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Il 18 settembre 2026 Milano diventerà il punto di riferimento della Dermatologia Rigenerativa internazionale ospitando il Terzo Congresso di Dermatologia Rigenerativa ISPLAD, un evento scientifico di grande rilevanza dedicato ai dermatologi che desiderano approfondire le più moderne conoscenze sulle patologie cutanee e sulle nuove frontiere terapeutiche rigenerative.
Negli ultimi anni la Dermatologia Rigenerativa ha assunto un ruolo sempre più centrale nella pratica clinica, proponendo una visione innovativa della medicina dermatologica: non limitarsi soltanto a trattare il sintomo o correggere un difetto estetico, ma aiutare realmente cellule e tessuti a recuperare equilibrio, funzionalità e capacità biologiche. Questo approccio sta modificando profondamente il modo di affrontare numerose condizioni dermatologiche, aprendo prospettive terapeutiche sempre più efficaci e rispettose della fisiologia cutanea. Il congresso ISPLAD 2026 sarà un'importante occasione di aggiornamento scientifico e confronto multidisciplinare. Particolare attenzione verrà dedicata alle patologie e alle terapie riguardanti le aree genitali, orali e oculari, distretti delicati e complessi che richiedono competenze specifiche e approcci terapeutici innovativi. Ampio spazio sarà inoltre riservato agli annessi cutanei — capelli e unghie — ambiti nei quali la ricerca dermatologica sta offrendo nuove possibilità diagnostiche e terapeutiche sempre più mirate.
Attraverso relazioni scientifiche, discussioni cliniche e confronto tra esperti, il congresso offrirà ai partecipanti un aggiornamento concreto sulle più recenti acquisizioni riguardanti rigenerazione cellulare, medicina antiaging, infiammazione cronica, terapie integrate e nuovi protocolli dermatologici.
ISPLAD continua così a confermare il proprio ruolo storico nella diffusione di una dermatologia moderna, scientificamente avanzata e orientata alla salute globale della pelle. In un'epoca in cui il concetto di longevità cutanea assume sempre maggiore importanza, la Dermatologia Rigenerativa rappresenta una delle evoluzioni più interessanti e promettenti della medicina contemporanea.
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On September 18, 2026, Milan will become an international reference point for Regenerative Dermatology by hosting the Third ISPLAD Congress of Regenerative Dermatology, a major scientific event dedicated to dermatologists wishing to deepen their knowledge of the most advanced developments in cutaneous diseases and innovative regenerative therapies.
In recent years, Regenerative Dermatology has taken on an increasingly central role in clinical practice, promoting a new vision of dermatologic medicine: not merely treating symptoms or correcting aesthetic imperfections, but truly helping cells and tissues recover balance, functionality, and biological vitality.
This approach is profoundly transforming the management of many dermatological conditions, opening new therapeutic perspectives that are both more effective and more respectful of skin physiology.
The ISPLAD 2026 Congress will represent an important opportunity for scientific updating and multidisciplinary discussion. Particular attention will be devoted to diseases and therapies involving the genital, oral, and ocular areas, highly delicate and complex districts that require specific expertise and innovative therapeutic approaches. Significant focus will also be dedicated to skin appendages — hair and nails — fields in which dermatologic research is providing increasingly targeted diagnostic and therapeutic solutions.
Through scientific lectures, clinical discussions, and exchanges among experts, the congress will offer participants a practical and up-to-date overview of the latest advances in cellular regeneration, anti-aging medicine, chronic inflammation, integrated therapies, and innovative dermatologic protocols.
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L'evoluzione delle conoscenze in fisiopatologia cutanea, epigenetica e tecnologie diagnostico-terapeutiche (dermatoscopia, laser, ecografia) richiede un costante aggiornamento per garantire appropriatezza clinica e sicurezza degli interventi. Persistono infatti criticità nella gestione integrata delle patologie dermatologiche e nell'utilizzo consapevole delle tecniche estetiche e rigenerative.

Il programma affronta in modo multidisciplinare tematiche cliniche e applicative, favorendo l'integrazione tra diagnosi, terapia e dermocosmesi, con l'obiettivo di migliorare le competenze professionali e gli outcome dei pazienti.

L'evento si propone quindi di fornire strumenti pratici e aggiornati per una gestione efficace, personalizzata e basata sull'evidenza delle principali condizioni dermatologiche.

PROGRAMMA:

08:30	Registrazione	
09:00	Saluti delle autorità, apertura lavori e introduzione al Congresso	Renato Ancorotti, Emanuele Monti, Alessia Cappello, Antonino Di Pietro
	Modera: Cristina Milanesi	
09:15	**Tavola Rotonda** "This is Bellezza ": il ruolo della Cosmesi Italiana nel mondo. Dalla ricerca e innovazione alla sinergia con i dermatologi.	Benedetto Lavino, Luigi Corvi, Simone Dominici, Antonino Di Pietro
	Moderatori : Marco Fumagalli, Mariuccia Bucci	
10:00	La corretta comunicazione commerciale del dermocosmetico: il ruolo dell'Autodisciplina Pubblicitaria	Vincenzo Guggino
10:30	Dalla dermatoscopia all'istologia della regione oculare e orale	Giulio Ferranti
10:40	Dermatoscopia delle mucose	Sabina Vaccari
11:00	*Coffee break in Sala Orlando*	
	Moderatori: Alda Malasoma, Andrea Romani	
11:30	Patologie autoimmuni allergiche del cavo orale	Ornella De Pità
11.40	Kaposi della regione orale e genitale	Lucia Brambilla
12:00	Le mucose nelle patologie bollose autoimmuni	Luca Bettolini
12:10	Side effects da trattamenti estetici: il focus sulle labbra	Giovanni Damiani
12:20	Cheiliti e stomatiti rare	Stefano Veraldi

12:40	Correlazioni clinico-patologiche di patologie vulvari	Franco Rongioletti
12:50	Tecniche rigenerative delle mucose genitali	Veronica Boero
13:00	Discussione	
13:15	*Lunch in Sala Orlando*	
	Moderatori: Elisabetta Perosino, Marco Guizzardi	
14:30	Ecografia del volto nelle complicanze da filler in zone critiche	Chiara Lovati
14:40	La regione orale: tecniche antiaging, rigenerative e ricostruttive	Nikola Drmac
14:50	La cosmesi della regione genitale: detersione e protezione	Corinna Rigoni
15:00	Rigenerazione del distretto perioculare: tecniche combinate	Marina Romagnoli
15:10	Discussione	
	Moderatori: Marina Romagnoli, Luigi Esposito	
15:20	Riprogrammare la pelle: l'asse epigenetica–microRNA come motore della dermatologia rigenerativa nelle condizioni atrofiche e nell'invecchiamento, dal modello tricologico alla pratica clinica	Fabio Rinaldi
15:30	Alopecie delle ciglia e delle sopracciglia	Sandra Lorenzi
15:40	Giant scalp sarcoma: stage incision and hair restoration	Piero Tesauro
15:50	Tatuaggi cosmetici (eye-liner, sopracciglia, lip-liner, tricopigmentazione): news su asportazione con laser pico e Co2 frazionato	Giuseppe Scarcella
16:00	Discussione	
	Moderatori: Giovanni Chiarelli, Davide Valentini	
16:10	Dye laser e mucose	Nikola Drmac
16:20	Tecniche di allungamento e ingrossamento del pene	Alessandro Littara
16:30	Fosfatidilcolina e desossicolico nel trattamento dei lipomi	Delia Colombo
16:40	Laser e tecniche rigenerative: nuove sinergie	Enrico Bernè
16:50	La retronichia: up to date	Giuseppe Cannata
17:00	Discussione	
17:30	Chiusura lavori e compilazione questionari	
18:00	Fine congresso	

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Topical Combination Therapies in Plaque Psoriasis: A Lesion-Oriented Prospective single-center Study and Narrative Review

Ornella De Pità

Ornella De Pità[1], Francesca Lupi[2], Gianluca Pagnanelli[3], David Longhino[1], Fabio Romano Selvi[4]

ABSTRACT

Background:
Chronic plaque psoriasis is clinically heterogeneous, and both plaque morphology and anatomical site can influence response to topical treatment. Thick, hyperkeratotic, or otherwise treatment-refractory plaques often require strategies that improve drug penetration while addressing both inflammation and scale.
Objective:
To summarize a practical, lesion-oriented approach to topical management of chronic plaque psoriasis and to describe a single-center prospective observational experience evaluating an induction-to-maintenance sequence in patients with localized plaques of different clinical morphology.
Material and methods:
A narrative review of recent literature on topical therapies for chronic plaque psoriasis was performed, with emphasis on lesion-tailored treatment selection according to plaque thickness, scaling, anatomical site, and previous local response. In addition, 40 adults with mild-to-moderate plaque psoriasis were observed over 28 days. Patients with markedly thickened and scaly plaques received 7 days of a multi-component ointment containing betamethasone, salicylic acid, and ichthammol followed by 21 days of calcipotriol/betamethasone foam, whereas patients with more erythematous and less scaly plaques received calcipotriol/betamethasone foam for the entire observation period. PGA and DLQI were summarized descriptively.
Results:
Standard topical options, including corticosteroids, vitamin D analogues, calcineurin inhibitors, keratolytics, and emollients, remain central to the management of mild-to-moderate psoriasis and as adjuncts in more severe disease. In the clinical dataset, PGA improved from 2.5 [2.0–3.0] at baseline to 1.0 [0.8–2.0] at day 28 in the sequential-treatment group and from 3.0 [2.0–4.0] to 1.0 [0.0–2.0] in the calcipotriol/betamethasone-only group. DLQI improved from 15.5 [12.0–21.0] to 6.5 [4.0–11.8] and from 9.0 [6.0–14.3] to 0.0 [0.0–3.5], respectively. Earlier visible improvement by day 7 was observed in thickened plaques treated with the induction-to-maintenance sequence. Both approaches were well tolerated, with no treatment discontinuations.
Conclusions:
A lesion-oriented framework can support more individualized topical therapy in chronic plaque psoriasis. Multi-component regimens that pair anti-inflammatory therapy with scale-reducing measures may be particularly useful for selected patients with hyperkeratotic or treatment-resistant plaques when integrated into a structured induction-to-maintenance plan.

Keywords: **plaque psoriasis; topical therapy; combination therapy; hyperkeratotic plaques; corticosteroids; salicylic acid; lesion-oriented treatment.**

INTRODUCTION

Psoriasis is a chronic, immune-mediated inflammatory disease in which plaque thickness, scale, and site of involvement vary widely from patient to patient and even from lesion to lesion. Although systemic and biologic therapies have expanded treatment options, topical treatment remains the mainstay for mild-to-moderate plaque psoriasis and still has an important adjunctive role in more extensive disease. Recent expert recommendations on topical therapy for psoriasis have emphasized that plaque morphology and lesion site should guide treatment selection, particularly when plaques are thick, hyperkeratotic, or otherwise difficult to clear (1).

Furthermore, current AAD-NPF guidance continues to place topical therapy at the center of care for mild-to-moderate plaque psoriasis and as an important adjunct in more extensive disease (2).

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Fixed-dose corticosteroids/vitamin D analogues combinations are at the core of contemporary topical treatment because they provide faster and more consistent disease control than either component alone in many patients (3). Topical corticosteroids remain widely used because of their anti-inflammatory, antiproliferative, and vasoconstrictive properties, although prolonged use is limited by cumulative local adverse effects (4).

Contemporary reviews have highlighted the need to tailor vehicle, potency, and combination strategy to plaque thickness, scale burden, and anatomical site rather than relying on disease extent alone (5,6).

At the same time, the therapeutic landscape has broadened with systemic and biologic agents for more extensive disease, which has made the residual role of optimized topical therapy even more relevant in mixed and adjunctive treatment pathways (7).

Novel non-steroidal topical agents such as tapinarof and roflumilast further expand the available armamentarium, although their real-world positioning relative to traditional combination regimens is still evolving (8). Despite these advances, treatment satisfaction and adherence remain suboptimal in routine practice, especially when response is slow, plaques are thickened, or regimens are perceived as cumbersome (9).

Against this background, a lesion-oriented framework may be useful. Rather than choosing topical treatment on disease severity alone, clinicians may also tailor therapy to plaque thickness, degree of scaling, anatomical site, and previous local response. In this narrative review, we discuss the current role of topical combination therapy in psoriasis, with particular attention to difficult-to-treat, hyperkeratotic plaques, and we consider where a fixed combination of betamethasone, salicylic acid, and ichthammol may fit within this clinically grounded approach.

Material and Methods

This narrative review was conducted to examine the current role of topical combination therapies in the management of plaque psoriasis, with particular emphasis on commercially available formulations and their clinical use in relation to plaque morphology and treatment resistance.

A literature search was performed using PubMed and relevant dermatology journals. The search focused mainly on publications from the last five years, including clinical guidelines, narrative reviews, real-world studies, and pivotal clinical trials addressing topical therapies for psoriasis.

Search terms included combinations of psoriasis, topical therapy, combination therapy, fixed-dose combination, corticosteroids, vitamin D analogues, retinoids, keratolytics, and hyperkeratotic plaques. Additional references were identified through manual screening of the bibliographies of key articles.

Priority was given to clinical guidelines, narrative reviews, real-world studies, and pivotal trials addressing topical combination therapies with direct clinical applicability. Articles focusing exclusively on systemic therapies, biologics, or experimental delivery systems without immediate relevance to routine topical management were excluded. No formal quality assessment or quantitative synthesis was performed, in keeping with the narrative scope of the review.

Within this framework, a fixed combination of betamethasone, salicylic acid, and ichthammol was included as an illustrative example of a multi-component topical formulation and discussed in relation to its pharmacological rationale and potential positioning in patients with thickened or treatment-resistant plaques.

