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Abstract N°: 18

Traction alopecia in the paediatric Sikh population

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Introduction & Objectives:

Traction alopecia in the paediatric Sikh population

Traction alopecia occurs due to the hair being pulled repeatedly by tight hairstyles, mostly affecting the front and sides of the scalp but the location of traction alopecia can vary with individual's hair care practices. As part of their religious practice in Sikhism, some males choose to wear a turban. The hair is tied into a tight knot placed atop the head, which is also referred to as a 'Jura'. This can result traction alopecia, which if left, can progress to permanent scarring alopecia, causing distress for patients and parents alike. Through our case series we describe the clinical characteristics, investigations, diagnosis and proposed change in hair practices that might lead to an improvement in the condition and prevent permanent hair loss in the form of traction alopecia.

Materials & Methods:

Results:

Case report:

We describe two cases of traction alopecia in young Sikh boys, who presented to our tertiary paediatric service. The first case is a 14 year-old-male who presented with reduced hair density and recession of the fronto-temporal hairline.

Similarly, the 2nd case was a 14-year boy, who presented with increasing hair loss over the frontal scalp. He had been tying his hair in a 'Jura' since the age of 4. He was also B12 deficient and was on replacement treatment.

In both the cases, there was a particularly prominent hair loss over the frontotemporal scalp distributed in a bandlike pattern, with sparing of the eyebrows, eyelashes and body hair. On trichoscopy, findings included mild perifollicular scale without erythema, single follicular hair units and perifollicular inflammation. The initial diagnosis was traction alopecia with co-existing seborrheic dermatitis, in both the cases. Histology from scalp biopsies demonstrated intra follicular coverage and follicular distortion with absence of inflammatory infiltrate. This was in keeping with the clinical impression of traction alopecia.

Discussion:

Traction alopecia is initially noncicatricial (without scarring), but prolonged and excessive tension leads to destruction of the hair follicles and permanent alopecia. If traction alopeica is identified early, then the hair can completely regrow, with stopping using tight hairstyles. As permanent hair loss can have a profound impact on quality of life of the patients, early recognition and intervention is paramount in order to prevent progression of traction alopecia and aid recovery of hair, in a potentially reversible condition.

Treatment options include counselling patients to stop using tight hairstyles, although this may not always be possible due to religious reasons, where advice to allow hair to be tied loosely and turban free for as long as possible, should be given. Topical 2 or 5% minoxidil and steroid injections could be tried as part of treatment. In

cases of permanent hair loss, there have been case reports of hair transplantation and scalp reduction surgery having been used effectively.

There is significant paucity in the literature describing this pattern of hair loss in the Sikh male paediatric population. It is increasingly important for dermatologists to recognise this entity, to ensure timely treatment/ intervention with the aim of hair regrowth and to stop the development of scarring alopecia.

Conclusion:

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Abstract N°: 42

Efficacy of autologous stromal vascular fraction injection in the treatment of androgenic alopecia

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Introduction & Objectives:

Androgenic alopecia (AGA) is a common condition associated with loss of terminal hair on the scalp in a specific pattern in both males and females. Management of AGA is usually challenging as the approved therapeutic options are limited. Our aim was to evaluate the efficacy of non-enzymatic stromal vascular fraction (SVF) as a new promising treatment for AGA.

Materials & Methods:

This prospective study included 30 patients with AGA who were enrolled from the University.

Hospitals' dermatology outpatient clinics. Patients received a single session of autologous SVF injection and were then followed up for 6 months. Patients were assessed one week after the procedure for detection of any side effects like pain, edema, and/or bruises following the procedure of fat harvesting. A full evaluation was done for hair thickness, density and terminal to vellus hair ratio at the 6-month follow-up visit.

Results:

There was an increase in hair shaft caliber from 0.037 ± 0.01 mm before treatment with SVF to 0.056 ± 0.02 mm after 6 months of treatment. Also, hair count/cm2 increased from 130.87 ± 14/cm2 to 151.93 ± 22.36/cm2 and terminal to vellus hair ratio increased from 77.06 ± 10.47% to 81.45 ± 11.98% at the end of the study. No significant difference was recorded between male and female groups as regard response to treatment.

Conclusion:

This study shows that SVF offers a huge potential for hair regeneration. There were no negative side effects reported by any of the patients. The procedure appears to be safe and well-tolerated, with a positive response.

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Abstract N°: 63

Improvement in anxiety and depression in adult patients with severe alopecia areata treated with deuruxolitinib: Pooled data from the THRIVE-AA1 and THRIVE-AA2 Phase 3 trials

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Introduction & Objectives:

Alopecia areata (AA) is a chronic autoimmune disorder resulting in patchy, nonscarring hair loss on the scalp. Many AA patients report reduced quality of life and experience higher rates of depression and anxiety relative to the general population. Deuruxolitinib, a Janus kinase (JAK) 1/JAK 2 inhibitor, resulted in clinically meaningful hair regrowth in the Phase 3 THRIVE-AA1 (NCT04518995) and THRIVE-AA2 (NCT04797650) trials in adult patients with severe AA. Here, we report shifts from baseline in patient responses on the Hospital Anxiety and Depression Scale (HADS) in a pooled data analysis of THRIVE-AA1 and THRIVE-AA2.

Materials & Methods:

In both THRIVE-AA1 and THRIVE-AA2, patients 18 to 65 years of age with AA, ≥50% scalp hair loss, and a current AA episode lasting ≥6 months and ≤10 years were eligible. Patients were randomized to treatment with deuruxolitinib 8 mg twice daily (BID), deuruxolitinib 12 mg BID, or placebo for 24 weeks; data for deuruxolitinib 8 mg BID vs placebo are presented. In THRIVE-AA1 and THRIVE-AA2, secondary endpoints included changes in the HADS scale from baseline to Week 24. The HADS is a 14-item questionnaire with 7 items for anxiety (HADS-A) and 7 items for depression (HADS-D). Each item on the HADS is scored on a 4-point scale (0–3), with an overall score of 0 to 42 (0–21 for HADS-A and 0–21 for HADS-D); a higher score indicates greater severity. This post hoc analysis examined clinically meaningful shifts in HADS scores from baseline to Week 24. Data are presented as percentages of patients in each treatment group. Shifts were analyzed using a Cochran-Mantel-Haenszel test stratified by baseline scalp hair loss (partial vs complete/near complete) and Phase 3 study for responders in each treatment group compared with placebo. Missing data were not imputed.

Results:

The pooled analysis included patients treated with deuruxolitinib 8 mg BID (n = 600) and placebo (n = 267). Among patients treated with deuruxolitinib 8 mg BID, 22.5% achieved a ≥6-point improvement in the overall HADS score from baseline to Week 24 compared with 11.8.% of placebo-treated patients (P = 0.0003 vs placebo). For the subscale scores, 18.9% of patients receiving deuruxolitinib 8 mg BID vs 10.2% of placebo-treated patients achieved a ≥4-point improvement in the HADS-A score (P = 0.0018), and 26.2% of patients treated with deuruxolitinib 8mg BID vs 14.2% of patients treated with placebo achieved a ≥3-point improvement in the HADS-D score from baseline to Week 24 (P = 0.0001).

Conclusion:

A significantly greater proportion of patients treated with deuruxolitinib 8 mg BID vs placebo reported clinically meaningful improvement in overall HADS score, as well as the HADS-A and HADS-D subscales, from baseline to Week 24.

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Abstract N°: 173

Psychosocial co-morbidities associated with pediatric alopecia areata: a systematic review

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Psychosocial comorbidities associated with pediatric alopecia areata: a systematic review

Introduction:

Background: Alopecia areata (AA), a chronic autoimmune disorder has a greater prevalence in the pediatric population. Like many visible dermatologic disorders, AA can cause significant psychosocial impairment, particularly in children who are undergoing critical periods of psychosocial development.

Objectives:

We aimed to investigate the psychosocial impact of AA on children.

Materials & Methods:

A systematic review was conducted using PRISMA guidelines. SCOPUS and PubMed databases were utilized with the terms “alopecia areata,” “pediatric,” and “psychosocial comorbidities.” 12 articles were reviewed, with 6 meeting inclusion criteria for detailed analysis.

Results:

The study showed prominent associations between AA and psychosocial comorbidities in children. Psychiatric conditions including anxiety, depression, and obsessive compulsive disrder, were prevalent in pediatric AA patients, with exacerbation due to increased disease severity. These negatively impacted the Quality of Life (QoL) in affected children. Additionally, the comorbidities extended beyond psychiatric diagnoses, impacting self-esteem, academic performance, peer relationships, and body image satisfaction in children.

Conclusion:

Our results highlight the significant impact of various psychosocial comorbidities in children with AA, emphasizing the need for early identification and intervention. Healthcare professionals, including psychiatrists, therapists, and dermatologists, can play a significant role in treating pediatric patients with AA. Dermatologists can play a critical role in diagnosing AA and identifying psychosocial comorbidities that may arise and refer patients to appropriate care. Future research should focus on elucidating effective screening tools for dermatologists to identify these comorbidities early, ultimately improving the overall well-being of children with AA.

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Abstract N°: 197

A study of comorbidities in patients with alopecia areata

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Introduction & Objectives:

Alopecia areata (AA) is a T-cell mediated non-scarring hair loss with prevalence of 0.1% - 0.2% of the general population. For the ethiopathogenesis of AA it is suggested that genetic, immune, environmental factors, hormonal instability and psychological stress play a role. Thyroid autoimmunity and dysfunction, atopic dermatitis, vitiligo, psoriasis, metabolic syndrome are among the reported comorbid conditions. The objective of this study is to estimate the demographics, concomitant conditions of AA patients and their relatives, and the role of stress and COVID-19 in the onset of AA in the population in South Bulgarian region.

Materials & Methods:

This study was conducted from September 2020 to July 2023. AA patients were enrolled and evaluated at the Dermatology and Venereology Clinic at St. George Hospital, Plovdiv, Bulgaria. Each patient provided written informed consent. The study was performed according to the Declaration of Helsinki. Detailed medical history was taken and physical examination was done. Data was collected, computerized and analysed with statistical software. Continuous variables are given in the form of means and standard deviations (±SD), and category variables in percentages.

Results:

In the study participated 98 AA patients, 64 (65.30%) female and 34 (34.70%) male, mean age 33.36 [SD = 15.54], age range 3 to 67. Thirty-seven (37.80%) patients experienced first episode of AA, 61 (62.20%) recurrent episode. Forty patients (40.8%) had AA partialis, 31 patients (31.60%) AA Reticularis, 14 (14.30%) AA totalis, six (6.10%) with AA ophiasis, four (4.10%) with AA barbae, two (2.00%) with AA sisaipho and one (1.00%) with AA universalis. Eyebrow involvement is reported by 36 patients (36.70%), eyelashes by 29 (29.60%), loss of bodily hair by 25 (25.50%), and AA of the beard by 14 people (14.30%). Fifty-seven patients (58.20%) associate the onset of the current episode with acute stress and 32 (32.70%) with chronic stress. Three people (3.10%) were Covid-19 vaccinated three months before onset, while 18 (18.00%) had Covid-19 six months before onset.

Seventy-two (73.50%) patients reported comorbid conditions. Twenty-six (20.50%) had Hashimoto thyroiditis (HT), 12 (9.40%) allergic rhinitis, 11 (8.70%) atopic dermatitis, seven (5.50%) tonsillitis, six (4.70%) depression, five (3.90%) psoriasis vulgaris. A total of 34 (34.70%) people report thyroid gland associated pathologies.

Sixty-eight patients (69.40%) report family history. Among the 21 reported conditions, 26 (18.20%) have relatives with AA, 26 (18.20%) with HT, 16 (11.20%) with psoriasis, 15 (10.50%) with diabetes type 2, 13 (9.10%) with atopic dermatitis, 11 (7.70%) with Bazedov, six (4.20%) with rheumatoid arthritis, five (3.50%) with thyroid nodules and five (3.50%) with vitiligo.

Conclusion:

In this study, over 70% of the AA patients showed one or multiple comorbid diseases. Among these, thyroid autoimmunity and dysfunction emerged as the most prevalent. The most common dermatological conditions were atopic dermatitis, vitiligo and psoriasis. Positive family history for relatives with AA has also been found,

including AA, atopic dermatitis, thyroid and autoimmune diseases, psoriasis, vitiligo, diabetes and rheumatoid arthritis. The study also established the connection between stress, COVID-19 and COVID-19 vaccine before the onset of AA.

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Abstract N°: 241

Methylene blue vs flavin mononucleotide in photodynamic therapy for toenail onychomycosis

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Introduction & Objectives:

Methylene blue (MB) and flavin mononucleotide (FMN)-mediated photodynamic therapy (PDT) have exhibited local antifungal effect, but no direct comparative study has been published so far for the treatment of onychomycosis. This study was done to compare for the first time the efficacy in the short- and medium-term of PDT mediated by MB and FMN for the treatment of moderate toenail onychomycosis.

Materials & Methods:

A total of 40 patients with dermatophyte onychomycosis of one first-toe nail were randomised to receive 10 weekly sessions of PDT mediated by four topical formulations including MB or FMN at two different concentrations: Group I: 0.1% w/w MB; Group II: 2% w/w MB; Group III: 0.1% w/w FMN; and Group IV: 2% w/w FMN. Clinical assessment was conducted through both direct clinical examination and photographs for calculating the Onychomycosis Severity Index (OSI). Mycological assessment was conducted through microbiological and microscopic tests which were carried out at baseline and 27- and 35-week follow-ups.

Results:

At week 35, mycological cure rates (MCR) were 70%, 70%, 70% and 60% and complete cure rates (CCR) were 30%, 50%, 70% and 30%, for Groups I, II, III and IV respectively. No intergroup statistically significant differences were found in OSI, percentage of nail affectation, MCR and CCR. However, at this time-point, intergroup statistically significant differences were found between Group II and Group IV as for the degree of improvement values. All cream formulations were well-tolerated with no adverse reactions identified.

Conclusion:

Although all cream formulations were safe and effective, with a good degree of satisfaction, higher cure rates were obtained with 2% w/w MB cream and 0.1% w/w FMN cream.

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Abstract N°: 355

Onychophagia induced lichen planus to an 8-year old boy: a rare manifestation

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Introduction & Objectives:

Materials & Methods:

Results:

Nail lichen planus is an inflammatory disorder of the nails with potential for significant cosmetic disfigurement and functional impairment. Lichen planus is a multifaceted disease of complex etiopathogenesis. Nails are involved in up to 10% of patients with lichen planus. Nail manifestations may be isolated or appear concurrently with other forms of lichen planus. Longitudinal ridging is the most common clinical finding, but progressive disease may result in irreversible scarring (dorsal pterygium) or permanent nail loss (anonychia). Nail lichen planus (NLP) is very rare in children, with few cases reported in the literature, most of them as isolated case reports. In children it does not exceed 4% of the overall cases and usually the manifestations take the form of trachyonychia.

An 8-year-old child was presented to the paediatric dermatology clinic with a 3-month history of asymptomatic trachyonychia in 15 out of 20 nails. He had a medical history of ADHD. The child admitted that he repeatedly bit his nails when he is not seen by his parents and especially during nighttime.

The little boy was also reviewed at the specialized nail clinic where the diagnosis of nail lichen planus was made. Clinical examination showed no other lesions of lichen planus (mucous membranes and skin). A recommendation was made to stop onychophagia and start topical treatment with methylprednisolone cream. A psychiatric referral was done after discussion with his parents.

NLP is a Koebner positive condition as evidenced by our case. Onychophagia (nail biting) and onychotillomania (nail picking) are chronic nail conditions categorized as body-focused repetitive behavior (BFRB) disorders. Due to a limited awareness of their clinical presentations and comorbid psychiatric conditions, these conditions are frequently underrecognized and misdiagnosed. Onychophagia can cause destruction of the nail plate, leading to shortening, chronic paronychia and secondary infections.

When trachyonychia appears in childhood as a manifestation of lichen planus, it tends to resolve with time. Onychophagia and onychotillomania account for chronic trauma and thus lichen planus in positively predisposed individuals.

To our knowledge, nail lichen planus induced by onychophagia in children has not been reported in the literature. Lichen planus is important to be recognized because, if left untreated, it can lead to permanent nail loss with an impact on mental health especially in this vulnerable age group.

Conclusion:

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Abstract N°: 527

Androgenetic Alopecia or Telogen Effluvium? The interest of trichoscopy: study of 298 cases

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Introduction & Objectives: Androgenetic alopecia (AGA) is a common cause of hair loss, affecting both men and women. Its pathophysiology involves a genetic predisposition and increased sensitivity of androgen receptors. Telogen effluvium is defined by the synchronization of a high number of hairs to the telogen phase. These two diffuses alopecia can be confusing, hence it is necessary to improve diagnosis by trichoscopy.

Materials & Methods: Analytical descriptive study covering 298 patients, over a period of 2 years (March 2016, March 2018). The diagnosis of AAG and telogen effluvium was clinical, rarely histological. All patients underwent a trichoscopic examination using the Dinolite digital trichoscope, the results are entered on the EPI info, and compared by X^2.

Results: 212 patients. Male: 114. Female: 98, Average age: 34.90 + or – 8.8 years. Average evolution: 38.33 +or- 26.10 months. History: Family history of androgenetic alopecia (AGA) is the most common with 119 cases, followed by metabolic syndrome (obesity: 39 cases, hyperandrogenism: 35, dyslipidemia: 1, (hypertension) arterial hypertension: 3). Score: Most men have AGA of the male type (Hamilton) of grade 3 (25 cases), grade 4 (34 cases), grade 5 (18) and 19 of the female type. Most women have AGA of the female type (Ludwig) of stage 1 (71), stage 2 (38), stage 3 (8), and 8 women have male types.

86 cases of telogen effluvium. Gender: 19 men, 67 women. Age: 29.22 +or- 8.06 years. Evolution: 11.02 +or- 10.48 months, history: 9 cases of dysthyroidism, 35 cases of iron deficiency anemia.

Trichoscopic signs of AGA: anisotrichia, single hair follicle in 100% of cases, yellow dot in 84% of cases, vellus hair in 81% of cases, peripilary sign in 73% of cases, and white dot in 2% of cases of AGA.

Trichoscopic signs of telogen effluvium: hair regrowth, and isotrichia in 100% of cases, peripilary sign in 6 cases, vellus hair and yellow dot in 3 cases.

Comparison of AGA with telogen effluvium found: Yellow dots, vellus hair, peripilary sign, anisotrichia >20%, follicles with a single hair (>60%) were in favor with AGA, $P<0.001$ (specificity of 96.50%, and sensitivity of 87.5%). Hair regrowth and isotrichia were in favor of telogen effluvium, $P<0.001$.

Conclusion (and discussion): The contribution of trichoscopy appears undeniable today; in the literature, few studies have made a trichoscopic comparison between androgenetic alopecia and telogen effluvium. The results of our study were consistent with those of the literature; Rakowska's study, and that of Inui, found that yellow dots, vellus hair, peripilary sign, anisotrichia >20%, and follicles with a single hair were characteristic trichoscopic signs of AGA.

Regrowth of hair and isotrichia were characteristic of telogen effluvium. In conclusion: the diagnosis of AGA and telogen effluvium is sometimes difficult. Trichoscopy is a non-invasive, simple method that allows rapid diagnosis and monitoring of alopecia.

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Abstract N°: 570

Effectiveness of Th2 pathway inhibition in the treatment of alopecia areata in patients with concurrent atopic dermatitis: A real-life retrospective study

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Introduction & Objectives:

Alopecia areata (AA) and atopic dermatitis (AD) are immune-mediated diseases that frequently coexist within the same individual. Recent studies have underscored a pathogenetic connection between these conditions, mediated by the T helper (Th) 2 pathway, highlighting the potential for targeted therapeutic interventions. This study aims to evaluate the efficacy of dupilumab and tralokinumab in patients with AA and concomitant AD, underlining the potential of Th2 pathway inhibition as a therapeutic strategy for AA.

Materials & Methods:

We conducted a single-center retrospective study involving patients diagnosed with AA and concomitant AD. Patients who had previously undergone local and systemic treatments for AA with limited success were included. The study focused on the administration of dupilumab and tralokinumab to assess their therapeutic efficacy. The severity of the diseases and the response to the treatments were evaluated using several scoring systems, including the Severity of Alopecia Tool (SALT), the Eczema Area and Severity Index (EASI), and the Dermatology Life Quality Index (DLQI).

Results:

The study included ten patients, with nine treated with dupilumab and one with tralokinumab. Among the dupilumab-treated patients—three males and six females with a median age of 30 years—a significant reduction in mean SALT scores from 43.2 to 10.6 was observed after an average treatment duration of 40.7 months. A 50% improvement in SALT scores was seen in a significant portion of patients at different time intervals. Notably, four patients achieved complete resolution of their disease, and improvements in quality of life were universally reported, as indicated by a decrease in DLQI scores from an average of 14.7 to 1.2. The lone patient treated with tralokinumab, a 33-year-old woman with a long-standing history of AD and AA, experienced considerable clinical improvement within six months of treatment, with her SALT score reducing from 22 to 2.

Conclusion:

The findings from this study suggest that inhibition of the Th2 pathway, through agents like dupilumab and tralokinumab, represents a promising therapeutic approach for managing AA in patients with concomitant AD. Despite the study's retrospective nature and the small sample size, the significant clinical improvements observed warrant further investigation into Th2 pathway blockade as a viable treatment strategy for this patient population.

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Abstract N°: 703

Patient perception of alopecia areata – can we trust the tools for assessment of severity and burden of disease?

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Introduction & Objectives: Alopecia areata (AA) is an autoimmune disorder that causes sudden unpredictable loss of hair. The aim of the survey was to explore patients' perception of disease, healthcare utilization, impact on daily life and how scores for disease severity and quality of life (QoL) correlate with perceived severity of disease.

Materials & Methods: An anonymous survey was posted on Facebook, Instagram and TikTok in Norway and Denmark. Disease severity was assessed by Severity of Alopecia Tool (SALT), stigmatization by Patient Unique Stigmatization Holistic tool in dermatology (PUSH-D), and QoL by Dermatology Life Quality Index (DLQI). Approval from the Regional Ethics Committee (assessment no. #722865) was not required. Wilcoxon test was performed for the SALT score and t-test for DLQI to explore the difference between moderate and severe groups. Univariable linear regression was performed to explore associations between SALT and DLQI.

Results: In total, 360 patients (95 % women) responded to the survey (53% AA, 26% Alopecia Universalis (AU), 12 % Alopecia Totalis (AT), and 8 % other AA, mean (+/-SD) age 52 (+/-17) years, time since diagnosis 35 (+/-19) years, DLQI 8.5 (+/-7.6), PUSH-D 15.7 (+/-13.1) and SALT in AA 27.6 (+/-27.0). Disease severity was self-reported as severe by 56 %, moderate by 29 % and mild by 15 %. Only 36 % reported to have visited a healthcare professional during the last 12 months and average annual number of visits to a dermatologist was 3.4, GP 2.8 and psychologist 6.9. Sixty-one percent reported AA interferes with their activities on a daily/weekly basis (increasingly with self-reported severity and DLQI but decreasingly with increasing SALT score).

In responders with AA (n=180, AT/AU excluded), perception of disease severity was mild in 25 %, moderate in 38 % and severe in 37 %. The SALT score was evenly distributed in severe AA (n=67): 25 % SALT score <25, 27 % SALT score 25-49, 24 % SALT score 50-74, and 24 % SALT score 75-100.

The association between DLQI and SALT score was poor (R-square = 0.08, $p<0.001$). Statistical difference was detected between the moderate and severe perception-groups in SALT and DLQI scores ($p<0.001$ and $p=0.03$, respectively). DLQI and PUSH-D were correlated ($R=0.67$, $P<0.001$). In self-reported severe patients (n=203), DLQI was evenly distributed: 53 % DLQI ≤ 10, and 47 % DLQI > 10. The DLQI score also failed to differentiate between responders who had improved, n=132 (58 % DLQI ≤ 10, 42 % DLQI > 10) or worsened, n=54 (67 % DLQI ≤ 10, 33% DLQI > 10) during the last year ($p=0.235$).

Conclusion: There is an overrepresentation of female responders with self-reported severe disease and long disease duration. Many patients with SALT score below 50 consider their disease to be severe which can be explained by the visual mark, impact, and psychological burden even a small patch has on patients. The results show DLQI as a less reliable tool to measure QoL in AA. Even in patients with severe AA, DLQI is unable to depict the QoL impact and fails also to differentiate between worsening and improving patients. Furthermore, DLQI does not correlate with the commonly used SALT score to measure disease severity in AA. Patients' own perception of

severity of disease and burden of disease is not depicted properly by SALT or DLQI score, demanding better tools for assessment in treatment of AA.

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Abstract N°: 764

Navigating the Uncharted: Diagnostic Challenges in an Atypical Case of Scarring Alopecia Secondary to Brunsting-Perry Pemphigoid

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Introduction & Objectives:

Brunsting-Perry Pemphigoid (BPP) is a rare variant of mucous membrane pemphigoid (MMP), with 63 cases reported in the literature with histopathological confirmation and positive direct immunofluorescence (DIF). BPP is characterized by the formation of chronic and recurrent subepidermal bullous lesions on the head and neck in 82.5% of cases, with secondary scarring, leading to cicatricial alopecia, with rare involvement of mucous membranes. The diagnosis is based on clinical and histopathological correlation, in which subepidermal blisters with superficial dermal infiltrate containing eosinophils are evident; and DIF with evidence of deposits of IgG, IgA, and C3 along the basement membrane.

Materials & Methods:

This is a 66-year-old patient with no significant medical history, who is referred from a rural area, who presented ocular pain associated with ipsilateral erosions, involving the scalp and periocular region 1 week before the consultation. Upon evaluation of the patient, erosions and some tense blisters involving the left half of the scalp are evident, with no involvement of other areas of the body or mucous membranes. Initially, diagnostic impression was herpes zoster with Wolf's isotopic response or lichen planus pemphigoides. Also, the patient reported a similar episode at the age of 20 with subsequent cicatricial alopecia of the right half of the scalp.

Results:

Skin biopsy is performed with a report of subepidermal blisters and dermal scar changes, with an inflammatory infiltrate composed by neutrophils and eosinophils, and DIF with linear deposits of IgG and C3 along the basement membrane. Based on the biopsy and DIF reports, associated with the presentation of tense blisters on the scalp with subsequent secondary cicatricial alopecia, BPP was diagnosed. Treatment with clobetasol cream (topic) and prednisolone 0.5 mg/kg/day initially improved skins lesions. When the tapered of the corticosteroid was done, systemic therapy with methotrexate 15 mg/week was initiated with re-epithelialization of the erosions, and no evidence of new lesions.

Conclusion:

Cicatricial alopecia encompasses a group of disorders that result in permanent hair loss due to the absence of hair follicles. It can be primary, covering lymphocytic, neutrophilic, mixed, or nonspecific etiologies, or secondary to physical factors, trauma, thermal, or surgical damage. Among these causes, BPP is rarely found as one of its possible etiologies, which should be considered when making an association with the patient's medical records, inquiring about recurrences, physical examination findings, and correlating them with biopsy and DIF reports. This is the third case of BPP in a Hispanic female patient. Regarding its treatment, topical high-potency steroids have been used as the first-line management, however, a multimodal therapy may be required to achieve lesion improvement, thus immunomodulatory therapies have been described, with an adequate safety profile and complete remission of lesions, as we evidenced in our case.

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Abstract N°: 856

Telogen and trichodynia: the approach of physical therapy

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Introduction & Objectives: Telogen effluvium is an underdiagnosed condition that requires difficult patient management. The diagnosis of telogen effluvium is a diagnosis of exclusion to other scalp disorders. Trichoscopy helps to confirm the diagnostic suspicion, and today a skin biopsy is almost never required. Once the diagnosis is made, the therapeutic indication follows well-defined steps starting from cosmetic therapy to medical therapy in unresponsive cases. Trichodynia indicates a painful sensation of the scalp related to hair loss. It was originally suggested to be a hallmark of telogen effluvium,and related to follicular inflammation of possibly autoimmune origin. In addition, statistical analysis failed to demonstrate any correlation between trichodynia, the extent of hair thinning or hair loss. It is conceivable that the neuropeptide substance P may be a key player in the interaction between the central nervous system and the immune and microvascular systems. Such mechanisms would explain the harmful effects of not only external stimuli but also emotional distress in eliciting cutaneous nociception. Recent studies have shown that the different cellular components that compose the hair bulb undergo to an apoptosis process induced by the alteration of cellular control mechanisms, especially triggered by the caspases cascade within the DNA of the dermal papillae. It is also described how stimulation of the microcirculation and local blood circulation increases hair growth or delays the atrophy of the hair bulb.

Materials & Methods: We performed the treatment on 50 patients with telogen effluvium and trichodynia. The total number of sessions was 4 every month. Researcher clinical evaluation, global photography and trichoscopy with measurement of the Density / cm2 ratio by trichoscopy were collected at every session of therapy. All patients filed out a brief questionnaire of self-assessment.

Results: Results of our study were very promising, with improvement in most of patients seen with both global photography and trichoscopy. All patients defined the treatment as “painless and pleasant” and all were satisfied of the clinical result.

Conclusion: The use of growth factors associated with skin patting and ionophoresis technique is a useful treatment for treating and preventing telogen effluvium and trichodynia, through a cold / hot thermal stress that stimulates the blood microcirculation, improving the tropism of the hair bulb.

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Abstract N°: 884

The severity of the onychomycosis using the SCIO in patients with the first negative KOH microscopic examination for fungi

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Introduction & Objectives: Onychomycosis accounts for almost 50% of the most common nail diseases. The clinical characteristics of the feet onychomycosis are described in many studies. But now we have a lot of patients with the negative results of the first microscopic examination.

Objective: to study the clinical features of onychomycosis in patients with the first negative scraping for fungi.

Materials & Methods: 58 patients with onychomycosis of the feet were selected among patients aged over 18 years. 29 patients with the 1st negative and next positive results of microscopic examination for fungi (group 1) . 29 patients with the 1st positive KOH microscopy (group 2). The SCIO index was used for assessing the severity of the feet onychomycosis. Thus, there was mild severity with 1 to 6 points, medium severity with 7 to 12 points, and severe onychomycosis with 13 to 30 points.

Results: Mild nail changes were in 2 (7%) and 6 (21%) patients, medium severity - in 5 (17%) and 8 (28%) patients, and severe onychomycosis in 22 (76%) and 15 (52%) patients in group 1 and 2 respectively. The subungual hyperkeratosis in patients from groups 1 and 2 was absent or minimal in 5 (17%) and 13 (45%) patients respectively, moderate - in 16 (55%) and 11 (38%) patients, and severe - in 8 (28%) and 5 (17%) patients. The length of the lesion up to 1/3 of the nail was observed in 3 (10%) and 6 (21%) patients in grout 1 and 2 respectively, between 1/3 and 2/3 of the length of the nail - in 12 (41%) and 11 (38 %) patients and more than 2/3 of the nail length - in 14 (48%) and 12 (41%) patients. Total damage to the nail plates of the feet was observed in 14 (48%) and 6 (21%) patients, respectively. The patients of the group 1 had concomitant dermatoses: chronic eczema of lower legs – in 3 (10%) patients, psoriasis vulgaris – in 2 (7%) patients, and mycosis of the body – in 1 (3.4%) patient. It was revealed that 18 (62%) patients used antifungal drugs on their own in Group 1, and 11 (38%) patients were self-treated in group 2.

Conclusion: Patients with the first negative KOH microscopy have a severe course according to the SCIO index. The differences in the severity of the feet onychomycosis in patients of Groups 1 and 2 could be related to concomitant dermatoses (chronic eczema of lower legs, psoriasis vulgaris, mycosis of the trunk) and previous treatment.

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Abstract N°: 886

Investigation of potential targets for MitoQ in androgenic alopecia based on network pharmacology and experimental validation

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Introduction & Objectives:

This study aims to explore the role and mechanism of MitoQ intervention in androgenetic alopecia.

Materials & Methods:

A mouse model of androgenetic alopecia (AGA) was utilized to assess the effectiveness of MitoQ intervention. Protein-protein interaction networks were performed using predicted targets of MitoQ and targets related to androgenetic alopecia. Enrichment analyses were conducted on the core targets, and molecular docking validation was carried out on the selected key active ingredients and core targets. *In vitro* investigations on dermal papilla cells (DPCs) were carried out to confirm the effects and mechanisms of MitoQ on CYP19A1 and its encoded aromatase. This included knockdown and overexpression of the CYP19A1 gene in cells, followed by treatment with DHT and MitoQ treatment.

Results:

The effects of MitoQ on hair follicles and its potential in treating AGA were investigated. MitoQ was found to increase the number of hair follicles in the anagen phase, enhance skin thickness, and stimulate the proliferation of hair follicle cells in mice. Through network pharmacology analysis, 75 drug targets and 367 disease targets were identified. Molecular docking analysis revealed that MitoQ's key targets, Androgen Receptor (AR) and Aromatase (Cytochrome P450 family 19 subfamily A member 1, CYP19A1), may play a role in AGA treatment. The biological processes associated with these targets include sex differentiation, regulation of oxidoreductase activity, and the MAPK signalling cascade. Comparing the lesions of AGA patients to healthy scalp tissues, it was observed that CYP19A1 expression was down-regulated while AR expression was up-regulated. Cellular tests on human dermal papilla cells (hDPCs) treated with MitoQ showed that the mRNA and protein expression of AR remained unchanged, but the mRNA expression of CYP19A1, which is involved in the conversion of sex hormones, was upregulated. Further research indicated that CYP19A1 overexpression protected against DHT-induced apoptosis, while CYP19A1 knockdown caused apoptosis to be reversed by MitoQ, suggesting the potential of MitoQ in AGA treatment.

Conclusion:

MitoQ has the ability to enhance hair growth in model mice with DHT-induced hair loss, as well as reverse DHT-induced apoptosis by enhancing the expression of CYP19A1 in dermal papilla cells (DPC). These findings indicate that MitoQ could be a promising intervention for AGA, and CYP19A1 may serve as a valuable therapeutic target for AGA.

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Abstract N°: 927

Electron Microscopic Analysis of 6-Month Customized, AI-Based Topical and Oral Treatment Effects on Hair Strand Quality

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Introduction & Objectives:

Hair strand quality is a paramount concern in dermatology and trichology, reflecting the health of the hair and scalp. Traditional hair loss treatments have primarily focused on promoting hair growth and density, with less emphasis on the microscopic quality of hair strands themselves. Recent advancements in artificial intelligence (AI) offer personalized treatment options, potentially improving not only the quantity but also the quality of hair.

This study aims to evaluate the impact of an AI-based customized treatment regimen on hair strand quality, using electron microscopic analysis to observe changes in the hair's structural components.

Materials & Methods:

A cohort of 40 women with self-perceived thinning hair underwent a 6-month treatment with an AI-customized hair loss regimen. Inclusion criteria ensured a diverse range of hair types and conditions. Hair samples were collected at baseline and post-treatment for electron microscopic analysis.

The treatment comprised both topical and oral components, tailored to each participant's specific hair loss pattern and scalp condition, based on automated AI image analysis of their scalp, and self-uploaded questionnaires. Electron microscopic analysis of hair samples was analyzed using scanning electron microscopy (SEM) to assess changes in cuticle structure. SEM performed for MDalgorithms Inc. at North Dakota State University, Electron Microscopy Core, based on work supported by the National Science Foundation Grant No. 0619098. Parameters such as cuticle layer uniformity and cuticle edge integrity were quantitatively assessed.

Results:

Structural Improvements in Hair Strands Electron microscopy revealed significant improvements in hair strand quality: Cuticle Integrity: Post-treatment samples showed a marked increase in cuticle layer uniformity and edge integrity, suggesting enhanced protection against mechanical and chemical damage.

Conclusion:

The electron microscopic analysis provided insight into the structural improvements at the microscopic level, attributing enhanced hair quality to the AI-based customized treatment. These changes are critical for the hair's mechanical properties and resilience, contributing to overall hair health and appearance. The study's findings suggest that personalized treatment regimens can effectively address specific hair quality issues, offering a targeted approach to hair care.

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Abstract N°: 928

Improving Scalp Health with AI-Based Customized Treatments: Assessing Changes in Transepidermal Water Loss in a 6-Month Prospective Clinical Trial.

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Introduction & Objectives:

The scalp, much like the skin elsewhere on the body, requires a healthy barrier function to maintain hydration, protect against external irritants, and support hair follicle health. TEWL is a non-invasive measure of the skin's barrier function, with higher values indicating compromised barrier integrity and an increased risk of dermatological issues. Recent advancements in artificial intelligence (AI) have enabled the development of customized treatment regimens for hair loss, tailored to individual scalp conditions. This study investigates the impact of such AI-based treatments on TEWL, offering insights into their potential to improve scalp health and, by extension, hair growth and quality.

