacy, safety, and patient satisfaction of topical 5% methimazole and 2% hydroquinone in melasma.

Materials and Methods
This randomized, single-blind, split-face study was conducted over 18 months after approval from the institutional ethics committee. Adult patients aged 18 years and above with melasma were enrolled after obtaining written informed consent. Patients who had used topical or systemic melasma treatments in previous month, pregnant or lactating women, those on oral contraceptives or photosensitizing drugs, were excluded. Each participant received topical 5% methimazole cream on the right side of the face and 2% hydroquinone cream on the left side, applied once daily at night for 12 weeks along with strict photoprotection. Clinical assessment was performed at baseline, 4, 8, and 12 weeks using the Hemi-Melasma Area and Severity Index. Dermoscopic evaluation was carried out at baseline and at week 12 using a polarized dermoscope, assessing pigmentary and vascular features. Adverse effects were recorded at each visit, and patient satisfaction was assessed at the end of treatment. Thyroid function tests were performed at baseline and after completion of therapy. Statistical analysis was performed using IBM SPSS version 27, and a p-value of less than 0.05 was considered statistically significant.

Results
75 patients were enrolled, with a marked female predominance and a mean age of 36.6 years. Centrofacial distribution was the most common pattern, and epidermal melasma constituted the majority of cases. Both methimazole and hydroquinone produced statistically significant reductions in mean Hemi-MASI scores from baseline to week 12 ($p < 0.01$). The mean Hemi-MASI score on the methimazole-treated side decreased from 7.97 ± 3.64 to 4.61 ± 2.70, while the hydroquinone-treated side showed a reduction from 7.47 ± 3.60 to 5.00 ± 2.72 (as shown in table). Dermoscopic evaluation demonstrated significant improvement in pigmentary and vascular features in both treatment arms. The total dermoscopic score decreased from 8.8 ± 2.2 to 3.9 ± 2.7 on the methimazole side and to 3.9 ± 2.5 on the hydroquinone side. Methimazole was associated with fewer adverse effects, with only one case of mild erythema and itching, whereas hydroquinone demonstrated higher frequencies of erythema and pruritus. Thyroid function parameters showed insignificant changes following treatment, indicating absence of transdermal absorption.