In addition, we conducted a single-center prospective observational study including 40 adult patients with mild-to-moderate plaque psoriasis and localized plaques with different clinical morphology.

Patients were allocated to two treatment groups according to plaque phenotype.

Group A included patients with markedly thickened and scaly plaques and received a 7-day induction treatment with a multi-component ointment containing betamethasone, salicylic acid, and ichthammol, followed by 21 days of calcipotriol/betamethasone foam.

Group B included patients with more erythematous and less scaly plaques and received calcipotriol/betamethasone foam for the entire 28-day observation period. PGA was assessed at baseline and day 28, while DLQI was assessed at baseline and day 28. Clinical appearance was also evaluated at day 7 to document early visible response. Data were analyzed descriptively after anonymization.

No inferential statistical comparisons were planned a priori, and no hypothesis testing is presented.

Ethical considerations.
The clinical experience was conducted in accordance with the principles of the Declaration of Helsinki. All patients provided informed consent for treatment and for the anonymized use of clinical data. When clinical images were used, specific consent for anonymized image publication was obtained. Given the observational and descriptive nature of the dataset and the use of anonymized data collected during routine clinical care, formal ethics committee approval was not required according to local/institutional policy.

Statistical analysis.
Continuous variables were summarized using descriptive statistics. PGA and DLQI values were reported as median and interquartile range, unless otherwise specified. Absolute changes from baseline were calculated for PGA and DLQI at the end of follow-up. Categorical variables were summarized as absolute numbers and percentages. Given the exploratory and descriptive nature of the clinical dataset, no formal sample size calculation was performed and no inferential between-group hypothesis testing was planned. All analyses were performed on anonymized data.

Results

Topical options and the rationale for combination therapy

Emollients remain a basic component of psoriasis management and should be used in all patients to support barrier repair, reduce scaling, and improve the tolerability of active topical agents (1,3,6). Urea and salicylic acid may also assist descaling and improve penetration when hyperkeratosis is prominent (1,6).

Topical corticosteroids continue to provide the most reliable short-term anti-inflammatory effect in plaque psoriasis, but long-term use is constrained by the risk of atrophy, telangiectasia, and other local adverse effects, particularly in sensitive anatomical sites (3,4). Representative examples of corticosteroids by potency class are reported in **Table 1.**

Representative examples of topical corticosteroids by potency class

Class (potency)	Representative topical corticosteroid
I (super high)	Clobetasol propionate 0.05%
II (high)	Betamethasone dipropionate 0.05%
III (moderate)	Fluticasone propionate 0.05%
IV (low)	Hydrocortisone 1%

Topical vitamin D analogues are especially valuable for longer-term control because of their favorable safety profile, although they are slower than corticosteroids and may be less effective as monotherapy in highly inflammatory or hyperkeratotic lesions (2,3,6).

This is one reason why corticosteroid-vitamin D combinations have become so widely adopted (3).

Other agents continue to have a role in selected situations. Tazarotene may help reduce plaque thickness but can be irritating, which often favors its use in combination with corticosteroids.

Topical calcineurin inhibitors are useful off-label in the face, genital area, and intertriginous regions as steroid-sparing options (3,5,6).

New non-steroidal agents such as tapinarof and roflumilast offer promising alternatives for patients who wish to reduce corticosteroid exposure, although comparative long-term real-world data remain limited (5,8).

Taken together, the available literature supports a practical principle: monotherapy is often insufficient in thick, scaly, or recalcitrant plaques because penetration is impaired and a single mechanism rarely addresses all clinically relevant components of the lesion.

Combination therapy can therefore be positioned not only as a way to increase efficacy, but also as a way to simplify care and improve adherence by reducing the number of products needed (1-3,5,6,9).

Practice-based illustrative clinical experience

To illustrate how a lesion-oriented strategy may translate into routine care, we present our experience in 40 adults with mean age of 53.0 (range 32.0 – 62.0), with mild-to-moderate psoriasis, of which half were characterized by thickened plaques.

Patients were accordingly divided in two groups, A and B, both of which included n=20 patients and followed for a period of 28 days.

Patients in Group A exhibited markedly thickened plaques and received an induction-to-maintenance sequence consisting of 7 days of a multi-component ointment containing betamethasone, salicylic acid, and ichthammol followed by 21 days of calcipotriol/betamethasone foam, while patients in Group B were instead affected by more erythematous, less scaly plaques and were thus treated with calcipotriol/betamethasone foam alone for the whole observation period.

PGA values showed marked decrease in both groups: 2.5 [2.0–3.0] at baseline to 1.0 [0.8–2.0] at day 28 in the sequential-treatment group and from 3.0 [2.0–4.0] to 1.0 [0.0–2.0] in the calcipotriol/betamethasone-only group. As for DLQI, this also seemed to comparably improve in both groups over the treatment period, with patients in groups A and B getting from a median score of 15.5 [12.0–21.0] to 6.5 [4.0–11.8] and from 9.0 [6.0–14.3] to 0.0 [0.0–3.5], respectively.

In descriptive terms, the sequential approach appeared to produce earlier visible improvement by day 7 in plaques characterized mainly by thickness and scaling, while overall improvement was maintained through day 28.

Both approaches were well tolerated, and no treatment discontinuations were recorded during the 28-day observation period.

Clinical data for both groups are reported in **Table 2**.

No formal inferential comparisons between groups were performed.

Table 2. Clinical dataset

Parameter	Group A: Betamethasone-salicylic acid-ichthammol ointment + calcipotriol-betamethasone foam	Group B: calcipotriol-betamethasone foam
PGA		
Baseline	2.5 [2.0 - 3.0]	3.0 [2.0 - 4.0]
28 days	1.0 [0.8 - 2.0]	1.0 [0.0 - 2.0]
Absolute variation (ΔPGA)	1.15 [0.5 - 2.0]	1.60 [1.0 - 2.0]
DLQI		
Baseline	15.5 [12.0 - 21.0]	9.0 [6.0 - 14.3]
28 days	6.5 [4.0 - 11.8]	0.0 [0.0 - 3.5]
Absolute variation (Δ DLQI)	8.0 [5.3 - 11.8]	7.9 [4.5 - 12.0]

Because these data were collected as part of routine care and are presented without inferential testing, they should be interpreted as illustrative and hypothesis-generating rather than as evidence of comparative efficacy.

Discussion

Topical combination therapy has become central to plaque psoriasis management because it can address several clinically relevant features of the lesion at the same time: inflammation, abnormal keratinocyte proliferation, barrier dysfunction, and excess scale (1-3,5,6). In routine practice, established fixed-dose combinations work well for many patients, but thick, long-standing plaques remain a common reason for partial response or early relapse.

In these lesions, the problem is not only ongoing inflammation.

The scale burden itself matters because a markedly thickened stratum corneum can limit both quality of life (especially when plaques involve extensor surfaces such as elbows and knees, or other functionally relevant sites) and penetration of topical drugs, thus reducing the effectiveness of otherwise appropriate therapy (1,5,6). From that perspective, a formulation combining betamethasone, salicylic acid, and ichthammol is clinically plausible for plaques in which both inflammation and hyperkeratosis are prominent. Betamethasone provides rapid anti-inflammatory activity, salicylic acid helps reduce scale and may improve access of the corticosteroid to the target tissue, and ichthammol may add a supportive anti-inflammatory and soothing effect in patients who undergo repeated treatment cycles or are prone to irritation.

The practice-based descriptive experience included in this manuscript fits this rationale. In our dataset, both treatment pathways were associated with clinical improvement over the 28-day observation period. However, the two groups differed in baseline plaque morphology and were not intended for direct comparative efficacy assessment.

The value of these observations is therefore not to establish superiority of one regimen over another, but to illustrate how plaque thickness and scaling may guide topical treatment sequencing in routine practice. An initial short induction phase aimed at reducing thickness and scale before transition to maintenance therapy is coherent with a lesion-oriented approach, particularly in patients whose plaques show prominent hyperkeratosis and impaired topical drug penetration.

At the same time, the present dataset remains descriptive and hypothesis-generating and cannot establish comparative efficacy.
More broadly, the literature still supports corticosteroid-vitamin D combinations as the best-established topical strategy, and guidelines rightly place them at the center of routine care (2,3).
Even so, real-world experience suggests that a subset of patients with thick, persistent plaques does not achieve satisfactory control with standard topical regimens alone. In these cases, simplicity also matters.
Regimens that reduce the number of products and produce visible improvement early may be easier for patients to continue, especially when prior topical treatments have been slow or frustrating (9).
The main limitation of the current literature is that most evidence comes from product-specific trials, whereas direct comparisons between different combination strategies and data on sequencing or plaque-specific treatment selection remain scarce (1,5,6).
For formulations such as betamethasone/salicylic acid/ichthammol, further comparative and real-world studies are needed to define efficacy, tolerability, and positioning alongside established fixed-dose combinations.
This manuscript also has limitations.
It is a narrative review rather than a systematic review, and the accompanying clinical dataset is illustrative, non-randomized, and descriptive. Moreover, treatment groups were defined according to plaque morphology rather than random allocation, and no inferential comparison was planned.
Nevertheless, these limitations do not negate the underlying clinical message: plaque thickness, site, tolerability, and prior local response remain sensible anchors for topical treatment choice.

Conclusions

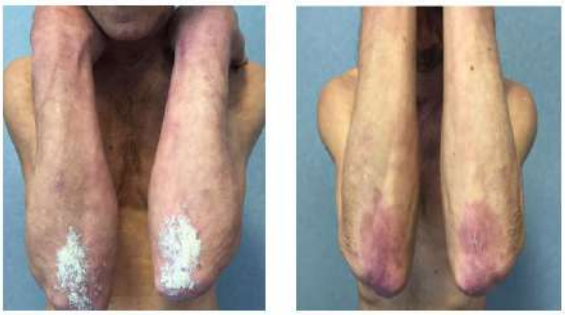
Topical combination therapies play a central role in the management of plaque psoriasis because they address multiple pathogenic and structural components of the lesion simultaneously.
Their clinical use should be guided by plaque morphology, anatomical location, and previous local response rather than disease severity alone.
A lesion-oriented approach to topical therapy selection may help optimize outcomes, simplify care, and reduce unnecessary treatment escalation.

Summary

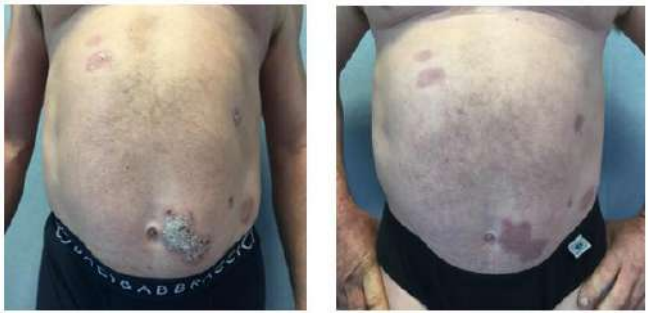
This manuscript reviews the role of topical combination therapy in plaque psoriasis through a lesion-oriented perspective. The available literature supports the continued centrality of topical corticosteroids, vitamin D analogues, keratolytics, and supportive skin care, while also showing that plaque thickness, scale burden, and anatomical site meaningfully affect treatment response. Standard corticosteroid-vitamin D combinations remain the best-established topical strategy, but thick and hyperkeratotic plaques often require additional descaling or penetration-enhancing measures. Within this framework, a multi-component formulation containing betamethasone, salicylic acid, and ichthammol may be considered for selected localized but difficult-to-treat plaques. A brief practice-based descriptive experience suggests that an induction-to-maintenance sequence may help achieve earlier visible improvement in thick plaques, although these observations should be regarded as illustrative and hypothesis-generating.
Overall, a lesion-oriented approach may improve the individualization of topical therapy and support more durable local disease control.

Figure 1.
Patients from Group A (A1, 2; B1, 2) exhibiting thickened plaques, before and after sequential approach.
Patients from Group B (C1, 2; D1, 2) are shown below, characterized by more erythematous, less scaly plaques, before and after standard combination treatment.
For each patient, image1 shows the clinical status before treatment began, while image 2 shows the results after treatment.

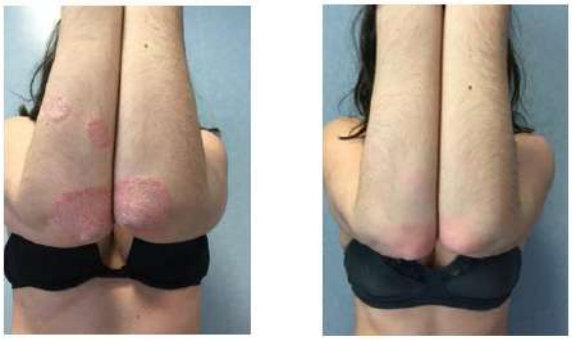
A, 1,2



B, 1,2



C, 1,2



D, 1,2

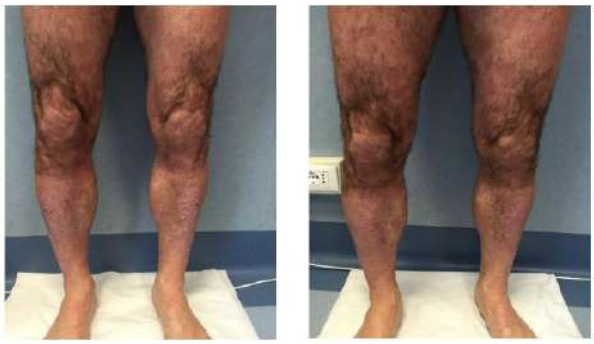
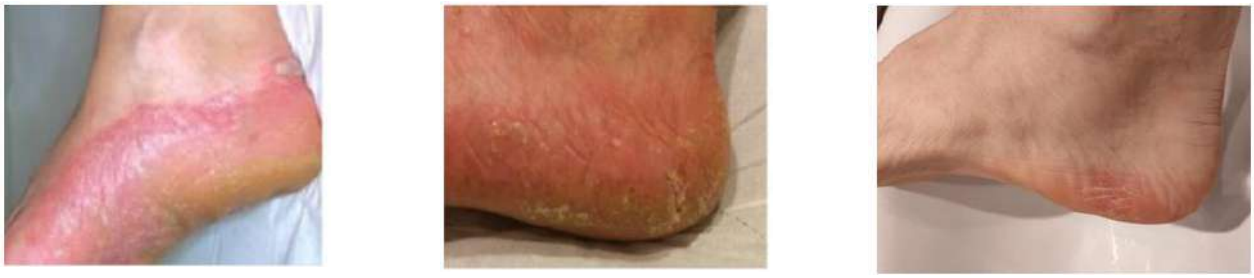


Figure 2. Sequential approach results starting from baseline, day 7 and at day 28 (from left to right) in a patient from Group A.