Materials & Methods:

A total of 40 women experiencing hair thinning were enrolled in this prospective, observational study. Following baseline TEWL measurements, participants received a 6-month treatment with an AI-customized regimen designed to address their specific scalp and hair loss conditions. The treatment comprised both topical and oral components, tailored to each participant's specific hair loss pattern and scalp condition, based on automated AI image analysis of their scalp, and self-uploaded questionnaires.

TEWL was measured using a closed-chamber evaporimeter at baseline, 3 months, and 6 months. Measurements were taken from the same scalp region under controlled environmental conditions to ensure consistency. Single Tewameter measurements were taken on the center of the hair part on the top of the crown of each subject's scalp. The Tewameter TM Nano (Courage + Khazaka electronic GmbH, Cologne, Germany) measured the passive transfer of water through the stratum corneum (transepidermal water loss [TEWL]). Data were analyzed by a microprocessor and reported in $g/m^2/h$. A decrease in TEWL values reflected an improvement in the barrier properties of the skin. Changes in TEWL values from baseline to 6 months were analyzed using paired t-tests, with significance set at $p<0.05$.

Results:

The TEWL measurement in the center of the hair part of the scalp showed a statistically significant reduction in TEWL after 12 weeks, 61.5% (Paired T-Test, $p \leq 0.027$) and 69.2% of participants at 24 weeks, which is an indicator of improved skin barrier function and improved scalp health. In self-assessment questionnaires, most of the participants felt improvement in the health of their scalp, 74.1% at 4 weeks, 8 weeks, and 12 weeks (Binomial Test p-value, $p = 0.019$) and 85.2% at 24 weeks (Binomial Test p-value, $p < 0.001$).

Conclusion:

This study demonstrates that AI-based customized treatment regimens can significantly reduce scalp TEWL, there by improving scalp health over a 6-month period. These findings highlight the potential of personalized treatment plans based on AI scalp image analysis, to address scalp health issues and support overall hair health.

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Abstract N°: 981

Post Covid telogen effluvium: the diagnostic value of serum ferritin biomarker and the preventive value of dietary supplements

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Introduction & Objectives: Telogen effluvium is characterized by diffuse hair shedding that usually starts 2-3 months following a certain stressful event. Serum ferritin was often used as a biomarker in cases with telogen effluvium.

Post-COVID-19 telogen effluvium is a frequent, usually self-limiting dermatological condition. Serum ferritin levels were reported to be elevated with their elevation associated with the severity of the condition and can be used as a predictor of severity.

Because of the lacking evidence on the serum ferritin levels in cases with post-covid hair loss, this study was designed to compare serum ferritin among patients recovering from COVID 19 with and without TE

Materials & Methods:

This observational case-control study included 100 patients recovering from COVID-19

Patients were ≥ 18 years with history of COVID-19 infection that was confirmed by PCR testing 4- 24 weeks prior to enrollment. Fifty patients complaining of hair shedding (TE group) and 50 patients with no history of hair shedding following COVID infection (control group).

All participants were subjected to full medical and dermatological history taking before a thorough dermatological examination. The diagnosis of TE was made by typical history of excessive hair shedding (e.g., reduction of the ponytail in diameter, clogging of the shower drain by hairs) and following physical findings: positive pull test, diffuse or bitemporal thinning, and absence of anisotrichosis in trichoscopy. Hair pull test was performed by firmly pulling about 40–60 hairs between two fingers and positive test is confirmed when pulling out of 4–6 hairs or more. Anisotrichosisi in trichoscopy (>10% miniaturized hair) was deemed compatible with androgenetic alopecia (AGA). A 5 ml of venous blood was withdrawn for serum ferritin measurement

Results:

one hundred patients recovering from COVID-19 were included in the analysis, 50 patients had post-covid telogen effluvium and 50 patients had no history of TE. After infection. Both groups had matching duration since at the time of enrollment ($p= 0.880$). TE patients were significantly younger (the mean age was 27.64±6.04 and 33.84±8.68 respectively $p< 0.001$) with significantly more females than the control group ($p< 0.001$) (Table 1). Serum ferritin level was significantly lower among TE patients than controls (68.52±126 and 137±137.597 ug/L respectively) ($p< 0.001$).

Comparing the use of medications and supplements for COVID-19 infection, the TE patients used significantly more azithromycin and ivermectin than the control group. On the other hand, the TE group consumed significantly less supplements of vitamin C, vitamin D, zinc and lactoferrin.

Conclusion:

The current study suggests that ferritin can be significantly lower in sera of post covid TE patients than patients recovering from covid without TE, but its level is still higher than the cutoff of serum ferritin level used in clinical practice to measure nonanemic iron deficiency in TE patients, hence we suggest that ferritin will not be as accurate biomarker in post covid TE. Our secondary outcomes revealed that dietary supplements used during covid could have a favorable effect on post covid TE

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Abstract N°: 1102

Chemotherapy-induced mees lines

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Introduction & Objectives:

Mees lines or Aldrich-Mees lines are transverse leukonychia linked to the alteration of the distal nail matrix and abnormal keratinization of the nail plate. These transverse white lines of the nails can occur in different situations , including after chemotherapy.

Materials & Methods:

We report the case of a 20-year-old girl, treated for acute lymphoblastic leukemia who presented after 3 courses of chemotherapy (vincristine, doxorubicin), diffuse transverse leukonychia of the nails without toe involvement. There was no history of nail trauma and no abnormal renal or liver function on blood tests.

Results:

On examination, there were diffuse whitish transverse bands that did not fade with digital compression . These lines were evolving parallel to nail growth with no abnormalities on the surface or around the nail .

Conclusion:

Transverse leukonychia has been reported in patients undergoing chemotherapy, mainly with taxanes, but has also been associated with other diseases including renal failure, heart failure, systemic lupus erythematosus , arsenic poisoning and COVID-19 infection. These lines must be differentiated from Muehrcke’s lines, a transverse leukonychia that fade on digital compression , do not migrate during nail growth and are linked to vascular congestion in the nail bed, associated with liver diseases , nephrotic syndrome and malnutrition.

Mees lines evolve in parallel with nail growth and disappear spontaneously after chemotherapy sessions, hence the need to reassure patients by explaining the reversible nature of this nail abnormality.

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Abstract N°: 1231

Efficacy and safety of combined topical ethinylestradiol with minoxidil versus topical minoxidil alone on female pattern hair loss. A trichoscopic comparative study

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Introduction & Objectives:

Female pattern hair loss (FPHL) is widely common and negatively impacts the quality of life and more challenging to treatment than male pattern hair loss. Minoxidil is a gold standard treatment for FPHL. The use of topical 17α-estradiol in the treatment of FPHL has been previously reported with variable results. This study was design to evaluate the safety and efficacy of topical 17α-estradiol 0.01% combined with minoxidil 2% solution compared to the gold standard minoxidil 2% in the treatment of FPHL.

Materials & Methods:

Forty-three female patients with FPHL were asked to blindly apply 6 puffs twice daily of a spray on containing 17α-estradiol 0.01 combined with minoxidil 2% solution (EMX group) or minoxidil 2% alone (MX group). Treatment continued for 6 months. Clinical and trichoscopic assessments were performed at the baseline and at the end of the treatment. Trichoscopic examination was performed using the overview mode of Fotofinder II. Two anatomical landmarks were captured: frontal and occipital. Frontal area [F]: a point in which the line connecting the two tips of ears crossed the line extending from the tip of the nose and occipital [O]: a point on the external occipital protuberance. Images were taken at 20- and 50-folds magnification, which aids high quality magnification of 1 cm2 of scalp area to the size of the computer screen. The dermoscopic features of the two areas were analyzed by one of the authors, who was blinded to the treatment used, using the trichoscale analysis system of the fotofinder in an area of approximately 1 cm2 (0.903cm2). The analyzed features included hair density (hair count / 0.903 cm2), terminal hair density, vellus hair density, follicular unit density, average number of hairs per follicular unit, percentage of single, double, and triple or more hairs per follicular unit and hair thickness (hair shaft diameter in mm)

Results:

Forty patients completed the study and were included in the analysis. At the end of the treatment period, both groups improved, although the EMX showed better improvement; the difference was insignificant. However, significantly more patients in the EMX group developed menstrual changes. Table 1

Conclusion:

although the combination of 17 α-estradiol and minoxidil seems to yield significantly better patients' satisfaction, this was not reflected trichoscopically. Together with the fact that estradiol treated patients reported significantly more side effects than MX alone, the 17 α-estradiol/minoxidil topical combination's risk-benefit ratio may not be promising for patients suffering of FPHL.

Table 2 Trichoscopic features of studied groups at baseline and after 24 weeks.

	EMX	MX
	Frontal	**Occipital**
	Baseline	**Week 24**
Hair Density (hair/cm^2)	**Mean**	132.68
	SD	27.44
	***p* value**	0.00*
Hair Thickness (µm)	**Mean**	48.50
	SD	7.93
	p value	0.010*
Hair(s)/ fol. unit	**Mean**	1.70
	SD	0.207
	***p* value**	0.001*

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Abstract N°: 1262

Comparison of platelet- rich –plasma with and without exosomes therapy in the treatment of male pattern baldness

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Introduction & Objectives:

Androgenetic alopecia (AGA) or male pattern baldness is characterized by reduction of the hair follicles gradually causing conversion of terminal hairs into vellus hair, leading to progressive reduction of the density of hair on the scalp.

The aim of this study to compare the results of injections of platelet-rich plasma (PRP) and platelet-rich plasma (PRP) in combination with stromal vascular fraction (SVF), which is rich in adipose-derived stromal cells (with a potential in modulating hair growth cycle) in the upper scalp for the treatment of AGA.

Materials & Methods:

In this study, 220 adult patients presenting with male pattern baldness were included. Patients were divided into two groups. Group 1 containing 110 patients received plain Platelet-Rich-Plasma (prp) treatment, while the second group was treated with PRP in combination with exosomes. Over the course of the study, a total of 6 sessions were conducted, with each session spaced 4 weeks apart. The results were assessed at the baseline, after 4thsession, and 1 month after 6th session. Pre and post trichoscopy images were taken.

The assessment of outcomes included both re-injection and changes in hair density at 6 and 12 weeks after injection. The evaluation of changes in the density was conducted using ultra high-resolution photography.

Results:

Hair density was significantly increased after 6 weeks and 12 weeks post injection were seen with platelet-rich plasma (PRP) in combination with exosomes In hair-to-hair matching analyses, new hair grew from active follicles. Furthermore, nonfunctioning hair follicles filled with hyperkeratotic plugs, up to today assumed incapable of forming new hair, proved to grow new hair. No side effects were noted after treatment.

Conclusion:

Intra dermal administration** of platelet-rich plasma in combination with exosomes showed significant increase in hair density, improves hair regrowth within 6 to 12 weeks. Overall, exosomes hold promise in influencing the hair growth cycle and may serve as a potential therapy in AGA.

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Abstract N°: 1305

Acantholytic dyskeratotic acanthoma revealed by a longitudinal erythronychia

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Introduction & Objectives:

Focal acantholytic dyskeratosis is a distinctive histological pattern first in 1972, consisting of focal suprabasilar clefts in the epidermis and dyskeratotic cells at all levels of the epidermis with hyperkeratosis and parakeratosis. The first case of longitudinal erythronychia (LE) with histological features of focal acantholytic dyskeratosis (ADA) was reported in 1990. This subungual variant is a very rare entity.

Materials & Methods:

We report a case of an ADA revealed by a LE.

Results:

A 63-year-old female with a history of high blood pressure, diabetes mellitus, and Hyperparathyroidism, presented with a 6-month history of a solitary, asymptomatic longitudinal red streak of the right thumb nail. Clinical examination revealed a longitudinal paramedian erythronychia measuring 1mm in width. Distal onycholysis was observed with a subtle palpable nail ridge. Dermoscopy showed longitudinal erythronychia with a few splinter hemorrages, with localized hyperkeratosis and thinning of the nail plate at the free edge. The patient had no personal or family history of skin disorders. There was no involvement of the rest of the nails and no cutaneous findings. The initial clinical diagnosis was onychopapilloma. surgical excision of the distal matrix and nail bed was performed. Microscopy revealed Suprabasal clefing within the epithelium of the matrix associated with acantholysis. Scattered dyskeratotic cells, particularly corps ronds, were also present. Clinical presentation and pathological findings led to the diagnosis of ADA in a subungual location.

Conclusion:

ADA is a benign solitary tumor of the keratinocytes. The histological pattern is represented by an ill-defined horizontally shaped tumour, with confluent acantholytic dyskeratosis affecting the entire thickness of the epidermis, the granular and corneal layer of the epidermis or non-confluent focal sites of acantholytic dyskeratosis. ADA occurring in a subungual location has been rarely reported. This rare tumor could mimic various inflammatory or neoplastic conditions. To our knowledge, this is the eighth case reported in the literature.

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Abstract N°: 1349

Challenges in Hair Restoration and thinking beyond PRP: Therapeutic update and a balancing act in Androgenetic alopecia

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Introduction: Hair loss, or alopecia, is associated with several medical comorbidities and with body dysmorphia being magnified by the omnipresent digital world, alopecia has an immense psychosocial impact too, with psychiatrists increasingly linking the onset of male and female pattern baldness to mental health. Lack of advancements in hair loss management and prolonged course of conventional medical treatments have led to an economic burden to individuals and the society. Different forms of alopecia are attributable to a multifactorial predisposition. Androgenetic alopecia (AGA) is the most common form of hair loss, a genetically predetermined disorder due to excessive response to androgens, impacting more than 50% of males and females globally. Conventional medical interventions for AGA, both topical and systemic, are associated with several adverse effects with long term use, along with prolonged treatment durations, compliance issues and recurrence of alopecia. PRP is an autologous preparation of platelets in concentrated plasma and has emerged as a safe and effective alternative but is not successful in majority due to lack of defined guidelines. Thus, several newer therapeutic strategies and evidence based regenerative medicine for alopecia are currently being explored with increasing potential in AGA, even more than PRP.

Objectives:

1. To discuss a therapeutic update on alopecia and hair regeneration beyond conventional methods and beyond PRP.
2. To evaluate the effectiveness of growth factors with microneedling and mesotherapy and compare with PRP treatment for AGA.
3. To assess the impact of advanced procedures for hair regeneration on patient's satisfaction, treatment experience and quality of life

Materials & Methods: Patients more than 18 years of age, diagnosed with androgenetic alopecia and who have not taken any other treatment or any other topical or systemic medication for hair fall in last the 6 months, were included in the study. A total of 6 sessions of treatments with PRP, Growth factors, Mesotherapy solutions were given to the patients (divided in 3 treatment groups), at monthly intervals and they were assessed at 12 weeks and 24 weeks. Patients were followed up for a year for the final assessment which was done by Global macroscopic photographs (showing change in hair density and reduction in bald patches), Hair pull test and Survey-based questionnaire regarding patient's experience and satisfaction at the end of 1 year.

Results: The results of the present study demonstrated the potential role of Growth factors with microneedling in hair restoration and a significant improvement in hair growth in both males and females with AGA. The results were better than with PRP alone. The hair growth results could be maintained for a longer time with the addition of mesotherapy, with better compliance and patient satisfaction.

Conclusion: Treatment of alopecia, and moreover AGA remains a challenge and patients with AGA often have a heterogenous response to treatment. Thus, combination therapy incorporating advanced minimally invasive procedural modalities like Growth factors along with Mesotherapy holds promise to reduce the dependency on conventional medications and produce long-lasting results, prior to surgical considerations.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 1389

Clinicoepidemiological characteristics and long-term surgical outcomes in patients with glomus tumor: A retrospective study

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Introduction & Objectives:

Glomus tumors are painful neoplasms arising from the glomus bodies generally over fingertips. Being rare tumors, data on long-term surgical outcome is scarce. This study was conducted to describe the clinic-epidemiological characteristics, surgical outcomes, assess the patient satisfaction, rates of recurrence and surgical complications of glomus tumor.

Materials & Methods:

This was a retrospective study of patients with glomus tumor of nail apparatus who attended the dermatosurgery clinic and underwent surgery in the last 10 years (2013-2023). The demographic details, presenting symptoms, investigations, surgical procedure, and follow-up were analysed.

Results:

There were 25 patients of glomus tumor with a female preponderance and fingers were affected (23/25) in majority. The most common symptom was pain present in all patients. Reddish-blue discolouration of the nail bed was seen in 17 (68%) patients and nail plate changes in form of dystrophic nails and longitudinal splitting at presentation was noted in 5 (20%) patients. All patients were treated surgically by transungual excision. The commonest immediate complication was pain, present in all patients. Incomplete nail plate formation and longitudinal split post-surgery was noted in 6 patients (24%). The median duration of follow-up was 5 years post-surgery. All the patients were satisfied after surgery having complete pain relief without any recurrence during the follow up period.

Conclusion:

Surgical excision of glomus tumors was curative with minimal risk of recurrence. Patients were contended with pain relief and improved quality of life.

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Abstract N°: 1477

Periungual neurofibroma: rare and elusive

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Introduction & Objectives:

Neurofibromas (NFs) are benign and most common peripheral nerve sheath tumors. Several clinical types of NFs are recognized including localized, diffuse and plexiform form, with former being the most prevalent. Although NFs may occur anywhere on the body, they are mostly found on trunk, head/neck area and extremities, respectively. Occurrence of NFs in periungual area has been rarely reported. Herein, we report a case of periungual NF on fingernail in male patient.

Results:

A 63-year-old male was referred to our department due to slowly growing and painless periungual nodule on middle finger of right hand that have been treated as ingrown nail in several occasions. The lesion had been present for 5 years. His medical and family history was insignificant. Clinically, an erythematosus, firm nodule (10 mm in diameter) was observed in the lateral periungual and subungual area of middle right finger. Onychoscopy revealed no abnormality on affected nail bed. In order to exclude subungual exostosis and digital myxoid cyst, we perform radiography and ultrasound examination revealing no abnormalities. Total excision of nodule was performed after partial nail plate avulsion. Pathohistological diagnosis was consistent with NF.

Conclusion:

NFs should be considered in differential diagnosis of periungual lesions, especially when the patient has a history of slowly enlarging and nontender lesion.

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Abstract N°: 1478

An observational cohort study to evaluate a novel treatment, as advertised on social media ,a Herbal hair oil with dermaroller , self-administered by a peer group in the treatment of male pattern hair loss.

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Introduction & Objectives:

Androgenetic alopecia is challenging to treat. When traditional treatments prove unsuccessful , social media and peer behaviour may drive individuals to try unproven treatments.

Objectives –

1. Understand the influence of social media and peer behavior in self treatment of androgenetic alopecia .
2. Report on a novel treatment as advertised on social media to induce miraculous hair growth.
3. Encourage the Dermatologist to adopt education of dermaroller home use as an added strategy in treatment of advanced andrgenetic alopecia

Materials & Methods:

A group of health professionals with long standing male pattern hair loss, who self-administered a treatment advertised on social media , answered a questionnaire and shared before and after pictures. The treatment consisted of an over the counter herbal hair oil-purported to contain Saw Palmetto, Ginseng and Cantaloupe along with self use of dermaroller . The questionnaire was analysed and staging of hair loss before and after use was done based on the photographs shared ,using Hamilton-Norwood staging

Results:

3 persons who answered the questionnaire had advanced androgenetic alopecia -baseline Hamilton Norwood type 7-8 hair loss of many years duration. After treatment, Hair growth was noted as early as 45 days .After 3 months use , they improved to type 4 -6.Adverse effects were –burning sensation and hyperpigmentation. Satisfaction and Efficacy score on a scale of 10 was scored as 6 to 7. Due to miraculous results claimed on social media , the hair oil was tested by local health authorities and detected to contain Minoxidil. The presence of other herbs as mentioned on the bottle couldnot be verified .

Conclusion:

Over the counter products claiming to induce miraculous hair growth should be tested . Previous studies have used a 1.5mm dermaroller weekly or every 2 weeks, offered in clinics. Here individuals have self-administered 0.5mm dermaroller , daily or even 4 days a week, with minimal adverse effects. Self use of Dermaroller and herbal oils have gained popularity , and the onus is on the Dermatologist to educate the patient. Home use of microneedling , along with topical minoxidil increases efficacy of treatment and maybe more acceptable to patients due to reduced cost of treatment. Microneedling is known to activate dormant hair follicles maybe advised in patients with advanced hair loss before considering hair transplantation.

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Abstract N°: 1508

Injectable Platelet-Rich Fibrin for the Treatment of Female Pattern Hair Loss: Efficacy and Safety

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Introduction & Objectives:

Female pattern hair loss (FPHL) is a prevalent, nonscarring form of hair loss that predominantly affects adult females. Platelet-rich plasma (PRP) has been found to promote hair regeneration. Anticoagulants in PRP therapy have aroused concerns due to their hypersensitivity potential. Platelet-rich fibrin (PRF), an autologous biomaterial, can solve the problem. This material can stay liquid for 20 minutes before fibrin polymerization forms a solid membrane. The three-dimensional fibrin network has cellular components scattered across the mesh. This method releases growth factors gradually, prolonging the effect and reducing session frequency. We investigated the safety and efficacy of PRF injections as an alternative to PRP for female pattern hair loss due to PRF's advantages over PRP.

Materials & Methods:

30 mL of venous blood was used and divided equally into two conical-bottom centrifuge plastic tubes. The tubes were centrifuged at 800 RPM for 4 minutes. The yellow-orange liquid was the injectable PRF. The PRF was given quickly to prevent in vitro gel formation. Four PRF injections were given at three-week intervals. The final evaluation was conducted one month following the last PRF injection. The investigator assessed hair growth using digital photography on a 7-point scale. The terminal to vellus hair (T/V) ratio, adverse effects, and patient satisfaction were also examined.

Results:

Ten FPHL patients were offered our therapeutic plan after diagnosis. The average participant age was 37 years ± 11.07. The terminal to vellus hair ratio (T/V) significantly increased after four PRF injections, from 34.30 ± 127.66 to 53.87 ± 282.30 (P-value = 0.027, paired t-test). The average investigator assessment score was 1.3 ± 1.15. The average patient satisfaction with treatment outcomes was 7 ± 2.26 on a scale of 1 to 10. Six patients reported mild pain after PRF injections. There have been no reports of fever, lymph node enlargement, infection, erythema, edema, or bleeding.

Conclusion:

This research is the first to extensively analyze PRF's efficacy in treating FPHL. Our findings are comparable to PRP, showing excellent patient satisfaction and safe adverse effects. The utilization of PRF offers the supplementary advantage of incorporating fibrin, hence furnishing a framework for the proliferation of novel cells. This method may improve PRF's ability to promote hair follicle growth. Further research is warranted to compare the efficacy of PRP with the more recent PRF therapies.

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Abstract N°: 1518

Serum biomarker-based groups of alopecia areata and prediction for efficacy of baricitinib

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Serum biomarker-based groups of alopecia areata and prediction for efficacy of baricitinib

Introduction & Objectives:

Alopecia areata (AA) is a highly heterogeneous disease clinically and biologically and the mechanisms are still unclear. Serum biomarkers have been used for group identification and might be practical predictors for treatment.

Our aim was to explore the serum biomarker-based groups of patients with AA and to identify key biomarkers in the prediction of the efficacy of baricitinib treatment.

Materials & Methods:

We first explored the key signaling pathways in the pathogenesis of AA by bioinformatics analyses. Then we evaluated serum Th1/Th2 cytokines in patients with AA (n = 105) compared with age-matched controls (n = 40) to identify different patient groups. After the patients with refractory AA (n=22) received were treated with baricitinib, the efficacy was evaluated, and serum immunoglobulin (Ig) E and Th1/Th2 biomarkers were measured.

Results:

We found that cytokine-mediated signaling pathway were highly related to the pathogenesis of AA. Patients with AA had increased levels of 4 circulating biomarkers compared to controls, including tumor necrosis factor-α (TNF-α), interferon (IFN)-γ, interleukin (IL)-4, and total IgE ($P < 0.05$). All cytokines were not related to clinical severity. Then the patients were divided into four groups which were differentially associated with inflammation. Th1↑Th2N (65.8%) could be distinguished from the other groups as being a “Th1-dominant” group, whereas Th1NTh2↑ (19%) was a “Th2-dominant” group. Patients in Th1NTh2↑ group were more likely to have a history of atopy than other groups ($P< 0.001$). Patients in this group also showed a higher level of IgE ($P< 0.001$). Treatment with baricitinib resulted in hair regrowth among patients with refractory AA, and 68.2% of patients achieved SALT50 improvement. Finally, baseline levels of total IgE, IL-4, and IFN-γ were identified as predictive factors associated with the efficacy.

Conclusion:

We confirmed that AA is a heterogeneous disease and identified 4 distinct inflammation-related groups based on serum biomarkers. High levels of IFN-γ and low levels of IgE and IL-4 might predict good efficacy of baricitinib treatment.

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Abstract N°: 1563

Trial of Topical calcineurin inhibitor (Tacrolimus ointment) by two different concentrations (0.1 and 0.03 %) in Treatment of Nail Psoriasis: A randomized Comparative Study

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Introduction & Objectives:

Nail involvement is estimated to affect 80-90% of patients with psoriasis at some point in their lives and is often associated with severe disease. Patients with nail involvement experience significant restriction of daily activities and quality of life**.** Topical therapy has to overcome the difficulties to get through the nail and nail fold to the diseased structures. Injection therapy is usually painful and carry the risk of local side effects. Tacrolimus is a calcineurin inhibitor immunosuppressive drug used to prevent organ transplant rejection and to treat atopic dermatitis. Systemically, it has been proven effective in treating psoriasis. A topical formulation of tacrolimus is attractive because it has fewer adverse effects. Studies have reported good clinical results in nail psoriasis with topical tacrolimus 0.1% ointment application.

As topical tacrolimus is available in two concentrations (0.1% and 0.03%), and since the higher concentration (0.1%) is expensive and not always available in developing countries, this study was aiming at evaluation and comparing the efficacy and safety of the two concentrations in treatment of nail psoriasis.

Materials & Methods:

This randomized comparative study included 40 patients with nail psoriasis divided into two groups of 20 each. Group A (12 males and 8 females) was treated by tacrolimus ointment 0.1% and Group B (7 males and 13 females) was treated by tacrolimus ointment 0.03%. The ointment in both groups was applied to the skin around the nails and on the nail plate with gentle rubbing and without occlusion. Follow up was done clinically by the authors once monthly for 6 months. The assessment of disease severity was conducted by using nail psoriasis severity index (NAPSI) score.

Results:

There was no statistically significant difference in socioeconomic state between studied groups ($p>0.05$). Median age of the studied cases in group A was 18 years and for group B; median age is 32.5 years.

Comparison of NAPSI between before and after treatment

NAPSI	Group A N=20	Group B N=20	Test of significance (Mann Whitney U test)
Before treatment Mean ± SD	5.05±2.09	4.45±1.79	Z=0.866 P=0.452
After treatment Mean ± SD	2.20±2.14	2.85±2.66	Z=0.834 P=0.404
Wilcoxon signed rank	0.003*	0.007*	
% of change	56.4%	35.9%	Z=1.3 P=0.209

Z: Wilcoxon signed rank test, *statistically significant

Although the onset of improvment was earliar with the higher concentration , the difference was not statistically significant (P>0.05).

Conclusion:

Both tacrolimus concentrations (0.1% and 0.03%) showed high statistically significant progressive improvement in nail psoriasis during the 6 months treatment period (Wilcoxon signed rank = 0.003 and 0.007 for group A and B respectively). Additionally topical tacrolimus demonstrated a relatively cheap, topical therapy for an annoying nail problem affecting a lot of population with significant effect on their life quality, it is nearly free of side effects, so they are safe and tolerable drugs in treatment of nail psoriasis. Also, it provides a practical topical treatment without the risk and limitations and high expenses of systemic and biologic therapies and the pain and infection risk of injection steroid therapy.

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Abstract N°: 1625

Clinical and Dermoscopic Approaches to Diagnosis of Frontal Fibrosing Alopecia: A Prospective Study in 100 Patients

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Introduction & Objectives:

Frontal fibrosing alopecia (FFA) is a type of primary lymphocytic scarring alopecia distinguished by a gradual retreat of the fronto-temporal hairline. Despite the distinctive clinical appearance of FFA, a biopsy for histopathological analysis is still advised to verify the diagnosis. Presently, an increasing array of skin and mucosal inflammatory conditions are diagnosed using modern noninvasive techniques like dermoscopy, eliminating the need for biopsy in some cases. The main objective is to diagnose classic FFA through clinical and dermoscopic parameters and to compare it to the largest cohort studies published.

Materials & Methods:

An analytical prospective study from April 2020 to April 2024 included patients with FFA using demographics, clinical and dermoscopic presentation. They underwent examination using the Dermlite DL4* dermoscope, as well as histological examination.

Results:

We submitted 100 cases, with a predominantly female population. In 88% of these cases, both the clinical presentation and trichoscopic findings facilitated the diagnosis. The mean age of the studied population was 53 years. The majority of the female population were post-menopausal. Reduction or complete loss of eyebrows was reported in 87% of patients. Concomitant signs of LPP on the scalp were present in 38.6%.

Trichoscopy reports indicated signs of cicatricial alopecia in all patients. Inflammatory indicators like perifollicular erythema and perifollicular hyperkeratosis were noted in 75.8%. Lonely hairs were found in 84%. Trichoscopic findings did not correlate with the severity of the disease, but clinical signs of inflammation such as perifollicular erythema and perifollicular hyperkeratosis were linked with the presence of pruritus and trichodynia.

Conclusion:

In the majority of cases, the distinctive clinical presentation and typical trichoscopic findings facilitated the diagnosis of FFA without the need for invasive diagnostic methods. Only a few patients required histopathological confirmation.

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Abstract N°: 1736

Efficacy of autologous Growth Factor Concentrate injection and Platelet Rich Plasma injection in patients of Androgenic Alopecia receiving topical minoxidil: A randomized control trial

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Introduction & Objectives:

Androgenic alopecia (AGA), is a common form of hair loss worldwide affecting both men and women, leading to significant psychosocial impacts. Topical minoxidil and oral finasteride are the only FDA-approved drugs for the treatment. With limited available drugs and their reported side effects, newer treatment modalities such as Platelet rich plasma (PRP), growth factor concentrate (GFC) and threads are being tried. This study aims to evaluate and compare the efficacy of GFC and PRP injections as an adjunct therapy to topical minoxidil in AGA patients.

Materials & Methods:

A total of 44 patients of AGA-diagnosed patients were randomised into two groups using simple randomisation: one group received PRP injections and the other GFC injections The patients received the injections at a monthly interval for three months, in addition to application of topical minoxidil 5% lotion twice daily for three months. After 3 months, the primary outcome measured was the improvement in the Terminal/Vellus (T/V) hair ratio from baseline through trichoscopic analysis, while secondary outcomes included the Dermatology Life Quality Index (DLQI), assessing the adverse effects and pain associated with the intervention. Patient satisfaction score (PSS) was recorded after three sessions.

Results:

This study, included 44 participants (22 in each group), revealed significant enhancements in the T/V hair ratio for both GFC and PRP groups compared to baseline. However, the GFC group exhibited a statistically comparable results with increase in the final T/V hair ratio in both the groups however, the increase was higher in GFC group (Tf/Vf – 6.47) compared to the PRP group (Tf/Vf – 4.41). Pain scores were notably lower in the GFC group (2.37) compared to PRP (5.37) which was statistically significant. Both groups showed improved PSS, with scores of 7.1 for GFC and 5.9 for PRP. According, to the DLQI 36.1% of AGA patients reported altered feelings and symptoms due to the disease.

Conclusion: Autologous GFC injections, when used alongside topical minoxidil, provided a statistically comparable outcome in terms of hair regrowth and volume compared to PRP injections in AGA patients. The lower pain scores and better PSS in the GFC group suggest a more favourable patient experience. These findings highlight the potential of GFC as an effective adjunct treatment in AGA management, offering a promising avenue for enhancing patient experience in hair recovery therapy.

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Abstract N°: 1737

follicular keratosis spinulosa decalvans associated with hypospadias

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Introduction & Objectives: follicular keratosis spinulosa decalvans is a disease rare, often linked to the X chromosome, which affects the skin and the eyes . characterized by varying degrees of inflammation and atrophic scarring. Scarring alopecia usually sets in puberty.

Materials & Methods: We report an unusual case of scaling hair keratosis associated with malformation syndrome (hypospadias, cryptorchidism) early onset in an infant.

Results: 1 year old boy, consulted in dermatology for alopecia evolving since the age of 6 months. the only child in the family. from a consanguineous marriage with normal pregnancy and delivery.

the physical examination revealed: a normal physical, mental development, and a cicatricial alopecia of the vertex with peripheral keratosis pilaris associated with an ophryogenes ulerythema, a rarefaction of the eyebrows, and keratosis lesions pilaris of the arms and trunk. In addition, he had genital malformations such as hypospadias, and cryptorchidism.

The mother brought back a notion of photophobia in the child. There were no similar cases in the family. Trichoscopic examination: found a rarefaction of the follicular orifices, and lesions of keratosis pilaris on the periphery of the alopecia surrounding the hair. The cicatricial appearance of alopecia, diffuse hair keratosis lesions, sparse eyebrows, ophryogenes ulerythema, and trichoscopic signs all contributed to the diagnosis of keratosis pilaris decalvans. Isotretinoin at an oral dose of 0.25 mg / kg daily may was started.

Conclusion: keratosis pilaris decalvans can occur early in the infant, and to look for a possible malformation.

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Abstract N°: 1768

Tips & Tricks in laser assisted hair reduction

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Introduction & Objectives:

Laser assisted hair reduction is a growing market nowadays. Many specialists & anthologists are doing it now. Many problems have been encountered with this procedures due to lack of practical scientific tips of laser in hair reduction.

The aim of my presentation is to provide tips & tricks that could improve & refine the procedure of hair assisted hair reduction procedure to obtain the appropriate results & avoid complications.

This presentation will be presented in the session of ESLD under Prof. Dr / Ashraf Badawy chairperson

Materials & Methods:

Results:

Conclusion:

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Abstract N°: 1834

Clinical and instrumental evaluation of the efficacy and safety of a new medical device in the topical treatment of distal subungual onychomycosis

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Introduction & Objectives:

Onychomycosis is a frequent disease that can have significant negative effects on patients' emotional, social, and occupational functioning. Distal subungual onychomycosis (DSO) is the most common form, usually caused by dermatophytes and characterized by onycholysis and nail thickening, dystrophy, and discoloration. Dermoscopy and high-frequency ultrasound (HFU) are non-invasive tools that are useful in evaluating nail plate surface (colour, roughness, dystrophy) and thickness changes overtime. The aim of this study was to assess by clinical and instrumental evaluation the effects of a topical medical device containing Biosaccharide-Gum-2, Hyaluronic Acid, Pistacia lentiscus and Piroctone Olamine on the nail alterations caused by DSO.

Materials & Methods:

Ten adult patients (2M/8F; age range 26-78 years) with clinical and mycological diagnosis of mild (n:5), moderate (n:3) and severe (n:2) DSO of the great toenail (n:9) or thumbnail (n:1) were enrolled and instructed to apply the tested product twice daily for 12 weeks. Patients were evaluated clinically and by dermoscopy and HFU at baseline and after 1, 2, 4, 8 and 12 weeks. The primary objective was the clinical improvement of appearance of the target nails at 12 weeks by a Global Assessment Score (GAS). Secondary objectives included the improvement of discoloration, brittleness, and softness (by clinical and dermoscopic assessment), and thickening (by clinical and ultrasound assessment) of the target nails at 1, 2, 4, 8 and 12 weeks.

Results:

All ten patients completed the 12 weeks of treatment, and a time-dependent improvement of both clinical and instrumental outcome parameters of the target nails was observed. The GAS showed at 12 weeks a "very good" improvement in 5 cases, an "evident" improvement in 2 cases, and "some" improvement in 3 cases. Interestingly, in 3 (1 moderate and 2 mild at baseline) of the 5 cases rated with "very good" improvement there was no more clinical evidence of onychomycosis. The clinical results were supported by dermoscopy and HFU. No adverse event was observed, and patients reported to be very (n.5) moderately (n.3) or slightly satisfied (n.2) of the treatment.

Conclusion:

Onychomycoses are difficult to treat and eradicate due to factors including the hard, protective nail plate, sequestration of pathogens between the nail bed and plate, and slow growth of the nail. Oral antifungal agents represent the first-line treatment, but they may be associated with drug interactions and systemic adverse effects. Although our results should be confirmed by other studies, they suggest that the tested medical device is effective and safe for the treatment of the nail alterations caused by DSO and might represent a valuable alternative to traditional oral therapies in mild-to-moderate forms of onychomycosis. The active ingredients likely create an unfavorable environment able to stop the growth of fungi and counteracting the weakening of brittle nails.