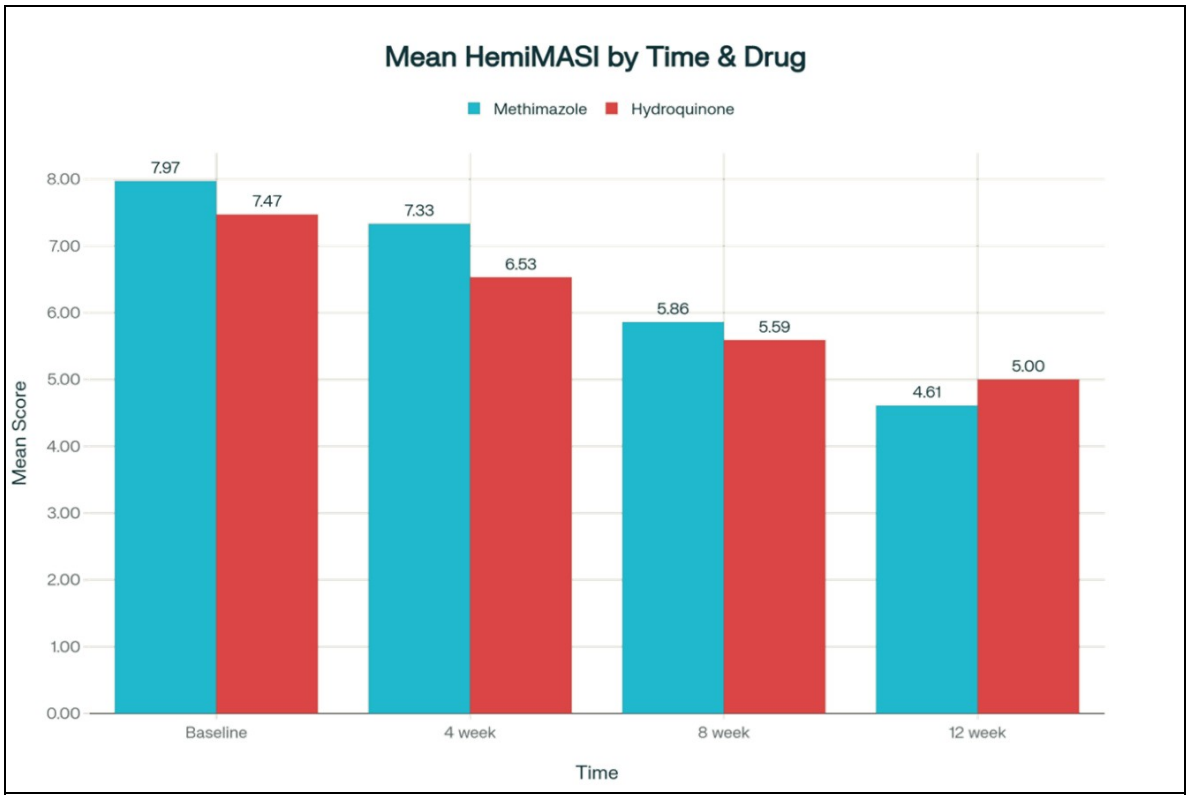

table showing decrease in mean hemi-MASI score from baseline to week 12

Conclusions

This study demonstrates that 5% methimazole is an effective treatment for melasma and offers marginally superior clinical improvement compared to 2% hydroquinone. Dermoscopic improvement closely paralleled clinical improvement, reinforcing the utility of dermoscopy as an objective tool in monitoring melasma treatment. Topical 5% methimazole is an effective, safe, and well-tolerated alternative to 2% hydroquinone in the treatment of melasma, particularly in patients who require prolonged therapy or are intolerant to hydroquinone.

Abstract N°: ID-1381

Topic: Pigmentary disorders

Facial melanosis -unveiling newer treatment options

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Introduction

Facial melanosis, a spectrum of common hyperpigmentary disorders including melasma, Riehl's melanosis, and lichen planus pigmentosus (LPP), presents a significant diagnostic and therapeutic challenge in dermatology. These conditions have a considerable psychological and social impact on individuals, particularly in patients with darker skin types. Traditional management strategies often face limitations, including variable efficacy and frequent relapses. The persistent nature of these disorders highlights the need for advanced therapeutic modalities.

Materials and Methods

A literature review was conducted to identify recent advances in the management of facial melanosis, with a focus on studies published between 2020 and 2025. The review synthesized data on the mechanisms of action and clinical outcomes of targeted delivery systems, new laser technologies, and novel oral medications.

Results

- Recent therapeutic advancements emphasize a multidisciplinary and combination approach. Key findings include:
    - **Novel Topical Agents:** The development of targeted delivery systems (e.g., nanoparticles) has enhanced the penetration and efficacy of active ingredients like cysteamine and tranexamic acid, minimizing side effects.
    - **Advanced Laser & Light Therapies:** Newer technologies such as picosecond lasers, fractional thulium fiber lasers, and non-ablative fractional lasers offer more precise melanin targeting with reduced risk of post-inflammatory hyperpigmentation (PIH) compared to older modalities.
- **Emerging Procedural Interventions:** Novel approaches like pulsed-type microneedling radiofrequency have shown promising results in treating recalcitrant cases, particularly Riehl's melanosis, by decreasing key inflammatory markers.
- **Systemic Therapies:** Oral tranexamic acid continues to show efficacy in reducing melanin production and preventing melasma recurrence.

Conclusions

The management of facial melanosis is evolving rapidly. As a dermatologist we have many options for treatment in our armamentarium. But which treatment is more effective, safe, tolerable and cost effective should be encouraged. The integration of advanced diagnostics, such as dermoscopy, with a tailored combination of newer topical agents, advanced laser systems, and innovative procedural techniques offers new hope for improved outcomes. A robust, individualized, and multidisciplinary treatment regimen is essential for managing this challenging condition effectively and enhancing the patient's quality of life. Continued research is vital to optimize these strategies.

Abstract N°: ID-1458

Topic: Pigmentary disorders

Facial pigmented lesions: dermoscopic patterns and diagnostic reasoning

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Introduction
Facial pigmented lesions pose a frequent diagnostic challenge due to the unique anatomy of facial skin, chronic sun exposure, and the high prevalence of benign lesions that can mimic melanoma. Features such as pseudo-network, follicular openings, and background erythema often obscure classical dermoscopic criteria. Accurate differentiation between benign and malignant lesions is essential to enable early melanoma detection while minimizing unnecessary excisions in cosmetically sensitive areas.
The objective of this review it to evaluate dermoscopic features of facial pigmented lesions and to propose a structured diagnostic reasoning framework for clinical practice.

Materials and Methods
A mini-systematic narrative review was conducted using PubMed databases. Articles published between January 2005 and December 2024 were included. Search terms combined “facial pigmented lesions,” “facial melanoma,” “lentigo maligna” and “dermoscopy”. Eligible publications included original studies, case series, and review articles describing dermoscopic findings of facial pigmented lesions. Data extraction focused on pigment distribution, follicular involvement, vascular background, and asymmetric structures. Findings were synthesized qualitatively.