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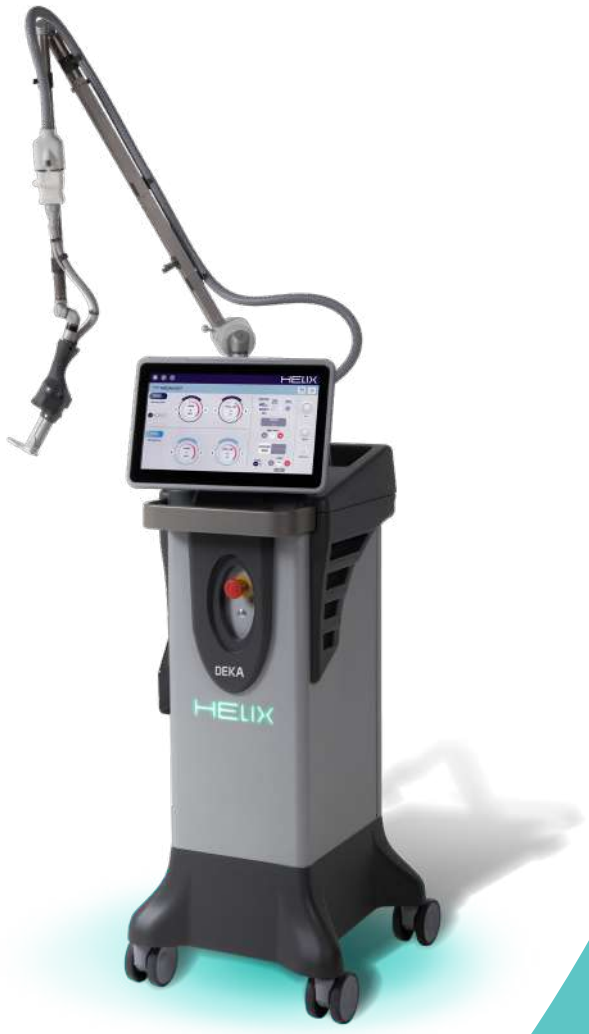

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Efficacy study on a new formulation for acneic skin

Antonino Di Pietro

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SOMMARIO

L'obiettivo primario della presente sperimentazione clinica è stato quello di valutare se una nuova formulazione cosmetica abbia un effetto nel ridurre la visibilità degli inestetismi causati dall'acne e nel riequilibrare il livello di sebo. L'attività del prodotto è stata valutata analizzando la riduzione del sebo e della visibilità delle imperfezioni dell'acne. È stato quindi condotto uno studio clinico e il prodotto oggetto del test è stato assegnato a 20 soggetti con pelle mista e grassa, presenza di acne, pelle sensibile.
Questi ultimi hanno applicato il prodotto a loro consegnato sul viso, 2 volte al giorno per 14 giorni consecutivi.
Specifiche variabili di endpoint sono state analizzate al tempo basale (prima dell'uso del prodotto) e dopo 14 giorni di trattamento.
I risultati ottenuti dimostrano un effetto nel ridurre la visibilità degli inestetismi causati dall'acne e nel riequilibrare il livello di sebo, obiettivo primario della sperimentazione: dopo l'uso del prodotto è stato osservato un miglioramento di tutti gli endpoints primari studiati.

ABSTRACT

The primary objective of this clinical trial was to assess whether a new cosmetic formulation has an effect in reducing the visibility of acne and an effect in rebalancing sebum levels. The activity of the product was evaluated by analyzing the reduction of sebum levels and the reduction in the visibility of acne.
It was performed a clinical study, and the tested product was assigned to 20 subjects with combination and oily skin, presence of acne, sensitive skin. They were asked to apply the product on the face, twice a day for 14 consecutive days. Specific end-point variables were analyzed at baseline time (before the use of the product) and after 14 days of treatment. The results obtained by the test demonstrated the primary objective of the study: the effect in reducing the visibility of acne and the effect in rebalancing sebum levels. It was observed an improvement of all studied primary endpoints, after product use.
Primary objective
The aim of this study is to assess whether a new cosmetic product has an effect in reducing the visibility of acne and an effect in rebalancing sebum levels. It has been tested a new product containing the so called "Alusil N" complex based on niacinamide and decylene glycol. In literature many studies shows niacinamide has also a well-known effect on sebum regulation while the antimicrobial activity of decylene glycol.
So, the primary endpoints were:
- Skin sebum (quantitative endpoint)
- Visibility of acne imperfections (qualitative endpoint)

INTRODUCTION

Acne is a chronic inflammatory disease of the pilosebaceous unit, characterized by a variable course and heterogeneous clinical manifestations. It predominantly affects adolescents and young adults but can persist or develop into later life.
Its etiopathogenesis is multifactorial and involves four main mechanisms: sebaceous hypersecretion, hyperkeratinization of the hair follicle, colonization by Cutibacterium acnes, and host inflammatory response.
The process begins with impaired keratinization of the follicular duct, which leads to the formation of a microcomedone, an initial primary lesion. The accumulation of sebum and horny cells promotes bacterial proliferation and the subsequent activation of inflammatory mediators. Clinically, acne manifests as open and closed comedones, papules, pustules, nodules, and, in the most severe cases, cystic lesions and permanent scarring.

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Hormonal factors, particularly androgens, play a crucial role in increasing sebum production. Other contributing factors include genetic predisposition, stress, a high-glycemic diet, and certain medications.
From a therapeutic perspective, the approach must be personalized based on the severity and type of lesions, including topical and systemic treatments and strategies aimed at regulating sebum production, controlling altered bacterial proliferation, reducing inflammation, normalizing follicular turnover, and preventing scarring.

STUDY CHARACTERISTICS

Study design
The effect of the product was evaluated by comparing the results obtained after the use with the baseline data.

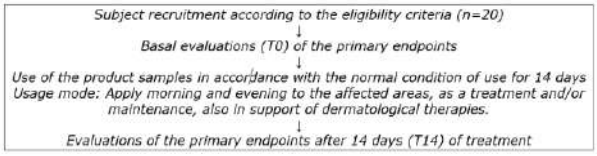
Sample size
The sample size is composed of 20 subjects.

Eligibility criteria
The subjects participating in the study were screened under medical supervision and enrolled according to the following inclusion criteria:
- both male and female sex.
- age between 18 and 60 years.
- with mixed and oily skin, presence of pimples, sensitive skin.
- good general health status/absence of psychological and/or cognitive disorders.
- absence of dermatological and allergological pathologies (cosmetological or to other specific excipients) or other pathologies (such as irritative reactions of unknown origin).
- absence of ongoing pharmacological treatments which may affect the outcome of the test.
- non-participation in other clinical trials in the previous 30 days.
- informed consent obtained.
- no exposure to artificial UV and/or sunlight during the trial.

Randomization
Not applicable.

Blindness
The subjects received the product without packaging or indications regarding the manufacturer's brand to avoid the distortions caused by the conditioning effect of the awareness of the product.

Trial scheme



Criteria for the subject withdrawal
The following rules were imposed on a possible subject withdrawal which may occur during the trial:
- breach of one of the inclusion/exclusion criteria;
- development of adverse effects;
- non- compliance.

Endpoints
Quantitative endpoints
- Sebum (instrumental analysis)

Measured by SEBUMETER SM 815 (μg/cm2)
The measuring principle is based on a photometric method: a mat surface in contact with sebum becomes more transparent; the instrument measures the transparency of a tape before and after placing it on the measurement skin area or sculpt, thus allowing the calculation of the deposited sebum.
Qualitative endpoints
- Visibility of acne imperfections (clinical evaluation)

The variables are evaluated by the professionals responsible for the trial according to the following ordinal scale:

Very marked – Marked – Moderate – Slight – Absent

The rating is given after a visual and/or palpatory clinical study which can involve the use of some suitable equipment for analysis.
Furthermore, when appropriate at the follow up time points the images taken in the areas of interest by specific instruments at the different observation times are viewed and compared. The basal evaluations are carried out in the treatment sites following a rest period of at least 20 minutes in an air-conditioned room with controlled and regulated temperature and humidity (temperature = 21°C +/- 2°C and humidity 40%-60%).

Data analysis and statistical analysis

Quantitative endpoints
Quantitative endpoints were summarized using mean and standard deviation or median and interquartile range.

The Shapiro-Wilk test assessed normality of paired differences, and independence of observations was verified. If assumptions were met, a paired Student t-test compared the two observation times; if not, appropriate nonparametric tests (Wilcoxon signed rank or Sign test) were applied after checking distribution symmetry. Statistical significance was set at $p < 0.05$. Analyses were conducted using RStudio 2025.05.1+543 Build 446.

Qualitative endpoints

Qualitative endpoints were also summarized using mean, standard deviation, median, and interquartile range. Absolute feedback frequencies were reported for each observation period. Symmetry of paired evaluation differences was checked for each endpoint variable.

Data between treatments were compared with appropriate paired non-parametric one- or two-tailed tests (Wilcoxon signed rank test/Sign test), using a significance threshold of <0.05.

RESULTS

During the trial, no subject developed undesirable effects or breached the established inclusion/exclusion criteria.

Furthermore, there were no cases of drop-out. Therefore, the analysis refers to a sample of 20 subjects.

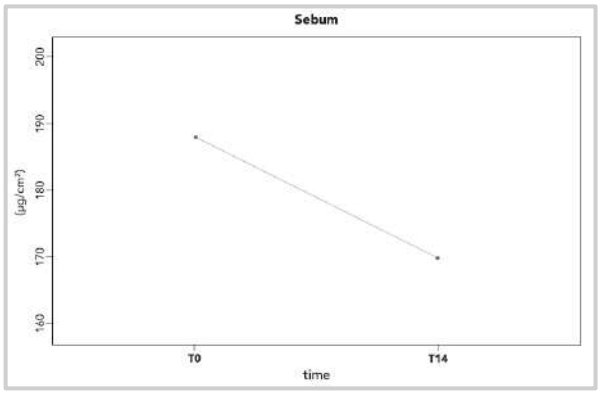
Skin sebum

Description of the variable sebum at the two time points

Descriptive analysis

Survey times	Mean	±	Standard deviation	Median	IQR		
T0	188,6	±	27,5	185,0	164,8	-	208,0
T14	169,9	±	24,7	172,0	148,5	-	189,0

Descrizione della variabile sebo ai due tempi di osservazione
Description of the variable sebum at the two time points



Trend of the variable sebum at the two time points

Compared to the baseline value (T0), it is observed a 10% decrease of the variable sebum after 14 days of treatment.

The table shows a statistically significant difference between the two comparison groups.

The treatment had a significant effect on the parameter sebum.

Descriptive analysis Survey

T0 188,6 ± 27,5 185,0 164,8 - 208,0
T14 169,9 ± 24,7 172,0 148,5 - 189,0

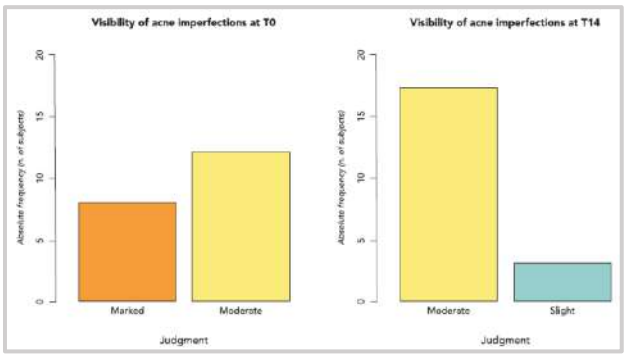
Visibility of acne imperfections

Descriptive analysis

Survey times	Median	IQR
T0	Moderato/Moderate	Evidente/Marked - Moderato/Moderate
T14	Moderato/Moderate	Moderato/Moderate - Moderato/Moderate

Absolute frequency (n. subjects)		
Giudizio/ judgement	T0	T14
Molto evidente/Very marked	0	0
Evidente/Marked	8	0
Moderato/Moderate	12	17
Lieve/Slight	0	3
Assente/Absent	0	0

Description of the variable visibility of acne imperfections and table of the absolute frequencies of the judgments at the two time points.



Graphs of the absolute frequencies of the judgments on the variable visibility of acne imperfections at the two time points.

Analyzing the frequencies of the judgments on the variable visibility of acne imperfections, it can be seen that they tend to have a distribution shifting to more positive categories after 14 days of treatment. Specifically, the variable visibility of acne imperfections shows an improvement in the 55% of volunteers.