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Abstract N°: 1838

Congenital triangular alopecia with eyebrow and lower eyelid alopecia - a hitherto unreported rare association

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Introduction & Objectives: Temporal triangular alopecia (TTA) is circumscribed, non-cicatricial, non-inflammatory hair loss with incidence of 0.1%. The temporal region of scalp is most common area affected. 36.5%, 55.8% and 3.8% of cases are found at birth, age of 2–9 years and in adulthood respectively. There is no gender predilection and it affects mainly white patients. It is usually unilateral in 80%, more commonly described on left side and rarely bilaterally. TTA may be transmitted as para dominant trait. It is now considered to be acquired condition, due to miniaturization of hair follicles. Mosaicism is another proposed mechanism. TTA can be associated with multiple congenital diseases. Differential diagnosis includes alopecia areata (AA), trichotillomania, aplasia cutis congenita and traction alopecia. Dermoscopy shows normal follicular openings with vellus hairs surrounded by normal terminal hair. Histopathology shows normal number of follicles with predominance of vellus hair. Therapeutic modalities include surgical excision, hair transplantation and topical minoxidil (used effectively). Incidence of AA of eyebrows and eyelashes varies but there is lack of Indian studies. AA involving eyebrows presents as well-demarcated patches of smooth, normal-appearing skin with preserved hair follicles. Eyelash alopecia presents as sudden bilateral patchy eyelash loss in upper and lower eyelids and can be sign of severe AA. Dermoscopy shows cadaverized hairs and yellow dots. Treatment modalities include topical and intralesional steroids, Bimatoprost and JAK inhibitors.

Materials & Methods: A 8yearold girl, with normal milestones and immunized till date presented for evaluation of well-demarcated, 13 × 12 × 10 cm triangular patch of alopecia on bilateral temporo-parieto-vertex region of scalp since birth. Hair pull test was negative. Bilateral eyebrows showed ill-defined patch of hair loss 0.5 x0.5 cm in mid of eyebrow and complete loss of hair over bilateral lower eyelids since 2 years. Hair elsewhere on body was preserved. Hair pull test was negative. Her mother had alopecia areata on scalp. Dermoscopy from triangular patch of alopecia over scalp revealed multiple empty follicles s/o TTA. Dermoscopy from eyebrows revealed sparsity of hair, empty follicles, occasional vellus hair s/o AA. Dermoscopy from left lower eyelid revealed complete loss of hair, multiple empty follicles with vessels s/o suggestive of AA of lower eyelid. With diagnosis of TTA with bilateral eyebrow and eyelid AA she was started on topical minoxidil 2 % over scalp and topical steroid lotion for eyebrow and eyelid AA.

Results and Conclusion:

Association of TTA with eyelid and eyebrow alopecia has not been reported till date. Such rare association should be kept in mind while evulating paediatric patients with patchy hair loss, which would allow appropriate management.

EA DV CONGRESS
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Abstract N°: 1920

Effectiveness and safety of ciclopirox 8% HPCH nail lacquer combined with oral antifungals for onychomycosis: Real-World Data study using language processing and machine learning techniques

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Introduction & Objectives:

Onychomycosis is a common infection presenting high recurrence risk. Oral antifungals have demonstrated favorable responses rates but also carried a risk of adverse events (AE). This study aimed to assess the effectiveness and safety of a combined treatment with ciclopirox 8% hydroxypropyl chitosan (HPCH) nail lacquer and oral antifungal agents for patients with onychomycosis using natural language processing (NLP) and machine learning (ML).

Materials & Methods:

This is a multicenter retrospective real-world evidence study based on secondary use of structured and unstructured data from electronic health records (EHR) of patients attended at 3 tertiary Spanish hospitals. Subjects aged ≥18 years, diagnosed with onychomycosis, and treated with ciclopirox 8% HPCH and oral antifungals were included. Data from January 2014 to March 2023, were extracted using the EHRead® technology based on NLP and ML and using SNOMED CT terminology. Demographic and clinical characteristics including treatment synchronicity, response and safety were extracted. Descriptive statistical analyses were performed. Response outcomes were analyzed as time-to-event using the Kaplan-Meier method, with data presented as median and 99% confidence interval (CI). Data analysis was carried out using "R" software. Ethics Committee approval was obtained from participating centers.

Results:

After evaluating 85,000,009 EHRs from 1.7 million patients, 661 adult patients with onychomycosis were treated with ciclopirox 8% HPCH, and 408 (62%) also received oral antifungals. Among these 408 patients, the median age was 51 years, and more than half of patients (56.6%) had a fungal culture. Terbinafine was used in 67.7% of patients, itraconazole in 20.8%, and fluconazole in 11.5%. A total of 59.1% of individuals started combined treatment, 27.9% initial oral antifungals, and 13.0% initial nail lacquer. The response to treatment was detected as positive in 15.7% or presumed positive (non-confirmed but inferred positive response from free text) in 59.8%. Response outcomes were unrelated to treatment synchronicity or type of antifungal agent. The median time to positive response was 4.38 months in the overall study population, with the shortest median time (1.84 months) in the subgroup of patients who started with oral antifungals (Figure 1). Erythema (5.6%), diarrhea (4.9%) and fever (4.2%) were the most frequently registered potential AE.

Conclusion:

In this study in a hospital setting, ciclopirox 8% HPCH was used in 62% of patients combined with oral antifungals being oral terbinafine preferred for the combination over oral azoles. Clinical response rates, aligned with previous studies, may surpass 75%. No significant differences in response rates or time to response were observed based

on the type of oral medication or synchronicity. The combination therapies examined showed a good tolerability profile, consistent with the profile of the individual agents.

Tables or figures (optional):

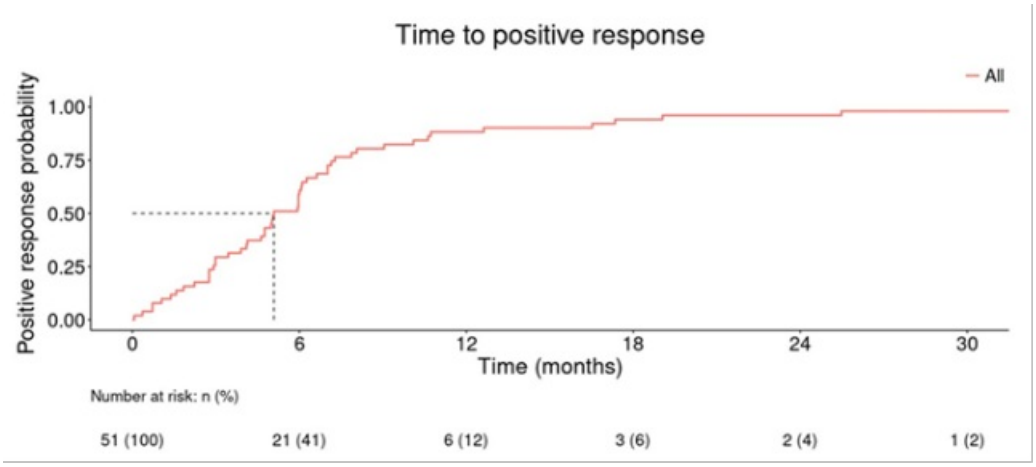

Figure 1. Time to positive response in 51 patients with available follow up data who registered positive response within the study period for the combination of oral antifungal agents and nail lacquer (X-axis truncated at 30 months due to curve stabilization; patients censored at discontinuation or end of follow-up).

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 1973

The impact of depression on the severity of baldness at the time of diagnosis- own clinical experience

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Introduction & Objectives:

Depression significantly disrupts daily functioning due to symptoms like fatigue, decreased drive, and neglect of personal appearance. This interference might affect how patients with depression are diagnosed and treated for comorbid conditions, including hair loss. The objective of this study was to assess whether patients suffering from depression present to dermatologists with more advanced stages of hair loss compared to patients without a history of depression.

Materials & Methods:

A total of 454 patients were evaluated for the degree of hair loss using the Hamilton scale, where 13 (3%) had a documented history of depression. The distribution of hair loss stages at the initial visit was compared between patients with and without depression.

Results:

The percentage of patients at various stages of hair loss was as follows: Stage I – 8% with depression vs 1% without; Stage II – 23% vs 18%; Stage IIa – 8% vs 1%; Stage IIv – 0% vs 0%; Stage III – 38% vs 34%; Stage IIIa – 8% vs 4%; Stage IIIv – 8% vs 8%; Stage IV – 0% vs 17%; Stage IVa – 0% vs 1%; Stage IVv - 0% vs 1%; Stage V – 8% vs 10%; Stage Va – 0% vs 0%; Stage VI – 0% vs 4%; Stage VII – 0% vs 1%. Although the chi-square test did not show a significant difference, the Mann-Whitney U test indicated statistical significance ($p<0.05$) with median stages being III for both groups but differing interquartile ranges.

Conclusion:

Patients with depression may not necessarily present with more advanced hair loss at their initial dermatological visit as compared to non-depressed patients. While the Mann-Whitney U test showed some statistical significance, the practical implications remain ambiguous, indicating the need for further research into the relationship between depression and the progression of hair loss.

EADV CONGRESS
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Abstract N°: 1976

Personalized Alopecia Treatment: Comparative Analysis of Clinical Efficacy Among Various Medications

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Introduction & Objectives:

Forty-five patients evaluated in trichoscopic examination at two visits treated for alopecia of various etiologies in routine medical practice were prescribed treatment according to indications. This analysis aimed to search for areas of clinical improvement where individual drugs used to treat alopecia have an advantage over alternative medications

Materials & Methods:

Since the time interval between visits varied, the difference between measurements was divided by the number of days separating the two visits and multiplied by 90 (reflecting 3-month therapy). The improvement between treated and untreated groups with a given drug was compared using the Mann-Whitney test (Statistica), and the result was presented as the difference between medians [N/cm2].

Results:

Spironolactone showed an advantage in increasing HSÆ>50 on the occiput (+4.5, p=0.0440). Minoxidil 1.25 mg p.o was better in increasing HSÆ30-50 on the temple (+3, p=0.0415) whereas minoxidil 0.5 mg p.o. was better in increasing HSÆ30-50: (+3.5, p=0.0143) and double hair units, on the forehead (+6, p=0.0023). Topical minoxidil was superior in increasing THU (+9.5, p=0.0163). Finasteride 5 mg p.o. was better in increasing number of hair units on the temples (+6.5, p=0.0462). PRP was better in increasing TNH (+10, p=0.0584) and THU (+3, p=0.0989) on the temple as well as HSÆ>50 on the occiput (+3, p=0.0327). AHT by mesotherapy (+3, p=0.0759) and carboxytherapy (+3.5, p=0.0300). In terms of other variables, drugs did not significantly differ from each other in the overall study population.

Conclusion:

The evaluated drugs were equally effective in terms of most assessed variables, however, there are differences between them in terms of efficacy in some aspects, allowing for the personalization of alopecia treatment.

Abbreviations: AHT: average hair thickness, HSÆ hair shafts, p.o.: per os, PRP: platelet-reach plasma, SHU: single hair units, TNH: total number of hair, THU: triple hair units

EADV CONGRESS
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Abstract N°: 1984

Experience with Baricitinib for Alopecia Areata in a second-level hospital in Spain.

María Castillo Gutiérrez[1], Teresa López Bernal[1], Inés Segovia Rodríguez[1], Rosalía Toledo Cañaveras[1], Inmaculada Vargas-MacHuca Salido[1], Beatriz Aranegui Arteaga[1], Alberto Guerrero Torija[1]

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Introduction & Objectives:

Alopecia areata (AA) is presented as patchy hair loss on the scalp, potentially affecting other areas such as eyebrows or beard. It is a non-scarring alopecia with a multifactorial origin and a significant autoimmune component. AA is considered a chronic and recurrent disorder. In October 2023, Baricitinib, a selective and reversible inhibitor of Janus kinases 1 (JAK1) and 2 (JAK2), was approved for the treatment of more extensive forms.

Materials & Methods:

We present a descriptive analysis of patients with extensive AA treated with Baricitinib at our center from January 2023 to April 2024. Four patients were included (50% male and 50% female).

Results:

The mean age was 33.75 years. Symptom onset occurred during adolescence/youth in 100% of cases. 75% had undergone systemic treatment (50% with methotrexate, 25% with cyclosporine, and 25% with dexamethasone pulses). In our series, 75% of cases showed improvement of at least 50% on the Severity of Alopecia Tool (SALT) scale of alopecia plaques. The remaining 25% corresponds to a patient with only 4 weeks of follow-up at the time of data collection. The only reported side effect so far has been acne lesions in 50% of cases.

AA can occur at any age, although the incidence is higher in young patients. No gender predilection has been observed. AA is considered extensive when hair loss corresponds to more than 50% of scalp area. Phase III clinical trials with Baricitinib have demonstrated the efficacy of this drug as a treatment for this type of alopecia. After 52 weeks of follow-up, between 36 and 41% of patients achieved a SALT score ≤ 20. The most frequent adverse events were upper respiratory tract infection, COVID-19 infection, headache, acne, urinary tract infection, and creatine phosphokinase elevation.

Conclusion:

New JAK inhibitors, specifically Baricitinib, represent a therapeutic option for patients with extensive AA refractory to other treatments. To date, very interesting results have been obtained regarding efficacy and safety in clinical trials. The clinical benefit obtained in clinical trials seems to correspond with real-life data.

EADV CONGRESS
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Abstract N°: 1990

hair characteristics assessed with trichoscopy before and after treatment with any tested drug, correlated with blood metabolic profile- personal observations

Patrycja Łazicka*[1, 2], Katarzyna Osipowicz[1]

[1]Klinika OT.CO - Chirurgia plastyczna & Medycyna estetyczna, Warszawa, Poland,[2]Warszawski Uniwersytet Medyczny

Introduction & Objectives:

Hair loss, including alopecia areata, androgenetic alopecia, and other forms, profoundly affects the psychological well-being and quality of life of individuals. This study aimed to evaluate the efficacy of picosecond laser treatment in improving hair thickness and density in patients suffering from various types of alopecia, assessed through trichoscopy and standardized hair loss scales.

Materials & Methods:

Eight patients diagnosed with different types of alopecia were enrolled in this pilot study. Each participant underwent two series of picosecond laser treatment sessions. The efficacy of the treatment was evaluated using trichoscopic imaging, which provided detailed measurements of hair shaft thickness and density before and after the treatment. The degree of hair loss was also assessed using the Hamilton-Norwood scale for males and the Ludwig scale for females, at baseline and at the end of the study

Results:

Post-treatment trichoscopic images demonstrated a significant increase in hair shaft thickness and density in seven out of the eight patients. According to the Hamilton-Norwood and Ludwig scales, there was noticeable improvement in the stages of hair loss among the participants. These results were consistent across different types of alopecia, including both scarring and non-scarring categories.

Conclusion:

The use of a picosecond laser appears to be a promising non-invasive treatment option for various types of alopecia. This pilot study suggests that picosecond laser therapy can significantly improve hair thickness and density, as evidenced by trichoscopic analysis and standardized hair loss scales. Further studies with larger sample sizes and longer follow-up periods are recommended to confirm these findings and to establish optimized treatment protocols.

EADV CONGRESS
AMSTERDAM 25-28 SEPTEMBER 2024
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Abstract N°: 1993

comorbidity profile of patients treated for hair loss- clinical experience on 1037 patients

Patrycja Łazicka[1], Katarzyna Osipowicz*[1]

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Introduction & Objectives:

Hair loss is a common symptom that might appear independently or as part of systemic diseases. This study aimed to outline the comorbidity profile of patients treated for hair loss at our clinic, with a focus on gender differences in the prevalence of associated conditions.

Materials & Methods:

Our study included 1037 patients experiencing hair loss, divided into 417 females (40.2%) and 620 males (59.8%). We examined the presence of comorbidities in these patients, noting gender-specific prevalence and statistically analyzing the differences between male and female patients.

Results:

Among the patients, 392 (37.8%) had comorbid conditions. Of these, females constituted 62.8% (246 patients), while males represented 37.2% (146 patients). The discrepancy in comorbidity distribution between genders was statistically significant ($p<0.000001$). Hypothyroidism was the most common comorbidity, found in 88 (8.5%) patients, predominantly females (89.8%, $p<0.000001$). Other notable conditions included hypertension in 45 patients (4.34%), COVID-19 in 82 patients (7.9%), and various other conditions such as skin diseases, immune system disorders, endocrine diseases including Hashimoto's, psychiatric disorders like depression, metabolic disturbances, gastrointestinal, reproductive, neoplastic, respiratory, hematological, neurological, cardiovascular, urological, infectious diseases, and genetic defects.

Conclusion:

The analysis reveals a significant prevalence of systemic disorders among patients with hair loss, particularly among females. This underscores the importance of comprehensive diagnostic evaluations to address potential underlying conditions in patients presenting with hair loss.

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Abstract N°: 1998

The Relationship Between Baldness Severity and Emotional Response After FUE Hair Transplant Surgery: A Personal Experience

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Introduction & Objectives:

The prevalence of androgenic alopecia among males often leads to psychological stress and a search for effective treatments, including hair transplantation. However, the effectiveness and emotional outcomes of hair transplant procedures, particularly Follicular Unit Extraction (FUE), can significantly vary based on the severity of hair loss at the time of intervention. This study aims to explore the relationship between the severity of baldness according to the Hamilton-Norwood scale and patient emotional responses post-FUE procedure, with a focus on understanding how pre-procedural baldness levels impact treatment outcomes and patient satisfaction.

Materials & Methods:

This retrospective study analyzed data from 100 male patients who underwent an FUE hair transplant. Patients were evaluated based on the Hamilton-Norwood scale during their initial consultation. Data on previous and ongoing treatments for androgenic alopecia, including the use of finasteride and minoxidil, were also collected. Emotional outcomes were assessed through patient self-reports during follow-up visits. Statistical analysis was conducted to determine correlations between baldness severity, treatment history, and emotional outcomes.

Results:

The cohort was distributed across the Hamilton-Norwood scale as follows: 6 at level 1, 11 at level 2, 34 at level 3, 23 at level 4, 8 at level 5, 13 at level 6, and 5 at level 7. Only 12 patients had received pharmacological treatment with finasteride prior to the FUE procedure. The majority of patients (70%) had not engaged in any significant pre-procedural treatment. Emotional responses post-procedure indicated higher satisfaction in patients with lower levels of pre-procedural baldness (levels 2-4), while those with levels greater than 6 reported mixed to negative outcomes due to unrealistic expectations and limited graft survival.

Conclusion:

The study demonstrates that early intervention in androgenic alopecia can significantly enhance the outcomes and emotional satisfaction of FUE hair transplants. It highlights the importance of initiating appropriate pharmacological and topical treatments before baldness progresses to advanced stages. Furthermore, for patients with severe baldness (levels greater than 6), a staged approach with multiple surgical sessions may be necessary to achieve satisfactory results. Future patient consultations should stress the importance of early treatment and realistic expectations to optimize both emotional and physical outcomes of hair transplant procedures.

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Abstract N°: 2041

Efficacy and safety of the oral Janus kinase inhibitor tofacitinib in the treatment of adults with lichen planopilaris: A randomized placebo-controlled trial

Sahar Dadkhahfar[1], Hamideh Moravvej Farshi[1], Reza Robati[1], Hamidreza Mahmoudi[2]

[1]Skin Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran,[2]Autoimmune Bullous Diseases Research Center, Tehran University of Medical Sciences, Tehran, Iram

Introduction & Objectives:

Lichen planopilaris (LPP) is a chronic inflammatory disorder that affects hair follicles and leads to permanent hair loss. Managing LPP is challenging due to insufficient evidence on treatments' effectiveness. Janus kinase inhibitors have recently emerged as potential therapies for LPP.

Materials & Methods:

A randomized, double-blind, placebo-controlled trial was conducted with 37 participants. Participants received either tofacitinib 5 mg daily or placebo along with topical clobetasol for six months. Both groups were followed for nine months. Outcome measures included the Lichen Planopilaris Activity Index, Physician's Global Assessment score, Dermatology Life Quality Index, and adverse events.

Results:

Our results demonstrated a significant improvement in the anagen pull test in the tofacitinib group compared to placebo, indicating treatment effectiveness. However, no significant difference was observed in Lichen Planopilaris Activity Index reduction between the two groups. Tofacitinib also showed a significant decrease in physician global assessment scores over time compared to placebo. Adverse events were minimal, with no significant differences between groups.

Conclusion:

This study suggests that tofacitinib may effectively halt disease progression in LPP, emphasizing its potential as a treatment option.

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Abstract N°: 2115

Alopecia: A Google trends analysis of the past 5 years (2018-2023)

Lidiya Todorova*[1], Nicolas Kluger[2]

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Introduction & Objectives:

Hair loss/alopecia feature among the top 5 complaints of European adult patients in dermatology. Google Trends (GT) provides data on the relative search volume (RSV) of queries and topics over time and across geographical areas. We evaluated here the recent trends in public interest regarding various alopecia associated diagnoses.

Materials & Methods:

Data generated through GT for RSVs of the following diagnostic-related terms were analysed: “Alopecia”; “Alopecia areata”; “androgenetic alopecia”; “telogen effluvium”; “frontal fibrosing alopecia [disease]”. Analysis has been performed worldwide from July 29th, 2018 to July 16th, 2023. Results are displayed as a set of time series. The values are not the actual search counts but percentages relative to the total searches across the specified geography and time. The resulting numbers are scaled from 0 to 100 based on the proportion to all searches on all topics.

Results:

The past 5-years trends for alopecia and alopecia-associated diagnoses on Google is summarized in **Figure 1**. Between 2018 and 2023, mean RSVs by 12 months period have remained stable for “alopecia” (mean RSVs 28±1.3 in 2018-19 to 34±1.8 in 2022-23) and “alopecia areata” (mean RSVs 5±0.5 in 2018-19 to 5±0.4 in 2022-23). “Telogen effluvium” (TE) has known a peak of increased search during 2020-2022. “Androgenetic alopecia” (AGA, mean RSVs 59±12 in 2018-19 to 74±4.0 in 2022-23) and frontal fibrosing alopecia (FFA, mean RSVs 47±9.5 in 2018-19 to 65±9.7 in 2022-23) both display an increase for the past 5 years. There were differences in terms of geographic distribution of searches according to conditions. For AA, all the countries were from the middle east; for TE, eight out of the top 10 countries were Latin American or Spanish speaking countries, while Western countries had mainly searched for FFA (**table 1**).

Conclusion:

There is a constant interest for hair loss and alopecia worldwide. However, we found that 9 out of the top 10 countries that searched for “alopecia” on Google were Asian. There are no current epidemiological studies clarifying the prevalence of different type of alopecias in this continent. We also observed different geographical distribution according to the disease (AA/Middle east; AGA and FFA/Western countries). Social and cultural impact of hair loss; easiness of access to internet; COVID-19; strive to improve diagnosis and development of new therapies are all factors that can explain the differences observed in our study. Infodemiology provides a better understanding of alopecia needs in different countries and continents.

Figure 1. RSVs for alopecia and alopecia associated diagnoses from 2018 to 2023 (remark: direct comparison between curves is not possible)

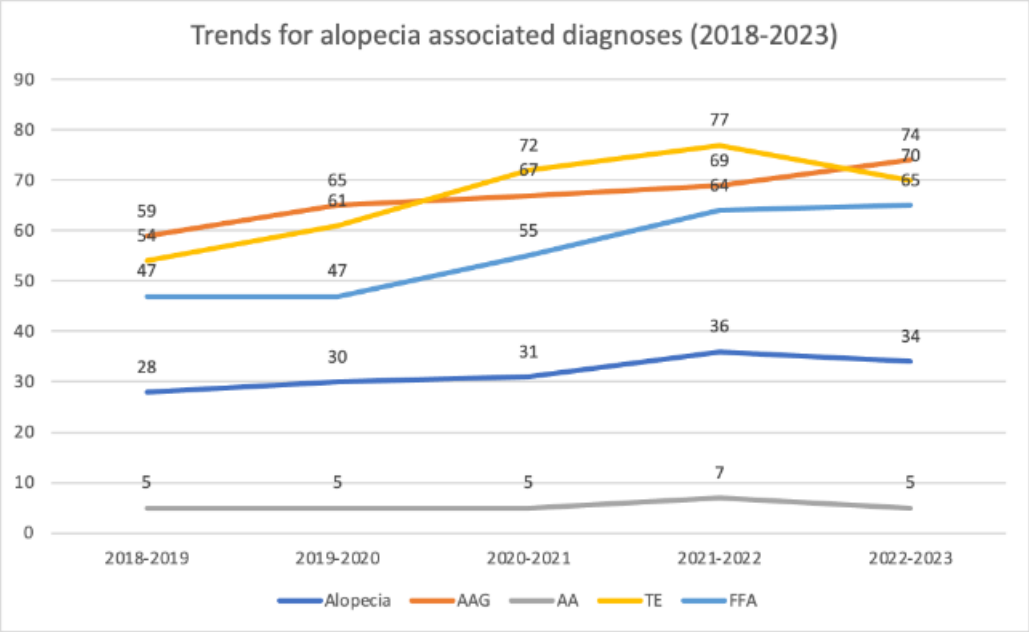

Table 1. Top 10 countries in worldwide regarding Alopecia trends worldwide for the past 5 years (2018-2023).

Diagnosis trends
Alopecia
South Korea (100)
Iran (91)
Singapour (78)
USA (78)
Indonesia (74)
Irak (74)
UAE (72)
Koweit (72)
SA (70)
Jordania (68)

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Abstract N°: 2154

Platelet-rich plasma as a new and successful treatment for lichen planopilaris: A controlled blinded randomized clinical trial

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[1]Rasool Akram Medical Complex Clinical Research Development Center (RCRDC), School of Medicine, Iran University of Medical Sciences (IUMS), Department of Dermatology, Tehran, Iran, [2]Rajaie Cardiovascular Medical and Research Center, Valiasr Street, Tehran, Iran, Tehran, Iran, [3]Skin and Stem Cell Research Center, Tehran University of Medical Sciences, Tehran, Iran, Tehran, Iran

Introduction & Objectives:

Lichen planopilaris (LPP) is one of the most common causes of scarring hair loss caused by immune-mediated inflammation resulting in atrophy and scaling. The key to preventing this irreversible hair loss is diagnosing and starting treatment at the earliest possible stage. As there is no definite cure for LPP, the therapy could be challenging. In the study, we conducted a single-blinded randomized clinical trial to evaluate the therapeutic effects, safety, and tolerability of platelet-rich plasma versus topical clobetasol in the treatment of LPP.

Materials & Methods:

A randomized single-blinded controlled clinical trial was conducted in 24 LPP patients referring to our dermatology clinic between August 2022 and March 2023. Patients in the control group were treated with topical clobetasol 0.05% applied at night, and patients in the case group, in addition to topical clobetasol, received three sessions of PRP injection monthly. Both groups were assessed 1, 2, and 6 months after the start of the study by the Lichen Planopilaris Activity Index (LPPAI), physician and patient satisfaction, tolerability, and recording adverse effects.

Results:

The average age in the clobetasol and PRP groups was 43.75 ± 13.51 and 42.75 ± 9.67, respectively (p= 0.83). In terms of gender, all 12 cases (100%) in the clobetasol group and 9 cases (75%) in the PRP group were female (p= 0.21). Both PRP and topical clobetasol effectively reduced LPPAI in the first 2 months; however, after 6 months, the LPPAI significantly increased in the clobetasol group (p= 0.001). There were no significant differences in LPPAI between the two groups at the beginning of the study and after 1 month. However, the mean LPPAI score in the clobetasol group was significantly higher than in the PRP group at 2 and 6 months after the start of the study (p= 0.01). Patient satisfaction with treatment increased in both groups during follow-up sessions, but at the end of the follow-up period, it was significantly higher in the PRP group (p= 0.03). Finally, the study did not have any serious adverse effects, and the pain experienced during PRP injection was tolerable for the patients. Overall, treatment tolerability was excellent in both groups.

Conclusion:

Given the different efficacy profiles, PRP could be considered a new and effective choice for the treatment of LPP.

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Abstract N°: 2166

Keratosis Follicularis Spinulosa Decalvans: case report of a rare follicular disease.

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Introduction & Objectives: Folliculitis spinulosa decalvans is an uncommon condition characterized by follicular hyperkeratosis, followed by scarring alopecia. KFSD is a rare genetic disorder with an X-linked and autosomal dominant pattern of inheritance. Clinically, the condition is characterized by follicular hyperkeratosis and scarring alopecia.There is no specific treatment for KFSD. The purpose of the study was to evaluate the effectiveness of topical calcineurin inhibitors and keratolytic agents on the eyebrows and topical corticosteroids and keratolytic agents for the treatment of hyperkeratosis in the patient and the prevention of scarring of the scalp.

Materials & Methods: A systematic review and meta-analysis were conducted by searching 4 databases until February 2024 (PubMed, Embase, Cochrane Library, and Web of Science), case reports of KFSD. Clinical, trichoscopic, and biochemical assessments, including complete blood count, serum chemistries, and skin culture, were carried out at baseline and after 3 months.

Results: A 13-year-old boy came to the clinic with complaints of eyebrow hair loss. For 5 years before being seen in our clinic, the patient had been noted to have dry, scaly eyebrows, extensor aspects of limbs, and scalp. Family history was noncontributory. Physical examination disclosed multiple follicular erythematous horny papules over the eyebrows and both upper and lower limbs, perifollicular peeling on the scalp. .Ophthalmic examination revealed no abnormal findings. Scalp trichoscopy revealed perifollicular peeling and an erythematous background. The peeling resembled the initial LPP (lichen planopilaris), the so-called “inflammatory” peeling. Trichoscopy of the eyebrows shows the presence of perifollicular peeling, single white spots, and an erythematous background. Laboratory studies, including a complete blood count and serum chemistries, were unremarkable. The patient did not receive any treatment. Keratolytic agents and emollients were used in the treatment of the skin of the body. Topically on the eyebrows, we used topical calcineurin inhibitors for a long time and lotion with a low concentration of urea for the same long time. On the scalp, we used a topical steroid with salicylic acid in the form of a lotion once a day for 1 month to suppress the inflammatory process and monitor the dynamics of events in preventing scarring. After 3 months, we re-examined the patient and performed a trichoscopy of the scalp and eyebrows. Slight erythema remained on the eyebrows, but there was no peeling. There was no significant peeling on the scalp, and there were no signs of scar tissue formation.

Conclusion: Keratosis follicularis spinulosa decalvans (KFSD) is an exceedingly rare follicular syndrome associated with widespread keratosis pilaris and progressive scarring alopecia. Today, there is no ideal treatment regimen for this condition. The treatment of such disease should be started the earliest possible (ideally still in the inflammatory phase) so as to retard and minimize the cictricial sequels, which will improve the compliance of the dermatologist and the patient. Therefore, the combination of a topical keratolytic and a corticosteroid in the early stages of the development of this disease can be considered as a promising method of preventing progression of KFSD.

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Abstract N°: 2199

A retrospective study on tofacitinib in pediatric alopecia areata totalis and alopecia universalis

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A retrospective study on tofacitinib in pediatric alopecia areata totalis and alopecia universalis.

Introduction & Objectives:

Alopecia areata totalis(AT) and universalis(AU) are the most severe and disabling variants of AA that significantly affect the quality of life of children and family members. Treatment is challenging as it is refractory to conventional modalities such as steroids, methotrexate, and cyclosporine. Tofacitinib is a JAK inhibitor that is utilized for the treatment of AA as an off-label drug. There are only a few case reports on tofacitinib in pediatric population.

Materials & Methods:

It was a retrospective study conducted in a tertiary care center from December 2023 to January 2023. All clinically and biopsy-proven cases of AT and AU after baseline investigation who were on oral tofacitinib 5mg once or twice were recruited. Scalp hair loss was calculated using SALT score, and quality of life was assessed using cDLQI. In weeks 4, 12, and 24 the response to therapy was calculated using the SALT score. Side effect profiles were recorded. Cases with incomplete details were excluded.

Results:

The demographic, clinical, and treatment details are summarized in Table 1. The age of patients ranged from 4-14 years, with the mean duration of disease being 10 months. Among 9 cases, 11.10%, 44.45%, and 44.45% were having AAP, AT, and AU respectively. The (M±SD)SALT score and cDLQI (M±SD) at baseline, week 4, 12, and 24 are represented in figure 1 and 2. The mean reduction in cDLQI was calculated using a paired t-test(p=0.0001) and one-way repeated ANOVA was used to calculate the reduction of SALT score over 0, 12, and 24 weeks(p=0.00001) and were statistically significant. The final reduction in SALT score from the baseline [Initial SALT- SALT at 6 months/Initial SALT] was 100% in 6/9 cases(66.67%), 75% to 99% in 3/9(22.23%), and 50 to 75% in 1/9(11.12%). No major adverse events were documented.

Conclusion: Our study demonstrate that JAK inhibitors have a good response in pediatric AT and AU. In countries where baricitinib and ritlecitinib are not available, our data on tofacitinib showed a promising role with a good safety profile in treatment-resistant AT and AU.

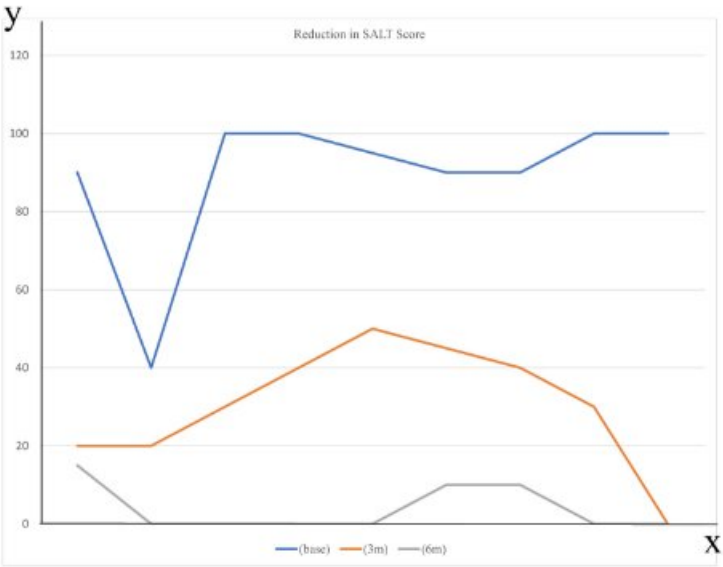

Figure 3 represent the reduction in SALT score, x-axis represent the 9 patients data, y-axis represent the SALT score, and blue, yellow, orange colored line indicates the baseline, 3 months, 6 months follow up.

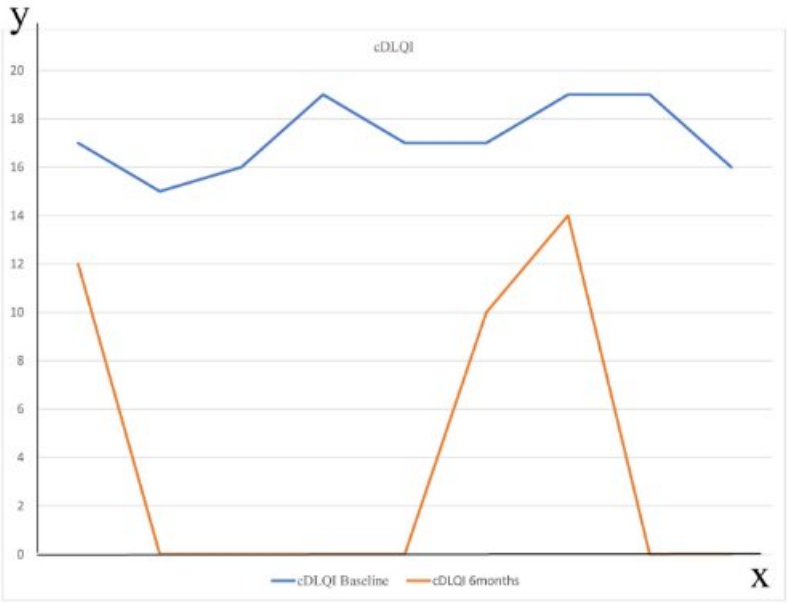

Figure 2 represent the reduction in cDLQI score x-axis represent the 9 patients data, y-axis represent the cDLQI score, and blue, yellow, orange colored line indicates the baseline, 3 months, 6 months follow up.

Table 1: Depicts the demographic and clinical details of AA

Age/ sex	Type of AA	D/I (Yrs)	Previous Rx (duration months)	Associations	SALT (base)	SALT (3m)	SALT (6m)	CDLQI (base)	CDLQI (6m)	Si eff
14y/F	AU	0.5	-	AD	90	20	15	17	12	-
7y/M	AAP	0.5	ILS	-	40	20	0	15	0	-
10y/F	AT	1	Tofacitinib 5mg OD* (7)	AD	100	30	0	16	0	HZ
4y/M	AU	2	OMP (6) MTX (6) 5mg/week	Hypothyroid	100	40	0	19	0	-
8y/M	AT	1	OMP (8)	-	95	50	0	17	0	-
5y/ F	AT	0.75	OS (3)	-	90	45	10	17	10	-
5y/M	AU	1	MTX (6) 7.5 mg/ week	-	90	40	10	19	14	-
12y/F	AU	0.25	-	-	100	30	0	19	0	-
4y/M	AT	0.5	OS (3)	-	100	-	0	16	0	-

OS: Oral daily steroids, OMP: Oral minipulse (betamethasone), ILS: Intralesional triamcinolone (10mg/ml), AD: Atopic dermatitis, AAP: Alopecia Areata patch type, AT: Alopecia Totalis, AU: Alopecia Universalis, MTX: Methotrexate, HZ: Herpes zoster. * children less than 40kg were administered OD dose.