Results
The literature indicates that benign facial lesions such as solar lentigines and seborrheic keratoses frequently display a pseudo-network pattern with regular follicular openings and homogeneous pigmentation. In contrast, malignant lesions, particularly lentigo maligna and early facial melanoma, demonstrate asymmetric pigmented follicular openings, rhomboidal structures, annular-granular patterns, and areas of gray or slate-colored pigmentation. Vascular background erythema and regression structures may further complicate interpretation, underscoring the need for systematic analysis. This review emphasizes the importance of adapting dermoscopic reasoning to the specific context of facial skin. Classical melanoma criteria may be absent or modified, necessitating reliance on subtle pigmentary asymmetry and follicular-based patterns. Structured evaluation focusing on pigment distribution, follicular alteration, and background features enhances diagnostic accuracy. Early recognition of lentigo maligna is particularly challenging yet essential, as delayed diagnosis may result in extensive surgical management. Dermoscopy should be integrated with clinical history, lesion evolution, and patient risk factors to guide biopsy decisions.

Conclusions
Dermoscopy significantly improves diagnostic accuracy for facial pigmented lesions when interpreted through structured, context-specific reasoning. Dermatologists should apply a dedicated diagnostic framework for facial dermoscopy to optimize early melanoma detection while preserving cosmetic outcomes.

Abstract N°: ID-1582

Topic: Pigmentary disorders

Double blinded randomized controlled trial to study the re-pigmentation in non-segmental vitiligo lesions using 0.1% tacrolimus, 0.2% tacrolimus, placebo in combination with excimer lamp

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Introduction

Abstract

Background

Vitiligo is a common depigmenting skin disorder and the pooled prevalence in various populations ranges from 0.2 to1.8%, with a relatively higher prevalence in African population. Excimer light acts synergistically in combination with 0.1% tacrolimus by improving the efficacy and decreasing duration of vitiligo treatment. Various studies have been done on patients with atopic dermatitis with higher concentrations of tacrolimus (0.3 % tacrolimus), despite loss of barrier function and chances of systemic absorption or toxicity. In the study we compare the efficacy of 0.1% tacrolimus, 0.2% tacrolimus and placebo in combination with excimer lamp in stable non-segmental vitiligo.

Materials and Methods

Aims and objectives

To compare the efficacy of two strengths of tacrolimus cream; 0.1% and 0.2% in combination with excimer light therapy in non-segmental vitiligo, and to assess the safety of higher strength (0.2%) tacrolimus.

Materials and methods

Study design: Double blinded randomized placebo-controlled trials conducted over a duration of 2 years from, June 2020 to June 2022 in the outpatient and phototherapy clinic of Dermatology and Venereology department at a tertiary care hospital.

Results

Results: A total of 22 patients with non-segmental stable vitiligo were allocated in the trial and 3 lesions in each patient

were block randomised to 3 arms; 0.1% tacrolimus, 0.2% tacrolimus and placebo in combination with excimer lamp. The mean age of the patient participated in the study was 28 ± 9 years. The mean duration of the disease was 8.9 ± 9 years and 68% patient had a stability less than or equal to 2 years. The body surface area (by rules of 9) was less. than or equal to 6% in all the patients and leukotrichia was present in 59.1% of the patches (13/22 lesions). The 3 arms received 0.1% tacrolimus cream, 0.2% tacrolimus cream and placebo cream application twice daily with twice weekly excimer. The re-pigmentation was noted twice monthly and the conclusions were drawn at the end of 3 months. All 22 patients were analyzed according to intention to treat analysis while 15 patients according to per protocol analysis as 6 patients were lost to follow up at various intervals and 1 patient was withdrawn from the study due to rapid progression of disease. There was no significant difference in the investigator global assessment, colour match, visual assessment score at the end of 12 weeks between the three arms. Graphical assessment of the patches were done and the median change in percentage re-pigmentation in various groups, 0.1% tacrolimus, 0.2% tacrolimus and placebo in combination with excimer lamp was 25.3%, 25%,33% respectively (p=0.2537), non-significant. VIS-22 scores at baseline was15 ± 1.6 years and 15± 1.8 years at the end of 12 weeks. There was no significant improvement in psychosocial burden of patients. (p=0.386). The most common adverse effects were erythema and mild itching (11% each) and other adverse effects noted were pain, blistering, herpes labialis, xerosis. 66% of the lesions did not develop any local adverse effects. Except one patient who developed mild transaminitis at 3 months, possibly unrelated, rest all the patients had normal blood investigations including routines and serum tacrolimus levels (ng/ml)

Conclusions

Limitations: Low sample size and heterogeneity in the lesional characteristics.

Conclusion: The combination therapy; 0.1% and 0.2% tacrolimus with excimer light was not superior in efficacy to placebo with excimer, and the monitoring of serum tacrolimus levels established the safety profile of 0.2% tacrolimus cream.