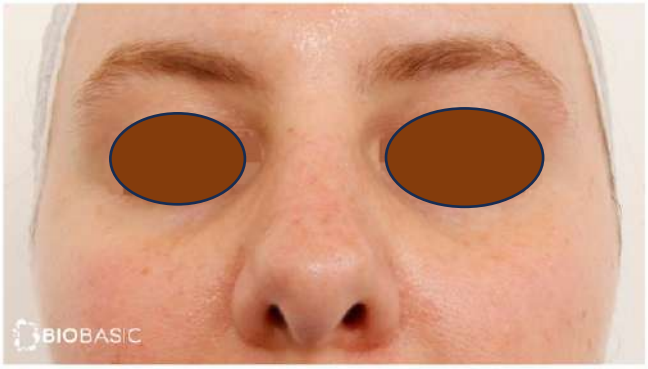
Sign test

T14 <0,001

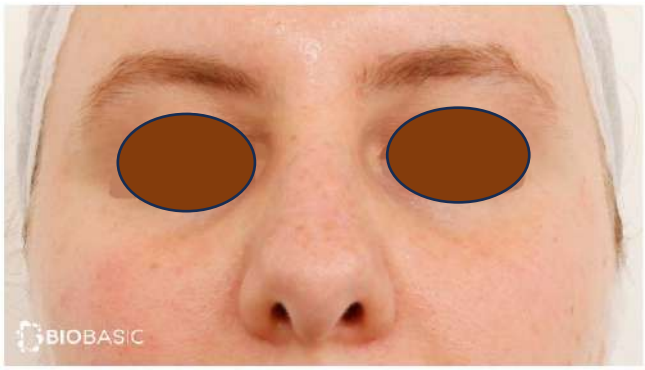
The table shows a statistically significant difference between the two comparison groups.

The treatment had a significant effect on the variable visibility of acne imperfections.

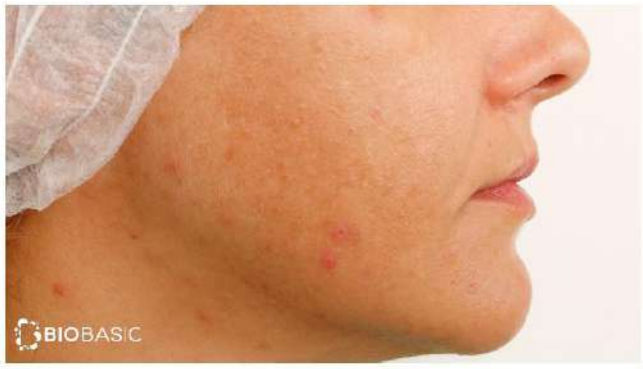
Photos showing the efficacy results after 14 days treatment



T0



T14



T0

T14

CONCLUSIONS

The results of this trial demonstrate that topical use of a product containing the Alusil N complex (niacinamide + decylene glycol) is capable of significant effects in the cosmetic treatment of mild to moderate acne.

Specifically, the reduction in the visibility of acne imperfections and the rebalancing of sebum secretion confirm the achievement of the study's primary endpoints.

From a dermatological perspective, these findings are particularly significant as they address two key aspects of acne pathophysiology: first, the modulation of sebum production, a key factor in altering the pilosebaceous unit; and second, the control of the skin environment favorable to microbial proliferation.

The overall improvement in endpoints therefore suggests a synergistic action of the complex's components, with both sebum-regulating and rebalancing and soothing effects.

The use of Alusil N therefore represents a rational and targeted dermocosmetic approach, capable of effectively integrating into acne treatment protocols, particularly in early stages or as a complement to pharmacological therapies. Furthermore, the observed good efficacy profile suggests a potential role in maintaining results and preventing relapses

In conclusion, the Alusil N complex represents an innovative solution that is physiologically consistent with the pathogenic mechanisms of acne, offering dermatologists a useful tool in support of the therapeutic approach aimed not only at controlling imperfections but also at restoring skin balance.

The results reported in this document are to be referred exclusively to the tested sample, whose safety was previously assessed.

DATA TABLES

Sebo (µg/cm2)		
Vol. n°	T0	T14
1	186	176
2	155	142
3	207	189
4	159	137
5	184	163
6	234	199
7	166	149
8	158	147
9	153	133
10	184	170
11	192	174
12	240	211
13	200	189
14	167	139
15	220	204
16	221	186
17	161	150
18	211	201
19	204	181
20	169	157

Visibilità delle imperfezioni dell'acne (brufoli)/Visibility of acne imperfections (pimples)		
Panellist code	T0	T14
1	Moderato/Moderate	Moderato/Moderate
2	Moderato/Moderate	Moderato/Moderate
3	Moderato/Moderate	Moderato/Moderate
4	Evidente/Marked	Moderato/Moderate
5	Evidente/Marked	Moderato/Moderate
6	Evidente/Marked	Moderato/Moderate
7	Evidente/Marked	Moderato/Moderate
8	Moderato/Moderate	Moderato/Moderate
9	Moderato/Moderate	Lieve/Slight
10	Moderato/Moderate	Moderato/Moderate
11	Moderato/Moderate	Lieve/Slight
12	Evidente/Marked	Moderato/Moderate
13	Moderato/Moderate	Moderato/Moderate
14	Evidente/Marked	Moderato/Moderate
15	Moderato/Moderate	Moderato/Moderate
16	Evidente/Marked	Moderato/Moderate
17	Evidente/Marked	Moderato/Moderate
18	Moderato/Moderate	Moderato/Moderate
19	Moderato/Moderate	Lieve/Slight
20	Moderato/Moderate	Moderato/Moderate

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Multiple cutaneous melanoma in patients with Grover's disease: the role of ERK signaling

Vincenzo Roberti

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ABSTRACT

Grover's disease (GD), also called transient acantholytic dermatosis, is a rare and benign dermatosis characterized by the appearance of pruritic papules and vesicular lesions predominantly on the trunk and typically affecting older adults.
The course of the condition is commonly transient, but in some patients it can persist for months or acquire a relapsing-remitting pattern over time (1,2).
Recent literature suggests a possible association between GD and an increased risk of cutaneous malignancies, including melanoma, squamous cell carcinoma and basal cell carcinoma. (3,4)
In this case report we describe three cases of multiple cutaneous melanoma (MCM) in patients affected by Grover's Disease and non-melanoma skin cancers (NMSCs).

Keywords:
Grover's disease, GD, Melanoma, MCM, NMSCs, Skin,

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INTRODUCTION

Grover's disease is a condition reported worldwide and recognized as relatively common since Grover first described it in 1970.
Grover's disease has been reported from many different countries and climates, and it is seen mostly in white men from middle to old age.
The cause is unknown, but many authors have linked the disorder to heat and sweating. Solar damage is a frequent contributing factor in warmer regions, whereas in colder climates xerosis and asteatotic eczema are common triggers. Grover's disease is frequently associated with other skin diseases, primarily eczematous disorders, particularly seborrheic and asteatotic, psoriasis and actinic skin conditions such as actinic keratosis (5, 6).

Grover's disease

The disorder manifests as papules, papulovesicles and small nodules, many of which are excoriated, distributed on the trunk and proximal limbs (7).

In our clinical experience there are three recognizable variants.

The transient eruptive variant is characterized by a sudden sensation of itch, sometimes disproportionate to the small number of lesions, although in some cases the skin eruption may be extensive.

Pruritus may be severe, preventing sleep and generally being aggravated by heat.

The disorder usually resolves within few weeks, often more rapidly with treatment. The persistent pruritic type is characterized by milder pruritus than the former type but persists for months or years and shows only a moderate response to therapy (8).

The chronic asymptomatic type resembles folliculitis in men (9) and typically presents with persistent truncal papules, often submammary.

Histologically, acantholysis can be demonstrated in these cases, although without follicular involvement.

Acantholysis with vesicle formation represents the characteristic epidermal alteration occurring in the four main histological patterns (acantholysis with spongiosis; acantholysis of Darier's disease-like pattern; acantholysis of pemphigus-like pattern; and acantholysis of Hailey–Hailey disease-like pattern) (10).

Multiple primary melanoma

Previous literature has shown that patients diagnosed with melanoma have a higher risk of developing subsequent primary melanomas (11), highlighting the increasing incidence of multiple primary melanomas in recent years (12, 13). Reported incidence of multiple primary melanomas range from 1.1% to 20.4% depending on the considered population, study design, and follow-up duration (14). Male gender is considered a risk factor for developing a second melanoma.

Besides sex, a personal history of melanoma, positive family history of melanomas and presence of dysplastic nevi are recognized risk factors for multiple primary melanomas (15, 16). Several studies suggest a genetic predisposition to MPM, with the CDKN2A and CDK4 genes potentially involved (11).

CDKN2A gene mutations are rare in the general population but are found in 5% to 20% of patient with familial or multiple primary melanoma.

Around 80% of CDKN2A mutation carriers will develop multiple primary melanomas (14).

Case reports

Here we report three clinical cases of patients with Grover's disease, who have been periodically monitored at our university hospital and were subsequently diagnosed with multiple cutaneous melanomas.

• The first reported patient is a 64-year-old male presented to our outpatient clinic for regular biannual dermatologic follow-up after being diagnosed with asymptomatic GD, managed with thalassotherapy and thermal therapy.

His medical history included the surgical excision of three basal cell carcinomas, with no family history of melanoma. During routine monitoring, two synchronous melanomas were identified and surgically excised: a melanoma in situ located on the left cheek and an invasive melanoma with a Breslow thickness of 0.4 mm, with no ulceration and absence of mitosis, located on the right pectoral region. Subsequently, the patient also underwent excision of an additional melanoma in situ, arising from a nevus in the right abdominal region.

• The second is a 72-year-old male patient with no family history of melanoma who was undergoing regular biannual dermatologic follow-up at our clinic. He had a diagnosis of GD, presenting with pruritic symptoms managed with topical corticosteroids, and a history of surgical excision of multiple basal cell carcinomas.

During the follow-up period, two in-situ melanomas were identified and excised: one on the back and the other on the right arm.

• The third patient is a 69-year-old male with GD treated with topical betamethasone and calcipotriol, along with daily application of high-SPF sunscreens. He had previously undergone to photodynamic therapy for multiple actinic keratoses of the face and scalp on a background of severe photodamage and had a family history of melanoma (maternal cousin).

In May 2016, an ulcerated and atypical pigmented lesion was identified and excised from the right suprascapular region, revealing an invasive cutaneous melanoma with a Breslow thickness of 0.56 mm, ulceration, and no mitotic activity on histological examination. Wide local excision and sentinel lymph node biopsy were negative for residual local or lymphatic disease.

ERK hyperactivation: a common feature in Grover and melanoma pathogenesis

Despite the association of GD and MCM is not yet fully elucidated, current evidence supports the need for further research (4). Several reviews suggest that chronic skin inflammation, immune dysregulation, environmental risk factors and genetic background typical of GD may share overlapping pathways whit those implicated in cutaneous melanoma (17, 18). Recent research highlights a central role for hyperactivation of extracellular signal-regulated kinase (ERK) pathway in the pathogenesis of both melanoma and GD. (19, 20).
Simpson et al. identified ERK hyperactivation as a key driver of GD (20), leading to desmosome destabilization with consequent acantholysis, as typically observed in histologic examinations (21). The MAPK/ERK signaling pathway has shown a crucial role in melanoma development and progression (22).
Activating mutation in the BRAF gene (e.g. BRAF V600E) leads to constitutive ERK pathway activation, promoting melanocyte proliferation, survival and metastatic potential (19).

Conclusions

The case series here reported underscores the need for strict and continuous surveillance in patients with GD, particularly in those with additional risk factors for melanoma or NMSCs.
Although a potential correlation between GD and melanoma pathogenesis can be hypothesized, further research is required to clarify the shared pathophysiological mechanism underlying the two conditions.
Should this link be confirmed, it could open new perspective for GD and melanoma management through modulation of the RAS/RAF/MEK/ERK pathway.
Furthermore, our findings could provide meaningful support for clinician to consider GD in the differential diagnosis of patients with history of MCM or NMSCs presenting with a pruritic, erythematous papulovesicular eruption.

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Short-Term Clinical and Instrumental Evaluation of Two Topical Dr Kleein® Cosmetic Protocols Based on Vitamin C and Retinol Using VISIA® 2D Analysis

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ABSTRACT

Background: facial skin alterations include not only signs of aging, but also dyschromia, enlarged pores, sebaceous imbalance, textural irregularities, and post-acne scarring. Modern topical cosmeceuticals may simultaneously target oxidative stress, follicular inflammation, epidermal turnover, and dermal quality. Standardized imaging systems such as VISIA® 2D provide objective and reproducible instrumental assessment of cosmetic efficacy.

Objective: to evaluate the short-term clinical and instrumental efficacy of two different Dr Kleein® topical protocols using VISIA® 2D analysis in subjects with mild-to-moderate photoaging, enlarged pores, uneven skin texture, and superficial acne scarring.

Materials and Methods: eight subjects (7 females and 1 male; age range 27–65 years; Fitzpatrick skin phototypes II–III) with mild-to-moderate photoaging, enlarged pores, skin impurities, and/or superficial acne scarring were enrolled.

Subjects were divided into two treatment groups.

Group A (Vitamin C protocol) applied C-20 serum, H Longevity serum, and SPF50+ photoprotection in the morning, followed by evening application of C-20 serum and Hydra Water Source moisturizing cream.

Group B (Retinol + H Longevity protocol) applied H Longevity serum, Hydra Water Source cream, and SPF50+ photoprotection in the morning, followed by exclusive evening application of A-Retinol serum.

All participants additionally used collagen-based lip balm and eye contour products.