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Abstract N°: 2221

A shampoo containing selenium disulphide is beneficial in adolescents of any photo and hair-type and presenting with seborrheic dermatitis of the scalp

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Introduction & Objectives:

Scalp seborrheic dermatitis (SSD) and its milder form, dandruff, is a chronic, relapsing inflammatory condition characterized by flakes, erythema, and pruritus. SSD occurs in all age groups.

Until today, the benefit of selenium disulfide shampoo (SeS2) in SSD has been assessed in adults subjects only.

This study assessed the benefit of SeS2 in adolescents with dandruff or SSD.

Materials & Methods:

Adolescents of any photo- and hair type from 12 and 17 years and with dandruff or SSD were included in an international, observational study and applied SeS2 shampoo according to indications of use.

Assessments at baseline, week 4 and week 8 included clinical signs (erythema, desquamation, irritation) on a scale from 0=none to 4=severe, involved area (from 0 to 4 again), symptoms (itching on VAS from 0=absent to 10=extreme, being bothered on a scale from 0=not bothered at all to 5=very bothered); at week 4 and week 8: global improvement and at week 8: global investigator satisfaction, subject-rated benefit, cosmeticity, acceptability and local tolerance.

Results:

The study was conducted in 32 countries and included 4918 patients. 276 subjects provided suitable data. 56.2% were females, mean age was 15.1±1.6 years, 40.5% had phototype II and 38.6% phototype III, 70.8% were Caucasian, 78.3% had hair type I, II or III, 72.6% had SSD, 27.4% dandruff, 87.0% had no hair procedure in the past, 28.6% had specific hair habits (veil, hat, dye or other). Until week4, 95.5% applied SeS2 2/week, between week4 and week8 they were 66.3%.

Clinical signs, as well as the global condition of the scalp (91.1% of subjects) had significantly ($p<0.001$) improved in a majority of subjects (erythema: 73.6%, desquamation: 92.8%, irritation: 80.7%)) improved after 4 weeks sustaining until week 8. So did the subject-reported symptoms. The involved area had significantly ($p<0.001$) decreased as early as after 4 weeks. At the end of the study, investigators and subjects were highly satisfied: cosmeticity, acceptability and local tolerance were excellent.

Conclusion:

SeS2 is beneficial in the management of SSD or dandruff in adolescents. Subjects highly appreciated the outcome

and cosmeticity and highly appreciated the product which was very well tolerated.

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Abstract N°: 2250

A case of onychopapilloma presenting with longitudinal melanonychia and description of the surgical procedure

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Introduction & Objectives: Onychopapilloma is a benign nail tumor originating from the nail bed and distal matrix. Baran and Perrin first described Clinically, a subungual hyperkeratotic mass may be seen at the distal free end of the nail. It may also present with longitudinal melanonychia, xanthonychia, leuconychia, and erythronchia. Distal nail notch and onycholysis may also be seen. Dermoscopy may show longitudinal band, splinter hemorrhage areas, and distal subungal mass. The epithelium can be seen in histopathology, papillomatosis, matrix metaplasia, and multinuclear cells. Since the differential diagnosis includes Bowen's disease, squamous cell carcinoma, and malignant onychopapilloma, excisional biopsy is recommended for definitive diagnosis and treatment.

This study aims to present a rare case of longitudinal melanonychia in onychopapilloma, describe the surgical method we applied, and draw attention to the differential diagnosis.

Materials & Methods: A 75-year-old male patient presented with a linear dark-colored band on the second nail of the right hand for about two years. The patient had no previous dermatological referral and had not received any treatment.

Dermatological examination revealed a longitudinal dark brown band (melanonychia) on the second nail of the right hand with a maximum diameter of 1.5 mm proximally and a yellow-grey subungal hyperkeratotic mass with a diameter of 1.5 mm on the free edge of the nail plate. Dermoscopic examination revealed longitudinal melanonychia, focal splinter hemorrhages, and a yellow-grey subungual hyperkeratotic mass on the free edge of the nail plate.

With all these clinical and dermoscopic findings, total excision was planned. The borders of the lesion were marked starting from the hyponychium and including the proximal nail fold. Bilateral wing block and matrix anesthesia were applied. The marked area was excised with a scalpel over the nail plate up to the level of the bone. The remaining nail was primarily repaired to minimize the risk of dystrophy and infection. The specimen was sent for histopathological examination with the preliminary diagnoses of onychopapilloma and pigmented bowen disease.

Results: Histopathological examination of the excisional biopsy showed acanthosis and a thick keratin layer in the nail bed epithelium. In the distal part, papillomatosis, keratinization forming a thick psychogenic band, loss of granular layer, and multinuclear cells, a rare finding, were found. All these clinical and histopathological findings confirmed the diagnosis of onychopapilloma. There was no recurrence in the two-year follow-up.

Conclusion: Onychopapilloma is a disease that rarely can be malignant and should be confirmed histopathologically since malignant entities are included in the differential diagnosis. The clinic may present with longitudinal melanonychia, as in this case. Therefore, onychopapilloma should be included in the differential diagnosis of longitudinal melanonychia. Complete surgical excision over the periosteum is recommended for definitive diagnosis and treatment, as in this case. In this case, we minimized the risk of nail dystrophy by removing the marked tumor area on the nail plate instead of using a total nail avulsion technique. This surgical

method can be used in cases of onychopapilloma.

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Abstract N°: 2251

Patient experience in Alopecia Areata: Conceptual model and review of clinical outcome measures

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Introduction & Objectives:

Symptoms of alopecia areata (AA) negatively affect patients' health-related quality of life (HRQoL). This review aims to identify symptoms and their impacts experienced by patients with AA, develop a conceptual model (CM) following the framework proposed by Wilson and Cleary (1995), and analyze the utilization of clinician-reported outcome (ClinRO) and patient-reported outcome (PRO) measures in AA clinical studies and included in EMA and FDA labels of approved drugs.

Materials & Methods:

In August 2023, a targeted literature review (TLRs) and a landscape assessment were performed to characterize the patient experience of AA and to identify ClinROs and PROs used in AA clinical trials from the past 10 years. Searches were performed in Medline, PsycInfo, and ePROVIDE databases. Lastly, labels of approved products were reviewed to identify included CLinROs or PROs. Results from the TLR informed the development of a preliminary CM of AA, correlating sign and symptoms, with impacts flowing into general health perceptions with influencing environmental factors.

Results:

A comprehensive analysis of 13 qualitative studies revealed 44 signs and symptoms, 45 functional status impacts, 69 health perception concepts influenced by 5 environmental factors associated with AA. The most frequently reported symptoms were scalp hair loss (10/13 articles), body hair loss (10/13), eyelash loss (8/13), eyebrow loss (7/13), irritated eyes (5/13), weak nails (4/13), facial hair loss (4/13) and nail involvement (4/13). The impacts of AA were grouped into 5 categories: 'psychological/emotional functioning' with anxiety (9/13) and depression (8/13) being the most reported; 'social functioning' with social avoidance (9/13) and impaired performance at work or school (6/13) most frequently reported; 'activity of daily life' with impact on leisure activities (6/13) as the main concept; 'physical function' with impact on thermoregulation (2/13) and 'impact on sexuality/intimacy' (3/13). General health perceptions were grouped into 'treatment-related', 'coping strategies', 'scalp related', 'face related' and 'burden'. Environmental factor included weather related concepts such as rain, temperature, wind or humidity.

Among the 14 ClinROs identified in 81 clinical studies, Severity of Alopecia Tool (SALT) was used in 64 studies (79%) and Regrowth Scale (RGS) in 8 studies (10%). Regarding the 25 PROs identified in 81 clinical studies, Alopecia Areata Symptom Impact Scale (AASIS) was used in 7 studies (9%) and Dermatology Life Quality Index (DLQI) in 6 studies (7%). SALT was the primary endpoint of the two approved drugs for EMA and FDA, ClinRO and PRO assessing eyebrow and eyelash hair loss as well as SKINDEX-16 for AA (EMA only) and Scalp Hair Assessment PRO were included in the label.

Conclusion:

According to published qualitative research, scalp hair loss and facial hair loss are the key symptoms of AA and central to disease assessment within clinical studies. Nevertheless, AA entails additional symptoms and an

important impact on quality of life that has not been extensively measured until now. Further work is needed to capture the wide range of symptoms and impacts experienced by AA patients and better understand the burden of disease in order to guide the development of new treatment options.

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Abstract N°: 2296

Non-scarring alopecia in systemic lupus erythematosus mimecking alopecia areata: trichoscopic aspects.

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Introduction

All types of lupus erythematosus (LE) can cause hair loss. Up to 85% of patients with systemic LE (SLE) report it during their lifetime and can be the first sign of disease. Non-scarring alopecia is classically correlated with SLE due to its high specificity and when presents in a patchy pattern mimics alopecia areata (AA). The distinction between both diseases is crucial for early diagnosis and effective treatment. Trichoscopic findings can assist in discerning between them.

Case report

A 35-year-old female patient, phototype IV, presented with hair loss in the frontoparietal area for approximately 1 year, unresponsive to topical minoxidil 5% and corticosteroid. She also exhibited bilateral temporal and retroauricular patches of alopecia for about 6 years. She had been previously diagnosed with SLE for 5 years, which was difficult to control despite the regular use of hydroxychloroquine, mycophenolate mofetil and low-dose glucocorticoids.

On dermatological exam, she presented an irregular patchy alopecia, measuring 13x9 cm, on the frontoparietal area with incomplete hair loss. Trichoscopy revealed interfollicular arborizing vessels, black dots, hair shaft hypopigmentation and thinning, yellow dots and vellus hair, sugestive of non-scarring alopecia in LE. On the temporal and retroauricular area, patches of cicatricial alopecia measuring 7x3cm on the right side and 14x7cm on the left side, with intense scattered brown discoloration, honeycomb pigment pattern, reduction of follicular ostia, interfollicular arborizing vessels, yellow dots, keratotic plugs and visible scales, compatible with classic discoid LE (DLE). On histopathological exam, all biopsied lesions presented mucin deposits in the dermis, confirming the diagnosis of non-scarring patchy alopecia in SLE in the frontoparietal area and DLE in the temporal and retroauricular areas.

Discussion

The alopecia in LE is considered specific if its features are present on histopathology, if not, it is presumed non-specific. Non-scarring alopecia of SLE may assume a patchy pattern often misdiagnosed as AA. Since both are autoimmune disorders, they may also coexist. Recent studies have shown clinical and trichoscopic features to aid in distinguish them.

Clinically, both primarily affect females around 30 years old, with a mean duration of disease of 2,5 to 3 years. In AA, the hair loss is complete and can affect up to 85% of the scalp, 62% of patients have positive pull test, and there is no erythema or scales. In SLE alopecia, the hair loss tends to be incomplete, with erythema and scales, affecting up to 40% of the scalp, the pull test is positive in 43% of the cases, mainly peripherally.

On trichoscopy, AA shows mostly yellow dots, broken hair, increase in vellus hair, black dots and exclamation-mark hairs. In SLE alopecia, the predominant findings are interfollicular arborizing vessels, hair shaft thinning and hypopigmentation, honeycomb pigment pattern, dilation of follicular ostia, white dots and increase in vellus hair. Histopathological examination confirms suspicion, and in SLE alopecia, besides LE specific findings, there are

peribulbar lymphocytes, increased catagen/telogen count and pigmented casts.

Non-scaring alopecia in SLE manifests mainly in patients with severe and uncontrolled disease, and its activity correlates with underlying proteinuria. Clinicians must be aware of the relation between hair loss and SLE to enable early diagnosis and establish treatment.

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Abstract N°: 2308

Alopecia areata and sexual health: cross-sectional study

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Introduction & Objectives: Alopecia Areata (AA) impairs the quality of life of people who suffer from it. However, there is no evidence on the impact that this disease may have in terms of sexual dysfunction (SD). The aim of the present study was to assess the prevalence of SD in a cohort of patients with AA compared to healthy controls, as well as to study potential associated factors and mood disturbances.

Materials & Methods: A cross-sectional study was conducted in a cohort of AA patients matched for age and sex with healthy controls. Sexual function was evaluated using a numerical scale and gender-specific questionnaires (International Index of Erectile Function for males; Female Sexual Function Index for females). Clinical and socio-demographic information was collected for both groups.

Results: A total of 120 participants were enrolled in the study, 60 patients with AA and 60 healthy controls. Three quarters of the participants were women. The mean age was 40 years. The prevalence of SD was higher in women with AA than in healthy controls ($p<0.05$), with no differences in terms of SD between male patients and controls. On the other hand, women with AA showed higher rates of SD than men with the disease (66.67% vs 33.33%). Female SD was associated with younger age, shorter duration of illness and higher rates of anxiety and depression ($p<0.05$), but not with greater severity of AA. Male SD was associated with older age and greater severity of AA ($p<0.05$).

Conclusion: Women with AA have higher rates of SD than controls and men with AA. They also experience SD at a younger age, in the early years of the disease and with associated symptoms of anxiety and depression. Males with AA who experience SD do so at an older age, with more severe forms of AA, and associated with poorer quality of life.

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Abstract N°: 2319

White piedra: an uncommon fungal infection

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Introduction & Objectives:

White piedra is a rare superficial mycosis of the hair caused by the Trichosporon species. Its prevalence is higher in tropical environments, and it mainly affects women and children under the age of 15. We present the first case reported in our region.

Materials & Methods:

We report the case of a 4-year-old child who presented with asymptomatic whitish formations on the periauricular and occipital hair that had been evolving for two months.

Examination revealed multiple firm white sheaths about 1 millimeter in diameter, attached to the distal parts of the hair shafts, more abundant in the temporal and frontal areas.

On trichoscopic examination, multiple adherent whitish ovoid nodules surrounding the hair shafts were observed.

Results:

Given this clinical picture, white piedra was suspected, and treatment with ketoconazole 2% shampoo was initiated at the rate of two applications per week, with a good therapeutic response.

Conclusion:

White Piedra presents clinically as white nodules surrounding the hair shafts and can lead to increased fragility. It can usually be easily differentiated from clinically similar conditions based on clinical, trichoscopic and microbiological features. In our case, trichoscopy served as an interface between clinical and microbiological examination, avoiding the need for microscopic examination of the hair shaft.

Risk factors include poor hygiene, excess humidity, diabetes and long, curly hair. In our case, the patient’s hair was straight and short, with no evidence of excess humidity.

Shaving infected hair is the most effective curative treatment, but is often poorly accepted by patients, particularly women. Topical antifungals such as ketoconazole, ciclopirox olamine shampoo, selenium sulfide, sulfur precipitated in petroleum jelly, zinc pyrithione and amphotericin B lotion have been used successfully. Among oral antifungal agents, azoles (itraconazole) eliminate scalp carriage and infection, and are therefore considered a first-line treatment due to the proven presence of intrafollicular organisms.

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Abstract N°: 2328

Use of botulinum toxin for the androgenetic alopecia: a prospective study of 50 patients

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Introduction & Objectives:

Androgenetic alopecia, a prevalent form of hair loss, has a complex etiology. FDA-approved treatments include finasteride and minoxidil. The balding scalp is associated with potential microvascular insufficiency, and scalp blood vessels traverse the intramuscular plane. Intramuscular botulinum toxin injection, known for muscle relaxation, has been explored to enhance blood flow in the balding scalp. This study aimed to assess the effectiveness of botulinum toxin in managing androgenetic alopecia.

Materials & Methods:

Conducted in a tertiary care center, this study included 50 male participants meeting the inclusion criteria. Thirty sites on the scalp received 5 U of botulinum toxin per site. Preprocedure photographs were taken and evaluations were performed, with a repeat after 24 weeks. Efficacy was gauged through photography, Trichoscopic and patients provided self-assessment scores.

Results:

Among the 50 patients, 36 exhibited a favorable to excellent response in photographic assessments at the end of 24 weeks. Trichoscopic evaluation at regular intervals revealed increase hair counts and density. After 24 weeks, 4 patients displayed a poor response, and another 10 showed a fair response. Self-assessment revealed a positive outcome in 41 out of 50 patients.

Conclusion:

In this study, botulinum toxin emerged as a safe and effective therapy for managing androgenetic alopecia. Larger sample size studies and randomized controlled trials are essential to further establish the role of botulinum toxin in treating androgenetic alopecia.

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Abstract N°: 2330

Baricitinib in alopecia areata: a monocentric real-life experience

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Introduction & Objectives:

The Janus Kinase (JAK) inhibitors are becoming increasingly relevant in dermatology and are the focus of multiple clinical trials. This family of drugs includes baricitinib, the first treatment approved for alopecia areata. Phase III trials BRAVE-AA1 and BRAVE-AA2 have demonstrated its safety and efficacy.

In this report, we want to assess the effectiveness, the changes in patients' quality of life and the side effects of Baricitinib in real life patients, analysing those in treatment at our centre, with data collection ending in August 2024.

Materials & Methods:

At out Dermatology Unit, we are currently treating with baricitinib 55 patients, including 36 females and 19 males. All patients had failed treatment with topical and systemic steroids or had contraindications to them. The median age was 42 years with an interquartile range (IQR) of 26.5-50 years. Among these patients, 30 have alopecia universalis, 8 have total alopecia and 17 have patchy alopecia with extensive scalp involvement (>50%). The mean baseline Severity of Alopecia Tool (SALT) score was 90.45 with a standard deviation (SD) of 14.79.

Clinical outcomes are assessed using SALT score, ClinRO (Clinician-reported outcomes) eyebrow and eyelash, DLQI (Dermatology Life Quality Index), SKINDEX-16 and HADS (Hospital Anxiety and Depression Scale) at baseline, after 4 and 12 weeks of treatment and then every 12 weeks.

Results:

Currently, twenty-one patients completed six months of therapy, during which the mean SALT decreased from 89.76 (SD 18.33) to 46.43 (SD 34.14). Twenty-three percent achieved a SALT reduction ≥ 75% (considered as complete response, CR), while 43% achieved a reduction of 25-75% (considered as partial response, PR). Additionally, 38% reached a SALT ≤ 20, which is consistent with results from the BRAVE AA1 (28%) and BRAVE AA2 (30%) trials at 24 weeks. No serious adverse events were observed; one patient discontinued therapy due to persistent asthenia and myalgia after taking the drug, with positive rechallenge.

Conclusion:

Our results support data from phase III clinical trials, with comparable effectiveness and safety of baricitinib. Longer experience are required to further assessments.

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Abstract N°: 2405

A selenium disulphide-based shampoo restores the scalp microbiota in subjects of any photo- and hair type with dandruff

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Introduction & Objectives:

Dandruff, a mild form of seborrheic dermatitis (SD), is a chronic and relapsing inflammatory condition of the scalp. Among other factors, overcolonization by fungi such as Malassezia yeasts, and the host-inhabitant interplay participate in the onset of dandruff.

This study assessed the benefits of a selenium disulphide-based shampoo (SeS2) in rebalancing scalp microbiota in subjects of any photo- and hair type with dandruff.

Materials & Methods:

93 adult subjects meeting inclusion criteria were recruited into this clinical, 4-week study. According to their hair status, subjects received either SeS2 normal to oily hair (Group1) or SeS2 dry hair (Group 2) for 4 weeks. Skin swabs were made at baseline and after 4 weeks. A q-PCR was used to quantify Cutibacterium spp., Staphylococcus spp. and Malassezia spp.. 16S and its qualitative analysis (16S and ITS) were used to determine the alpha and beta diversity.

Results:

At baseline, no significant difference between hair and scalp types was observed in terms of q-PCR (for Malassezia spp, Cutibacterium spp. and Staphylococcus spp.), 16S and ITS analysis. After 4 weeks, the Malassezia spp. and Staphylococcus spp. load had significantly ($p<0.001$) decreased, while that of Cutibacterium spp. remained unchanged. The 16S and ITS analyses showed a significant ($p<0.001$) decrease of the bacteria alpha diversity and a significant ($p<0.001$) increase of the fungi s alpha diversity between baseline and Day 28. No difference was observed between the 2 formulas. A significant ($p<0.001$) decrease of the bacteria diversity was observed for hair type I-III with only tendency to decrease for the other hair types. No difference between hair types was observed for the fungi diversity.

Conclusion:

SeS2 significantly rebalances the scalp microbiota, regardless the photo- and hair type of subjects with dandruff.

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Abstract N°: 2408

A Selenium Disulfide-based shampoo is beneficial in subjects of any phototype and hairtype with dandruff

Pascal Reygagne[1], Claire Deloche[2], Beatriz Santanna[2], Stéphanie Lerclerc-Mercier[2], Julie Faure[2], Victoria Barbosa[3]

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Introduction & Objectives:

Dandruff is a chronic condition and present in all hair types. Compliance to treatment can be challenging. Selenium disulfide shampoo (SeS2) is an acknowledged anti-dandruff care which can be used over a prolonged period.

This study assessed the benefit and cosmeticity of SeS2 in subjects of any phototype and hair type with moderate-to-severe dandruff.

Materials & Methods:

In adult subjects of any Fitzpatrick phototype and de la Mettrie hair type (I-VIII) a 4-week study evaluated the total dandruff, SSD severity score (SSSD), erythema, hair greasiness, quality of life (QoL), discomfort, local tolerance, perceived benefit, acceptability and cosmeticity. SeS2 was applied by the subjects at home twice/week.

Results:

93 subjects participated, 83% were women; 69% of the subjects were of European and 31% of African origins. Phototypes ranged from I (2%) to VI (16%) with phototype III representing the majority (56%) of subjects. All hair types were represented (I-III: 41%, IV-V: 29%, VI-VIII: 30%). SSSD, total dandruff and burning scores were the highest in hair type IV-V, erythema and stinging scores in hair type I-III, and the itching score in hair type VI-VIII with no differences between hair types for any parameter.

In all hair types, clinical signs and subject assessments significantly ($p<0.05$) reduced after 4 weeks of twice weekly use.

SeS2 was well tolerated and highly appreciated for its benefit, acceptability and cosmeticity.

Conclusion:

SeS2 is a beneficial and safe dermocosmetic care for the management of moderate to severe dandruff in all photo- and hair types. It significantly reduces clinical signs and subject-rated symptoms. Subjects highly accepted and appreciated the provided benefit, cosmetic qualities of SeS2.

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AMSTERDAM 25-28 SEPTEMBER 2024
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Abstract N°: 2409

An anti-dandruff shampoo containing selenium disulphide is beneficial in subjects of any photo and hair-type: results from an observational study in 32 countries in 4918 patients

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Introduction & Objectives:

Scalp seborrheic dermatitis (SSD) or its milder form, dandruff, is a chronic, relapsing scalp condition characterized by flakes, sometimes erythema, and pruritus. It is observed in all photo- and hair type populations.

The benefit of selenium disulfide shampoo (SeS2) in dandruff has mainly been assessed in fair skin type patients regardless their hair type.

This study assessed the benefit of SeS2 in SSD regardless the photo- and hair type.

Materials & Methods:

Subjects aged above 12 years, of any photo- and hair type with SSD were included in an international, observational study and applied SeS2 according to indications of use. Assessments at baseline, week 4 and week 8 included clinical signs (erythema, desquamation, irritation) on a scale from 0=none to 4=severe, involved area (from 0 to 4 again), symptoms (itching on VAS from 0=absent to 10=extreme, being bothered on a scale from 0=not bothered at all to 5=very bothered); at week 4 and week 8: global improvement and at week 8: global investigator satisfaction, subject-rated benefit, cosmeticity, acceptability and local tolerance.

Results:

Data from 4918 subjects were analysed. 54.6% were females, the mean age was 35.7±13.9 years, 36.8% had phototype II and 35.9% phototype III, 69.3% were Caucasian, 80.5% had hair type I, II or III, 79.3% had no hair procedure in the past, 31.2% had hair habits (veil, hat, dye or other). 51.0% had a previous treatment, of those, 22% applied topical corticosteroids and 26% ketoconazole. 48.6% applied SeS2 as alone, 25.8% used it as an adjuvant.

Clinical signs, as well as the global condition of the scalp (92.2% of subjects) had significantly ($p<0.001$) improved in a majority of subjects (erythema: 75.6%, desquamation: 90.4%, irritation: 82.8%)) improved after 4 weeks sustaining until week 8. So did the subject-reported symptoms. The involved area had significantly ($p<0.001$) decreased as early as after 4 weeks (73.8% of subjects). At the end of the study, investigators and subjects were highly satisfied: cosmeticity, acceptability and local tolerance were excellent.

Conclusion:

SeS2 is beneficial in the management of SSD in any photo and hair type. In this large observational study in 32

countries and in 4918 patients, we show that SeS2 was highly appreciated for its benefit and cosmeticity and very well tolerated.

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Abstract N°: 2459

A Phase 2b Study Evaluating the Efficacy and Safety of Single Agent Rezpegaldesleukin, an Interleukin-2 Receptor (IL-2R) Pathway Agonist, in the Treatment of Severe to Very Severe Alopecia Areata

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Introduction & Objectives:

Alopecia areata (AA) is a chronic inflammatory skin disorder resulting in patchy, non-scaring hair loss. The pathogenesis for AA involves loss of immune privilege for the hair follicle through overactivity of the Th1 and Th17 cells and dysfunction of regulatory T cells (Treg).1 Rezpegaldesluekin (REZPEG) is an interleukin-2 receptor (IL-2R) pathway agonist that has been shown to stimulate the expansion and function of regulatory T cells (Tregs) that are impaired in inflammatory cutaneous conditions including alopecia areata (AA).2 REZPEG is a biologic therapy and represents a potential novel therapeutic approach for patients with severe to very-severe AA. There are currently no biologic therapies approved for the treatment of AA. REZPEG has previously demonstrated clinical activity in patients with chronic inflammatory skin conditions, including atopic dermatitis (AD), psoriasis, and systemic lupus erythematous. Specifically, a Phase 1b study of REZPEG for patients with moderate-to-severe AD demonstrated a rapid time to response (2-4 weeks) during induction therapy and a prolonged durability of response, i.e., throughout the 36-week follow-up after cessation of therapy. These results support further development of REZPEG for patients with moderate to severe AD (phase 2b study ongoing, NCT06136741) and other inflammatory skin diseases, including AA.

Materials & Methods:

We are conducting a Phase 2b, randomized, double-blinded, placebo-controlled, international, multicenter study of REZPEG vs placebo for JAK-inhibitor naïve patients with severe to very severe AA. Eligibility requires adult males (aged 18-60 years) or adult females (aged 18-70) with severe to very severe AA with the following inclusion criteria: baseline Severity Alopecia Tool (SALT) score ≥ 50, stable hair loss for 6-months, current episode of severe AA of less than 8-years, and no hair loss from causes other than AA. Patients will be randomly assigned in a 3:3:2 ratio to 2 different REZPEG dosing regimens vs. placebo, administered subcutaneously, during the treatment period and all patients will undergo an extended follow-up (Figure 1). The primary endpoint for this study is the

percent change from baseline in SALT score at end of treatment period. Key secondary/exploratory endpoints include the following: percent change from baseline in SALT score at other assessed timepoints, proportions with ≥ 50%, 75%, 90% reduction in SALT at end of treatment period and other assessed timepoints, proportion of patients with absolute SALT score ≤ 10, ≤ 20, ≤ 30, ≤ 50 at end of treatment period and other assessed timepoints, safety/tolerability, various patient reported outcomes (PROs), pharmacokinetics, and pharmacodynamics.

Conclusion:

REZPEG is a novel regulatory T cell stimulating therapy that may confer prolonged therapeutic benefit for patients with chronic inflammatory skin conditions, including AA and AD. This phase 2b trial is evaluating the efficacy and safety of multiple dosing regimens of REZPEG in JAK-inhibitor and biologic-therapy naïve patients with severe to very severe alopecia areata.

References:

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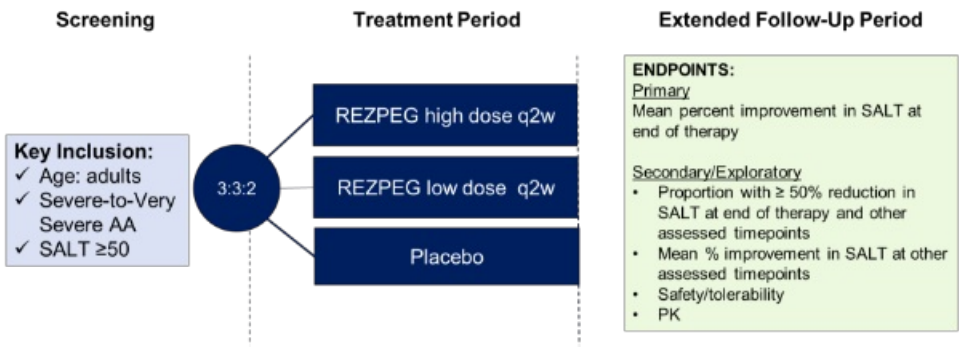
2. Fanton C, et al. *J Transl Autoimmun.* (2022) 5: 100152.

Keywords: Rezpegaldesleukin, NKTR-358, trial in progress, IL-2, Treg, alopecia areata, atopic dermatitis, biologic naïve, JAK-inhibitor naïve.

Figure 1:



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Abstract N°: 2509

Optimization of deuruxolitinib dosing in adult patients with alopecia areata: Results from a randomized, parallel-group, multicenter, Phase 2 trial

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Introduction & Objectives:

Alopecia areata (AA) is a chronic autoimmune disorder causing partial or complete loss of hair, significantly affecting patients' quality of life. Deuruxolitinib is an oral inhibitor of Janus kinase (JAK) 1/JAK 2 under investigation for the treatment of AA at a dose of 8 mg twice daily (BID). Here, we report the efficacy and safety results of a Phase 2 dose optimization trial evaluating deuruxolitinib 8 mg BID vs deuruxolitinib 16 mg once daily (QD) in adult patients with severe AA.

Materials & Methods:

In this randomized, parallel-group, multicenter, Phase 2 trial (NCT03811912), patients aged 18 to 65 years with a definitive diagnosis of AA and ≥50% hair loss were randomized to receive oral deuruxolitinib 8 mg BID or 16 mg QD. The primary efficacy endpoint was relative change from baseline in Severity of Alopecia Tool (SALT) score at Week (W)24. Secondary efficacy endpoints included the proportions of patients achieving at least a 75%/90% reduction from baseline in SALT score and relative change from baseline in SALT score at W8, W12, W16, W20, and W24. Missing SALT score data were handled using a last observation carried forward approach. Dosing regimens were compared using mean relative change from baseline at W24 with a 90% confidence interval (CI; t-distribution). Safety was assessed from treatment-emergent adverse events (TEAEs) through W24.

Results:

Of 70 patients screened, 57 were randomized to receive deuruxolitinib 8 mg BID (n = 29) or 16 mg QD (n = 28). The mean age was 40.1 years, 38/57 (66.7%) patients were female, and the mean baseline SALT score was 88.7; these characteristics were similar between the treatment arms. At W24, the mean relative change from baseline in SALT score was greater in patients treated with deuruxolitinib 8 mg BID (46.4% [90% CI, 34.3–58.4]) vs 16 mg QD (18.0% [90% CI, 7.6–28.4]). Higher proportions of patients treated with deuruxolitinib 8 mg BID vs 16 mg QD achieved a 75% reduction from baseline in SALT score at W12 (6.9% vs 0%), W16 (20.7% vs 3.6%), and W24 (31.0% vs 10.7%), with 1 patient in each dose arm achieving a 75% reduction at W8. Similarly, the proportion of patients achieving a 90% reduction from baseline in SALT score was higher among patients treated with

deuruxolitinib 8 mg BID vs 16 mg QD at W12 (3.4% vs 0%), W16 (6.9% vs 0%), and W24 (20.7% vs 3.6%); no patient achieved a 90% reduction at W8. The mean relative change from baseline SALT score was higher in patients treated with deuruxolitinib 8 mg BID vs 16 mg QD at W8 (8.6% vs 2.7%), W12 (23.7% vs 5.1%), W16 (33.3% vs 9.4%), W20 (40.6% vs 14.8%), and W24 (46.4% vs 18.0%). There were 57 TEAEs in 23 (79.3%) patients in the 8-mg BID group and 77 TEAEs in 23 (82.1%) patients in the 16-mg QD group. No serious TEAEs were reported.

Conclusion:

Deuruxolitinib 8 mg BID resulted in greater improvement relative to deuruxolitinib 16 mg QD, and BID dosing was carried into the Phase 3 trial program.

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Abstract N°: 2634

Peri-nevoid alopecia: A rare subset of alopecia areata.

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Introduction & Objectives: Peri-nevoid alopecia (Syn: nevocentric alopecia or perinevic alopecia) is a subset of alopecia areata (AA) that is associated with a central pigmented nevus. It was first described by Yesudian and Thambiah in a series of 3 cases. They associated a central pigmented nevus with surrounding alopecia. It is believed that the alopecia occurs secondary to an inflammatory response directed against melanocytic structures/nevus cells. Pigmented melanocytic nevi have been reported to present several inflammatory phenomena, the most prevalent and studied one among these has been the halo nevus. In halo nevus, a melanocytic nevus is surrounded by hypopigmented/depigmented peripheralal area which is thought to be an auto-immune cellular response against antigens of nevus cells. Erythema multiforme, targetoid halo, halo eczema, and peri-nevoid alopecia are other examples of nevocentric phenomena. In medical literature, less than 20 cases of peri-nevoid alopecia have been reported till date. In this article, the author reports an exceedingly rare case of peri-nevoid alopecia.

Materials & Methods: A 41-year-old male visited our dermatology clinic with a chief complaint of a single smooth patch of hair loss hair which he noticed two weeks back. Dermatological examination revealed a smooth, non-erythematous, non-scaly patch of alopecia over left parietal region of scalp measuring a diamter of 2.5cm × 2.5cm. There were no signs of inflammation. In the centre of alopeic patch, there was a brownish pigmented melanocytic nevus measuring 3mm× 4mm. Clinically, no atrophy was discernible. Dermoscopic examination revealed a well-circumscribed lesion with homogenous blue-grayish globular pattern, broken hairs, yellow dots and short vellus hairs. Based on the clinical and dermoscopic findings, the diagnosis of Peri-nevoid alopecia was made.

Results: He was treated with combination of betamethasone dipropionate (0.5mg) and calcipotriol (50 mcg), and topical minoxidil spray (5%). At 1 month follow up, he reported back with minimal response. He was eager to get a quick response, so intralesional triamcinolone (10mg/ml) was started. The first session of intralesional triamcinolone was performed and the patient is still under follow up.

Conclusion: Peri-nevoid alopecia** is an extremely rare subset of AA associated with a central pigmented melanocytic nevus in most instances, in which a cellular auto- inflammatory response is triggered against nevus cells, hair follicles, and melanocytic structures. It is believed that pigmented nevus may cause immune response and inflammatory cell infiltration leading to AA. Due to paucity of reported cases and unawareness of this rare condition, it is imperative that Peri-nevoid alopecia needs to be reported otherwise it might get misdiagnosed as nevi, AA, or other non-scarring alopecia.

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Abstract N°: 2640

Association between premature graying of scalp hair and seborrheic dermatitis: A Clinical Study

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Introduction & Objectives:

Premature graying of hair, a phenomenon occurring before the age of 30, has intrigued researchers and dermatologists alike due to its multifaceted implications. Not only does it affect one's appearance, but it may also hint at underlying health conditions. Seborrheic dermatitis, characterized by inflammation of the scalp, is another common dermatological concern. Despite being studied individually, scant attention has been paid to the potential association between premature graying of hair and seborrheic dermatitis. Hence, this study aims to explore the relationship between these two conditions.The objectives of this study are threefold:To ascertain the prevalence of seborrheic dermatitis among individuals diagnosed with premature graying of scalp hair.To elucidate the clinical manifestations of scalp seborrheic dermatitis in patients exhibiting premature graying of hair.To evaluate the treatment status of seborrheic dermatitis among individuals with premature graying of hair, shedding light on current therapeutic practices and management strategies.

Materials & Methods:

In this retrospective study, patients aged 10 to 30 years, encompassing both genders, who sought consultation at a dermatology clinic over a span of six months were included. Criteria for inclusion comprised clinical diagnosis of premature graying of hair, while exclusion criteria encompassed familial history of premature graying, vitiligo, and other congenital causes. Clinical assessments were conducted to identify the presence of seborrheic dermatitis among patients with premature graying of hair. Data regarding the prevalence of seborrheic dermatitis and the treatment regimen of affected patients were collected and subjected to statistical analysis.