Abstract N°: ID-1596

Topic: Pigmentary disorders

Nevus Depigmentosus in Children: When Segmental Hypopigmentation is not Vitiligo

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Introduction

Nevus depigmentosus (ND) is a congenital hypopigmented disorder that frequently raises diagnostic confusion with segmental vitiligo in children.

We aimed to describe the **clinical, dermoscopic, and histological characteristics** of a pediatric ND cohort to identify practical diagnostic clue.

Materials and Methods

We conducted a **prospective study** including **32 pediatric patients** with histologically confirmed nevus depigmentosus. Clinical, dermoscopic, Wood's lamp findings, disease evolution and histology, were analyzed.

Results

Lesions were congenital or appeared in early infancy in most patients. The **segmental form was the most frequent presentation (53.1%)**. All lesions displayed **geographic borders (100%)**. The most frequently involved sites were the **upper limbs (21.9%)**, **face (18.8%)**, **lower limbs (12.5%)**, and the **inferior part of the trunk (12.5%)**.
Mucosal involvement was observed in **4 patients (12.5%)**. Clinical signs of **cutaneous mosaicism** were identified in **11 patients (35.5%)**. Disease evolution was **stable in 23 patients (71.9%)**, while **9 patients (28.1%)** showed progressive extension or increasing hypopigmentation. An **intercurrent triggering event** preceded onset or progression in **4 patients (12.5%)**, including **two serology confirmed viral infections (VZV, HSV)** and **two cases following vaccination**.
Wood's lamp examination consistently showed an **off-white accentuation (71.9%)**. Dermoscopy revealed a **uniform faint reticulate pigment network in 31/32 patients (96.9%)**. **White pseudopods** were observed in **7 patients (21.9%)**, **exclusively in lesions undergoing active extension**. **Blond hair** within lesions was frequent (**53.1%**), whereas true poliosis was rare.
Histology showed a **preserved melanocyte density in 100%**, confirmed by **Melan-A and HMB45 staining**, with **no CD8+ lymphocytic infiltrate**. Additionally, **three patients (9.4%)** presented an **ipsilateral café-au-lait macule larger than 3 cm**.

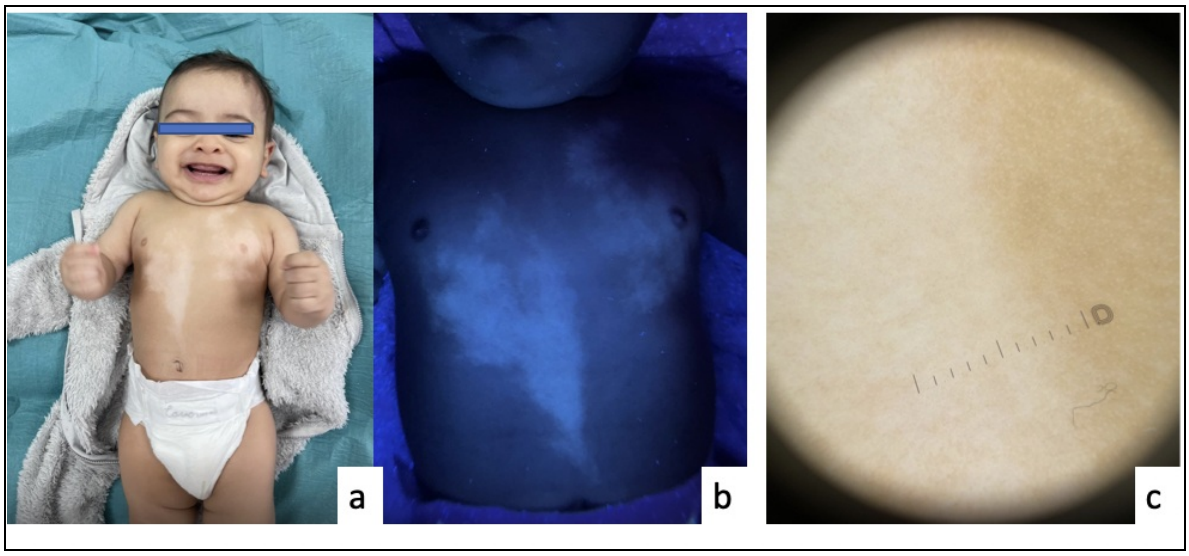

Fig a: Clinical presentation of a bi-segmental Naevus depigmnetosus in an infant, Fig b: Off white wood's lamp accentuation, Fig c: Dermoscopy showing a hypopigmented background with faint reticulate pigment network, and unclear geographic borders

Conclusions

This prospective pediatric series emphasizes that ND is a frequent and underrecognized cause of segmental hypopigmentation in children. The combination of **off-white Wood's lamp appearance**, geographic borders, **faint reticulate dermoscopic network**, lack of true poliosis, and **white pseudopods restricted to active lesions** represents a robust set of clues to distinguish ND from segmental vitiligo