Products were applied daily for 60 days. VISIA® 2D assessments were performed at baseline (T0), after 30 days (T1), and after 60 days (T2). Evaluated parameters included wrinkles, pores, skin uniformity, UV spots, brown spots, red areas, porphyrins, and total spots.

Results: both treatment protocols produced instrumentally measurable improvements in VISIA® parameters during the observation period. The Vitamin C protocol demonstrated predominant improvement in skin brightness, chromatic homogeneity, superficial vascular alterations, UV-related damage, and porphyrin signal reduction. Mean reductions included 27% for UV spots, 74% for porphyrins, 15% for red areas, and 17% for pigmented spots.

The retinol-based protocol showed the greatest impact on structural skin parameters, particularly enlarged pores, skin texture, follicular impurities, and superficial wrinkles. Mean pore visibility reduction reached 35%, associated with a 21% reduction in porphyrin signal and an 18% reduction in pigmented lesions.

Comparative VISIA® imaging additionally demonstrated progressive attenuation of superficial pigmentary alterations, improved skin texture homogeneity, and reduction of fluorescent follicular signals.

Conclusions: daily application of the two Dr Kleein® topical protocols for 60 days resulted in measurable clinical and instrumental improvement in multiple VISIA® skin parameters.

The Vitamin C and H Longevity protocol showed predominant antioxidant and illuminating efficacy, whereas the retinol-based protocol demonstrated greater impact on enlarged pores, skin texture, and follicular impurities.

VISIA® imaging represents a reliable and reproducible tool for objective assessment of cosmetic efficacy in topical anti-aging and seboregulatory protocols.

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Introduction

Skin aging is a multifactorial biological process resulting from the interaction between intrinsic and extrinsic factors, including ultraviolet radiation, oxidative stress, chronic inflammation, and epidermal barrier dysfunction. Simultaneously, many patients present associated conditions such as enlarged pores, follicular impurities, dyschromia, and superficial acne scars, all contributing to progressive deterioration of overall skin quality and complexion homogeneity. (1,2)
In recent years, advanced cosmeceutical strategies have increasingly focused on multifunctional formulations capable of combining antioxidant activity, dermal stimulation, deep hydration, and epidermal turnover regulation.
Modern cosmeceutical approaches frequently combine antioxidant, peptide-based, and retinoid formulations to simultaneously target multiple hallmarks of skin aging.
Topical Vitamin C formulations exert antioxidant and depigmenting activity while supporting collagen synthesis. Retinoids stimulate epidermal turnover and dermal remodeling, improving wrinkles and skin texture. Peptide complexes, hyaluronic acid, glycogen, and biomimetic compounds further contribute to extracellular matrix support and skin hydration. (3;4)
Advanced imaging systems such as VISIA® 2D allow objective and reproducible evaluation of cosmetic efficacy through standardized analysis of wrinkles, pores, pigmentation, vascular features, porphyrins, and skin texture. (5)
The present study evaluated two different Dr Kleein® cosmetic approaches:

- an antioxidant protocol based on Vitamin C and H Longevity aimed at improving skin brightness, chromatic homogeneity, and protection against oxidative stress;
- a retinol-based protocol targeting skin texture, enlarged pores, follicular impurities, and superficial acne scars.

Materials and Methods

A prospective monocentric observational study conducted under real-world clinical conditions was performed to evaluate the short-term clinico-instrumental efficacy of two different Dr Kleein® topical protocols using VISIA® 2D analysis.

Eight consecutive subjects (7 females and 1 male) aged between 27 and 65 years with Fitzpatrick phototypes II–III were enrolled.
Main clinical characteristics included mild-to-moderate photoaging, chromatic irregularities, enlarged pores, skin impurities, altered skin texture, and superficial acne scarring.
Inclusion criteria included mild-to-moderate photoaging associated with dyschromia, uneven complexion, enlarged pores, or textural irregularities, in the absence of concomitant cosmetic procedures. Exclusion criteria included systemic retinoid therapy, aesthetic procedures within the previous 3 months, inflammatory facial dermatoses, and intentional UV exposure during the study period.
Patients were divided into two treatment groups.
Group A followed an antioxidant Vitamin C-based protocol. Morning routine included facial cleansing followed by application of C-20 serum, H Longevity serum, and SPF50+ photoprotection. Evening routine included reapplication of C-20 serum and Hydra Water Source moisturizing cream after cleansing.
C-20 serum contains 20% Ascorbic Acid associated with Kakadu Plum extract, glycogen, Hydrolyzed Algin, and glycerin.
The formulation exerts potent antioxidant and illuminating activity while supporting collagen synthesis, improving chromatic homogeneity, and enhancing overall skin radiance. Kakadu Plum, a natural source rich in Vitamin C, may further contribute to protection against oxidative stress and environmental damage.
Glycogen supports cellular vitality and metabolic activity, whereas Hydrolyzed Algin and glycerin contribute to hydration maintenance and epidermal barrier balance.
H Longevity serum combines multi-molecular-weight hyaluronic acid, biomimetic peptides, soluble collagen, glycogen, shea butter, vitamin E, and glutathione, exerting hydrating, antioxidant, and dermal-supportive activity.
Hyaluronic acid with three different molecular weights provides progressive deep hydration and a plumping effect, while biomimetic peptides (including Pentapeptide-48) promote collagen synthesis and improve skin tone and firmness.

Glycogen supports cellular vitality and resistance to oxidative stress, whereas soluble collagen contributes to improved skin elasticity and turgor. Additionally, shea butter (Butyrospermum parkii) exerts nourishing and emollient activity while supporting epidermal barrier function. Vitamin E (Tocopheryl acetate) and glutathione provide additional antioxidant protection against free radical-mediated skin aging.

Group B followed a retinol-based protocol mainly targeting skin texture, enlarged pores, and follicular impurities.

Morning routine included cleansing with H Longevity mousse followed by application of H Longevity serum, Hydra Water Source cream, and SPF50+ photoprotection.

Evening routine consisted exclusively of A-Retinol serum application.

A-Retinol serum contains retinol, Retinyl Palmitate, ectoine, biomimetic peptides, soluble collagen, glycogen, and Saccharide Isomerate.

The formulation is designed to stimulate epidermal turnover, improve skin texture, attenuate superficial wrinkles and dyschromia, and normalize the follicular microenvironment.

Retinol and Retinyl Palmitate promote progressive skin renewal and dermal remodeling, while ectoine exerts protective anti-stress activity and contributes to epidermal barrier stabilization.

Biomimetic peptides and soluble collagen further support dermal firmness and elasticity, whereas glycogen and Saccharide Isomerate contribute to long-lasting hydration and cellular metabolic support. All subjects additionally used collagen-based lip balm and eye contour treatments.

Hydra Water Source moisturizing cream contains ceramides, Kombuchka complex, probiotics, hyaluronic acid, niacinamide, vitamin E, and a phytocomplex of ginger, frankincense, and grape extracts, providing hydrating, soothing, and barrier-supportive activity.

VISIA® 2D acquisitions (Canfield Scientific Inc.) were performed at baseline (T0), after 30 days (T1), and after 60 days (T2) using standardized frontal imaging under identical lighting and positioning conditions.

Instrumental analysis included evaluation of wrinkles, pores, skin uniformity, UV spots, brown spots, red areas, porphyrins, and total spots.

Data were expressed as mean percentage variation from baseline. Due to the limited sample size, the study was considered exploratory.

Comparisons between baseline and follow-up visits were performed using paired Student's t-test.

A p value <0.05 was considered statistically significant.

The study was conducted according to the principles of the Declaration of Helsinki and Good Clinical Practice guidelines. All subjects provided written informed consent for cosmetic product use, standardized photographic acquisition, and anonymized scientific use of VISIA® images and clinical data.

The observational cosmetic protocol underwent internal evaluation and received approval from the local institutional ethics committee. No severe adverse events or clinically relevant cutaneous reactions were recorded during the study period.

Results

All 8 enrolled subjects completed the 60-day follow-up period.

No significant adverse events or severe treatment-related skin reactions were observed during the study. Two patients in the retinol-treated group reported mild transient xerosis during the first treatment weeks, without treatment discontinuation.

VISIA® 2D analysis documented progressive improvement of major skin parameters in both treatment groups throughout follow-up.

The Vitamin C and H Longevity protocol demonstrated predominant improvement in skin brightness, chromatic homogeneity, and superficial vascular alterations, associated with reduction of porphyrin signal and UV-related damage. Specifically, the Vitamin C group showed mean reductions of 27% in UV spots, 74% in porphyrins, 15% in red areas, and 17% in pigmented lesions. Improvement in overall skin radiance and global complexion quality was additionally observed. (**Table 1**) (**Figure 1; 2**)

The retinol-based protocol demonstrated the greatest impact on structural skin parameters, particularly enlarged pores, skin texture, follicular impurities, and superficial wrinkles. Mean pore visibility reduction reached 35%, associated with a 21% reduction in porphyrin signal and an 18% reduction in pigmented lesions.

The retinol-based protocol demonstrated the greatest impact on structural skin parameters, particularly enlarged pores, skin texture, follicular impurities, and superficial wrinkles. Mean pore visibility reduction reached 35%, associated with a 21% reduction in porphyrin signal and an 18% reduction in pigmented lesions. These findings appear suggestive of normalization of epidermal turnover and follicular microenvironment regulation. (**Table 2**) (**Figure 3; 4**)
Comparative VISIA® imaging additionally demonstrated progressive attenuation of superficial pigmentary alterations, improved texture homogeneity, and reduction of fluorescent follicular signal in porphyrin imaging. (**Table 3**)

TABLE 1

VISIA® Parameter	Baseline (T0)	60 Days (T2)	Mean Percentage Improvement
UV Spots	100%	73%	-27%
Porphyrins	100%	26%	-74%
Red Areas	100%	85%	-15%
Wrinkles	100%	81%	-19%
Brown Spots	100%	83%	-17%
Skin Brightness/Homogeneity	Improved	Markedly improved	+16%

Mean VISIA® instrumental variations observed in the Vitamin C treatment group after 60 days of therapy. The protocol demonstrated marked improvement in oxidative stress-related parameters, skin radiance, chromatic homogeneity, vascular alterations, and porphyrin fluorescence.

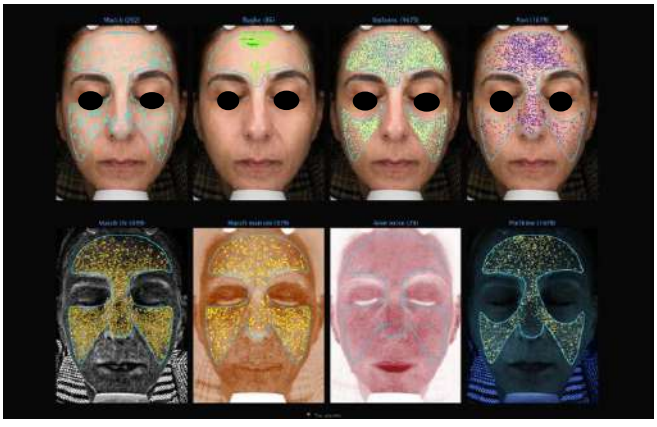

Figure 1. Representative VISIA® panoramic assessment of a patient treated with the Vitamin C–based protocol after 60 days of treatment. Global VISIA® 2D comparative analysis demonstrating instrumental skin changes observed at T2 following treatment with the Vitamin C + H Longevity protocol. Images illustrate the principal VISIA® filters used during evaluation, including brown spots, wrinkles, skin uniformity, pores, UV spots, porphyrins, red areas, and total pigmented lesions. Instrumental findings demonstrate improvement in chromatic homogeneity, reduction in porphyrin fluorescence, attenuation of superficial vascular alterations, and overall enhancement of skin quality and radiance.

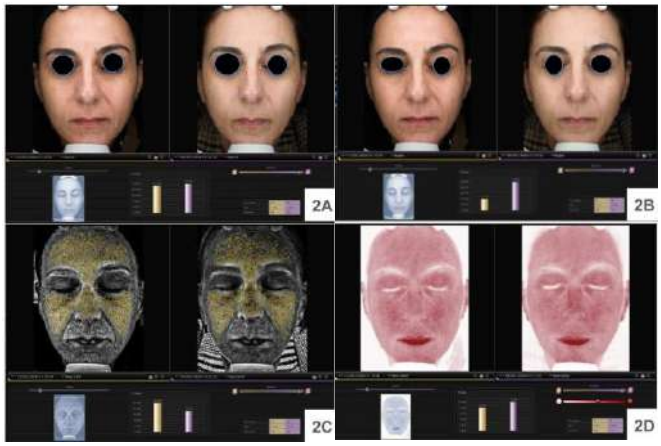

Figure 2.
Representative VISIA® comparative analysis of a patient treated with the Vitamin C–based protocol at baseline (T0) and after 60 days of treatment (T2).
Comparative VISIA® 2D imaging demonstrating clinico-instrumental evolution following topical treatment with the Vitamin C + H Longevity protocol. Standardized frontal acquisitions were performed under identical positioning and lighting conditions.
Figure 2A – Standard VISIA® frontal imaging (total spots analysis).
Baseline and 60-day comparison demonstrates improvement in overall complexion brightness and chromatic homogeneity, associated with attenuation of superficial dyschromia and enhancement of global skin radiance.
Figure 2B – Wrinkle analysis filter.
Comparative VISIA® wrinkle imaging demonstrates reduction in superficial wrinkle visibility, particularly within the periocular and frontal regions, with associated improvement in skin smoothness and texture regularity.
Figure 2C – UV spots analysis.
UV imaging reveals reduction in subclinical photoaging-related dyschromia and attenuation of UV-detected pigmentary alterations after 60 days of treatment, supporting the antioxidant and photoprotective activity of the protocol.
Figure 2D – Red areas analysis.
VISIA® vascular analysis demonstrates decreased diffuse erythematous distribution and improved cutaneous vascular homogeneity, consistent with reduction in superficial inflammatory and oxidative stress-related skin alterations. Overall, multimodal VISIA® evaluation confirmed progressive improvement in skin brightness, chromatic uniformity, superficial vascular alterations, and photoaging-related parameters during treatment with the Vitamin C–based protocol.