Results:

In this retrospective study, patients aged 10 to 30 years, encompassing both genders, who sought consultation at a dermatology clinic over a span of six months were included. Criteria for inclusion comprised clinical diagnosis of premature graying of hair, while exclusion criteria encompassed familial history of premature graying, vitiligo, and other congenital causes. Clinical assessments were conducted to identify the presence of seborrheic dermatitis among patients with premature graying of hair. Data regarding the prevalence of seborrheic dermatitis and the treatment regimen of affected patients were collected and subjected to statistical analysis.

Conclusion:

The findings of this study underscore a significant association between premature graying of hair and seborrheic dermatitis among patients attending a dermatology clinic. This association hints at potential underlying mechanisms linking these two conditions, warranting further investigation. Moreover, the high prevalence of seborrheic dermatitis among individuals with premature graying of hair underscores the importance of early identification and management, not only for cosmetic concerns but also for potential health implications. Continued research in this domain may facilitate the development of targeted therapeutic interventions and enhance clinical outcomes for affected individuals.

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Abstract N°: 2682

Early Intervention of 5% Minoxidil Usage Yields Improved Hair Regrowth in Male Androgenetic Alopecia: The Effects of Age and Stage

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Introduction & Objectives:

A total of 80 million Americans suffer from hair loss; 50 million are men, which accounts for about 85% of all men in America. In a survey completed in 2023, 322 male topical minoxidil users were surveyed to inquire how old they were when they started treatment. On average, men started at age 38.2 y/o and on average wished they had started at age 34 y/o. It is often assumed that starting an intervention earlier in any disease process helps mitigate progression of disease. There is a paucity of data in androgenetic alopecia regarding earlier intervention resulting in better outcomes. The objective of this research is to investigate change from baseline non-vellus hair counts within different age groups and different hair loss severity stages, as classified by the Norwood-Hamilton scale.

Materials & Methods:

To explore the relationship between hair regrowth and some covariates, subject's age and stage of hair loss, the change from baseline at Week 16 in target area hair count (TAHC) were summarized by the covariates in a men's 5% Minoxidil Topical Foam (MTF) study. A 2019 post-hoc analysis probed effects in the change from baseline at the end of treatment (16 weeks) in hair count based on age: considering younger millennials (20-30 years), older millennials (31-40 years), and generation X (41-50 years) for men enrolled in a phase III trial of commercially available 5% Minoxidil Topical Foam (MTF). Difference in hair regrowth in the stages of hair loss was assessed by the mean change from baseline hair count at week 16 in stages of hair loss based on the Norwood-Hamilton scale. Men enrolled in the study were in Type III (vertex), Type IV, and Type V classification of hair loss.

Results:

Subjects using 5% MTF twice daily regrew more non-vellus hairs from baseline in younger millennials than in older millennials and generation X. Change in TAHC from baseline at 16 weeks showed hair count for younger millennials (26.25), older millennials (19.22), and generation X (20.41). Subjects using 5% MTF showed statistically significant improvement in hair regrowth compared with placebo for each of the three age categories ($p<0.005$).

Subjects using 5% MTF twice daily regrew more non-vellus hairs from baseline for Type III hair loss pattern than for Type IV and Type V. Subjects in Type III classification showed an increase in hair count (23.06) compared to Type IV (15.83) and Type V (21.57) classifications. Subjects using 5% MTF showed statistically significant improvement in hair regrowth compared with placebo for each of the three hair loss classifications ($p<0.002$).

Conclusion:

This study has proven that there is objective improvement of hair regrowth when intervening earlier in age and stage of hair loss severity with topical minoxidil. We believe that this data will appropriately and objectively inform health care providers with evidence to provide best practices in shaping the treatment paradigm for male androgenetic alopecia.

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Abstract N°: 2779

Telogen and trichodynia: The approach of physical therapy

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Introduction & Objectives: The dysregulation of the hair follicle microenvironment is the main cause of AGA, often caused by vascular dysfunction and oxidative stress in the microenvironment surrounding the hair follicle. This study aims to develop a novel composite biomaterial to regulate the hair follicle niche and antagonize the inhibitory effect of dihydrotestosterone on hair follicles.

Materials & Methods: In this study, exosomes stably enriched with miR-218-5p were constructed using electroporation and collected after ultracentrifugation. They were characterized using electron microscopy, western blot (WB), and nanoparticle tracking analysis (NTA). Hollow microneedles were prepared using methacrylate gelatin combined with baicalin, and the pre-prepared Exos-miR-218-5p were implanted into the cavities by centrifugation. The skin permeation ability, electron microscopy, and drug release efficiency were evaluated. MTT assay, wound healing assay, qRT-PCR, WB, IF, and in situ hybridization were used to investigate the effects of the MN-Baiclin-Exo-miR-218-5p microneedle system on the expression of PI3K/Akt signaling pathway, antioxidant capacity, and the regulation of hair growth induced by DHT and VEGF expression in dermal papilla cells (DPCs) through cell culture, organ culture in vitro, and experiments in mice.

Results: The particle size of Exos-miR-218-5P remained within the range of 40-130nm, and the surface expressed CD9 and CD63 markers. In cell experiments, 20ug/ml Exos-miR-218-5P upregulated the expression of β-catenin and CyclinD1 proteins in DPCs and activated the expression of the PI3K/Akt signaling pathway, but it could not effectively antagonize the oxidative effect of H2O2. After combining with baicalin, it could significantly antagonize the inhibitory effect of DHT on DPCs, re-activate VEGF secretion, and compared with the control group, the ROS fluorescent probe signal was weakened. In vivo experiments, the MN-Baiclin-Exo-miR-218-5p group promoted hair follicle growth more effectively than other groups, effectively increasing hair follicle growth rate, follicle bulb size, and dermal thickness. Immunohistofluorescence showed that MN-Baiclin-Exo-miR-218-5p upregulated the expression of β-catenin, Ki-67, and p-PI3K and increased blood flow in the vessels surrounding the hair follicles.

Conclusion: In summary, the MN-Baiclin-Exo-miR-218-5p soluble microneedle system designed in this study can reshape the microenvironment surrounding the hair follicle by clearing ROS and promoting angiogenesis, and activate the PI3K/Akt/β-catenin signaling pathway to promote hair follicle growth in AGA.

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Abstract N°: 2829

Number Needed to Biopsy for Longitudinal Melanonychia: A Single-Center Experience

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Introduction & Objectives:

Longitudinal melanonychia (LM), characterized by pigmented streaks on the nail plate, poses a diagnostic challenge due to its potential association with subungual melanoma. Current guidelines recommend biopsy for suspicious cases, but distinguishing melanoma from benign causes remains difficult. This study aims to identify parameters associated with malignancy, including the role of intra-operative nail matrix inspection in enhancing diagnostic accuracy.

Materials & Methods:

A retrospective review was conducted on patients with LM, clinically suspicious for melanoma, according to current guidelines, undergoing nail surgery at a tertiary center between November 2021 and February 2024. Pre- and intra-operative clinical assessments were performed, including inspections of the nail plate pigmentation and the nail matrix pigmentation. Baseline data included age, gender, LM location and duration. Number Needed to Biopsy (NNB) was calculated for melanomas.

Results:

Ninety-three patients with LM underwent nail unit biopsy. Mean age was 47.4 years (range 3-89), with 43% having LM for <1 year. Malignant melanoma in situ was diagnosed in 18.5% (n=13) of the cases, mainly located to the 1st fingernail (n=5) or 1st fingernail (n=4). NNB for malignancy was 11.5 and 6.5 for patients <50 and ≥50 years, respectively. Non-malignant LM included atypical junctional melanocytic hyperplasia (4.3%), benign melanocytic activation (53.8%), lentigo (14%), lichenoid reaction (1.1%), nevi (7.5%), and pigmented onychopapilloma (5.4%). Intra-operative inspection revealed non-homogeneous, non-circumscribed nail matrix pigment in 91% of malignant cases. Malignancy was significantly associated with non-homogeneous, non-circumscribed nail matrix pigment (41.7% vs. 2% in benign cases; p-value<0.05), indicating its reliability in differentiating malignant from benign LM.

Conclusion:

This study emphasizes the importance of nail unit biopsy for suspicious LM cases. Intra-operative assessment of nail matrix pigment aids in prioritizing pathology evaluation and managing cases with inconclusive pathology results.

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Abstract N°: 2884

Effect of antibiotic exposure during infancy on the risk of paediatric alopecia areata

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Introduction & Objectives:

Limited evidence exists on the relationship between antibiotic exposure during early childhood and its impact on the development of paediatric alopecia areata (AA). This study aimed to assess how factors such as the number of antibiotic classes, duration of exposure, timing of initiation, and changes in these variables influence the onset of AA in infants and children.

Materials & Methods:

In this large cohort study, 3,783,798 infants who received their first or second health checkups between 2007 and 2018 were included. Information regarding antibiotic usage before the age of 2 was retrieved from the Korean National Health Insurance Service database. A multivariate Cox proportional hazards model was employed to evaluate the link between antibiotic exposure and the risk of developing AA

Results:

Children exposed to four or more antibiotic classes exhibited a heightened risk of paediatric AA (adjusted hazard ratio [aHR] 1.26, 95% confidence interval [CI] 1.01–1.58), as did those exposed to antibiotics for 90 days or more (aHR 1.39, 95% CI 1.12–1.72), and those who initiated antibiotics at an earlier age (0–6 months: aHR 1.23, 95% CI 1.01–1.52) compared to non-users of antibiotics. In addition, the risk of paediatric AA escalated with an increase in the number of antibiotic classes or cumulative days of antibiotic exposure between ages 0–12 months and 12–24 months.

Conclusion:

Increased exposure to a greater number of antibiotic classes, longer duration of antibiotics, and early initiation of antibiotics were linked to a heightened risk of paediatric AA. Additionally, Increasing antibiotic exposure from ages 0-12 to 12-24 months could contribute to the development of paediatric AA. Therefore, prudent antibiotic use is advised for infants and children under 24 months.

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Abstract N°: 2940

Impact of menopause on severity of androgentic alopecia, quality of life, anxiety and depression

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Introduction & Objectives: Androgenetic alopecia (AGA) is characterized by a progressive miniaturization of hair follicles caused by androgens in genetically susceptible women and men. Menopause is a critical stage of female reproductive ageing and health, and it is defined as the permanent cessation of menstruation resulting from the loss of ovarian follicular activity. Skin and hair involvement often receive less attention than other menopausal symptoms despite having a significant negative effect on quality of life (QoL). Menopause has a severe impact on several systems including central nervous system, causing mood and cognitive impairment. Indeed, depressive and anxiety symptoms are more common during postmenopausal stage.

The aims of our study were (i) to evaluate the impact of menopause on the severity of AGA, (ii) to investigate the clinical and trichoscopy pattern of AGA in post-menopausal female (iii) to evaluate the impact of menopause on QoL, depressive and anxiety symptoms in patients with AGA and (iv) to compare AGA clinical and trichoscopy pattern and QoL, anxiety and depressive symptoms in those treated with hormone replacement therapy versus those not treated in a real world setting.

Materials & Methods: This cross-sectional aimed to include 200 post-menopause women. All patients underwent clinical and trichoscopic evaluation and all were assessed with a predefined set of questionnaires in order to evaluate their QoL, anxiety and depression levels. The following self-administered scales, namely, the Dermatology Life Quality Index (DLQI), the Beck Anxiety Inventory (BAI), and the Beck Depression Inventory (BDI) were selected.

Results: Of all patients included, with a mean age of 62.9 years (± 6.47 sd), they showed a mean value of DLQI of 5.57, a mean value of BAI 17.0, highlighting moderate levels of anxious symptoms, and 20.6 of BDI, showing moderate levels of depression.

Conclusion: AGA and menopause lead to a severe impact on QoL, anxiety a depression levels. A multidisciplinary and comprehensive approach should be reserved to women affected by AGA, and dermatologist should be more sensitive to AGA as early sign of psychological impact of menopause phase.

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Abstract N°: 2947

Linking Western diet to early-onset androgenetic alopecia (AGA): observations in 25 adolescents with AGA.

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Introduction & Objectives: Androgenetic alopecia (AGA) is the common cause of hair loss in both genders, typically occurring in individuals between the ages of 30 and 40.1 It is established that AGA could occur as early as immediately after puberty. The factors influencing the early onset of AGA remain unclear.1 In this study, we propose the plausible contributing factors triggering early AGA in young individuals.

Materials & Methods: Twenty-five adolescents aged 13 to 20 years (13 males and 12 females) presenting with clinical symptoms of AGA were included. Medical and family history taken. BMI measured, photographs and dermoscopic images taken. Blood investigations suggested.

Results: All presented with clinical signs of patterned hair thinning. Dermoscopic images revealed miniaturization, hair density diversity, white dots and perifollicular pigmentation appearing as open pores.

Seven males and ten females were overweight (BMI 25-30 Kg/m2), with normal HbA1C, FBS, PPBS and fasting lipids. Free and total testosterone and DHEAS were normal. SHBG was < 25nmol in all, indicating androgen overactivity. There was a history of increased consumption of high-glycemic, dairy and meat intake in all the patients.

Conclusion: Dihydrotestosterone(DHT) is considered vital in AGA pathology. However, a complex feedback loop increases the sensitivity to DHT in the hair follicles.1,2 Importantly, the WNT signalling and PPAR gamma signalling are vital in hair follicle development and regeneration. 3

The surge in early-onset AGA among young adolescents is concerning, considering the unclear molecular mechanisms behind it. While metabolic syndrome (MetS) is linked to early-onset AGA, our subjects did not display MetS signs.1,2 We propose that increased consumption of high-glycemic food, dairy and meat could probably amplify the androgen activity, exacerbating hair thinning. Similar to acne pathology, understanding the role of elevated IGF-1-induced androgen activity due to the Western diet in the hair follicles could be significant.3

There is proven data that obesity can affect Wnt signalling and PPAR gamma signalling.4 Thus, research on the effect of a high-glycemic and high-protein diet on Wnt signalling and PPAR gamma signalling would be interesting to establish if it could influence the hair follicle stem cell quiescence or activation of the hair cycle.

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Abstract N°: 3035

The influence of social networks on the treatments of hair loss

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Introduction & Objectives:

Interest in hair loss and its various treatments continues to grow. This condition,causes significant emotional distress and psychological burden for our patients, leading to increased demand for effective treatments.Social media has emerged as an increasingly common tool for the mass communication of information

The objectives of our study are:

Assess the impact an the effectiveness of social media on the treatment of hair loss

Investigate the prevalence of misinformation related to hair loss teatments on social media

Materials & Methods:

Our study is based on two components

A survey : We led Cross-sectional study over a period extending from September to December 2023 with an online Survey distributed through social media using the google Forms platform.

Contents analysis of social media : we chose The platform Google trends to give us insights into what people are searching for.Then we analyzed hair loss related videos on the YouTube platform using a private browser,we conducted a search using the keywords “how to treat hair loss”. Results were sorted according to their relevance. The first 120 search results were analyzed.

Results:

- Our targeted study focuses on women and men experiencing hair loss,we received a total of 537 responses(61,8 % F) ,57.8 % have an academic career,90.7% affirm using Social Media every day,of wich 43,2% over 3h per day.YouTube was the favorite and most used platfom for getting information about hair loss followed by Instagram.
- For The Google Trends : it examined the level of interest related to hair loss treatment for the 5 past years. Which have had a cyclical nature over time, as it showed increases in the July–October range each year. A noticeable impact can be seen of the COVID-19 pandemic for the restricted access to medical professionals .
- For YouTube :The ranking of the selected videos was based on the speaker’s profile, number of views, recommended solutions and treatments,68% of the videos were by content creators reporting their own experience, 8% were by dermatologists, 13% by other health professionals and 11% were animations or videos with narrators .For videos by healthcare professionals, the majority of content was medical education, with 27% on telogen effluvium, 42% on androgenetic alopecia and 23% on alopecia areata. Of all the videos, 36% were considered to promote medical or nutraceutical products, featuring recommended and approved treatments such as topical minoxidil and Finasteride, as well as PRP ,vitaminotherapy and natural remedies.8% of the videos covered surgical procedures ,with their various indications.

Conclusion:

- Public interest in hair loss topics and treatments can be observed by examining online trends. In our research, content dedicated to this was largely dominated in number and popularity by videos from content creators reporting their own experiences. Social media is flooded with misinformation related to hair loss such as Miracle cures , ,herbal remedies, and conspiracy theories. But the most pressing issue is the Self-diagnosis: Videos might encourage viewers to self-diagnose and self-prescribe treatments, which can be dangerous without professional guidance,and can lead to harmful treatments and to the delay of a proper treatment.Thus, the integration of doctors into social networks proves necessary in order to provide patients with better access to relevant medical information and move the traditional patient-physician relationship towards greater patient autonomy.

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Abstract N°: 3093

The Effectiveness of Erbium Fractional Laser Combined with 5% Minoxidil Tincture in the Treatment for 26 Male Patients with Androgenetic Alopecia

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Introduction & Objectives: Androgenic alopecia is the most common male alopecia disease in clinic. Traditional drugs such as oral finasteride and topical minoxidil are slow to take effect. The aim of our study is to evaluate the clinical efficacy of 2940nm erbium fractional laser (EFL) combined with 5% minoxidil tincture (MT) in the treatment of Male Androgenetic Alopecia (AGA).

Materials & Methods: 26 male patients with AGA were randomly divided into combined therapy group who treated with 2940nm erbium fractional laser combined with 5% minoxidil tincture, and topical therapy group who treated with topical 5% minoxidil tincture only. Laser treatment was performed 15 times with 2-week intervals. All patients were treated for 28 weeks. 2940nm Erbium laser therapy instrument was used with energy density of 8J/cm2 and 10% spot density.

Results: We evaluated the effective rates by visual arialogue scale (VAS). The investigators assessment was significantly higher in combined group than in topical group (92.31% vs 76.92%). The same results in the patients assessment (84.62% vs 61.54%). No more hair loss has been observed in our study.

	Patient assessment	**Investigator assessment**
	Combined treatment	Topical minoxidil
Improvement (+1, +2, +3)	11/13 (84.62%)	8/13 (61.54%)
No change (0)	2/13 (15.38%)	5/13 (38.46%)
Worsening (−1,−2,−3)	0	0
X2 value	8.51	9.33
P value	□0.001	□0.001

The improvement of hair density was significantly higher in combined group than in topical group (59.90% vs 39.37%) (p□0.01).

	Combined treatment	Topical minoxidil	t value	P value
Baseline	106.08±9.49/cm2	103.92±9.49/cm2	0.75	0.47
After treatment（28 weeks）	169.62±19.41/cm2	144.83±22.51/cm2	4.89	＜0.001
Percent increase from baseline	59.90%	39.37%		
t value	18.99	8.57		
P value	＜0.001	＜0.001		

However, the hair shaft diameter had no significant difference between two groups after 28 weeks' treatments.

	Combined treatment	Topical minoxidil	t value	P value
Baseline	45.31±6.38 μm	45.92±6.92 μm	0.21	0.83
After treatment (28 weeks)	65.23±8.36 μm	60.62±8.02 μm	1.56	0.14
Percent increase from baseline	43.96%	32.01%		
t value	9.88	11.28		
P value	>0.05	>0.05		

Conclusion: 2940nm erbium fractional laser may serve as an effective and safe adjuvant therapy for male AGA. Combined use can improve the treatment efficiency of topical 5% minoxidil in male AGA.

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Abstract N°: 3108

Injectable Dutasteride vs Topical Finasteride in Combination with Oral Minoxidil in a Series of Male Patients Treated for Androgenetc Alopecia

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Introduction & Objectives:

Oral anti-androgens (finasteride and Dutasteride) are an effective treatment for androgenetic alopecia (AGA). Many men are reluctant to use oral 5α- reductase enzyme inhibitors due to risk of adverse side effects of the male reproductive system. Topical finasteride gel and intralesional injections of dutasteride are a useful alternative for AGA with literally no adverse sexual side effects.

Oral minoxidil is a very effective treatment for AGA and prolongs the anagen phase, enhancing hair density and thickness.

The combination of minoxidil and anti-androgens is the gold standard in the treatment of male AGA.

The objective of the study is to investigate the effectiveness and safety of injectable dutasteride plus oral minoxidil compared with topical finasteride gel plus oral minoxidil in male patients with AGA.

Materials & Methods:

Forty-nine male patients with AGA were included in the study. 24 patients with average age of 34 years received oral minoxidil and topical finasteride gel while 25 patients with average age of 35 years received oral minoxidil and intralesional injections of dutasteride for a period of 16 weeks.

Oral minoxidil was used in both groups in doses 1- 5mg (mean dose in both groups 3,9mg) daily.

In the group of dutasteride, 1 ml of injectable dutasteride 0,01% was diluted with 1 ml of normal saline and a total volume of 2 ml was injected intralesionally per session once a month.

The group of topical finasteride received finasteride gel 0,25% which was applied in the affected area once a day.

Clinical response was evaluated by measurements and digital photos using a 4-point scale. Patients' satisfaction was assessed with the same 4-point scale (0, worsening 1, stabilization 2, mild improvement 3, marked improvement).

Results:

Patients self-assessment in week 16 revealed marked improvement in both groups while clinical assessment reported mild improvement in the group of topical finasteride (especially in the vertex area) and marked improvement in the group of injectable dutasteride.

No sexual dysfunction was reported in any group. Hypertrichosis was present in 13% of the dutasteride group and 9% of the finasteride group.

Ten out of 24 patients of finasteride group reported low compliance and intermittent use of topical finasteride.

Conclusion:

The combination of oral minoxidil and non-systemic anti-androgens is a very effective and safe option in the treatment of AGA in men who are reluctant to take oral anti-androgens.

Although patients were very satisfied in both groups, clinical assessment revealed a better response in injectable dutasteride group compared to topical finasteride group.

This may be due to dutasteride being a very potent anti-androgen, but one should not ignore the fact that consistency in the treatment of AGA plays a very important role in the outcome.

As a conclusion, AGA treatment protocols should be individualized after discussion with patients, as compliance is a key to a successful treatment.

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Abstract N°: 3137

Long-Term Efficacy of Autologous Micrografting in Androgenetic Alopecia: Factors Influencing Treatment Success and Maintenance

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Introduction & Objectives:

Androgenetic alopecia (AGA), also known as pattern hair loss (PHL), is a prevalent condition affecting approximately 50% of individuals by the age of 50, with its incidence increasing with age. AGA is primarily genetically determined, with androgens playing a significant role in its pathogenesis. Current treatments, such as topical minoxidil and oral finasteride, have limited efficacy and may be associated with undesirable side effects, enhancing the exploration of alternative therapies.

Materials & Methods:

Autologous micrograft technology (AMT) presents a promising avenue for the treatment of AGA by harnessing tissue-specific progenitor cells from the patient's own scalp. AMT is based on stimulating hair follicle regeneration by activating local dermal papilla stem cells and progenitor cells through paracrine signaling mediated by tissue-specific growth factors and exosomes. The work includes a retrospective analysis of 20 patients with AGA, evaluating the long-term efficacy of AMT and identifying factors influencing treatment outcomes and maintenance. Among the patients, 10 underwent various pharmacological treatments in addition to AMT, while 10 were solely treated with AMT due to intolerance to other therapies.

Results:

Long-term results were followed-up after the 6 months post-treatment. For some patients within a 1.5-2.5-year period following a single AMT treatment, despite concurrent use of oral and topical medications, initial improvements in hair thickness and density showed deterioration. However, repeat AMT administration resulted in significant restoration of hair parameters. Factors influencing the efficacy of AMT procedure include the condition of the scalp, extent of AGA, and concomitant use of additional medications or procedures. Patients without scalp skin conditions and less advanced AGA tend to exhibit better responses to AMT. Furthermore, adjunctive therapies may enhance the effects of AMT, highlighting the importance of personalized treatment approaches. These findings underscore the potential of AMT as a viable therapeutic option for AGA, particularly in cases refractory to conventional treatments.

Conclusion:

Understanding the factors influencing treatment success and maintenance is crucial for optimizing patient outcomes and ensuring long-term satisfaction. Further prospective studies are warranted to define the optimal timing and frequency of AMT treatments in the management of AGA.

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Abstract N°: 3248

occipital fibrosing alopecia in a young female

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Introduction and Objectives:

Fibrosing frontal alopecia (FFA) was first described in the early 1990s ; in recent years, the incidence of this pathology has been on the rise worldwide. Clinically, it is characterized by a progressive, symmetrical receding hairline on the forehead, often associated with progressive thinning of the eyebrows. Diagnosis is confirmed by trichoscopy showing the absence of vellus hairs and peripilar squaling, and pathology showing scarring alopecia with a lichenoid infiltrate.

Occipital involvement is an atypical presentation of FFA that has been described in up to 32% of cases so far. We describe in this case the association of occipital fibrosing alopecia with cutanoeus lichen planus in a young female.

Materials and Methods:

A 20-year-old female with no pathological medical history presented with erythemato-violaceous, pruritic skin lesions that appeared 2 weeks prior to her consultation on to the trunk, upper, and lower limbs. She also reported that she had been suffering from localized hair loss in the occipital area for 4 years.

On clinical examination, the frontotemporal hairline and eyebrows were normal. Several erythematoviolaceous macules and papules were found on the trunk and limbs, surmounted by whitish streaks associated with a banded alopecia on the occiput.

Results:

Scalp dermoscopy examination revealed peripilar erythema and scaling, loss of follicular openings, and vellus hairs.

Two biopsies were performed, one on the cutanoeus lesions that revealed degeneration of the basal layer of the epidermis and a band-like lymphocytic infiltrate in the dermoepidermal junction, and the second one was perfomerd on the occipital area and showed perifollicular fibrosis with lichenoid infiltrate of lymphoid cells.

Conclusion:

Fibrosing occipital alopecia is an atypical and rare presentation of frontal fibrosing alopecia. This condition is often misdiagnosed and confused with other scalp abnormalities, leading to a delayed diagnosis.

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Abstract N°: 3263

Alopecia areata and other not-cicatricial alopecias: comparison of humoral biomarkers and early markers of response to therapy

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Introduction & Objectives:

Several studies highlighted the usefulness of blood cells count derived parameters in inflammatory and tumoral systemic and cutaneous diseases such as psoriasis, hidradenitis suppurativa (HS), breast and thyroid cancer and cardiovascular disease. Little is known about their value in hair diseases such as not-cicatricial alopecias including alopecia areata (AA) and telogen effluvium (TE), also in consideration of the possible use of their modulation during systemic treatments as activity and/or efficacy biomarkers. For this reason, we conducted a retrospective study on patients affected with AA, TE and androgenic alopecia (AGA) to assess whether differences in blood count and derived parameters exist, also compared to other cutaneous diseases such as HS and psoriasis.

Materials & Methods:

Patients affected with AA, TE, AGA, psoriasis and HS who referred to Our Dermatologic Center over the last 24 months were included in the study. Patients were considered eligible if they had active disease and they were not on systemic therapy including food supplements over the last 3 months before our visit or performing routinary venous blood collection. Baseline complete blood cells count, ESR, CRP, thyroid profile, vitamin D and vitamin B12 were retrieved, recorded and analyzed for each patient. For patients with AA who started a systemic treatment, complete blood cells count was studied also at week 4-8, 12, and 24 of treatment and analyzed prospectively. The ratio between blood cells, and derived formula were calculated for each patient and when applicable, treatment time points (NLR, PLR, MLR, SII; PIV).

Results:

Overall, 160 patients fulfilled inclusion criteria: 105 patients were affected with hair diseases of which 54 with AA, 25 patients were affected with moderate-to-severe HS and 30 patients with moderate-to-severe psoriasis. Blood cell count derived parameters confirmed to be useful in psoriasis and HS compared to alopecias, however LMR and PLR values were similar in all the diseases. We also found a significant reduction in RBCs in patients with severe AA compared to patients with patchy AA. A statistically significant modulation of peripheral lymphocyte was observed during the first 4/8 weeks of treatment in patients with AA who were started on a systemic treatment.

Conclusion:

In our experience, the blood count formula and its derived parameters do not provide diagnostic or staging information in patients suffering from AA or other non-scarring trichological diseases.

Data on reduction of RBCs in patients with severe AA need a pathogenetic correlation, while the modulation of peripheral lymphocytes during the first 4-8 weeks of treatment could be considered an early marker of response to therapy. Studies on a larger population, also in comparison with cicatricial alopecias, and on the new iJak drugs are needed to confirm our results

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Abstract N°: 3268

Change in patient-reported hair satisfaction during deuruxolitinib treatment of severe alopecia areata: Pooled data from the Phase 3 THRIVE-AA1 and THRIVE-AA2 trials

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Introduction & Objectives:

Alopecia areata (AA) is a chronic autoimmune disorder causing partial or complete loss of hair that can reduce quality of life and have considerable psychosocial impact. THRIVE-AA1 and THRIVE-AA2 were double-blind, placebo-controlled, Phase 3 trials of deuruxolitinib, an oral Janus kinase (JAK) 1/JAK 2 inhibitor, for the treatment of severe AA. Both trials met their primary endpoint of Severity of Alopecia Tool (SALT) score ≤20 at Week 24.

Materials & Methods:

This is a post hoc pooled data analysis of the shift in satisfaction with hair based on the 5-point Hair Satisfaction Patient Reported Outcome (SPRO) scale from baseline through Week 24 among primary endpoint responders in THRIVE-AA1 and THRIVE-AA2. Eligible patients were 18 to 65 years of age and had a definitive diagnosis of AA, ≥50% scalp hair loss (per SALT score), and a current episode of scalp hair loss lasting ≥6 months and ≤10 years at screening. Patients were randomized to treatment with placebo, deuruxolitinib 8 mg twice daily (BID), or deuruxolitinib 12 mg BID; data for deuruxolitinib 8 mg vs placebo are presented. The key secondary endpoints included the percentage of SPRO responders (defined as patients who reported SPRO scores of 1, "very satisfied" or 2, "satisfied") at Week 24. Shift analyses excluded patients reporting a score of 3 (neither satisfied nor dissatisfied) at baseline and post baseline to determine the percentage of patients who shifted from "dissatisfied" (including very dissatisfied/dissatisfied) at baseline to "satisfied" (including satisfied/very satisfied) during treatment. P-values were determined by the Mantel-Haenszel estimate stratified by study for each active treatment arm compared with placebo.

Results:

In THRIVE-AA1 and THRIVE-AA2, 171/551 (31.0%) patients randomized to deuruxolitinib 8 mg BID and 2/247 (0.8%) patients randomized to placebo achieved a SALT score ≤20 at Week 24 and were included in the current analysis. Of these patients, 150 (89.3%) randomized to deuruxolitinib 8 mg BID vs 0 randomized to placebo were SPRO responders at Week 24 regardless of their baseline level of satisfaction. Among Week 24 SALT ≤20 responders to deuruxolitinib 8 mg who were dissatisfied with their hair at baseline, 79.6% were satisfied at Week 12, 86.8% were satisfied at Week 16, 93.8% were satisfied at Week 20, and 95.7% were satisfied at Week 24 (all P <0.0001 based on common risk difference vs placebo).

Conclusion:

More than 95% of patients who achieved clinically meaningful hair regrowth (SALT score ≤20) during 24 weeks of

deuruxolitinib 8 mg BID treatment changed their assessment of their scalp hair from dissatisfaction at baseline to satisfaction at Week 24.

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Abstract N°: 3480

Hair loss approaches in North African women: using Moroccan population as proxy

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Introduction & Objectives:

The hair can be divided into three main groups according to their racial origin: Caucasian, Asian and African. Despite the similarity of the histological hair composition among these groups, biologic differences between races are not well understood. There are differences especially in their appearance, architecture, mechanical properties and water content. North-African (NA) hairs are a mix of Mediterranean, Berber, West Asian and African hairs in different percentages. This mixture explains why some specific trichological findings are proper to this population. By collecting different observations of North-African patients, we tried to highlight their hair and scalp characteristics while performing hair restoration procedures.

Materials & Methods:

We reviewed the clinical presentations of non-scarring and scarring alopecias in some NA women of color, use of dermoscopy for early recognition of the disease process, and medical, procedural, and surgical interventions. In conditions that result in scarring alopecia, such as late-stage traction, frontal fibrosing, or central centrifugal cicatricial alopecia, patients benefited from procedural interventions, such as hair transplantation, platelet rich plasma injections, low-level laser therapy, or scalp therapy.

Results:

Biochemical and morphological differences in the hair shaft and follicle contribute to lower baseline tensile strength, hair density, and growth rates in NA hairs compared with Caucasian patients. Hair styling practices prevalent in this ethnic group, such as the use of high-tension braids, weaves, and cornrows, also play a role in some alopecic subtypes. Platelet rich plasma injections seem to be an interesting hairloss solution in North-African-descent population. Hair restoration should be approached with knowledge on the various clinical characteristics of mediterranean hair, the role of the hair grooming techniques and the need to consider other factors such as scarring or keloid predisposition risk.**

Conclusion:

Hair loss is common in women of color, and is associated with significant psychosocial complaints. Early clinical recognition and prompt initiation of intervention with medical treatment is critical to halt the disease process.

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Abstract N°: 3508

The biofilm and Folliculitis Decalvans

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Introduction & Objectives:

Folliculitis decalvans (FD) is a type of hair loss condition characterized by inflamed, pus-filled hair follicles accompanied by clusters of hair and crusts around them. The exact cause of FD is not fully understood, but it appears that both a Staphylococcus aureus (S. aureus) infection and abnormalities in the body's immune response are significant factors. *S. aureus* secretes an extracellular polymeric substance (EPS), known as biofilm, that helps the microbe to resist and lead to the ineffectiveness of the therapy and progression of the disease.

Materials & Methods:

PubMed articles published in the last decade were discovered using search terms like "Folliculitis decalvans," "Folliculitis decalvans," "Hair follicle microbiota," and "Folliculitis decalvans Staphylococcus aureus." A detailed analysis of each article was conducted to evaluate alterations in the regulation of the immune system.

Results:

Several studies have highlighted alterations in the microbial composition of hair follicles, with healthy control groups typically showing a prevalence of Cutibacterium acnes, whereas patients with FD exhibit a dominance of S. aureus colonies. The concept of a follicular biofilm in FD could elucidate the recurrence of symptoms despite appropriate antibiotic treatment for S. aureus, as well as the seemingly normal immune and genetic backgrounds of affected individuals.

The process of biofilm formation in S. aureus begins with the attachment of planktonic cells to a surface, followed by colonization and the development of microcolonies. Hydrophobic and hydrophilic interactions influence the adherence of S. aureus to surfaces. As the biofilm matures, extracellular polymeric substances (EPS) are produced, forming a protective matrix. Mature biofilms can release chemicals such as D-amino acids and EPS-degrading enzymes to disperse and colonize new sites. Additionally, bacterial "superantigens" may facilitate evasion of the host immune system by binding to MHC II molecules and stimulating immune responses.

Conclusion:

S. aureus is frequently cultured from typical FD affected hair follicles, and its eradication is one of the major goals of treatment with antibiotics as the first-line option. Unfortunately, gram-negative bacteria can also be isolated, and bacterial biofilms may develop, increasing treatment resistance, promoting recurrences, and requiring different treatment strategies. Also, not all patients exhibit isolated or increased growth of pathogenic microorganisms. Increasingly, we can observe the importance of changes in the microbiota balance. Special attention should be given to the use of agents with anti-inflammatory effects, as studies have shown their successful application, opening up new perspectives in FD treatment.

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Abstract N°: 3724

Alopecia areata: A novel therapeutic approach

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Introduction & Objectives:

In our interventional study, we investigated a novel treatment approach for Alopecia areata (AA) involving the use of Bimatoprost 0.03% solution in combination with fractional CO2 laser therapy. This study aimed to evaluate the efficacy of this combined treatment regimen in comparison to fractional CO2 laser therapy alone.

Materials & Methods:

Sixty patients diagnosed with AA were enrolled in the study and randomly divided into two groups: Group A received treatment with Bimatoprost 0.03% solution in combination with fractional CO2 laser, while Group B received fractional CO2 laser therapy alone.

Results:

Throughout the study period, significant differences in treatment response were observed between the two groups. Group A exhibited a positive response rate of 80%, whereas Group B showed a response rate of 40%.

Furthermore, patients in Group A demonstrated improved hair texture and pigmentation compared to those in Group B.

Conclusion:

These findings suggest that the combination of Bimatoprost 0,03% solution with fractional CO2 laser therapy may represent a promising treatment modality for AA, offering enhanced efficacy in terms of both treatment response and aesthetic outcomes.

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Abstract N°: 3751

A Female pattern hair loss or could it be another entity?

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Introduction & Objectives:

In this case-based lecture, we delve into a diverse array of clinical scenarios that closely resemble female pattern hair loss, shedding illuminating insights on a spectrum of conditions and the methods for early diagnosis. Female pattern hair loss is common diagnosis but there are entities mimicking it, so the discussion extends beyond this singular condition to encompass a broad range of possible mimickers, including but not limited to Alopecia incognita, Lichen planopilaris and Marie Unna hereditary hypotrichosis (MUHH). These cases were encountered during routine clinical practice at our clinic, where diligent employment of essential hair disorder investigation tools played a pivotal role in their identification and diagnosis.