TABLE 2. Mean VISIA® numerical comparison in the Retinol group (mean values of 4 patients, T0–T2)

VISIA® Parameter	Baseline (T0)	60 Days (T2)	Mean Percentage Improvement
Pores	100%	65%	-35%
Porphyrins	100%	79%	-21%
Brown Spots	100%	82%	-18%
Wrinkles	100%	84%	-16%
Skin Texture Uniformity	Improved	Markedly improved	+18%

Mean VISIA® instrumental variations observed in the Retinol treatment group after 60 days of topical therapy. The protocol demonstrated predominant improvement in enlarged pores, follicular impurities, superficial pigmentary alterations, and skin texture homogeneity.

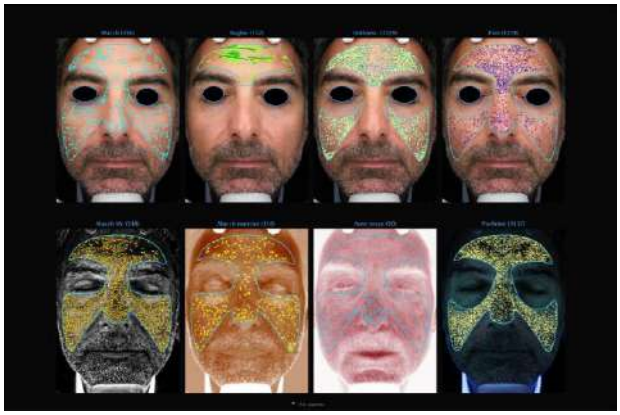

Figure 3.
Representative VISIA® panoramic assessment of a patient treated with the Retinol-based protocol after 60 days of treatment.
Global VISIA® 2D comparative analysis demonstrating instrumental skin changes observed at T2 following treatment with the Retinol + H Longevity protocol. Images illustrate the principal VISIA® filters used during evaluation, including brown spots, wrinkles, skin uniformity, pores, UV spots, porphyrins, red areas, and total pigmented lesions. Instrumental findings demonstrate marked improvement in enlarged pores, skin texture homogeneity, superficial pigmentary irregularities, follicular impurities, and sebaceous-related alterations.

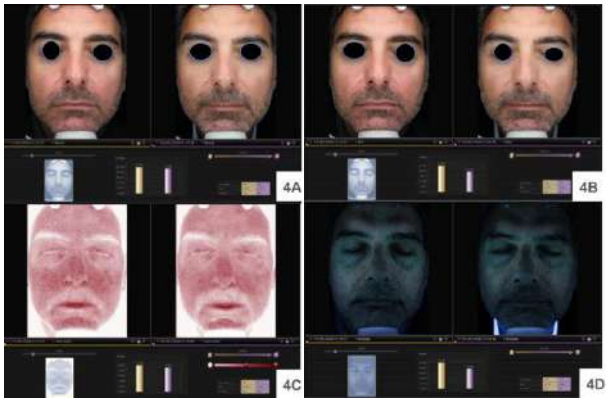

Figure 4.
Representative VISIA® comparative analysis of a patient treated with the Retinol-based protocol at baseline (T0) and after 60 days of treatment (T2).
Comparative VISIA® 2D imaging demonstrating clinico-instrumental evolution following topical treatment with the Retinol + H Longevity protocol. Standardized frontal acquisitions were performed under identical positioning and lighting conditions.
Figure 4A – Standard VISIA® frontal imaging (total spots analysis).
Baseline and 60-day comparison demonstrates overall improvement in globalcomplexion quality, reduction in superficial pigmentary irregularities, and enhanced skin texture homogeneity.
Figure 4B – Pore analysis filter.
VISIA® pore imaging demonstrates a marked reduction in pore visibility and density after treatment, particularly within the centrofacial area. Instrumental findings are consistent with improvement in follicular dilation and sebaceous skin irregularities.
Figure 4C – Red areas analysis.
Comparative imaging reveals attenuation of diffuse superficial erythematous distribution and improved vascular homogeneity after 60 days of treatment.
Figure 4D – Porphyrin fluorescence analysis.
Porphyrin imaging demonstrates reduction in fluorescent follicular signal intensity, suggestive of decreased sebaceous accumulation and improvement in follicular impurities following retinol-based treatment.
Overall, multimodal VISIA® evaluation confirmed progressive structural improvement in skin texture, pore visibility, superficial dyschromia, and follicular alterations during the treatment period.

TABLE 3.
Mean VISIA® trends in the two treatment protocols

VISIA® Parameter	Vitamin C Protocol	Retinol Protocol
UV Spots	-27%	-12%
Porphyrins	-74%	-21%
Red Areas	-15%	-8%
Brown Spots	-17%	-18%
Wrinkles	-19%	-16%
Pores	-11%	-35%
Skin Uniformity	16%	18%

Comparative VISIA® instrumental outcomes between the Vitamin C–based protocol and the Retinol-based protocol after 60 days of treatment.
The Vitamin C protocol showed predominant antioxidant and illuminating activity, whereas the Retinol protocol demonstrated superior efficacy on enlarged pores and skin texture.

Discussion

The present prospective observational study documented measurable clinico-instrumental improvement in skin quality following 60 days of treatment with two different Dr Kleein® cosmetic protocols.
The Vitamin C and H Longevity protocol demonstrated predominant antioxidant and illuminating activity, with improvement in skin brightness, UV-related alterations, superficial vascular changes, and porphyrin signal reduction. These findings are consistent with the biological activity of Ascorbic Acid, known to counteract oxidative stress, support collagen synthesis, and improve chromatic homogeneity.

The marked reduction in porphyrin signal observed in the Vitamin C group may additionally suggest rebalancing of the follicular and sebaceous microenvironment secondary to the antioxidant and normalizing activity of the formulation.
The presence of biomimetic peptides, hyaluronic acid, and glycogen in H Longevity serum may also have contributed to improved hydration and overall dermal support.
The retinol-based protocol demonstrated the greatest impact on structural skin parameters, particularly enlarged pores, follicular impurities, skin texture, and superficial wrinkles.
Mean pore visibility reduction of 35%, associated with a 21% reduction in porphyrins, appears compatible with improved epidermal turnover and follicular regulation induced by retinol.
The association of ectoine, biomimetic peptides, soluble collagen, and glycogen may additionally have contributed to improved tolerability, hydration, and barrier function, limiting the irritative effects commonly associated with topical retinoids.
The differentiated instrumental response observed between the two protocols may reflect distinct biological mechanisms of action, with Vitamin C predominantly targeting oxidative and pigmentary pathways, whereas retinoids mainly influence epidermal turnover and follicular remodeling.
Overall, the present findings support the utility of VISIA® imaging as a standardized and reproducible tool for objective documentation of short-term cosmetic changes.
Although limited by the small sample size, observational design, absence of a control group, and short follow-up duration, the study highlights differentiated yet complementary efficacy profiles of the two analyzed protocols. (6;7)

Conclusions

Daily application of the two Dr Kleein® topical protocols for 60 days resulted in measurable clinical and instrumental improvement in multiple VISIA® parameters.
The Vitamin C and H Longevity protocol demonstrated predominant antioxidant and illuminating efficacy, improving skin brightness, chromatic homogeneity, UV-related alterations, and porphyrin signal. (**Figure 5**)

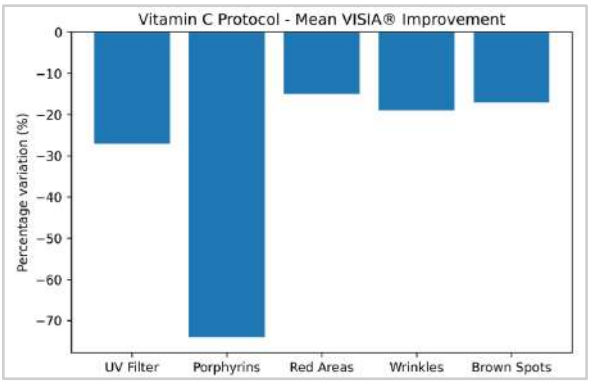

Figure 5.
Mean VISIA® improvement in the Vitamin C treatment group after 60 days of therapy.
Bar graph illustrating the mean percentage improvement of the principal VISIA® parameters in patients treated with the Vitamin C–based protocol. The most relevant reductions were observed for porphyrins and UV-related alterations, confirming the antioxidant and photoprotective efficacy of the protocol. Additional improvements were detected in red areas, wrinkles, and brown spots, indicating enhanced skin brightness and chromatic homogeneity.

The retinol-based protocol showed the greatest impact on structural skin parameters, with marked improvement in enlarged pores, skin texture, follicular impurities, and superficial wrinkles. (**Figure 6)**

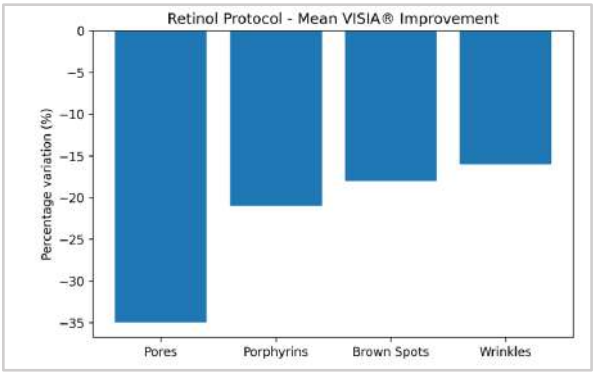

Figure 6.
Mean VISIA® improvement in the Retinol treatment group after 60 days of therapy.
Bar graph showing the mean percentage variation of the principal VISIA® parameters in subjects treated with the Retinol-based protocol. The most pronounced improvement was observed for pores, followed by porphyrins, brown spots, and wrinkles, supporting the efficacy of topical retinoids in skin texture refinement, follicular normalization, and structural rejuvenation.

Both protocols demonstrated a favorable tolerability profile and improvement in overall complexion quality. (**Figure 7; 8).**
VISIA® imaging represents a reliable and reproducible tool for objective evaluation of cosmetic efficacy in topical anti-aging and seboregulatory protocols.

Further controlled studies involving larger populations will be necessary to confirm the observed findings.

Major limitations of the present study include the limited sample size, observational design, absence of a control group, and short follow-up duration.

In addition, heterogeneity of baseline skin characteristics may have influenced treatment response.

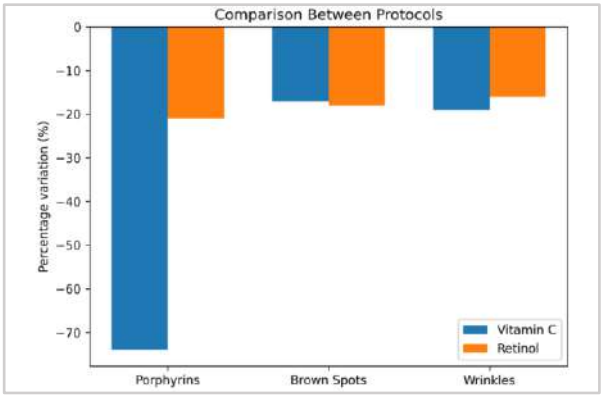

Figure 7.
Comparative analysis between Retinol and Vitamin C treatment protocols.
Comparative VISIA® assessment of the two topical protocols after 60 days of treatment. The Vitamin C protocol demonstrated greater efficacy in reducing porphyrins and improving oxidative/photoaging-related parameters, whereas the Retinol protocol showed comparable or superior activity in structural skin remodeling and wrinkle reduction.

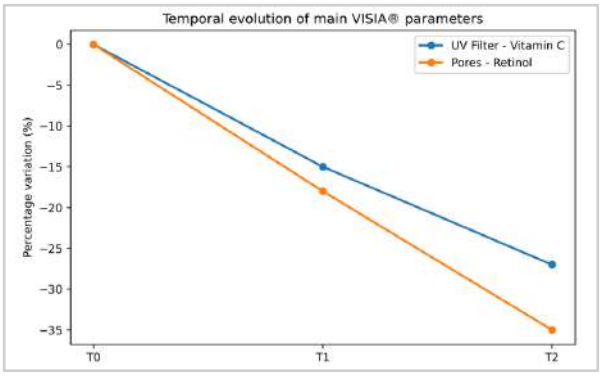

Figure 8.
Temporal evolution of principal VISIA® parameters during treatment.
Line graph illustrating the progressive improvement of representative VISIA® parameters from baseline (T0) to 30 days (T1) and 60 days (T2).
The Vitamin C protocol demonstrated gradual reduction of UV-related alterations over time, while the Retinol protocol showed progressive improvement in pore appearance and skin texture, with the greatest changes observed at T2.

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VOL. 22
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Effective Treatment of Earlobe Keloid Scars Caused by Hair Straightener Burns Using Combined CO_2 and Pulsed Dye Laser Therapy: A Case Series

Luca Gargano

Luca Gargano[1]; Luca Guarino[1]; Alessandro Clementi[2]; Giulio Bortone[1]; Elena Zappia[3]; Steven Paul Nisticò[1,3]

ABSTRACT

Earlobe keloids represent a therapeutically challenging form of pathological scarring, with high recurrence rates after conventional approaches such as surgical excision or intralesional corticosteroids.
Thermal injuries from hair-styling devices, including hair straighteners, appear to be an increasingly relevant trigger. Burn-related keloids are biologically characterized by persistent inflammation and dysregulated remodeling pathways, which may contribute to treatment resistance and recurrence.
To evaluate the clinical effectiveness of a combined, minimally invasive protocol consisting of single-session CO_2 laser ablation immediately followed by pulsed dye laser (PDL) in earlobe keloids caused by hair straightener burns. Five patients (18–35 years) underwent CO_2 laser (10,600 nm) ablation down to the lesion base followed by PDL (595 nm, 12-mm spot size) targeting the vascular component. Local anesthesia was performed with lidocaine without adrenaline. Outcomes were assessed clinically and by standardized photographic comparison at day 21; in partial responders, an additional PDL session was delivered at day 30.
At day 21, complete clinical resolution was observed in three patients, while two patients showed marked improvement with minimal residual scar tissue and underwent one additional PDL session at day 30, achieving complete resolution thereafter. Healing was rapid and well tolerated, without major adverse events. No clinical recurrence was observed within the available follow-up period.
Sequential CO_2 ablation immediately followed by PDL appears to be an effective and well-tolerated strategy for earlobe burn-related keloids, combining precise debulking with vascular-targeted modulation of the scar microenvironment. Larger cohorts and longer follow-up are needed to confirm durability and recurrence prevention.

KEYWORDS
Skin, Earlobe Keloid Scars, CO_2, Pulsed Dye Laser

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INTRODUCTION

Keloid scars are benign fibroproliferative lesions arising from an abnormal wound-healing response, characterized by excessive collagen deposition extending beyond the original injury margins. They may cause pain, pruritus, and a substantial psychosocial burden, particularly when located in highly visible areas such as the earlobes. Burn-related pathological scarring is sustained by prolonged inflammation and dysregulated repair pathways, which may contribute to treatment resistance and recurrence [1,2].
Despite multiple available modalities, including surgical excision and intralesional corticosteroids, outcomes remain inconsistent and recurrence rates are often high.

Increasing insight into keloid biology has highlighted complex interactions between inflammatory cells, fibroblast activity, and extracellular matrix remodeling, supporting the need for strategies targeting more than a single component of the scar process [3].

Laser-based approaches have gained interest as minimally invasive options in keloid and hypertrophic scar management. PDL has been used to target scar erythema and microvascularization via selective photothermolysis and has been associated with downstream modulation of scar activity in clinical and histopathologic studies [4,5].

In addition, multimodal laser protocols have been increasingly proposed to enhance outcomes by combining complementary targets—such as debulking/contouring through ablative lasers and biologic/vascular modulation through vascular lasers [4,6,7]. Piccolo et al. reported favorable outcomes using mini-invasive combined laser protocols for ear keloids [6]. More recently, Clementi et al. provided a comprehensive review of synergistic multi-laser protocols for scar treatment, supporting the rationale for combining ablative and vascular devices to optimize results in challenging scars [7].

Importantly, objective, depth-resolved monitoring tools are increasingly being explored to document treatment response: Guarino et al. described the use of dynamic optical coherence tomography (D-OCT) to monitor keloid response after laser treatment in a proof-of-concept single case, supporting the role of OCT as a non-invasive biomarker of post-laser remodeling and reinforcing the rationale for structured imaging follow-up in keloid management [8].

Building on this framework, we present a case series evaluating sequential CO_2 laser ablation immediately followed by PDL for earlobe keloids secondary to hair straightener burns.

Materials and Methods

Five patients (three females and two males; age range 18–35 years) with earlobe keloids following hair straightener burns were included after written informed consent for treatment and use of clinical data and images (Fig. 1).

Lesions differed in size and duration but shared a uniform etiology.

Each patient received a single-session protocol consisting of CO_2 laser (10,600 nm) ablation/cauterization of the keloid down to its base, with settings tailored to lesion thickness and extent, aiming to remove pathological tissue while preserving adjacent healthy skin. Immediately after CO_2 ablation, PDL (595 nm) was delivered using a 12-mm spot size to target the keloid vascular component and potentially reduce erythema and recurrence risk; fluence and pulse duration were individualized according to clinical features and tolerability (Fig. 2).

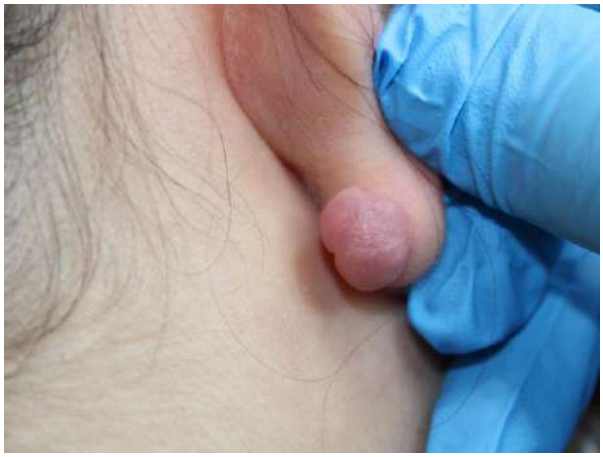

Fig. 1. Baseline.
Clinical photograph of an earlobe keloid secondary to a hair-straightener burn, showing an exophytic fibroproliferative lesion with distortion of the normal earlobe contour.

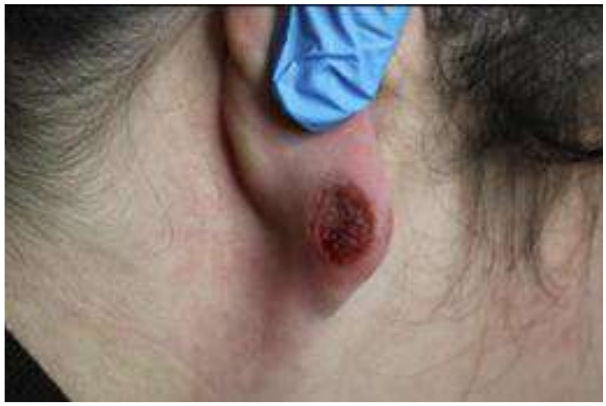

Fig. 2. Immediate post-treatment.
Appearance immediately after CO_2 laser ablation (10,600 nm) down to the lesion base, followed by pulsed dye laser (PDL, 595 nm; 12-mm spot) targeting the vascular component. Expected post-procedural erythema/edema and early contour redefinition are visible.

Clinical assessment and standardized photographic comparison were performed at day 21 to evaluate degree of scar resolution (contour restoration and residual tissue), healing course (infection signs, wound closure, texture), adverse events, and patient-reported satisfaction (Fig. 3).

In patients with residual scar tissue at day 21, an additional PDL session was performed at day 30 without anesthesia, given adequate tolerability.

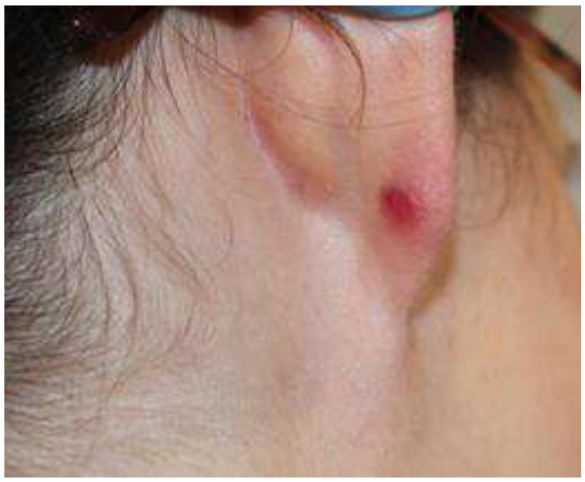

Fig. 3. Day 21 follow-up: clinical outcome at 21 days after treatment, showing complete re-epithelialization with marked improvement of earlobe contour and no clinically significant residual keloid tissue, with reduced erythema compared with the immediate post-treatment image.

Results

At the 21-day follow-up, three patients achieved complete clinical resolution, with restoration of a near-normal earlobe contour and clinically acceptable color and texture.

These patients reported high satisfaction and perceived relief from prior discomfort and self-consciousness related to the visible scar.

The remaining two patients showed a marked response, with a substantial reduction in keloid volume and thickness and an overall improvement in the appearance of the treated area; however, a small residual component persisted and was considered clinically relevant.

Consistent with the predefined protocol, these two patients underwent an additional PDL session at day 30, which was performed without anesthesia due to good tolerability.

At subsequent evaluation after the second PDL session, both patients demonstrated complete clinical resolution and reported high satisfaction with the cosmetic outcome and a perceived psychological benefit. Overall, the treatment course was well tolerated.

Healing was rapid, with minimal downtime and no major adverse events; no infections, scarring complications, or pigmentary alterations were observed in this series.

Topical post-procedure management with fusidic acid and betamethasone supported an uncomplicated re-epithelialization process.

No clinical recurrence was detected within the available follow-up period.

Discussion

This case series suggests that sequential CO_2 laser ablation immediately followed by PDL may represent an effective, minimally invasive strategy for earlobe keloids secondary to hair straightener burns.

The protocol is mechanistically plausible because it addresses complementary components of pathological scarring: CO_2 laser enables precise ablation of the fibroproliferative mass down to the lesion base, improving contour while limiting collateral damage, whereas PDL targets the vascular component that sustains erythema and may contribute to a persistent pro-fibrotic microenvironment. The role of vascular-targeted laser therapy in keloids and hypertrophic scars has been discussed extensively, and PDL has been associated with improvement in scar appearance and symptoms in different clinical contexts, although responses can vary by scar subtype and chronicity [4,5].

Burn-related scars are characterized by ongoing inflammatory activity and altered repair signaling, which can facilitate persistent fibrogenesis and increase recurrence risk after mechanical removal alone [1,2].

Broader pathobiologic insights into keloids and hypertrophic scars further support the concept that abnormal scar evolution is driven by complex interactions among inflammatory pathways, fibroblast survival/proliferation, and matrix remodeling, rather than by collagen overproduction alone [3].

In this regard, inflammatory cells—such as mast cells—have been implicated in fibrotic wound responses and may influence fibroblast behavior via mediator release, providing an additional rationale for strategies that modify the vascular–inflammatory niche of the scar [9]. The present approach also aligns with the growing emphasis on multimodal "synergistic" protocols: combined laser strategies have been proposed as pragmatic methods to optimize outcomes by pairing devices with complementary targets (e.g., ablative plus vascular lasers), potentially improving efficacy compared with monotherapy in difficult scars [7] and supporting favorable outcomes in ear keloids using mini-invasive combined protocols [6].
While our data are limited by small sample size, lack of control, and follow-up duration insufficient to definitively assess long-term recurrence prevention, the rapid healing, good tolerability, and high patient satisfaction observed in this series support further evaluation in larger prospective cohorts with standardized endpoints.

Conclusion

Combined CO_2 and Pulsed Dye Laser therapy is an effective and superior treatment option for earlobe keloid scars resulting from hair straightener burns. This approach offers significant advantages in terms of healing time, patient satisfaction, and reduced recurrence rates. By providing a minimally invasive and highly targeted treatment, this method addresses both the physical and psychological impacts of keloid scars. Further research with larger patient cohorts and longer follow-up periods is warranted.

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CASE REPORT

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Alopecia areata of the ears and nostrils following COVID-19 recovery

Stefano Veraldi

Stefano Veraldi [1], Italo Francesco Aromolo [2], Gianluca Nazzaro [2]

SUMMARY

Alopecia areata involving the hairs of ears and nostrils was never reported in the international literature.
We present a case of alopecia areata in these areas in an adult patient.
Final diagnosis was based on some factors:
a) both the patient's mother and sister were affected by alopecia areata on the scalp;
b) the disappearance of hair on the ears and nostrils some weeks following COVID-19 recovery;
c) the disappearance of hair of the lateral portion of the right eyebrow, confirmed by trichoscopy.

KEYWORDS
Covid-19, alopecia areata, ears, nostrils, eyebrows

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CASE REPORT

A 46-year-old Caucasian man was admitted because of the loss of all hair in the ears and nostrils. He stated that his wife had noticed the hair loss three weeks following his recovery from COVID-19 infection.
The patient was worried because he feared he might lose his pubic hair as well.
No symptoms were reported. The patient was in good general health and was not in therapy with systemic drugs.
Family history revealed that the patient's mother and one sister had been affected in the past by alopecia areata on the scalp.
General physical examination was negative.
Dermatological examination confirmed the absence of hair on the tragus, antitragus, concha and nostrils.
The disappearance of hair of the lateral portion of the right eyebrow was also observed.
No other areas of alopecia were seen.
Trichoscopy was carried out on the right eyebrow: black dots, broken hairs of similar lenght and exclamation point hairs were observed at the alopecic area.

The otorhinolaryngological examination was negative.
All laboratory tests were within normal ranges or negative.
0.05% clobetasol propionate ointment (2 applications/day for six weeks) was prescribed for alopecia located on the right eyebrow.
A three-month follow-up showed the complete reappearance of hair on the right eyebrow.
However, no spontaneous regrowth of the hair located on the ears and nostrils was observed.

Discussion

Although we did not find in the international literature cases of alopecia areata involving the ears and/or the nostrils, we think that in our patient a diagnosis of alopecia areata is possible.
This for three reasons:
a) the presence of alopecia areata in the patient's mother and sister (it was possible to visit his sister, who showed a single, round, 1.5 cm in size lesion of alopecia areata of approximately four month duration on the nape);
b) the disappearance of hair on the ears and nostrils some weeks following COVID-19 recovery: we know that this is not a so rare occurrence[1] and
c) the presence of alopecia areata in the lateral portion of the patient's right eyebrow, with a typical trichoscopic picture, characterized by black dots, broken hairs and exclamation point hairs.[2,3]
If our diagnosis is correct, the patient we described probably is the first case in the international literature of alopecia areata involving the hair of ears and nostrils.