The cornerstone of this diagnostic approach lies in the strategic utilization of tools such as Dermoscopy, trichogram, and Histopathology. Dermoscopy, a non-invasive technique involving the use of a dermatoscope, provides invaluable insights into the microscopic structures and patterns of the scalp and hair, aiding in the differentiation of various hair disorders. Trichogram, another diagnostic tool, involves the microscopic examination of plucked hairs to assess their root and shaft characteristics, thereby facilitating the identification of abnormalities indicative of specific hair loss conditions. Histopathology, on the other hand, involves the microscopic examination of tissue samples obtained through biopsy, enabling the detection of underlying structural and cellular abnormalities that may underpin hair loss disorders.

The judicious application of these diagnostic modalities has consistently yielded accurate diagnoses, even for less commonly encountered conditions like MUHH in our clinical set of cases. By meticulously analysing the clinical and histological features of each case, clinicians can effectively distinguish between different forms of hair loss and tailor appropriate treatment strategies accordingly. Moreover, early diagnosis is paramount in mitigating the progression of hair loss and optimizing treatment outcomes, underscoring the importance of a comprehensive diagnostic approach.

Furthermore, beyond their diagnostic utility, these investigative tools also serve as invaluable adjuncts in monitoring treatment response and disease progression over time. By periodically reassessing the scalp using Dermoscopy and trichogram, clinicians can track changes in hair density, follicular morphology, and disease activity, thereby guiding therapeutic adjustments as necessary.

Conclusion:

This lecture underscores, through case based scenarios, the significance of a comprehensive and systematic approach to the diagnosis and management of female pattern hair loss and related conditions. By judicious combination of clinical sense and explicit investigative tools, clinicians can navigate the complexities of hair disorders with confidence, ultimately enhancing patient care and outcomes.

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Abstract N°: 3755

Ex vivo study to assess the efficacy of a medical device containing Pistacia lentiscus, hyaluronic acid, Biosaccharide Gum-2 and Piroctone Olamine to treat and prevent infection by dermatophyte and non-dermatophyte causes of onychomycosis

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Introduction & Objectives

Onychomycosis is the most common nail infection encountered in clinical practice with a worldwide prevalence of 5.5%. Current treatment options include oral and topical antifungals, device-based therapies and combination approaches. The main causal agent is *Trichophyton rubrum (Tr),* however, many other dermatophyte and non-dermatophyte species are causative, some of which show very limited responses to conventional treatments or alarmingly increasing rates of antifungal resistance. In these studies, we evaluated the efficacy of a medical device containing *Pistacia lentiscus,* hyaluronic acid, biosaccharide gum-2 and piroctone olamine (MDPHP) to treat or prevent the pathogenic colonization of human skin explants by* some of the main dermatophyte [i.e., *Tr, Trichophyton interdigitale (Ti),* and *Epidermophyton floccosum (Ef)]* and non-dermatophyte [i.e., *Candida albicans (Ca), Aspergillus versicolor (Av),* and *Fusarium solani (Fs)]* causes of onychomycosis.

Materials & Methods

Treatment study (TS): *Ex vivo* skin explants were inoculated with 5x105 - 5x106 Colony Forming Units (CFU) of each microorganism and incubated for 6 hours. Colonized skin was subsequently treated with MDPHP (10µl of topical product per cm2) and incubated for an additional 24 hours at 37°C.

Prevention Study (PS): Skin explants were first treated with MDPHP prior to fungal inoculation. Following incubation for 24 hours at 37°C, CFU counts were performed.

Results

TS: Skin explants treated with MDPHP exhibited a significant reduction of all dermatophyte species; reducing*Tr* by 99.99 % ($p<0.001$), *Ti* by 99.44 % ($p<0.01$), and *Ef* by 99.99 % ($p<0.001$), compared to the non-treated group. Likewise, the non-dermatophyte species *Ca, Av* and *Fs* were reduced by 99.99%, 98.14%, and 99.09% respectively ($p<0.001$, all), compared to the control.

PS: MDPHP prevented colonization of *Tr* by 99.96% ($p<0.001$), *Ti* by 99.74 % ($p<0.01$), and *Ef* 99.99% by ($p<0.001$). Colonization by the non-dermatophytes *Ca, Av* and *Fs* was reduced by 99.92 % ($p<0.0001$), 93.19% ($p<0.0001$), and 73.56% ($p<0.001$), respectively, compared to the control.

Conclusion

MDPHP has demonstrated antifungal efficacy against all dermatophyte and non-dermatophyte species tested in this *ex vivo* model. Similarly, when the product was applied prior to the generation of infection, the filmogenic effect of MDPHP was observed to reduce fungal colonization in human skin explants. These data suggest that MDPHP may be used to treat or prevent infection by some of the principal causes of onychomycosis in humans.

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Abstract N°: 3863

Artificial Intelligence: Powered Detection and Assessment of Onychomycosis: A Spotlight on Yellow and Deep Learning

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Introduction & Objectives:

Despite significant advancements in computer-aided diagnostics, onychomycosis requires detailed and robust detection and tissue classifications. This study aimed to automate both the nail segmentation and the tissue classification using a deep learning-based approach.

Materials & Methods:

This study used 1604 images from 190 subjects for nail segmentation and 426 images from 250 subjects for tissue classification. In this study, images were acquired using Scarletred® Vision, an innovative dermatological software platform that holds CE certification class Im as a medical device and operates seamlessly through an iOS app on smartphones. When paired with the Scarletred® Skin-Patch, it effectively standardizes the imaging procedure and facilitates the generation of clinimetrics data by measurement of 2D/3D aspects, along with evaluation of color and texture alterations.

By creating signal augmented images and using manually annotated data from experts to identify infected pixels, we developed a novel innovative method to generate superpixel masks. This process generates superpixels on the nail, labeling a superpixel as “infected” if 40% of its area is infected, to create a binary mask. Regarding the machine learning models, we have furthermore developed a deep learning segmentation and classification algorithm that utilizes data collected simultaneously from experts and manually outlined infected areas.

Results:

The research explores various degrees of onychomycosis and considers problem localization in different nail regions. Our robust deep learning algorithm achieved an F1 and IOU scores of 82%, and 0.72 on a test set, respectively. Whereas our tissue classification algorithm obtained a test accuracy of 82% in correlation with the expert annotated areas of toenails affected by onychomycosis. While our research primarily focused on examining the big toenail, our methodology exhibits potential for extending and validating a comprehensive dataset, facilitating broader assessments for onychomycosis. Our deep learning algorithm shows potential for progress in decision support systems within the domain of onychomycosis.

Conclusion:

We demonstrated a noteworthy advancement in the efficient and rapid AI prototyping in clinical trial and hybrid trial setting aimed at enhancing expert decision-making processes in pharmaceutical studies and translating these improvements into prospective real-world applications.

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Abstract N°: 3879

Lichen Planopilaris Associated With Congenital Adrenal Hyperplasia : A Rare Association

Nouf Mohammed Aleid[1]

[1]dermatolgy

Results:

Introduction:

Lichenplanopilaris is a type of primary ciacatricial alopecia that affect the hair follicles. It's considered to be a variant of lichen planus. It affects usually young adult women. The cause is not fully understood but believed to have autoimmune origin. Patient present with increase hair shedding associated with scalp itching, pain, or scaling. On deroscopy there is loss of hair follicles with perifollicular scales. The diagnosis can be confirmed by skin biopsy. Lichen planopilaris has been associated with other diseases but the exact nature of these associations is not fully understood. It can associate with other autoimmune diseases like lupus erythematosus, metabolic disorders, hyperlipidemia and hypothyroidism, depression and anxiety. We report new association of LPP with congenital adrenal hyperplasia in a young male.

Case report:

A 17-year-old boy presented to our clinic with increase hair shedding and mild itching of the scalp. He was seen in other clinic and diagnosed as seborrheic dermatitis and given ketoconazole shampoo but he did not improve. Scalp examination shows erythema and decrease hair density. Dermoscopy shows peripilar cast and biopsy confirmed Lichenplanopilaris. His medical history shows that he is following with endocrinologist for treatment of congenital adrenal hyperplasia. Also, patient found to have keratoderma on both soles. Patient had significant improvement after receiving isotretinoin therapy and topical salicylic acid for the keratoderma on both soles.

Conclusion:

Lichenplanopilaris is known to be associated with endocrine disorders like hypothyroidism and autoimmune thyroiditis and other autoimmune disease like discoid lupus erythematosus. Up to our knowledge, this is the first case revealed the association of LPP with congenital adrenal hyperplasia (CAH). This is a group of genetic disease that inherited in autosomal recessive manner. The most common form is 21-hydoxylase deficiency (CYP21A). This enzyme convert cholesterol to cortisol in the adrenal gland. This association is important because this could explain that genetic factors may play a role in the pathogenesis of LPP. Further studies are needed to discover the pathogenesis and associated disease with lichen planopilaris .

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Abstract N°: 3902

Alopecia areata in a pattern distribution: redefining sisaipho under a new pathogenetic perspective

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[1]2nd Department of Dermatology and Venereology, National and Kapodistrian University of Athens, Medical School, "Attikon" General University Hospital, Athens, Greece

Introduction & Objectives: Alopecia areata (AA) is an autoimmune condition characterized by hair loss, presenting in various forms, including the rare variant known as sisaipho. While sisaipho was originally described based on its distinctive pattern, emerging clinical evidence suggests that it is more than just inverse ophiasis, with hormonal factors potentially playing a role in its development.

Materials & Methods: Over a six-month period, our Hair Disorders Clinic evaluated three distinct cases: a 28-year-old female presenting with diffuse AA characterized by female pattern hair loss; a 73-year-old female diagnosed with sisaipho, exhibiting a male pattern hair loss distribution; and a 60-year-old male with AA manifesting in a female pattern hair loss distribution. Clinical evaluation and dermoscopic analysis confirmed the diagnosis of AA in all cases.

Results: Notably, two of these three cases not only progressed rapidly within a few weeks but also involved older adults, diverging from the typical younger age of onset for AA. Our observations suggest that sisaipho has the distinct ability to mimic both male and female pattern hair loss, pointing to a potential role for androgens in its pathogenesis. More specifically, it is postulated that there is a possible hyperandrogenic state at the level of the hair follicle in androgen-dependent scalp areas.

Conclusion: Sisaipho, while a memorable term, may be more accurately described as "alopecia areata in a pattern distribution" to avoid confusion with androgenetic alopecia, which it closely resembles clinically, but differs significantly in etiology and pathogenesis. The proposed name change is not only semantically significant but also crucial for clinical practice, ensuring that patients receive appropriate treatment. Future research should focus on further elucidating the pathogenetic mechanisms behind sisaipho to refine treatment options and improve patient outcomes.

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Abstract N°: 3977

Rapid response of nail psoriasis to Ixekizumab in patients after 4 weeks of treatment with a total of 40 weeks of follow-up

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Rapid response of nail psoriasis to Ixekizumab in patients after 4 weeks of treatment with a total of 40 weeks of follow-up

Introduction & Objectives:

One of the most prevalent and challenging to treat psoriasis sites is nail psoriasis (NP), which affects 10 to 82% of people with psoriasis. Nail psoriasis has historically been hard to cure as many treatments are inefficient or have unfavorable side effects. Recent emergence of biologics has revolutionized the treatment of nail psoriasis. This study aimed to investigate the efficacy of Ixekizumab in treating nail psoriasis.

Materials & Methods:

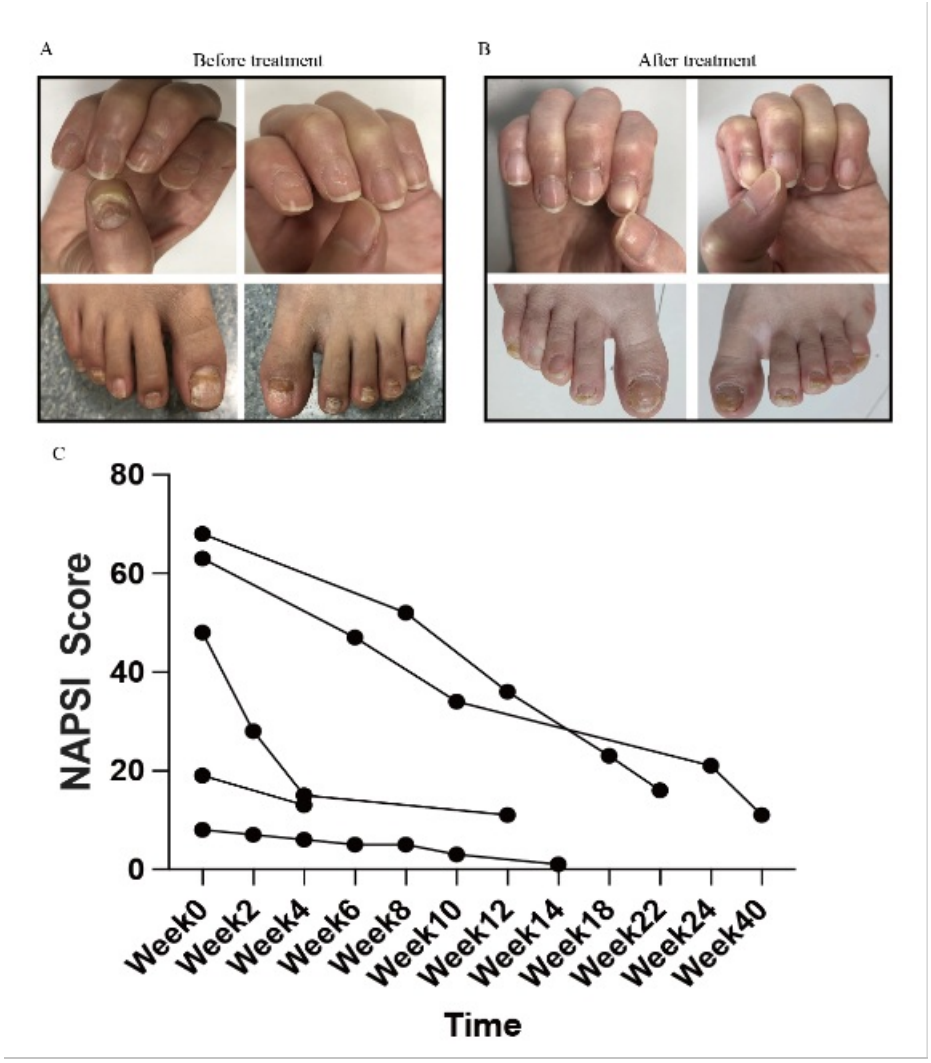
A total of 5 patients with NP who received Ixekizumab therapy in the Department of Dermatology of Second Affiliated Hospital, Zhejiang University School of Medicine were included in the study. The Nail Psoriasis Severity Index (NAPSI) were calculated to access the NP severity.

Results:

Significant improvements were seen in patients' quality of life: the NAPSI score median decreases at week 4 were 72.5% for Ixekizumab 160 mg. Improvement in nail psoriasis continued to week 40: NAPSI percentage change reached 71.0% for Ixekizumab 80 mg. No adverse events were observed during the 40 week follow-up.

Conclusion:

Ixekizumab demonstrated significant and clinically meaningful efficacy and quality-of-life improvements for patients with nail psoriasis up to week 40.


A
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Time

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Abstract N°: 4005

The efficacy of the combination of topical minoxidil and oral spironolactone compared with the combination of topical minoxidil and oral finasteride in women with androgenic alopecia, female and male hair loss patterns: A blinded randomized clinical trial

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Introduction & Objectives:

Androgenic alopecia (AGA) is the most common cause of hair loss in women, affecting their quality of life. The present study was conducted with the aim of comparing the combined effect of topical minoxidil and oral spironolactone with the combined effect of topical minoxidil and oral finasteride in women with AGA, female and male hair loss patterns.

Materials & Methods:

This clinical study was performed on 60 women suffering from AGA. The patients were divided into two groups receiving spironolactone 100 mg/day and finasteride 5 mg/day. In addition, a 2% minoxidil solution was used in all patients in addition to treatment with finasteride or spironolactone. At 2 months after initiation and at the end of treatment, patients were evaluated using the Ludwig/Norwood–Hamilton scale and the degree of physician and patient satisfaction.

Results:

After 2 months, hair density, hair thickness, and hair loss had improved in both groups; however, statistically, there was no significant difference between the two groups with respect to these parameters ($p > 0.05$). After 4 months, a significant difference was found between the two groups in terms of treatment response (physician satisfaction), hair density, and hair loss severity. So that, the drugs used were ineffective in 6.7% of cases in the minoxidil-spironolactone group and in 16.7% of cases in the minoxidil-finasteride group. In addition, 43.3% of cases in the minoxidil-spironolactone group and 53% in the minoxidil-finasteride group responded well to treatment. The treatment effect was excellent in 56.7% and 0% of the mentioned groups, respectively, and the mentioned difference was statistically significant (p: 0.01). The response to treatment in female pattern hair loss (FPHL) was not statistically significant (p: 0.52), but there was a significant difference in the response to both treatments in male pattern hair loss (MPHL; p: 0.007). In terms of patient satisfaction, minoxidil-spironolactone treatment was significantly better than minoxidil-finasteride regarding hair density and severity of hair loss (p: 0.01). Finally, in terms of treatment complications, the patients in two groups did not have any serious adverse effects.

Conclusion:

The combination of minoxidil and spironolactone could be considered a more effective treatment than the combination of minoxidil and finasteride in women with AGA, FPHL, and MPHL.

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Abstract N°: 4007

Björnstad syndrome: a new pathogenic variant in heterozygosis

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Introduction & Objectives:

Björnstad syndrome is a rare autosomal recessive disease with less than 50 cases described to date, characterized by the presence of congenital sensorineural deafness and *pili torti*.

We present the case of a 55-year-old female patient who reported hair alterations since childhood, consisting of dry, fragile and brittle hair, with very slow growth. Her personal history included congenital bilateral sensorineural deafness, of mild degree. She also had a personal history of alopecia areata. She did not report any growth or developmental anomalies or dental, nail or skin alterations. There was no family history of a similar problem.

Physical examination showed fragile and coarse hair, without loss of hair density or alopecia plaques and without alterations in eyelashes, eyebrows or body hair. Trichoscopy showed subtle but evident alterations in the hair shafts, with twisted hairs in irregular intervals compatible with *pili torti*. Some hair shafts were also observed with transverse (trichoschisis) and longitudinal (trichoptilosis) fractures. No other signs of hair dysplasias or alterations suggestive of cicatricial alopecias were observed.

The presence of *pili torti* can be acquired (secondary to different types of cicatricial and non-scarring alopecia) or hereditary (associated with genetic syndromes or ectodermal dysplasia), so it is essential to perform a thorough anamnesis and physical examination to rule out associations with other pathologies.

Our objective was to determine whether the patient had a syndrome and, if so, to identify the possible underlying genetic alteration.

Materials & Methods:

A genetic study was performed in peripheral blood by DNA sequencing. The BCS1L gene, which encodes a type of ATPases involved in the assembly of mitochondrial complex III, was studied. Mutations in this gene alter the mitochondrial respiratory chain, increasing the production of reactive oxygen species (ROS) and have been linked to severe diseases such as mitochondrial complex III deficiency or GRACILE syndrome. In 2007 BCS1L was identified as the cause of Björnstad syndrome.

Results:

The genetic study revealed a missense variant in heterozygosis in the BCS1L gene: NM_001079866.2:c.1031C>T (p.Pro344Leu).

With the clinical and genetic findings, the diagnosis of Björnstad syndrome was established.

The variant identified in our case has only been previously identified in heterozygosis in 1 patient (with mitochondrial complex III deficiency), but not in Björnstad syndrome (in which 2 pathogenic variants have been described in compound heterozygosis). One may wonder, therefore, whether the heterozygous mutation could

explain the subtle clinical expression of this case of Björnstad syndrome or whether other cases of "idiopathic" *pili torti* could be due to similar mutations.

Conclusion:

We present a case of Björnstad syndrome in a patient with sensorineural deafness and*pili torti*, highlighting the importance of anamnesis, physical examination and complementary tests in the presence of *pili torti*.

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Abstract N°: 4056

Exploring Cardiovascular Risk and Systemic Inflammation in Alopecia Areata: An Observational Case-Control Study

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Introduction & Objectives:

Alopecia areata (AA) is an autoimmune disorder characterized by non-scarring hair loss, often accompanied by systemic manifestations suggesting a potential link to systemic inflammation. While previous studies have explored the association between AA and cardiovascular risk (CVR), findings remain inconsistent. The main objectives of the study were to analyze cardiovascular risk (CVR) and systemic inflammatory activity in patients with AA compared to healthy controls. Additionally, the study aimed to investigate associations between systemic inflammation/CVR and baseline clinical variables in AA patients.

Materials & Methods:

Case-control design matched for age, sex and anthropometric characteristics. Measurements of blood pressure, pulse wave velocity, lipid and carbohydrate metabolism parameters, systemic inflammatory markers, and vitamin D levels were conducted.

Results:

Sixty-two participants were included in the study (36 patients with AA, 36 healthy controls). Seventy-two-two-point two percent were women (52/72), with a mean age of 39 years (±2.6). The baseline SALT in AA patients was 42% (±6). Patients with AA had higher systolic and diastolic blood pressure than controls, with no differences in pulse wave velocity or metabolic profile. Patients with AA showed higher systemic inflammation parameters and lower Vitamin D levels. No association was observed between CVR and systemic inflammation; these factors were not associated with disease severity, duration, or type of treatment.

Conclusion:

Despite presenting similar cardiovascular risk profiles to healthy controls, patients with AA demonstrated elevated systemic inflammatory activity. However, these factors did not appear to be interrelated, and are not associated with disease severity.

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Abstract N°: 4058

sporadic anterior cervical hypertrichosis: a rare localization

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Introduction & Objectives:

Anterior cervical hypertrichosis is a rare form of localized hypertrichosis, characterized by the early childhood onset of terminal hair tufts in the anterior cervical region.

Materials & Methods:

We present the case of a patient admitted for the management of linear morphea and who exhibited a tuft of terminal hairs, 1-2 centimeters in length, located on the anterior and median aspect of the neck, observed since early childhood. There was no history of previous trauma or topical application. No similar family history was noted, and no associated neurological abnormalities were found.

Treatment with laser therapy was proposed to her, but due to the benign nature of the lesion, the parents opted for therapeutic abstinence.

Results:

Sporadic anterior cervical hypertrichosis is a benign condition, with a prevalence not exceeding 1 in 1,000,000 individuals. It is also referred to as Hairy Neck Syndrome. This condition may be present from birth or develop in early childhood. It presents with a specific clinical picture, usually benign in nature, sometimes associated with neurological, orthopedic, or ocular abnormalities.

Ultimately, the management of anterior cervical hypertrichosis depends on individual preferences and the aesthetic treatment goals of each affected person.

Conclusion :

In conclusion, sporadic anterior cervical hypertrichosis represents a benign entity with a prevalence that is likely underestimated. Additional investigations would only be warranted in the presence of clinical red flags.

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Abstract N°: 4175

Acquired hypertrichosis during ixekizumab treatment: a coincidence or promising side effect?

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[1]Çanakkale Onsekiz Mart University Faculty of Medicine, Dermatology and Venereology, Çanakkale, Türkiye

Introduction & Objectives:

The discovery of the T helper 17/interleukin 17 (Th17/IL-17) axis has revolutionized the treatment of psoriasis. It has also provided significant insight into the pathogenesis of other inflammatory disorders. Ixekizumab is a recombinant monoclonal antibody targeting this pathway by blocking IL-17A. Herein, we report three psoriasis patients who developed hypertrichosis while on ixekizumab therapy.

Materials & Methods: -

Results:

Three male patients, aged between 44 and 56, were diagnosed with plaque psoriasis. One of the patients had been using nebivolol for hypertension for the last four years, while the past medical history was unremarkable for the others. All patients had previously been treated with topical corticosteroids and conventional therapies. Additionally, one patient had received etanercept with no improvement. After starting ixekizumab, nearly complete clearance of lesions was achieved in all patients within two to three months. However, a sudden onset of terminal hair growth was recognized on the patients' trunk and/or extremities two weeks to 12 months following ixekizumab administration. The patients denied applying any topical treatment since the beginning of ixekizumab. None of them had a family history of hypertrichosis. Laboratory investigations were within normal limits, including thyroid function tests, HIV serology, serum testosterone and dehydroepiandrosterone sulphate levels. None of the patients complained about the hypertrichosis and requested treatment cessation.

Conclusion:

Hypertrichosis is the abnormal growth of hairs in androgen-independent areas. Acquired hypertrichosis might be localized or generalized. Local inflammation, friction, chronic infections such as HIV, thyroid abnormalities, and various drugs were incriminated as the etiological factors. Recently, three psoriasis patients developing generalized hypertrichosis mainly involving the trunk and extremities were reported following initiation of different IL-17A inhibitors, secukinumab and ixekizumab. Moreover, after treatment with secukinumab, new hair growth and hair repigmentation were observed in the setting of androgenetic alopecia in two patients with erythrodermic psoriasis.

Several studies reported increased IL-17A levels in the sera of patients with alopecia areata compared to healthy individuals. However, a placebo-controlled clinical trial conducted on patients with extensive alopecia areata failed to demonstrate the efficacy of IL-17A antagonist secukinumab.

In conclusion, this peculiar side effect in our psoriasis patients receiving ixekizumab might provide further evidence for the role of IL-17A in the pathogenesis of hair disorders. As previously suggested, this adverse reaction should not be a reason for drug discontinuation unless the patient is highly concerned with cosmetic outcomes.

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Abstract N°: 4210

Onychomadesis induced by varicella infection: Case report

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Onychomadesis induced by varicella infection: Case report

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Introduction & Objectives:

Onychomadesis is the complete and spontaneous detachment of the nail plate from the nail matrix from its proximal end, probably due to a temporary halt in nail growth. Viral infections, in particular hand-foot-and-mouth syndrome, are classically responsible for this anomaly. We report a case of onychomadesis secondary to varicella infection

Materials & Methods:

We present the case of a child aged 3 years and 8 months with language delay and social interaction disorders who presented an onychomadesis 4 weeks after a varicella infection, without any notion of trauma or medication.

Dermatological examination revealed a separation of the nail plate from the nail bed of the index finger, thumb and 4th finger of the right hand and the index finger of the left hand. The toe-nails were normal and no cutaneous or mucosal abnormalities were noted. A nail sampling with mycological study was taken, but no abnormalities were found.

The diagnosis of onychomadesis post varicella infection was retained, and the evolution was marked by spontaneous improvement of the nail involvement.

Results:

Onychomadesis may be secondary to systemic, dermatological or infectious pathologies, medication or trauma. Post-infectious onychomadesis may be mycotic or viral origin, as classically described in hand-foot-and-mouth syndrome.

However, there is still much debate as to whether this condition is a coincidence following viral infection, or whether there is a precise mechanism that has yet to be elucidated. Several theories have been put forward, including fever-induced stoppage of nail matrix growth, or virus-induced inflammation.

This is one of the few cases of onychomadesis after varicella infection reported in the literature.

Onychomadesis has been reported following varicella infection by Podder et al, who reported the case of a 7-year-old girl who had recovered from varicella five weeks previously and presented with onychomadesis, and Kocak et Al, who reported onychomadesis in two sisters infected with varicella.

Conclusion:

Our observation illustrates one of the rare cases of onychomadesis after varicella infection in children reported in the literature, further reports are needed to determine this association.

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Abstract N°: 4223

The British Hair and Nail Society present a review of our UK-wide grand round of challenging hair disorders and the benefits to all Dermatologists: An evolving landscape of therapeutics

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Introduction & Objectives:

The British Hair and Nail Society was formed in 2011. We have 133 United Kingdom (UK) members and invite them to submit challenging hair cases to our grand round (with relevant history, histopathology and photographs) for review by our expert hair panel. This comprises consultants with hair expertise from around the UK. The aim is to address referrers' queries relating to diagnosis, treatment options, or both, as we appreciate the complexity of hair disorders and the limited number of specialist hair clinics in the UK. Our aim is to highlight the type of complex hair disorders that have been referred to us and encourage international links and shared knowledge with our European colleagues in managing these difficult cases.

Materials & Methods:

A retrospective analysis of cases submitted to our grand round was performed.

Results:

The grand round began in 2018 and since then, a total of 26 hair cases (10 children, 16 adults) have been submitted from across the UK. The main aims of referral include diagnostic expertise (n=4), aid with treatment plans (n=8) or both (n=14). The median age of patients was 33 (range 4-75 years). There were 14 female and 12 male cases. There were equal numbers of scarring alopecia (n=13) and non-scarring (n=13) cases. The most common non-scarring hair condition was alopecia areata (n=6) with the possibility of other concurrent hair conditions (n=1) or an underlying genetic disorder (n=3). The most common scarring alopecia diagnosis was folliculitis decalvans (n=6). The diagnosis was altered in 10 cases (38%). Examples of our rare diagnoses include keratosis follicularis spinulosa decalvans, genetic hypotrichosis and scalp dermatomyositis. We reviewed cases of recalcitrant disease such as folliculitis decalvans and novel therapeutics were suggested including naltrexone, manuka honey and cannabinoid oil. We have also supported the use of off-licence biologics in 3 of our folliculitis decalvans cases, using case reports.

Conclusion:

Our review demonstrates the complexity in diagnosis of hair disorders. It is an exciting time for hair patients due to the rapidly evolving landscape of novel therapeutics for both scarring and non-scarring disorders. However, several treatments are currently being used off-license or there are logistical limitations such as funding and access. Patients are becoming more aware of potential treatment options online or via social media; therefore, seeking biologic therapies from other sources such as online pharmacies and abroad. Clinical decision-making in

hair disorders is evolving and becoming more complex in terms of patient counselling, patient expectations and overall drug monitoring/safety. We have had a landmark moment with Janus Kinase inhibitors becoming available for alopecia areata. There has been increasing use of off-licence biologics in scarring alopecias such as folliculitis decalvans and there are ongoing trials reviewing the use of JAK inhibitors in lichen planopilaris and frontal fibrosing alopecia. It is therefore vital to learn from each other through shared knowledge and collaborations as demonstrated through the European Hair Research Society webinars and EADV Hair Task force. We welcome European colleagues to join our grand rounds and share their own complex cases. We can foster collborative working to improve knowledge in challenging cases, predicting disease trajectories, patient phenotyping and drug side effect profiles to ultimately improve patient outcomes.

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Abstract N°: 4229

Systematic Review of Cardiovascular Risk Factors in Alopecia Areata Patients

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Systematic Review of Cardiovascular Risk Factors in Alopecia Areata Patients

Introduction & Objectives: Alopecia areata (AA) is an autoimmune disorder that affects the scalp and hairy areas of the body. The global incidence of AA is approximately 2%, with an increased frequency in adulthood. A study revealed a significant rise in 74 inflammatory and proatherogenic proteins in AA. However, epidemiological studies on cardiovascular risk in AA did not find an increase in cardiovascular risk. In light of these conflicting findings, a systematic review was conducted with the aim of determining whether patients with AA have a greater cardiovascular risk than the general population.

Materials & Methods: A review of the literature was conducted utilizing cientific databases. The search was conducted using the keywords “alopecia” and “areata” in combination with “cardiovascular,” “risk,” “heart,” and “disease.” The variables extracted from the studies included author, year, study design, sample size or number of participants, age, sex, clinical variety of AA, instrument for measuring cardiovascular risk, odds ratio, relative risk, or hazard ratio. The risk of bias was assessed using the ROBINS-E tool and the systematic review was conducted in accordance with the guidelines set forth in the PRISMA statement.

Results: Fifteen studies were selected from 677 records that underwent review and 62 full-text articles met the criteria for inclusion. Of the 15 studies that were included, 40% were conducted in patients from the United States, 20% in Egypt, 13.3% in Korea, 13.3% in Poland, 6.7% in Turkey, and 6.7% in Canada. All of the studies had a case-control design, and 40% of them were retrospective studies that used data from clinical records or “real-world data.” The remaining 60% of the studies were hospital-based. In real-world data studies, the incidence of acute myocardial infarction in AA was 0.56 (95% CI 0.52-0.60) per 1000 person-years, giving an HR of 1.07 (95% CI 0.99-1.15). The hazard ratios calculated throughout the follow-up were: 0-2 years HR 0.17 (95% CI 0.12-0.25), 2-4 years HR 0.35 (95% CI 0.27-0.46), 4-6 years HR 0.70 (95% CI 0.57-0.87), 6-8 years HR 0.85 (95% CI 0.69-1.06), 8-10 years HR 1.37 (95% CI 1.11-1.70), and 10-12 years HR 4.51 (95% CI 3.65-5.58). In hospital-based studies, patients with total and universal AA exhibited the highest levels of systemic inflammation. Patients with AA had higher levels of LDL, total cholesterol, triglycerides, and average intimal thickness of both carotid arteries.Hospital-based studies are typically prone to high levels of bias compared to studies that utilize real-world data.

Table 1. Risk of bias of Real-world data studies

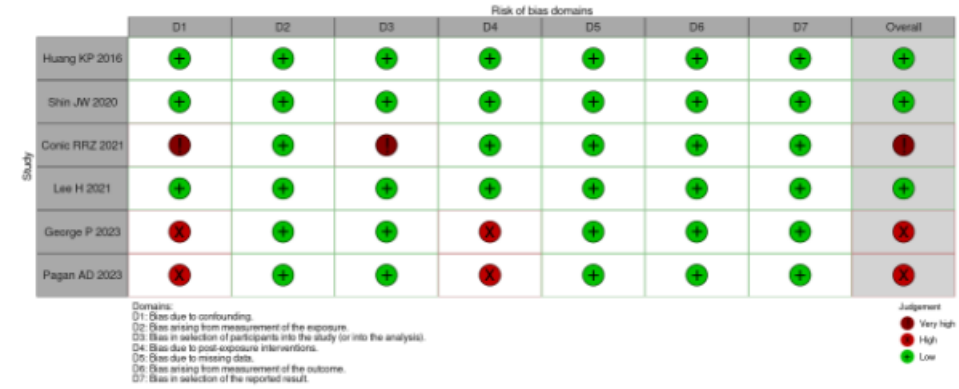

Table 2. Risk of bias of Hospital-based studies

Conclusion: In most research studies that have analyzed real-world data, no increased risk of cardiovascular events has been observed in patients diagnosed with AA at the time of diagnosis. However, one study did report an increased risk after an 8-year follow-up period. Most hospital-based studies have shown an increased risk of cardiovascular events, although these studies may be subject to a high risk of bias. Therefore, it is crucial to conduct more studies that take potential confounding factors into account to determine whether AA is associated with an increased risk of cardiovascular events or if the increased risk is related to metabolic diseases with risk factors that are influenced by both genetics and environmental factors.

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Abstract N°: 4301

Safety and tolerability of low-dose oral minoxidil in patients aged 65 or older

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Introduction & Objectives: Low-dose oral minoxidil (LDOM) is one of the most prescribed therapies for hair loss, with numerous studies supporting its safety and effectiveness in general population. However, limited data exist about its use in older population with comorbidities. The objective of this study was to describe the safety of LDOM in patients aged 65 or older.

Materials & Methods: Retrospective multicenter study of patients aged 65 or older treated with LDOM for for any type of alopecia.

Results: A total of 196 patients [178 women (90.8%) and 18 men (9.2%)] with a mean age of 68.8 years (range 65-91) were included. From them, the dose of LDOM was titrated in 48 patients, allowing the analysis of 251 different doses. The mean dose was 1.1 mg (range 0.15 – 10) and the mean duration was 24 months (1 – 76). Personal history of one or more comorbidities was recorded in 59.6% of the patients, mainly arterial hypertension (27%), and hypercholesterolemia (20.9%). Adverse effects (AE) were detected in 43 cases (17.1%), being hypertrichosis the most frequent one (12.7%). Systemic AE were reported in 15 cases (6%), and included tachycardia (2%) and fluid retention (1.5%), followed by dizziness or lightheadedness (0.4%), headache (0.4%), dry eye (0.4%), asthenia (0.4%) or extrasystole (0.4%). From them, adjustment of LDOM dose was required in 16 cases (6.3%), whereas 7 cases (2.7%) required discontinuation of LDOM. The most frequent AE leading to LDOM withdrawal was tachycardia (3 cases). All AE improved with decrease or discontinuation of LDOM and no serious AE were detected. Among patients with prior antihypertensive therapy, only 2 patients (3.7%) required an adjustment and suspension of the latter, respectively.

Conclusion: LDOM treatment showed a good safety profile in older patients. Systemic AE were slightly more frequent than in general population, specially tachycardia. However, adjustment or discontinuation of LDOM was required in a low number of patients and no serious AE were detected.