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PRP Nell'Alopecia Androgenetica Maschile e Femminile

Michele Pezza

Michele Pezza[1], Valentina Carlomagno[1]

ABSTRACT

PRP (Platelet-Rich Plasma) is a minimally invasive and effective medical treatment for early-stage androgenetic alopecia. It uses autologous blood growth factors to reactivate miniaturized follicles, increasing hair density and thickness. It is ideal for men and women with non-scarring thinning.
Key points about PRP for Androgenetic Alopecia: How it works: A blood sample is centrifuged to obtain concentrated platelet plasma, which is then injected into the scalp. Platelets release growth factors that stimulate the bulb's stem cells, lengthening the growth phase (anagen). Indications: Best results are achieved in the early stages of alopecia, when the follicles are still active. Protocol: A cycle of three sessions spaced one month apart is usually recommended, with maintenance sessions every six months. Results: 80% of patients show improvement, with increased hair density and thickness. Results are visible after several months. Safety: Being an autologous treatment (the patient's own blood), it presents no risk of allergies and is well tolerated.

l PRP (Platelet-Rich Plasma) è un trattamento medico mini-invasivo ed efficace per l'alopecia androgenetica in fase iniziale. Sfrutta fattori di crescita del sangue autologo per riattivare i follicoli miniaturizzati, aumentando la densità e lo spessore dei capelli. È ideale per uomini e donne con diradamento non cicatriziale.
• Come funziona: Un prelievo di sangue viene centrifugato per ottenere plasma concentrato di piastrine, che viene poi iniettato nel cuoio capelluto. Le piastrine rilasciano fattori di crescita che stimolano le cellule staminali del bulbo, allungando la fase di crescita (anagen).
• Indicazioni: Risultati migliori si ottengono nelle fasi iniziali dell'alopecia, quando i follicoli sono ancora attivi.
• Protocollo: Solitamente si consiglia un ciclo di 3 sedute a distanza di un mese l'una dall'altra, con sedute di mantenimento ogni 6 mesi.
• Risultati: L'80% dei pazienti mostra un miglioramento, con maggiore densità e spessore dei capelli. I risultati sono visibili dopo alcuni mesi.
• Sicurezza: Essendo un trattamento autologo (sangue del paziente), non presenta rischi di allergia ed è ben tollerato.

Keywords: PRP, alopecia, tricologia

INTRODUZIONE

In questi ultimi vent'anni l'utilizzo di emocomponenti ad uso non trasfusionale ha avuto grande sviluppo ed è stato applicato a numerose situazioni cliniche.
Nel 1998 fu stilata la prima pubblicazione di Marx e Coll. relativa all'utilizzo di concentrati piastrinici in ambito odontoiatrico, secondo una tecnica di laboratorio messa a punto negli anni '80 da David Knighton che riuscì ad ottenere in vitro la stimolazione delle piastrine con quote di trombina.
Sulla scia dei primi successi clinici, l'interesse si è ampliato a vari campi della medicina e della chirurgia; sono state proposte molteplici metodichedi produzione e diverse indicazioni d'uso e la pratica si è diffusa in diversi ambiti specialistici.

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Tra gli emocomponenti ad uso non trasfusionale un ruolo centrale ha assunto il concentrato piastrinico per uso non trasfusionale (o plasma ricco di piastrine – PRP) che costituisce una fonte di fattori di crescita ed è utilizzato, sia in forma liquida che attivata, come promotore di rigenerazione dei tessuti danneggiati.
Dati riportati in Letteratura diversi anni fa, hanno dimostrato come l'uso del concentrato piastrinico in forma di gel sia efficace nel trattamento di diverse patologie quali le ulcere cutanee con attenuazione del dolore, riduzione della flogosi, aumento dell'angiogenesi, stimolazione del tessuto di granulazione.
Inoltre, l'azione dello stimolo rigenerativo sul tessuto osseo e sui tessuti molli ha portato questi emocomponenti ad essere utilizzati in altri ambiti clinici ed in particolare in chirurgia maxillo-facciale, in odontostomatologia (implantologia, rialzo del seno mascellare, palatoschisi), in ortopedia e traumatologia (lesioni dei tessuti molli, pseudoartrosi, perdite di sostanza ossea a seguito di traumi o ad asportazioni di cisti) ed in altre discipline specialistiche a seguito di molteplici segnalazioni che sono suggestive per efficacia, facilità d'uso ed assenza di reazioni o eventi avversi.
Non risultano peraltro ancora compiutamente individuati tutti i meccanismi di funzionamento del PRP nella rigenerazione cellulare e nello stimolo alla ricostituzione dei tessuti: è noto che le piastrine contengono oltre 300 proteine con molteplici funzioni e l'applicazione di nuove tecniche diagnostiche in biologia molecolare potrà essere d'aiuto per meglio identificare i meccanismi di trasmissione dei segnali biochimici coinvolti nella rigenerazione tissutale.

Discussione e Conclusioni

Tuttavia, il razionale dell'impiego PRP è legato alla presenza negli alfa-granuli delle piastrine di circa 30 fattori di crescita tissutali, di cui i più importanti risultano essere:
1. PDGF (Platelet Derived Growth Factor): dotato di un'azione mitogena ed angiogenetica con upregulation di altri fattori di crescita, determina una stimolazione dei fibroblasti ed osteoblasti, induce la differenziazione cellulare, e rappresenta un catalizzatore degli effetti dei fattori di crescita su altre cellule come i macrofagi. Stimola inoltre la chemiotassi e la sua struttura reticolare facilita la diapedesi dei macrofagi e dei fibroblasti.
2. EGF (Epidermal Growth Factor): dotato di capacità di indurre la proliferazione e la differenziazione di cellule mesenchimali ed epiteliali promuovendo inoltre l'angiogenesi
3. TGF (Trasforming Growth Factor): stimola i fibroblasti e pre-osteoblasti, inibisce le cellule epiteliali ed endoteliali ed è un importante mediatore della formazione della matrice extracellulare.
4. VEGF (Vascular Endothelial Growth Factor): stimola la migrazione dei monociti attraverso gli strati endoteliali è uno dei fattori angiogenetici più importanti. Induce un'aumentata permeabilità delle cellule endoteliali a proteine ed altre molecole, tale permeabilità porta alla formazione di fibrina che induce a sua volta la migrazione dei fibroblasti.
5. FGF (Fibroblasts Growth Factor): e' un potente regolatore della proliferazione cellulare e della differenziazione dei fibroblasti. Svolge un ruolo importante nello sviluppo normale e nella riparazione delle ferite. Stimola la proliferazione di tutte le cellule di origine mesodermica e di molte cellule di origine neuro ectodermica, ectodermica ed endodermica. Queste cellule includono: fibroblasti, cellule endoteliali, osteociti.
Inoltre, riveste un importante ruolo nella formazione di nuovo endotelio.
Il PRP (Platelet-Rich Plasma) per l'alopecia agisce come trattamento rigenerativo iniettando nel cuoio capelluto piastrine concentrate, che rilasciano fattori di crescita (PDGF, TGF-VEGF).
Questi fattori stimolano le cellule staminali dei follicoli, prolungano la fase di crescita (anagen), migliorano la vascolarizzazione e bloccano la caduta. In una recente revisione della Letteratura è stato verificato che sette studi su nove hanno riportato un aumento significativo della densità dei capelli in soggetti affetti da alopecia androgenetica a seguito di trattamento con PRP.
La metodica ha grande valore anche nelle situazioni di alopecia androgenetica ma solo se utilizzata in casi selezionati e nelle giuste tempistiche.
Occorre infatti individuare prima le cause del problema e intervenire con terapie topiche e farmacologiche così da bloccare la caduta. Solo in seconda battuta, a completamento del quadro di trattamento, ci si può affidare al PRP per stimolare la ricrescita.

La metodica con PRP rappresenta un valido supporto nel favorire la ricrescita dei capelli in caso di alopecia androgenetica ed anche in alcuni casi selelzionati di alopecia areata in chiazze escluse quella totale e universale. Una revisione della Letteratura segnala che su 14 studi non è stato riportato nessun caso di eventi avversi.
Si tratta di una metodica sicura, che può essere suggerita anche in allattamento per fronteggiare l'indebolimento che può accompagnare il post-partum. Le iniezioni possono provocare un lieve dolore che in alcuni casi può persistere per alcuni giorni attenuandosi progressivamente.
Anche eventuali piccoli ematomi provocati dall'ago presentano tempi brevi di risoluzione.
La tecnica prevede tre fasi:
• Prelievo di un campione di sangue: per iniziare viene prelevata una piccola quantità di sangue dal paziente che si sottoporrà al trattamento, generalmente 30 - 100 ml.
• Separazione dei componenti: Il campione di sangue prelevato viene poi messo in un macchinario chiamato centrifuga, che frulla il sangue ad una forte velocità per separare le piastrine dai globuli bianchi, dai globuli rossi e dagli altri componenti.
• Estrazione del plasma ricco di piastrine: vengono estratti 3 - 10 ml di plasma concentrato contenente tra le tre e le cinque volte il numero di piastrine normalmente contenuto nel sangue.
Come detto precedentemente, il trattamento capelli PRP richiede diversi cicli che possono durare per diversi mesi. Per questo è importante ricordare che i risultati potrebbero non essere visibili dalla prima seduta. Il processo potrebbe rivelarsi piuttosto lungo, ma allo stesso tempo è stato dimostrato che i risultati che ne derivano sono prevalentemente positivi.
E' importante evidenziare che IN Italia, per poter eseguire la terapia con PRP, è necessario possedere tutti i requisiti strutturali, tecnologici e sanitari e relativa autorizzazione ASL. Il Centro è soggetto a verifiche periodiche di qualità da parte delle autorità sanitarie competenti all'utilizzo di emoderivati per uso non trasfusionale
È importante anche tenere a mente che, nella maggior parte dei casi, il trattamento PRP per la perdita dei capelli è un trattamento aggiuntivo.
Se da una parte potrebbe non aiutare in maniera risolutiva la crescita dei capelli, può sicuramente promuoverne crescita e densità se effettuato in aggiunta a un altro trattamento.

Nei casi di seguito trattati i pazienti hanno associato terapie galeniche al PRP.

Nelle immagini prima e dopo tre sedute di terapia con PRP

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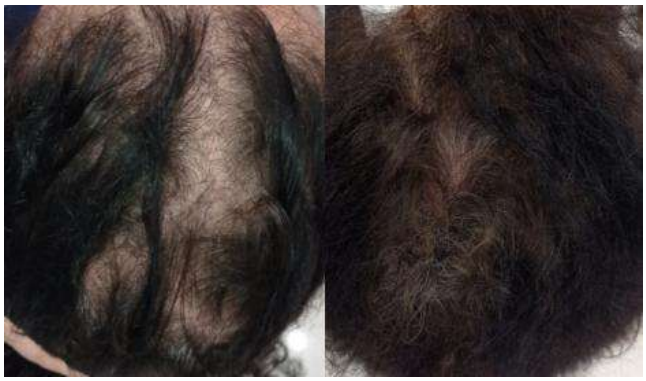

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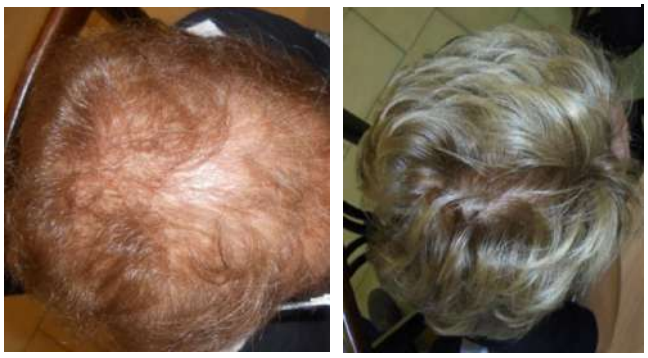

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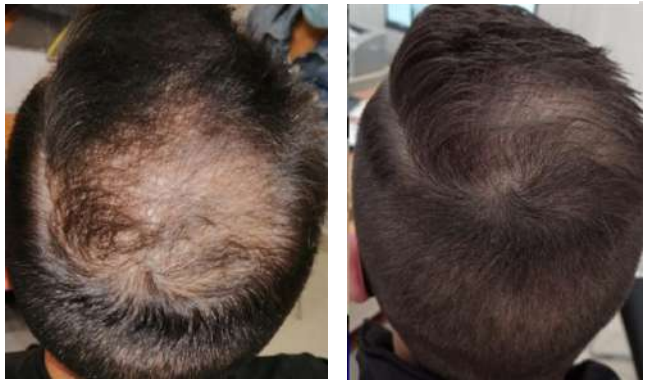

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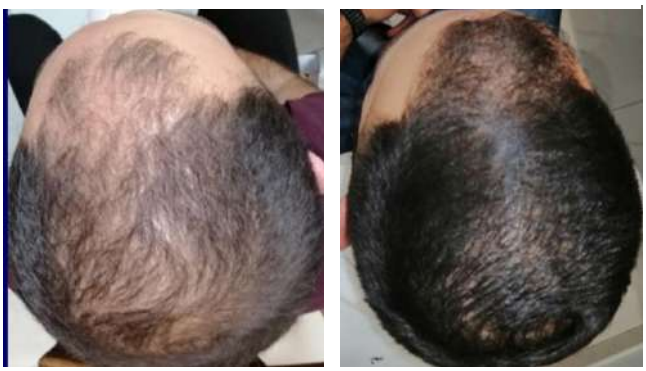

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