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Abstract N°: 4310

Atypical presentation of Perifolliculitis Capitis Abscedens et Suffodiens: a case report

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Introduction & Objectives:

Perifolliculitis capitis abscedens et suffodiens (PCAS) or dissecting cellulitis (DC) is a rare condition presenting deep follicular occlusions, follicular ruptures and follicular infections in the scalp area with unknown etiology, which consequently cause primary neutrophilic cicatricial alopecia by the repeated follicular inflammation. DC is categorized as one of the "follicular occlusion tetrad" along with hidradenitis suppurativa, acne conglobata and pilonidal cyst. In the pathogenesis of the follicular occlusion tetrad, the involvement of neutrophils and its activator tumor necrosis factor (TNF) have been discussed. Here, we report a case of exuberant DC with atypical characteristics.

Material & Methods:

A comprehensive review of the literature was carried out for this case.

Results:

An 32-year-old man reported having had a tumoral scalp lesion for approximately 6 months, associated with headache. Clinically, an exophytic erythematous and purulent tumor measuring 8 x 3.7 cm, small ulcerated areas covered with honey-colored crust, in the lower occipital region. Trichoscopy revealed alopecic plaques with loss of follicular openings and tufted hair. We started treatment with sulfamethoxazole/trimethoprim 800/160 mg every 12 hours for three weeks, with improvement of the condition. A skin biopsy of the occipital region showed dilation and fusion of hair follicles associated with follicular rupture, as well as a superficial and deep infiltrate reaching the reticular dermis and dermo-hypodermal junction, consisting of foreign body giant cells, plasma cells, neutrophils, and lymphocytes. Following the diagnosis of DC, systemic antibiotics were maintained for 6 months, with a good clinical response. Currently, the patient's skin condition is stable on a regimen of 40 mg isotretinoin daily.

Conclusion:

DC is a rare, chronic destructive folliculitis of the scalp, characterized by painful nodules, purulent drainage, sinus tracts, keloid formation and cicatricial alopecia. There are atypical presentations and it is often mistaken for nuchal keloid folliculitis and folliculitis decalvans. Thus they can be distinguished histologically and clinically from DC. The most characteristic trichoscopic findings include: 3D yellow dots, black dots, broken hairs, exclamation mark hairs in the initial stages, and long-standing white dots corresponding to follicular fibrosis. DC likely involves both follicular dysfunction and an aberrant cutaneous immune response to commensal bacteria, such as coagulase negative *staphylococci*. Systemic antibiotics including doxycycline, azithromycin, and quinolones have proven helpful. The use of isotretinoin, dapsone, and intralesional corticosteroids depends on the stage of the disease. Adequate trichoscopy can prevent delay in diagnosis and treatment which could lead to complications such as osteomyelitis and squamous cell carcinoma in chronic lesions, affecting the prognosis and quality of life of the patient.

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Abstract N°: 4377

A pilot study to evaluate the efficacy and safety of a medical device with Biosaccharide-Gum-2, Pistacia lentiscus, Hyaluronic Acid and Piroctone Olamine for treatment of distal subungual onychomycosis.

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Introduction & Objectives:

Onychomycosis is a fungal infection of the nail and is the most common worldwide. It causes several nail changes, including discoloration, onycholysis with subungual hyperkeratosis and nail plate thickness. There are several treatment options available, including oral antifungals, topical and medical devices. Oral antifungals have higher cure rates and shorter treatment periods than topical treatments but have adverse side effects such as hepatotoxicity and drug interactions. Topical treatments have less serious side effects, but lower cure rates and much longer treatment regimens. In the last years, the use of medical devices is increasing due to the improvement in the capacity of penetrating the nail plate. This is a monocentric study to assess the efficacy and safety of new medical device based on *Pistacia lentiscus,* **Hyaluronic Acid** *and Piroctone Olamine* on treating distal subungual onychomycosis (DSO).

Materials & Methods:

We enrolled 10 patients of both sexes with mild-moderate DSO due to dermatophytes. The efficacy was evaluated using subjective and objective methods: clinical evaluation by patients and investigator, photographs, onychoscopy, microscopy and culture examinations. The clinical assessments were the Investigator Global Assessment (IGA) evaluation and Onychoscopy Assessment Scale (OAS) evaluating the presence of onycholysis, nail discoloration and nail thickening. In addition, the patient completed the evaluation of satisfaction with the study product about the efficacy, tolerability and cosmeticity. All the patients applied the medical device twice a day (morning and night). Clinical and instrumental evaluations were obtained after 1, 4 and 12 weeks of product use.

Results:

After 12 weeks of treatment, local improvement of the onychomycosis was the most evident benefit, demonstrated by a reduction of IGA and OAS clinical scales and instrumental evaluations, starting this improvement since the first week of treatment. In addition, 100% of patients reported an improvement of onychomycosis since 4 weeks of treatment. No adverse events were reported during the study.

Conclusion:

This medical device based on *Biosaccharide-Gum-2, Pistacia lentiscus,* **Hyaluronic Acid** *and Piroctone Olamine* used twice daily has demonstrate to be an effective, safe, and easy-to-use option for the treatment of mild to moderate cases of onychomycosis.

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Abstract N°: 4503

Evolving role of Supplements & Novel formulations for Hair Care - a cross sectional survey

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Introduction & Objectives:

Despite the Aesthetic & Personal Care Industry's growth, a prevalent concern that transcends gender barriers is hair loss, affecting individuals across diverse demographics. Conditions such as androgenetic alopecia (AGA), alopecia areata (AA), female pattern hair loss (FPHL), and various other hair loss disorders highlight the significance of nutrition in hair health and treatment strategies. This qualitative survey objected to elucidate real-world patterns of the disease, drugs, dosages, and durations, which would influence future strategies aimed at optimizing treatment outcomes.

Materials & Methods:

The study employs a prospective, cross-sectional design utilizing a questionnaire-based survey pan India to explore the role of nutrients & novel formulations in treating various forms of hair loss. A qualitative survey comprising various questions, designed and vetted by experts was utilized to gather comprehensive insights from 221 Dermatologists with diverse clinical experience.

Results:

As per the survey, about 60% of doctors reported that patients often experience increased hair fall during winters, whereas 46% linked it with moist weather conditions. A significant majority, exceeding 86%, observed that oral hair supplement therapy starts showing positive effects within 3 to 6 months. Biotin supplement's importance in hair growth was acknowledged by 80% of Dermatologists, with over 93% recommending a once-daily dosage. Similarly, Calcium Pantothenate was endorsed by over 90% for its role in hair growth, with a preferred dosage of 50-100 mg daily, emerging as the most preferred dosage. 73% of participants believed that prescribing amino acids separately would be more effective. Amino acids were also recognized for their additional benefits, including boosting immunity, energy, muscle building, skin health, and proper digestion. The opinions on Minoxidil varied with 40% believing that oral Minoxidil alone holds more potential than a topical combination with Finasteride. A dosage of 2.5 mg for oral Minoxidil was suggested by over 66% of the participants. Finally, 60% considered a combination of oral Minoxidil, an oral hair supplement, and a topical hair serum as an ideal treatment for hair loss.

Conclusion:

The study reveals an evolving landscape of hair loss treatments and varied practice approaches taken by clinicians in managing this prevalent condition. The consensus on the importance of nutritional support, particularly Biotin, Calcium Pantothenate, and Amino Acids, underscores the significance of nutrient supplementation. However, discrepancies in combinations, dosing pattern, duration and frequency recommendations highlight the need for standardized guidelines. Comprehensively, the understanding and treatment landscape for hair loss has seen vast improvement. Still, perpetual efforts are needed to expel treatment discrepancies for better outcomes.

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Abstract N°: 4628

Alopecia Areata with Lichen Planopilaris Responded Excellently to Oral Tofacitinib: A Case Report

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Introduction & Objectives:

Alopecia areata (AA) is a chronic, relapsing, T-cell mediated inflammatory disorder characterized by diffuse or patchy, non-cicatricial alopecia which in severe cases may lead to alopecia totalis or alopecia universalis. Alopecia areata has been frequently seen to be associated with a number of immunologically mediated cutaneous disorders, like lichen planus. Lichen planopilaris (LPP) is usually considered trichologic emergencies and irreversible conditions, which characterised by inflammation.

Materials & Methods:

The scope of use of Janus kinase (JAK) inhibitors continues to broaden as multiple conditions seem to respond to treatment with these agents. While the use of a JAK 1/3 inhibitor, tofacitinib in alopecia areata is supported by multiple case reports and case series, which has demonstrated the efficacy and safety in treating the adult patients with AA.

Results:

We report a 30-year-old man presented with scalp hair loss occurring over the previous one year who had a diagnosis difficult because the clinical, dermoscopic, and histological diagnostic criteria may overlap in scarring and nonscarring alopecia.The patient was put on tofacitinib at the dosage of 5 mg twice daily. Before commencement of tofacitinib therapy, baseline laboratory evaluation including complete blood cell count, liver function tests, lipid profile, screening for latent tubercular infection, HIV, hepatitis B, and C viruses were carried out. Hair regrowth over the scalp started from the second month of treatment with tofacitinib.

Conclusion:

Our case highlights the efficacy of tofacitinib in severe alopecia areata and lichen planus, both being resistant and difficult-to-treat conditions. As the outcome in our case was quite encouraging, tofacitinib could be considered an effective treatment option in patients with severe disease or those not responding to the conventional therapy.

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Abstract N°: 4659

The impact of 1% Selenium Disulfide-based anti-dandruff shampoo on patients with seborrheic dermatitis and scalp scaling in China

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Introduction & Objectives:

Seborrheic dermatitis is a common chronic inflammatory scalp condition characterized by recurrent greasy scales, erythema and itchiness, imposing significant psychological and economic burdens on patients. Long-term use of selenium disulfide (SeS2)-based anti-dandruff shampoo is an effective treatment for scalp seborrheic dermatitis, but its impact on the scaling remains unclear. The aim of this study is to investigate the effects of using 1% SeS2-based anti-dandruff shampoo on patients with seborrheic dermatitis presenting with varying degrees of scale severity.

Materials & Methods:

We collected questionnaires from 578 patients with seborrheic dermatitis who had used 1% SeS2-based anti-dandruff shampoo 3 times/week for 3 weeks as indicated by their dermatologist. The collected questionnaires underwent scrutiny, screening, and verification, with qualified data subjected to cleansing and subsequent analysis. The data was compared between groups using Student's t-test or the Wilcoxon rank-sum test for quantitative variables and the Chi-square test or Fisher's exact test for qualitative variables. All tests were two-tailed, with statistical significance defined as P value < 0.05.

Results:

For the 578 questionnaires collected, 238 (41.28%) were male and 340 (58.82%) were female. According to the severity of scalp scales before using 1% SeS2-based anti-dandruff shampoo, the study population was divided into mild group and moderate to severe group, with 262 people (45.33%) and 316 people (54.67%), respectively.

After the use of SeS2-based anti-dandruff shampoo, over 75% of individuals experienced improvements in various scalp and hair conditions, including scalp itching (94.11%), dandruff (93.69%), scalp greasiness (90.41%) and scalp redness (89.95%). When compared to the mild scalp scales group, individuals in the moderate to severe scalp scales group exhibited a higher proportion of complete resolution in various scalp and hair conditions, including scalp redness (36.55% vs. 27.23%,p=0.07), scalp greasiness (37.39% vs. 29.33%), scalp acne (29.51% vs. 18.75%, p<0.05)(Table 1).

	Overall	Mild Group	Moderate to severe Group	*P* value
Scalp redness				0.07
Ineffective	39/388 (10.05%)	24/191 (12.57%)	15/197 (7.61%)	
Showing Improvement	225/388 (57.99%)	115/191 (60.21%)	110/197 (55.84%)	
Complete Resolution	124/388 (31.96%)	52/191 (27.23%)	72/197 (36.55%)	
Scalp acne				0.01
Ineffective	38/250 (15.20%)	27/128 (21.09%)	11/122 (9.02%)	
Showing Improvement	152/250 (60.80%)	77/128 (60.16%)	75/122 (61.48%)	
Complete Resolution	60/250 (24.00%)	24/128 (18.75%)	36/122 (29.51%)	

a Note: Qualitative variables are presented as n/N(%).

Table 1. Improvements in scalp and hair conditions among individuals with seborrheic dermatitis a

The study assessed the improvement of the Dermatology Life Quality Index(DLQI) among the patients using 1% SeS2-based anti-dandruff shampoo. Compared to the mild scalp scales group, individuals in the moderate to severe scalp scales group showed a significantly increase of DLQI improvement (26.27 vs. 25.48) (*P* value <0.05), indicating a better improvement in DLQI among those with moderate to severe scalp scales. Moreover, significant improvements were observed in psychological state (feelings of embarrassment or self-consciousness) in the moderate to severe scalp scales group compared with the mild scalp scales group (*P* value <0.05) (Table 2).

	Overall	Mild Group	Moderate to severe Group	*P* value
Feelings of embarrassment or self-consciousness				0.002
Ineffective	35/578 (6.06%)	18/262 (6.87%)	17/316 (5.38%)	
Showing Improvement	259/578 (44.81%)	136/262 (51.91%)	123/316 (38.92%)	
Complete Resolution	284/578 (49.13%)	108/262 (41.22%)	176/316 (55.70%)	
DLQI improvement score	25.91(4.58)	25.48(4.75)	26.27(4.40)	0.038

a Note: Qualitative variables are presented as n/N(%);

Table 2. Improvements in the Dermatology Life Quality Index among individuals with seborrheic dermatitis a

Conclusion:

The results demonstrate that 1% SeS2-based anti-dandruff shampoo can not only significantly improve the scalp problems of patients with seborrheic dermatitis, but also effectively enhances their quality of life, alleviating their social, occupational, and daily life disturbances.

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AMSTERDAM 25-28 SEPTEMBER 2024
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Abstract N°: 4782

Characteristics of Pruritus in Lichen Planopilaris and Frontal Fibrosing Alopecia : similarities, differences and correlation with dermoscopic features – a single-center study.

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Introduction & Objectives: Lichen planopilaris and frontal fibrosing alopecia are the most common causes of lymphocytic scarring alopecia. In addition to hair loss, itching of the scalp is a common accompanying symptom. Assessment of dermoscopic features in correlation with severity of scalp pruritus in the course of LPP and FFA.

Materials & Methods: Sixty-one patients with scarring alopecia were analysed, including 16 patients with lichen planopilaris , 33 patients with frontal fibrosing alopecia and 12 patients with coexistence of lichen planopilaris and frontal fibrosing alopecia . Each patient was given a special questionnaire and underwent trichoscopic examination.

Results: Itching of the scalp occurred in 73.77 % of the patients included in the study. The majority of patients experienced itching on a daily basis, with itching episodes lasting less than 10 minutes and most commonly occurring in the evening. The mean severity at the time of the study was VASexam 2.5 ± 2.39, while the maximum severity was VASmax5.56 ± 2.94. The severity of pruritus was also divided in relation to the individual disease entities. For frontal scarring alopecia (FFA), the mean severity at the time of examination was VASexam 1.53 ± 2.27, for follicular lichen planus (LPP) VASexam 2.31 ± 2.51 and in the case of coexistence of FFA and LPP 2.53 ± 2.11. Pruritus was often accompanied by a tingling sensation and pain, and the symptoms were not so severe that they significantly affected the patients' quality of life. The following factors most frequently increased the perceived severity of pruritus: sweating, heat, stress and hot water, while cold water and cold air often relieved symptoms. There was no correlation of the dermoscopic features, the presence of perifollicular erythema or perifollicular scaling and the severity of scalp pruritus.

Conclusion: Pruritus is the main subjective symptom reported by patients suffering from scarring alopecia - LPP and FFA . A better understanding of pruritic features may help in the selection of an effective therapeutic strategy.

EA DV CONGRESS
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Abstract N°: 4902

Minoxidil induces hair follicle rejuvenation in human androgenetic alopecia xenografts in vivo

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Introduction & Objectives:

Male pattern androgenetic alopecia (mpAGA) is a progressive androgen-dependent hair loss disorder that affects approximately 80% of men by the age of 70. Interestingly, the hair follicles (HFs) from mpAGA-affected scalp skin show an increased aging phenotype. Since oxidative stress promotes skin aging, we suggested oxidative stress as one driver of HF aging in mpAGA. Besides this, reduced HF vascularization could present another factor exacerbating the HF aging phenotype observed in mpAGA, as vascular endothelial growth factor-A (VEGF-A) is a major driver of human skin rejuvenation. Here, we aimed to investigate the role of oxidative stress and reduced vascularisation in mpAGA-associated HF aging in vivo and sought to test whether the hair growth promoter minoxidil also has previously unknown anti-aging properties.

Materials & Methods:

We used the humanized mpAGA mouse model and applied topical minoxidil (5%) daily for 4 month to human mpAGA scalp skin xenotransplants from n = 9 donors (mean age: 35.9±9.4 years) on SCID mice. Afterwards we assessed oxidative damage responses, VEGF-A production and mitochondrial function by quantitative (immuno)histomorphometry.

Results:

Protein expression of aging-associated molecular read-out parameters, including peroxisome proliferator-activated receptor gamma coactivator 1-alpha (PGC1α), Sirtuin-1 (SIRT1), mitochondrially encoded cytochrome c oxidase (MTCO-1), and voltage-dependent anion channel (VDAC), was significantly upregulated in the outer root sheet (ORS) of HFs in minoxidil treated xenotransplants. In addition, collagen 17A, which protects epithelial HF stem cells from aging, was significantly increased in HF keratinocytes, and lamin B1, a modulator of cellular aging and senescence, was significantly upregulated in the ORS and dermal papilla (DP) cells following minoxidil treatment. Protein levels of the senescence-associated marker p16INK4a, as well as mTOR activity (measured by p-S6 expression) in the ORS were significantly reduced in minoxidil-treated xenotransplants Next, oxidative damage responses were analyzed, and a significant upregulation of the key downstream antioxidant enzymes, which are regulated by nuclear factor erythroid 2-related factor 2 (NRF2), namely heme oxygenase-1 (HO-1), peroxiredoxin 1 (PRDX) and glutathione reductase (GSR), was found, while NRF2 protein levels remained constant. Moreover, minoxidil treatment significantly increased protein expression of VEGF-A, a key driver of human skin rejuvenation, in HF keratinocytes.

Conclusion:

Taken together, our study demonstrates the potential of minoxidil as a novel anti-aging active that reduces oxidative damage responses and stimulates VEGF-A production in mpAGA-affected HFs in vivo, beyond its recognized stimulation of hair growth.

EADV CONGRESS
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Abstract N°: 4904

Efficacy and safety of a shampoo containing 1% selenium disulfide

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Introduction & Objectives:

Dandruff is one of the clinical signs of mild to moderate seborrheic dermatitis. 50% of adults worldwide suffer from dandruff. Currently, dandruff treatment involves topical application of shampoo containing antifungals. Selenium disulfide (SeS2), is capable of inhibiting the growth of Malassezia and Staphylococcus epidermidis. Several Clinical trials have shown that SeS2 significantly reduces dandruff. A clinical study was conducted to explore the efficacy and safety of the shampoo containing a combination of selenium disulfide and salicylic acid. We further explore the mechanism of the shampoo with antibacterial experiments in vitro.

Materials & Methods:

The irritation was confirmed by chick embryo chorioallantoic membrane assay. Antibacterial experiments in vitro were carried out to determine the influence on Malassezia and Staphylococcus epidermidis. A single-center, open-label study was conducted in 34 adult subjects, with clinical signs of dandruff. The improvement of dandruff, scalp barrier, scalp condition and tolerance were observed during 4-week treatment period and 4-week follow-up period.

Results:

Antibacterial experiments in vitro were carried out to determine the influence of the shampoo on Malassezia and Staphylococcus epidermidis. It showed that the sample could contribute to a significant decrease of Malassezia and Staphylococcus epidermidis counts. The irritation of the shampoo was confirmed by chick embryo chorioallantoic membrane assay, which showed that the sample was low irritation. The aim of the vivo study was to the anti-dandruff effect and safety of shampoo containing 1% selenium disulfide and salicylic acid. A single-center, open-label study was conducted in 34 adult subjects, with clinical signs of dandruff. They used the shampoo every other day for 4 weeks. The improvement of dandruff, scalp barrier and scalp condition were observed during 4-week treatment period and 4-week follow-up period. There was nonoccurrence of adverse event during the treatment period. The shampoo led to a significant decrease in TEWL and the improvement of greasy and pruritus of the scalp. Both in the treatment and the follow-up period, dandruff decreased significantly comparing with the baseline.

Conclusion:

The test sample is effective and well-tolerated for dandruff and its recurrence. Clinical assessments highlights that the sample plays a role in microbiome balance and scalp barrier repair.

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Abstract N°: 4918

Dissecting Cellulitis of the Scalp: Trichoscopic Characteristics in a Case Series of 32 patients

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Introduction & Objectives:

Dissecting cellulitis (DC) is a chronic disease consisting of flares of inflammatory lesions on the scalp which may lead to scarring alopecia. It is a type of neutrophilic cicatricial alopecia and trichoscopy is a useful diagnosis tool.

We pretend to describe the clinical and trichoscopic characteristics of our patients with DC, highlighting the most prevalent ones and its relationship with the disease evolution stage.

Materials & Methods:

We conducted a descriptive study based on 316 trichoscopic images of 32 patients from 4 medical centers in Madrid, Spain.

Results:

31 patients were male and 1 female (phototype II-IV). The mean age and time of disease progression were 34.2 years (range 16 - 72) and 8 years (range 0.5 - 43), respectively.

The most affected scalp areas were the occipital and vertex: 84.4% and 62.5%.

Large yellow dots were the most prevalent feature (93.8%), with the 3D type being common (71.9%). Regrowing hairs were also very frequent (90.6%).

Other common observed structures were black dots (50%), perifollicular neutrophil findings (87.5% at least one of them), clefts with emerging hairs (50%), broken hairs (62.5%), tufted of ≥5 hairs (21.9%) and ingrown hairs (28.1%).

Thin arborizing and pinpoint vessels were the most prevalent vascular patterns: 62.5% and 31.3%, respectively. In regard to scarring, milky red areas were more frequent than white areas (shiny white structures): 84.4% and 43.8%, respectively.

Conclusion:

Large yellow and 3D yellow dots are specific and frequent characteristics of DC, representing the first pathogenic disease stage: follicular occlusion. As well as these features, clefts with emerging hairs and ingrown hairs were present in many patients. It seems that these structures are also specific of DC and are involved in keratinization alteration phenomenon.

Trichoscopic inflammatory pathway is mainly represented by black dots, broken hairs, and perifollicular neutrophil findings, among others. These features were common in our patients.

Milky red areas and shiny white structures constitute the final stage of DC and justified the cicatricial character of this disease. Both characteristics were also frequent.

A large trichoscopic heterogeneity was observed in our study, representing overlapping areas of different evolution stages furthermore, as it figures in the literature. In this sense, trichoscopy is a valid diagnosis tool at any stage of DC.

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Abstract N°: 4921

Treatment with USPlusDerm prolongs anagen through positive modulation of dermal papilla inductivity and reinforces the hair follicle stem cell niche in organ cultured, occipital healthy male scalp hair follicles

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Introduction & Objectives:

Male pattern androgenetic alopecia areata (mpAGA) is driven by an increased 5-α reductase (5-αR) activity in hair follicles (HFs) of affected frontal-vertex scalp skin areas. The novel DeepExtract® process of saw palmetto berries, USPlus®Derm, exerts not only 5-αR inhibitory activity, but it also contains concentrated levels of bioactive free fatty acids. As integral lipids are important components of the hair shaft and regulator of hair cycle.

Materials & Methods:

We here aimed at investigating whether USPlus®Derm may also have hair growth promoting effects, which are independent of 5-αR activity. To this end, we used microdissected full-length occipital hair follicles (HFs) from five male healthy donors and applied USPlus®Derm at two different concentrations (i.e. 0.4 and 10µg/ml), with only 10µg/ml showing 5-αR inhibition *in vitro*.

Results:

Anagen was prolonged by both concentrations, but only 0.4µg/ml USPlus®Derm tendentially increased proliferation of hair matrix keratinocytes (Ki-67+cells). Next, we determined dermal papilla (DP) inductivity by examining alkaline phosphatase activity and versican expression to assess the mechanism underlying anagen prolongation. Only the application of 0.4µg/ml USPlus®Derm tended to increase both parameters. Emigration of DP fibroblast into the DP stalk is one of the first signs of catagen initiation and, if persistent, leads to reduced DP size and HF miniaturization. Treatment with USPlus®Derm enhanced DP size and significantly reduced cell density in the DP stalk, particularly at 10µg/ml, whereas the DP cell number was unaffected, indicating reduced fibroblast emigration in the presence of USPlus®Derm. Lastly, expression and proliferation of K15+ HF stem cells (HFSCs) were analysed following USPlus®Derm treatment. Application of 0.4µg/ml USPlus®Derm enhanced K15 expression and reduced the number of Ki-67+K15+ cells, while K15+ cell numbers were unaltered, indicating HF stem cell niche reinforcement.

Conclusion:

Taken together, our preliminary data show 5-αR independent, beneficial effects (i.e. enhanced hair growth and HFSC stemness), of USPlus®Derm in “clinically” healthy HFs and support its further investigation for the management of male pattern hair loss and other, 5-αR independent, hair growth disorders.

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Abstract N°: 4949

Clinical efficacy of hair tissue-based therapy in the treatment of male androgenic alopecia

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Introduction & Objectives: A hair-tissue based therapy in androgenic alopecia has been investigated. Harvesting hair at the occiput increases the ability and interaction of healthy dermal papilla cells (DPCs) and their macro-and microenvironment to restore a pathologic balding scalp. This approach can be a new and promising concept of hair regeneration, especially in male androgenic alopecia. The objective is to evaluate the clinical efficacy of intradermal injection of autologous cellular suspension (ACS) acquired by mechanical centrifugation, consisting a heterogeneous pool of cells rich in androgen-insensitive DPCs and their associated cells and cytokines in male androgenic alopecia.

Materials & Methods: Male patients with androgenic alopecia, aged 20-50 years, and Hamilton-Norwood (NW) stage III-V vertex were enrolled. They each received one treatment session with an intradermal injection of ACS at the balding vertex on their scalp. The efficacy measurement was based on the change from baseline in hair density and hair diameter at week 12. Photographic assessment by two blinded dermatologists was carried out. Any adverse events were also recorded.

Results: There were 5 male patients, mean (SD) age of 37.3 (4.8) years and NW stage for III vertex (40%), IV (20%), and V (40%). A significant increase in mean hair shaft diameter was from 42.4(6.7) to 47.7(5.9) (p=0.001) and 49.6(6.6) µm (p=0.019). Whilst, a decrease in vellus hair density was observed for 40(20), 26(16.7) (p=0.11) and 8(13) (p=0.20) hairs/cm2 at baseline, 3 months, and 6 months, respectively. The photographic assessment at vertex yielded moderate improvement at 6 months from baseline (score 2.1(0.7), p=0.004), with statistical significance. Minor adverse effects included minor pain and scalp pruritus at day 2 and day 3 following the treatment.

Conclusion: Androgen insensitive DPCs yields the reverse miniaturization of hair shafts, with potential treatment in male androgenic alopecia. Whereas, bio-molecular pathways and larger sample size are suggested to verify the treatment efficacy.

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Abstract N°: 4952

The Efficacy of the Combination of Fractional Picosecond Laser and Plant-derived Stem Cell Exosomes for Male Androgenetic Alopecia (AGA) Treatment

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Introduction & Objectives: Exosomes have been shown to play a central role in hair morphogenesis and regeneration with potential for use as alopecia treatment. This study aimed to investigate the efficacy of new fractional picosecond laser (FPL) technique in combination with plant-derived stem cell exosomes therapy for AGA treatment.

Materials & Methods: This was a pilot study in 5 male participants treated with a 1064-nm FPL for mild-to-moderate AGA and then were applied with topical exosomes. The patients underwent 5 treatments at 4-week intervals, followed by a 4-week post-procedure assessment. Expert panel assessment score and patient satisfaction was assessed using a 7-point scale. Dermoscopic analysis was conducted to evaluate hair shafts. Adverse effects were also monitored.

Results: Clinical improvement was observed at 1 to 6 months after treatment, with a significant increase in expert panel assessment scores. Patient satisfaction with hair density and thickness also improved significantly since the first month of the treatment. Adverse effects were minimal and resolved within a few days. Dermoscopic analysis showed minimal petechiae with no hair shaft damage.

Conclusion: The study demonstrates the potential of the combination of 1064-nm FPL and topical plant-derived stem cell exosomes for promoting hair regrowth in male pattern hair loss. Nonetheless, further research is recommended to elucidate and ratify for the optimization of this promising treatment approach.

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Abstract N°: 4970

Clinical, trichoscopic and histological characteristics of mogalizumab-induced eruption of the scalp

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Introduction & Objectives:

Mogamulizumab is a monoclonal antibody against CCR4, approved for the treatment of cutaneous T-cell lymphomas (mycosis fungoides and Sézary syndrome) resistant to other systemic treatments. Adverse effects have been described, among which skin reactions (mogamulizumab associated rash, MAR) stand out in frequency. Among these reactions, some cases of cicatricial and non-scarring alopecia have been described.

Materials & Methods:

We present a series of 5 cases of patients under treatment with mogamulizumab in our center who presented different forms of cicatricial alopecia in relation to the treatment. The clinical and histopathologic characteristics have been studied and the trichoscopic findings in these cases are also described.

Results

All cases had lymphoma expression in peripheral blood before starting treatment. When they started MAR they had been on treatment for a mean of 11 months (2,5,10,12 and 26 months). Four of them had a complete response in skin and peripheral blood when starting MAR, and have remained with complete response until the present time. All patients underwent a biopsy in which lymphoma involvement was ruled out, and different patterns were found in the histopathological analysis, all of them being compatible with MAR. On trichoscopy the most frequent findings were: follicular hyperkeratosis, broken hairs, pili torti, loss of follicular openings and interfollicular scale. The most frequent histological findings were: destruction of the follicle replaced by fibrous scar, follicular miniaturization, presence of granulomas, eosinophils, and a lymphocytic infiltrate: mixed or predominantly CD8.

Conclusion

MAR are frequent reactions in patients treated with mogamulizumab (24% according to the MAVORIC trial, 7% alopecia), and are particularly relevant because they are sometimes difficult to distinguish from lymphoma progression. Detecting these reactions makes possible not to suspend treatment unnecessarily. In addition, there are studies that suggest that MARs, including alopecia, are related to a greater response to treatment, especially when there is expression in peripheral blood. These data are in agreement with the results obtained in our study.

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Abstract N°: 5042

Nailing It: Baricitinib's Unexpected Triumph in Alopecia Areata

Khrystina Krasnovska

We present the case of a 29-year-old male with no significant personal history who presented to our dermatology service with a 6-month history of universal alopecia areata. Treatment with dexamethasone mini-pulses at a dose of 0.1mg/kg/day was initiated from the onset but proved ineffective over 3 months of treatment, and the patient also developed adverse effects necessitating discontinuation of the drug.

On physical examination, he exhibited total absence of hair on the scalp with a Severity of Alopecia Tool (SALT) score of 100 and absence of hair on the eyebrows, eyelashes, and the rest of the body. Additionally, he presented with nail alterations including trachyonychia of all 10 fingernails.

Blood tests showed no abnormalities, and serologies and Mantoux tests were negative, leading to the decision to initiate Baricitinib at a dose of 4 mg daily.

Three months after starting the medication, at the follow-up visit, the patient still had a SALT score of 100 but showed significant improvement in all 10 fingernails with resolution of the trachyonychia. Currently, 9 months after starting the medication, the patient continues to have universal alopecia areata, but his nails remain lesion-free.

Alopecia areata is an immune-mediated systemic disease affecting hair follicles with T lymphocyte-mediated inflammation that clinically results in hair loss. The hair loss it causes is usually reversible, ranging in severity from a single small patch to total body hair loss. Severity is measured using the SALT scale for scalp hair, where SALT 100 represents 100% hair loss

Patients with alopecia areata may experience nail alterations ranging from pitting to trachyonychia. Recognizing these alterations is crucial as they increase the disease burden and may limit the patient's daily activities. In some cases, these nail alterations can result in greater disability and reduced quality of life more than the hair loss itself.

Baricitinib, a selective and reversible oral inhibitor of JAK1/JAK2, has been approved for the treatment of severe alopecia areata. In clinical studies, its superiority over placebo has been demonstrated at 36 weeks of treatment in patients with this condition. However, the lack of specific research on the effects of Baricitinib on nail alterations associated with alopecia areata raises uncertainties about its efficacy in this particular area. Although some isolated cases have been published, the evidence is still limited.

In this poster, we present an intriguing case: rapid improvement of trachyonychia associated with alopecia areata treated with Baricitinib, despite the lack of response at the hair level. This finding raises questions about therapeutic management in patients with significant nail involvement who respond positively to the drug but show no signs of hair regrowth. Is it prudent to continue treatment beyond 9 months, or should we consider this response as therapeutic failure and discontinue the medication?

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Abstract N°: 5052

Prioritization of anti-dandruff topical remedies from Avicenna's point of view

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Introduction & Objectives: Dandruff is a common and important scalp disorder affecting almost half of the population at the pre-pubertal age. Various studies have shown that using herbs can be a good option for improving dandruff. There is a way to search for effective herbal and natural remedies that, in addition to being scientifically valid, is a quick path in the process of discovering, designing, and obtaining natural remedies. This method is based on the knowledge of traditional medicine. Persian medicine contains vast knowledge in diagnosing, preventing and treating diseases, including valuable information from the experiences of scientists. This article aimed to introduce and prioritize the materia medica mentioned in Avicenna's Qanun of medicine used for dandruff.

Materials & Methods: Hereon, effective drugs for improving dandruff mentioned in the second volume of Avicenna's book (Al Qanun-fi al-Tibb) have been listed, and then four reference books of traditional medicine (al-Abnieh an Haghayegh al-advieh, Tazkare Ulul Al-bab, Tohfat al-Momenin, and Makhzan al- Advieh) are reviewed.

Results: Twenty-one materia medica were found as anti-dandruff remedies. After prioritizing and summarizing the scores of the materia medica for dandruff, the materia medica with the best scores were displayed through a diagram (Figure 2). Based on the scores, Trigonella foenum-graecum L. and Beta vulgaris L. earned the best points respectively, and Prunus amygdalus Batsch, Sesamum indicum L., Ziziphus spina-christi (L.) Desf., and sodium tetraborate decahydrate got the next orders with equal scores.

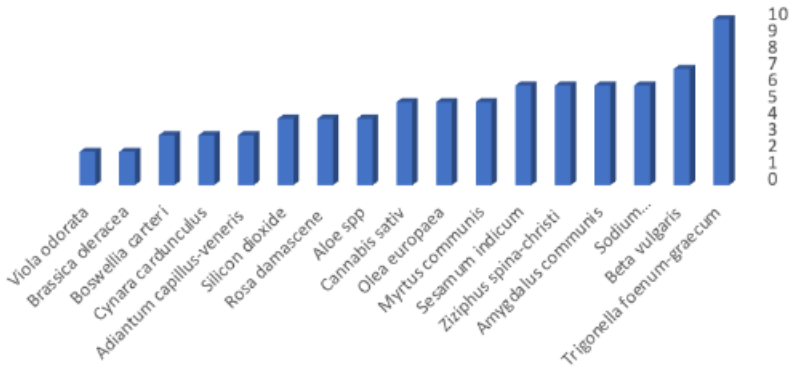

Figure 2: Scores of the anti-dandruff materia medica

Conclusion: The list of drugs collected in this study can be considered as a basis for further studies to design and make new effective drugs for treating dandruff.

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Abstract N°: 5174

Dilated hyponychial capillaries: A reliable and often missed cardinal sign of nail psoriasis

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Introduction & Objectives:

The lifetime incidence of nail psoriasis in psoriatic patients is approximately 80% to 90%. Although nail involvement may be the first or only presentation of psoriasis, it is often overlooked, and the opportunity for early treatment may be missed. Few studies have investigated the nail signs of psoriasis, such as dilated hyponychial capillaries, and their correlation with clinicopathological signs of psoriasis. The objective of this study is to examine the prevalence of dilated hyponychial capillaries among patients with nail psoriasis and correlate signs of nail involvement with psoriasis subtype.

Materials & Methods:

This is a retrospective, cross-sectional, mixed-methods study of 108 adult patients with nail psoriasis who visited either of two dermatology practices in Australia between January 2018 and June 2020. The Nail Psoriasis Severity Index was calculated for each patient with nail psoriasis and the presence of dilated hyponychial capillaries was identified from clinical images of fingernails and toenails.

Results:

103 patients (95.4%) exhibited dilated hyponychial capillaries in their fingernails (80 patients, 74.1%) and/or toenails (77 patients, 71.3%).

Conclusion:

Dilated hyponychial capillaries were almost always present in nail psoriasis. Our results highlight this important sign as a reliable indicator of nail psoriasis. Routine examination for dilated hyponychial capillaries may assist in diagnosis of nail involvement in patients with suspected or established psoriasis.

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Abstract N°: 5197

Subungual melanoma mimicking pyogenic granuloma in a patient with a previous surgery in the same area

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Introduction & Objectives:

Subungual melanoma is a rare skin cancer and accounts for approximately 3 % of melanoma cases in caucasian population. The thumb, the great toe and the index are the most commonly affected. The role of the sun in the etiology of this type of melanoma is not as important as compared with cutaneous melanoma. The trauma is a factor that can be related to subungual melanoma, many patients reported this association in the literature.

Materials & Methods:

We present the case of a 53-years-old right hand dominant female who presented for a subungual red proeminence, with a keratotic border, located at the hyponychium of the second finger of the left hand, accompanied by a stinging sensation. 8 years ago, the pacient underwent surgery for onycholemmal cyst with the same localization. Dermoscopy of the affected area revealed homogenous pink area, with 2 small linear vessels. Based on clinical and dermoscopic aspects, the diagnosis of pyogenic granuloma was made. After 3 months, on ultrasound, a vascular network with increased density was visible, irregularly arranged vessels, with total dimensions of 14/6 mm, raising the suspicion of glomus tumor. 6 months later, a native MRI showed vascular serpiginous ectasias at the level of the soft tissue adjacent to the volar aspect of the distal phalanx. Clinically, after 6 months from the initial visit, the patient developed a small brown proeminence in the proximal nail fold and melanonychia in the corresponding nail plate.

Results:

7 months after the initial presentation, under local anesthesia, the complete excision of the nail unit was performed. Intraoperative, a brown discoloration of the nail bed was identified. The histopathological examination revealed pT3 melanoma (Breslow 3 mm). Immunohistochemistry was S100 positive, keratin (AE1/AE3), SMA and CD 45 negatives. Transarticular distal interphalangeal amputation and sentinel lymph node were recommended.

Conclusion:

Given the vital importance of an early correct diagnosis of melanoma, we would like to emphasize the importance of having a high index of suspicion when we diagnose subungual lesions. In our patient we had a 7-months delay in the correct diagnosis, various hypothetical diagnosis: pyogenic granuloma, glomus tumor and a history of previous surgery for an onycholemmal cyst with exactly the same localization. If this surgical trauma may have played a role in the subsequent development of subungual malanoma is a question we do not have yet a response. In the literature, we did not find such an association between surgical trauma for onycholemmal cyst and subungual melanoma.

EADV CONGRESS
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Abstract N°: 5249

Change in the hair characteristics assessed with trichoscopy before and after treatment with any tested drug, correlated with blood metabolic profile- personal observations

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Introduction & Objectives:

Trichoscopy is widely used to assess hair characteristics and their changes due to pharmacological interventions. Understanding how these changes correlate with metabolic profiles could enhance personalized treatment approaches in dermatology. To investigate the correlations between changes in hair characteristics assessed by trichoscopy and blood metabolic profiles after treatment with various pharmacological agents.

Materials & Methods:

Trichoscopic measurements were taken from the forehead, temple, and occiput regions, assessing total number of hair per cm^2, hair units, single, double, and triple hair units. These results were correlated with levels of total cholesterol, HDL, LDL, triglycerides, and glucose

Results:

Statistically significant correlations were found between total cholesterol and total number of hair at the forehead (r=-0.785714) and occiput (r=-0.714286), and with double hair units at the forehead (r=0.714286). LDL showed significant negative correlations with single hair units at the temple (r=-0.821429) and positive with triple hair units at the forehead (r=0.821429). A significant negative correlation was observed between glucose and total number of hair units at the occiput (r=-0.627236). No significant correlations were found with triglycerides

Conclusion:

The study reveals significant correlations between metabolic parameters and changes in hair characteristics, suggesting that metabolic health may influence hair morphology. These findings require for a larger scale study to validate these correlations and potentially integrate metabolic health into trichoscopic evaluations.

Abbreviations: NS, not significant; HDL, high-density lipoprotein; LDL, low-density lipoprotein.

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Abstract N°: 5259

Oral tofacitinib offers faster improvement in SALT score for moderate-to-severe alopecia areata in comparison to oral corticosteroid and methotrexate combination treatment

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Introduction & Objectives:

Alopecia areata is an autoimmune non-scarring hair disorder that requires systemic treatment when the alopecic patches cover at least 20% of the scalp. Systemic corticosteroid is the most common first-line treatment but is limited by the duration of its treatment at high doses. Combination with methotrexate allows tapering of the steroid dose while maintaining an immunosuppressive environment. However, not all achieve 100% hair regrowth with this combination. Oral tofacitinib, a JAK 1/3 inhibitor, offers an alternative systemic treatment with good favorable side effect profile for poor responders to the systemic corticosteroid-methotrexate combination treatment.

Materials & Methods:

N/A

Results:

A 28-year old female Filipino patient presented with a 2-year history of a multiple gradually enlarging alopecic patches on the scalp. She underwent treatment with pulse oral methylprednisolone 24mg 3 days a week (roughly 0.5 mg/kg/dose), and methotrexate 7.5mg and folic acid 5mg for 6 months. She developed moon facies, hirsutism, and weight gain. Her steroid dose was gradually tapered month, prompting titration down of her methylprednisolone by 4mg monthly. Methotrexate was increased to 25mg weekly. During this 9-month treatment, her Severity of Alopecia Tool (SALT) score improved from 40 to 20. She was then shifted to methylprednisolone (0.5mkday) daily while her methotrexate dosage (25mg) was maintained weekly. No further improvement was noted in her SALT score for the next 7 months. She discontinued all medication and did not follow-up for two months. When she was seen again, her SALT score increased to 30. She was shifted to oral tofacitinib 5mg twice a day. After four months, her SALT scare improved to 0. No reported side effect during the said treatment. Her dosage was reduced to 5mg once a day for the next 5 months due to financial constraints. No recurrence of alopecic patches was noted.

Conclusion:

Monotherapy with oral tofacitinib is a viable first-line option for patients with severe alopecia areata. It offers faster improvement of the SALT score while having minimal adverse side effect in comparison to oral corticosteroid and methotrexate combination treatment.

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Abstract N°: 5263

Electrosurgery with careful extensive debridement is a viable option for the treatment of periungual and subungual verruca vulgaris

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Introduction & Objectives:

Periungual and subungual verruca vulgaris (wart) are difficult to treat due to their high recurrence rates. Their highly infectious nature affects the quality of life of patients greatly. Topical keratolytic is a conservative management that is relatively painless but involves a longer resolution time. Cryotherapy carries the risk of damage to the nail matrix and has a high recurrence rate. Hence, a proposed alternative treatment is the extensive surgical removal of the wart using electrosurgery while preserving the nail anatomy. This provides a targeted approach to the lesion and may decrease recurrence rate.

Materials & Methods:

Wood's lamp (385nm) was used to demarcate the extent of the wart to be removed. The affected digit was anesthetized using 1.5-2 ml of lidocaine 2% - epinephrine 1:100000 solution using the proximal digital block approach. After 15 minutes, electrodesiccation was done on the surface of the wart multiple times, creating holes across the lesion. The cautery tip was then carefully inserted along the sides of the base to create a plane of dissection, thus releasing its attachment from underneath. Release of the proximal nail fold may also be required, depending on the extent of nail bed involvement. This was followed by a partial nail avulsion, which extended 0.5-1mm beyond the area infiltrated by the wart. Any visualized wart on the nail bed was then grasped and dissected from the nail bed using electrodesiccation. This exposed the normal distal phalanx covered by the onychodermis. Careful debridement of the affected nail bed using disposable curette was done up to the deeper layer of the onychodermis. Advanced wound care was employed using a non-adherent lipidocolloid dressing, sterile gauze, and self-adherent cohesive bandage. Change of dressing was done after 3 days post-op and then weekly thereafter. Petroleum jelly was advised to be applied hourly once off the bandages. Pain reliever was given for the first two weeks and titrated down as per patient's discretion.

Results:

Pain after the procedure was the most common complaint especially for areas with deeper level of debridement. Out of the 15 patients treated, only four had recurrence (26.67%) that resolved completely after a second session of electrosurgery. Recurrence was more common on the digits with subungual involvement although two cases with periungual involvement only had recurrence after their first treatment. Two patients were lost to follow-up after the procedure. Regardless of severity, more than half of the patients (60%) treated had no recurrence. For all cases, the nail bed granulated to the level of the lateral and proximal nail folds within a week. There was good patient compliance with the once a week change of dressing. By the end of the third week post-op, the nail bed had granulated well and had almost complete reepithelialization. The nail bed appeared to be well hydrated after consistent application of petroleum jelly. For the toes, taping of the edge of the hyponychium down to the metatarsophalangeal joint using a dressing retention tape prevents distal nail embedding. Signs of recurrence during the first four weeks post-op were monitored and treated by a second electrosurgery.

Conclusion:

Electrosurgery with careful extensive debridement offers a targeted approach to periungual and subungual warts while preserving the nail unit anatomy. Recurrence is higher if there is subungual involvement. Hence, monitoring during the first four weeks post-op is vital.

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Abstract N°: 5312

Validation of the Eyebrow Assessment Scale and Eyelash Assessment Scale in Adults and Adolescents With Alopecia Areata

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Introduction & Objectives: In patients with** alopecia areata (AA), eyebrow and eyelash hair loss can lead to negative physical and psychosocial symptoms. The Eyebrow Assessment (EBA) and Eyelash Assessment (ELA) scales were developed to provide simple, standardized clinical assessments of observable signs of eyebrow and eyelash hair loss associated with AA. The objective of this study was to evaluate psychometric properties of the EBA and ELA scales in adults and adolescents with AA.

Materials & Methods: The EBA and ELA are 4-point scales with clinician-reported scores of extent of eyebrow/eyelash hair: 0 (none), 1 (minimal), 2 (moderate), and 3 (normal). Measurement properties of the EBA and ELA including test-retest reliability, convergent validity, known-groups validity, and ability to detect change (responsiveness), were examined using data from the ritlecitinib phase 2 and 3 studies ALLEGRO-2a (NCT02974868; n=142), ALLEGRO-2b/3 (NCT03732807; n=718), and ALLEGRO-LT (NCT04006457; de novo patients, n=449). Patients were aged ≥18 years in ALLEGRO-2a and ≥12 years in ALLEGRO-2b/3 and ALLEGRO-LT; patients had a baseline Severity of Alopecia Tool (SALT) score ≥50 (≥50% scalp hair loss at baseline) in ALLEGRO-2a and -2b/3 and SALT score ≥25 in ALLEGRO-LT.

Results: The **test-retest reliability** of EBA and ELA scores at screening and baseline was evidenced by excellent intraclass correlation coefficients in ALLEGRO-2a (**Table 1**), ALLEGRO-2b/3, and ALLEGRO-LT (**Table 2**). **Convergent validity** was shown by moderate to strong correlations between EBA/ELA scores and other study measures as per the data available in each of the 3 studies (**Tables 1** and **2**). EBA and ELA **differentiated between subgroups** of patients with different degrees of scalp hair loss as determined by other study measures (**Tables 1** and **2**). **Ability to detect change** was also shown by patterns of correlation between change in EBA and ELA scores and change in other study measures in ALLEGRO-2b/3 and -LT (**Table 2**). Greater reductions in EBA and ELA scores were observed among patients who achieved SALT ≤20 or SALT ≤10 response compared with those who did not in ALLEGRO-2b/3 and -LT (**Table 2**).

Conclusion: The psychometric evaluation of the EBA and ELA scales using data from the ritlecitinib ALLEGRO-2a, -2b/3 and -LT studies support the validity and reliability of the EBA and ELA scales as measures of eyebrow and eyelash hair loss status in patients with AA. EBA and ELA scores are reliable, associated with other clinician- and patient-reported outcomes, and able to detect change over time.

Table 1. Summary of key psychometric properties for the EBA and ELA using data from participants in the ALLEGRO-2a study

	ALLEGRO Ph 2a; N=142	
	EBA	**ELA**
Test-retest reliability at screening and baseline, ICC[a]	0.975	0.982
Convergent validity, Pearson correlation coefficients		
SALT score Baseline/Week 24	−0.523/−0.702	−0.456/−0.612
AASIS body or eyelashes hair loss Item at Week 24	−0.560	−0.510
Known-group validity, mean EBA/ELA score per known group[b]		
Difference (95% CI) between SALT 0 and SALT 100 (as continuous anchor); *P* value	−1.18 (−1.37 to −1.00); *P*<0.0001	−0.97 (−1.15 to −0.79); *P*<0.0001
Ability to detect change, Pearson correlation coefficient		
10% Change in SALT score (as continuous anchor)	−0.120	−0.104

AA, alopecia areata; AASIS, Alopecia Areata Symptom Impact Scale; EBA, eyebrow assessment; ELA, eyelash assessment; ICC, intraclass correlation coefficient; SALT, Severity of Alopecia Tool.
[a]ICC was computed using a between-subject error variance and within-subject error variance from a random-intercept mixed effects model.
[b]P values from the one-way ANOVA models for EBA or ELA scores with a term for known group based on another study measure (ie, SALT); not adjusted for multiplicity.

Table 2. Summary of key psychometric properties for the EBA and ELA using data from participants in the ALLEGRO-2b/3 study and de novo participants from the ALLEGRO-LT study

	ALLEGRO Ph 2b/3; N=718		ALLEGRO-LT; N=449	
	EBA	**ELA**	**EBA**	**ELA**
Test-retest reliability at screening and baseline, ICC[a]				
	0.968	0.962	0.967	0.976
Convergent validity, Spearman's correlation coefficients between EBA/ELA scores and other study measures at BL, W24/M6 and W48/M12				
AAPPO EB hair loss item[b]	−0.877/ −0.826/ −0.843		−0.919/ −0.783/ −0.769	
AAPPO EL hair loss item[b]		−0.905/ −0.859/ −0.846		−0.900/ −0.752/ −0.706
SALT	−0.641/ −0.650/ −0.600	−0.571/ −0.578/ −0.541	−0.650/ −0.614/ −0.603	−0.623/ −0.528/ −0.595
CGI-AA	−0.528/ −0.607/ −0.594	−0.465/ −0.547/ −0.520	−0.589/ −0.576/ −0.602	−0.541/ −0.511/ −0.573
Known-group validity, mean EBA/ELA score per known group at W48/M12[c]				
SALT score: >99, 75-≤99, 50-<75, <50	0.59, 1.41, 1.86, 2.38 (*P*<0.0001 for all)	0.83, 1.48, 1.81, 2.41 (*P*<0.0001 for all)	0.77, 1.05, 1.80, 2.59 (*P*<0.0001 for all)	0.92, 1.02, 1.64, 2.69 (*P*<0.0001 for all)
AAPPO EB or EL hair loss item[b]: great deal /complete, moderate, no/ little	0.66, 1.70, 2.64 (*P*<0.0001 for all)	0.59, 1.74, 2.67 (*P*<0.0001 for all)	0.64, 2.00, 2.71 (*P*<0.0001 for all)	0.55, 2.07, 2.74 (*P*<0.0001 for all)
Ability to detect change, Spearman's correlation coefficient for CFB in EBA/ELA scores at W24/M6 and W48/M12				
CFB AAPPO EB or EL hair loss item[c]	−0.643/ −0.744	−0.586/ −0.687	−0.724/ −0.773	−0.626/ −0.650
CFB SALT	−0.463/ −0.450	−0.404/ −0.381	−0.295/ −0.353	−0.179/ −0.336
CFB CGI-AA	−0.469/ −0.419	−0.411/ −0.344	−0.245/ −0.268	−0.160/ −0.222
PGI-C	−0.437/ −0.344	−0.393/ −0.292	−0.198/ −0.179	−0.062/ −0.124
Responsiveness, mean CFB EBA/ELA score by SALT responder group[d]				
SALT ≤10 response: responder, nonresponder	W24: 0.91, 0.43 (*P*<0.0001) W48: 1.16, 0.68 (*P*<0.0001)	W24: 0.80, 0.35 (*P*<0.0001) W48: 0.91, 0.54 (*P*<0.0001)	M6: 0.76, 0.61 (*P*<0.0001) M12: 0.91, 0.81 (*P*<0.0001)	M6: 0.55, 0.54 (*P*<0.0001) M12: 0.78, 0.66 (*P*<0.0001)
SALT ≤20 response: responder, nonresponder	W24 0.87, 0.40 (*P*<0.0001) W48: 1.09, 0.66 (*P*<0.0001)	W24: 0.81, 0.32 (*P*<0.0001) W48: 0.90, 0.50 (*P*<0.0001)	M6: 0.72, 0.61 (*P*<0.0001) M12: 0.88, 0.83 (*P*<0.0001)	M6: 0.54, 0.55 (*P*<0.0001) M12: 0.78, 0.64 (*P*<0.0001)

AA, alopecia areata; AAPPO, Alopecia Areata Patient Priority Outcomes; BL, baseline; CFB, change from baseline; CGI-AA; Clinician Global Impression– AA; EB, eyebrow; EBA, eyebrow assessment; EL, eyelash; ELA, eyelash assessment; ICC, intraclass correlation coefficient; PGI-C, Patients' Global Impression of Change SALT, Severity of Alopecia Tool.
[a]ICC was computed using a between-subject error variance and within-subject error variance from a random-intercept mixed effects model. [b]The AAPPO eyebrow hair loss item (item #2) was used for the EBA analysis, while the AAPPO eyelash hair loss item (item #3) was used for the ELA analysis. [c]P values from the one-way ANOVA models for EBA or ELA scores with a term for known group based on another study measure (ie, AAPPO, SALT, or CGI-AA); not adjusted for multiplicity. [d]P values from ANCOVA model for CFB in EBA/ELA scores with terms for SALT response and baseline EBA or ELA score; not adjusted for multiplicity.

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Abstract N°: 5320

Assessment of the prevalence of metabolic syndrome in androgenetic alopecia

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Introduction & Objectives: Androgenetic alopecia (AGA) has been related to metabolic syndrome (MS) and may be associated with increased cardiovascular risk (CVR). The aim was to determine the prevalence of MS in individuals with AGA.

Materials & Methods: Methods:

Analytical and cross-sectional pilot study of individuals of both sexes aged between 18 and 55 years with AGA matched by age and sex with controls without AGA and without chronic inflammatory diseases. Clinical and dermoscopic examination were performed using the Norwood-Hamilton scales for males and Ludwig scales for females. Anthropometric measurements and laboratory tests (glycemia and lipid profile) from the last 6 months were colected. MetS was diagnosed using the NCEP-ATP III (National Cholesterol Education Program Adult Treatment Panel III) criteria.Table 1) Data were analyzed using percentage measurements. The study was approved by the ethics and research committee.

Results: 224 individuals were evaluated, 124 (109 men and 15 women) with AGA and 100 controls (56 men and 44 women). Of these, 60.5% (66) of men and 33.3% (5) of women with AGA had MetS, compared with 30.4% (17) and 27.3% (12) of controls, respectively.(Table 2)

High blood pressure was observed in 51.6% of individuals with AGA and in 34% of controls; Diabetes mellitus was seen in 38.7% of individuals with AGA and in 31% of controls. An HDL cholesterol fraction lower than 40mg/dL in men and 50mg/dL in women was observed in 29.8% of those with AGA and in 23% of controls. Hypertriglyceridemia appeared in 37.1% of patients with AGA and in 34% (34) of controls, while abdominal obesity was detected in 57.3% of those diagnosed with AGA and in 37% of controls.(Table 3)

Conclusion: The frequency of MetS was higher in the AG group than in the control group.

Factors that make up the diagnosis of MS such as hypertension, diabetes, dyslipidemia and abdominal obesity were also more common in the AGA group than in the control group.

All patients with AGA should be evaluated annually for the presence of Metabolic Syndrome.

In conclusion, MetS is prevalent in AGA, increasing cardiovascular risk.

Table 1. Components of metabolic syndrome according to NCEP-ATP III.

Components of metabolic syndrome according to NCEP-III
Components
Abdominal obesity using waist circumference
Male
Female
Triglycerides
HDL Cholesterol
Male
Female
Blood pressure
Fasting blood glucose

Table 2. Participants with AGA and control with metabolic syndrome (male sex % (n); female sex % (n)).

Assessment of metabolic syndrome in participants with androgenetic alopecia and controls
SM

male sex % (n); female sex % (n)).

Table 3. Assessment of the percentages of participants with hypertension, diabetes mellitus, increased serum HDLc levels, increased serum triglyceride levels and abdominal obesity %(n).

Assessment of cardiovascular risk factors in participants with androgenetic alopecia and controls		
	Participants with AGA (total - 124)	**Controls (total - 100)**
Arterial hypertension	51,6% (64)	34% (34)
Diabetes	38,7% (48)	31% (31)
HDLc serum levels <40 mg/dL in males and <50 mg/dL in females	29,8% (37)	23% (23)
Increased triglycerides	37,1% (46)	34% (34)
Abdominal obesity	57,3% (71)	37% (37)

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Abstract N°: 5330

Individual SALT score trajectories of roll-over adolescent patients with alopecia areata treated with ritlecitinib in the ongoing long-term, open-label, phase 3 ALLEGRO-LT study

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Introduction & Objectives: In the ALLEGRO phase 2b/3 study (NCT03732807), ritlecitinib demonstrated efficacy and safety over 48 weeks in adults and adolescents with alopecia areata (AA). This post-hoc analysis evaluated individual Severity of Alopecia Tool (SALT) score trajectories through Month 24 in adolescents with AA treated with ritlecitinib in ALLEGRO-2b/3 and continuing into the ongoing, open-label, phase 3, ALLEGRO-LT study (NCT04006457) to describe long-term response patterns and associated demographics and baseline disease characteristics.

Materials & Methods: This subgroup analysis included patients aged 12-17 years with AA with ≥50% scalp hair loss who received ritlecitinib 50 mg once daily (QD) with or without a 4-week 200-mg loading dose in ALLEGRO-2b/3 and subsequently rolled-over into ALLEGRO-LT where they continued to receive ritlecitinib 50 mg QD. Continuation criteria for adolescents in ALLEGRO-LT required ≥50% improvement from baseline in SALT score by Month 3 for rollover patients from ALLEGRO-2b/3 and SALT score ≤20 by Month 6 in ALLEGRO-LT. SALT score trajectories from baseline to Month 24 were used to categorize patients as responders (early, middle, late), partial responders, relapsers, or non-responders. Definitions are provided in **Table 1**. Analyses are based on observed data. The data cutoff was December 9, 2022.

Results: A total of 57 adolescents received ritlecitinib 50 mg QD with or without a 4-week 200-mg loading dose. Based on individual SALT score trajectories through Month 24, 24 adolescents (42.1%) had a SALT ≤20 response, of whom 10 (17.5%) had response patterns of early responders, 10 (17.5%) of middle responders, and 4 (7.0%) of late responders (**Table 1**). Nine adolescents (15.8%) had response patterns of partial responders, 12 (21.1%) of relapsers, and 12 (21.1%) of non-responders (**Table 1**). The distributions of patients according to these response patterns were comparable between patients receiving ritlecitinib 50 mg with vs without a 200-mg loading dose (**Table 1**). Fourteen adolescents discontinued due to the efficacy continuation criteria (4 partial responders, 6 relapsers, and 4 non-responders). At baseline, among adolescents with SALT ≤20 response and without SALT ≤20 response, respectively, 58% and 33% were female, 29% and 55% had alopecia totalis/ alopecia universalis (AT/AU, SALT score of 100), median SALT score was 96.8 and 100, median episode duration was 0.94 and 3.15 years, and median disease duration was 3.98 and 6.27 years. Most patients with a response pattern of "early" had a baseline SALT score <95 (6/10). Most patients with a response pattern of "relapser" had a baseline SALT score of 100 (8/12) and most patients with a response pattern of "non-responder" had a baseline SALT score ≥95 (7/12).

Conclusion: Over 40% of adolescents treated with ritlecitinib were considered as having an early, middle, or late SALT ≤20 response pattern through Month 24, predominantly within the first year of treatment, but some achieved response after >12 months of treatment (7%). The distribution of patients according to patterns of response through Month 24 (as defined in Table 1) in adolescents was consistent with the distribution seen in the

total population. Baseline disease characteristics of adolescent SALT ≤20 responders were consistent with those previously reported for the total population, with responders having lower baseline SALT scores, shorter episode duration, and a lower proportion having AT/AU.

Table 1. SALT score trajectories in adolescents receiving ritlecitinib 50 mg ± 200-mg loading dose in ALLEGRO-2b/3 and ALLEGRO-LT

Response Pattern		Definition	Ritlecitinib 50 mg ± 200 mg, n/N (%)	Ritlecitinib 200/50 mg, n/N (%)	Ritlecitinib 50 mg, n/N (%)
SALT score ≤20 responder	Early responder	Patients with SALT score ≤20 (≤20% scalp hair loss) at Week 24 and Months 12 and 24*†	10/57 (17.5)	5/30 (16.7)	5/27 (18.5)
	Middle responder	Patients who did not achieve SALT score ≤20 by Week 24, but did so at Month 12 and at Month 24*†	10/57 (17.5)	3/30 (10.0)	7/27 (25.9)
	Late responder	Patients who did not achieve SALT score ≤20 by Month 12, but did so at Month 24*	4/57 (7.0)	3/30 (10.0)	1/27 (3.7)
SALT score ≤20 non-responder	Partial responder	Patients with SALT score >20 at Week 24 and Months 12 and 24*† who achieved ≥30% improvement in SALT score from baseline that was maintained thereafter‡	9/57 (15.8)	6/30 (20.0)	3/27 (11.1)
	Relapser	Patients with SALT score >20 at Week 24 and Months 12 and 24*† who achieved ≥30% improvement in SALT score that was not maintained‡	12/57 (21.1)	7/30 (23.3)	5/27 (18.5)
	Non-responder	Patients with SALT score >20 at Week 24 and Months 12 and 24*† who did not achieve ≥30% improvement in SALT score from baseline	12/57 (21.1)	6/30 (20.0)	6/27 (22.2)

SALT, Severity of Alopecia Tool.

*Or until the last visit with available SALT score data.

†The ALLEGRO phase 2b/3 study used weeks as the time frame for data analysis, while the ALLEGRO-LT study used months. Each month in the ALLEGRO-LT study was converted into 4 weeks to align the time frames across the 2 studies.

‡At all subsequent available time points through Month 24.

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Abstract N°: 5474

The role of melatonin in seasonal hair loss: a review of the literature

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Introduction & Objectives:

Melatonin (or 5-methoxy-N-acetyltryptamine) has been long considered regulating the circadian day-night rhythms. However, this hormone also plays a role in the bioregulation of pigmentation and cellular growth. Less is known about its potential role in the modulation of hair follicle growth. The anagen hair follicles are important sites of extrapineal melatonin synthesis. Melatonin might play a role in the hair-cycle control, be involved in seasonal hair shedding and be used as therapy in the management of hair loss.

Materials & Methods:

We searched through PubMed and Google Scholar publications using the following keywords: “melatonin”, “hair loss”, “seasonality” to gather information on seasonality and hair loss, as well as the role of melatonin in hair loss. A total of 56 publications published between 1988 and 2024 were reviewed.

Results:

Connection between melatonin and hair cycle regulation

Studies suggest that melatonin plays a role in hair cycle regulation, because hair follicle is extrapineal melatonin source and peripheral melatonin target tissue. The intrafollicular melatonin synthesis and signalling is suspected to control endogenously hair growth by keratinocyte apoptosis modulation and by desensitizing the follicle to estrogen signaling. Melatonin may also counteract testosterone-induced cell actions.

Clinical data on melatonin and hair loss

Melatonin has been used in subjects with hair loss. The reviewed studies included people with androgenetic alopecia and report improved scalp hair growth, density, and hair shaft thickness among melatonin users. Patients with male pattern hair loss could benefit from a topical melatonin dosage between 0.0033% and 0.1% solution applied once-daily and 1.5 mg twice-daily oral melatonin supplementation. In our search, we found no studies on the impact of melatonin on any other type of hair loss.

Studies on hair shedding and seasonality

The photoperiodic alterations of the different seasons may impact the functions of pineal gland. In the northern hemisphere, melatonin production is promoted by shorter photoperiod during the winter, December to March, when there is less hair loss reported and anagen hair follicles are found at their peak. There are significantly lower levels of melatonin in summer months, when people report seasonal hair shedding and the proportion of telogen hairs is proven to gradually increase from June to September. This phenomenon may correlate with the melatonin production during different seasons.

Conclusion:

By far this is the first hypothesis, which suggests the correlation between seasonal hair loss and melatonin

production. There are currently no studies done to prove this connection. There is evidence to support melatonin use for hair growth in people with hair loss conditions.

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Abstract N°: 5613

Distribution of SALT scores with ritlecitinib treatment up to 24 months from the ALLEGRO phase 2b/3 and long-term phase 3 clinical studies in alopecia areata

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Introduction & Objectives: Ritlecitinib, an oral JAK3/TEC family kinase inhibitor, demonstrated efficacy and safety up to 48 weeks in patients aged ≥12 years with alopecia areata (AA) in the ALLEGRO phase 2b/3 study (NCT03732807; "ALLEGRO-2b/3"). The long-term efficacy of ritlecitinib in patients who rolled over from ALLEGRO-2b/3 to the ongoing, phase 3, open-label ALLEGRO-LT study (NCT04006457) has been reported in terms of the proportions of patients achieving Severity of Alopecia Tool (SALT) scores ≤20 and ≤10 at Month 24; however, the distribution of SALT scores in patients not meeting these thresholds has not yet been described.

Materials & Methods: Patients aged ≥12 years with AA and ≥50% scalp hair loss who rolled over to ALLEGRO-LT after completing ALLEGRO-2b/3 were included. Data are reported for patients who received daily ritlecitinib 50 mg without a loading dose in ALLEGRO-2b/3 and ALLEGRO-LT (50-mg group), including patients who initially received placebo in ALLEGRO-2b/3. For patients who initially received placebo, the post-baseline visits were adjusted to reflect the time from the start of ritlecitinib 50 mg treatment. The distribution of patients according to SALT score (as observed) was assessed through Month 24 for the overall population. The data cutoff was December 9, 2022.

Results: The analysis included 191 patients in the 50-mg group. At the time of data cutoff, 71 patients had discontinued (**Table 1**); withdrawal by patient, adverse events, and lack of efficacy were the most common reasons for discontinuation. The distribution of patients by SALT score at each time point from baseline to Month 24 is shown in **Table 2**. As per the inclusion criteria, all participants had SALT score ≥50 at baseline; 71.2% had SALT >90. Among participants who had a non-missing SALT score, the proportions of patients in the SALT >90-100 category at Months 6, 12, and 24, were 31.5%, 22.6% and 14.2%, respectively. Reductions in the proportions of patients in the other SALT categories >50 were also observed from baseline through Month 24. At Month 12, 34.2% and 11.0% of patients were in the SALT 0-10 and >10-20 categories, respectively, with 50.8% and 10.0% of patients in these categories at Month 24. Dynamic plots showing the changes in SALT distributions in both treatment groups for the overall population, and for disease severity and age subgroups, will be presented.

Conclusion: Over 24 months, daily 50-mg ritlecitinib treatment resulted in fewer patients in the highest SALT score categories. These data provide a comprehensive overview of patient response to ritlecitinib treatment beyond the achievement of predefined SALT score thresholds. These data enable us to understand treatment response and time frames, as expressed by SALT score categories, whilst on treatment with ritlecitinib. This information can empower clinicians when counselling patients and addressing their expectations on timelines. This

study also shows that if ritlecitinib treatment is maintained for more than 12 months, the rates of response improve, which will support discussions with third-party payers to ensure that adequate time is given when assessing treatment efficacy.

Table 1. Patient disposition for the ritlecitinib 50-mg group

n (%)	Ritlecitinib 50 mg N=191
Treated with ritlecitinib	191 (100)
Ongoing at data cutoff	111 (58.1)
Completed	9 (4.7)
Discontinued	71 (37.2)
Adverse event	18 (9.4)
Lack of efficacy	14 (7.3)
Lost to follow-up	7 (3.7)
Physician decision	2 (1.0)
Withdrawal by patient	19 (9.9)
No longer meets eligibility criteria	6 (3.1)
Other	5 (2.6)

Table 2. SALT distribution for patients who received daily ritlecitinib 50 mg without a loading dose in ALLEGRO-2b/3 and ALLEGRO-LT

Visit	SALT score category, n (%)									
	0-10	>10-20	>20-30	>30-40	>40-50	>50-60	>60-70	>70-80	>80-90	>90-100
Baseline (N=191)	0	0	0	0	0	11 (5.8)	17 (8.9)	11 (5.8)	16 (8.4)	136 (71.2)
Month 1 (n=183)	2 (1.1)	2 (1.1)	0	3 (1.6)	4 (2.2)	12 (6.6)	7 (3.8)	11 (6.0)	17 (9.3)	125 (68.3)
Month 6 (n=178)	26 (14.6)	15 (8.4)	9 (5.1)	13 (7.3)	16 (9.0)	11 (6.2)	9 (5.1)	12 (6.7)	11 (6.2)	56 (31.5)
Month 9 (n=168)	43 (25.6)	14 (8.3)	18 (10.7)	9 (5.4)	9 (5.4)	11 (6.6)	6 (3.6)	8 (4.8)	9 (5.4)	41 (24.4)
Month 12 (n=164)	56 (34.2)	18 (11.0)	16 (9.8)	5 (3.1)	11 (6.7)	1 (0.6)	6 (3.7)	8 (4.9)	6 (3.7)	37 (22.6)
Month 15 (n=148)	55 (37.2)	18 (12.2)	6 (4.1)	8 (5.4)	10 (6.8)	4 (2.7)	3 (2.0)	2 (1.4)	8 (5.4)	34 (23.0)
Month 18 (n=140)	64 (45.7)	13 (9.3)	6 (4.3)	4 (2.9)	5 (3.6)	7 (5.0)	3 (2.1)	4 (2.9)	4 (2.9)	30 (21.4)
Month 21 (n=128)	65 (50.8)	11 (8.6)	3 (2.3)	7 (5.5)	6 (4.7)	3 (2.3)	2 (1.6)	4 (3.1)	7 (5.5)	20 (15.6)
Month 24 (n=120)	61 (50.8)	12 (10.0)	7 (5.8)	5 (4.2)	3 (2.5)	6 (5.0)	1 (0.8)	2 (1.7)	6 (5.0)	17 (14.2)

SALT, Severity of Alopecia Tool.

Baseline refers to Day 1 of the ALLEGRO-2b/3 study, while the remaining visits refer to the time after the start of ritlecitinib 50 mg treatment (i.e., for patients who initially received placebo in ALLEGRO-2b/3, the visits were adjusted to reflect the time from the start of ritlecitinib 50 mg)

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Abstract N°: 5626

Short anagen syndrome in two Caucasian girls

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Introduction & Objectives:

Short anagen syndrome (SAS) is a rare, idiopathic, primarily pediatric, disorder of unknown pathogenesis, characterized by short duration of anagen phase that leads to inability to grow long hair and by an increase in the number of telogen hairs. SAS affects mainly Caucasian children. It was first described in 1999. In most cases, SAS develops sporadically, although one familial case has been described, suggesting an autosomal dominant inheritance.

Materials & Methods:

We report two Caucasian girls, both aged 4 years, with a very slow hair growth since birth. By the time of the examination they had not had haircut. In both girls sweating was normal. There were no other skin lesions and the children were otherwise completely healthy.

Results:

The first girl was diagnosed in 2018, the second in 2024. In the first patient, parietal hair length was 8 cm, occipital 12 cm, while in the second patient parietal hair length was 11 cm and occipital 10 cm. Dermoscopy showed a normal hair density with numerous growing hair shafts of different lengths. Pull test was positive. Microscopic examination of the hair revealed short telogen hairs with tapering tips, indicating uncut hairs and the first girl also had individual distal hair shaft trichorrhexis nodosa lesions. Other features such as hair shaft structure and strength were normal. In the trichogram, anagen to telogen ratio was, in the first case, 53%:47%; while in the second case the ratio was 58%:42% (parietal) and 57%:43% (occipital). In children of this age, the normal ratio is 90:10. Upon shaving of a scalp zone measuring 1.5x1.5 cm, hair growth velocity turned out to be normal in both girls.

Nail plates of hands and feet, as well as teeth were normal in both girls. Ophthalmological and neurological examinations were normal. Routine laboratory analyses, serum zinc and vitamin D levels were normal.

The first patient was treated with topical 5% minoxidil for 3 months, while the second patient has just started therapy with topical minoxidil. The first girl was followed for 5.5 years. Her hair length has slightly increased, although she still hasn't had haircut.

Conclusion:

The pathogenesis of SAS remains unclear. The duration of anagen phase, which determines the ultimate hair length, appears to be under genetic control and is influenced by age, sex, and possibly other factors, including hormones. As in both of our cases, SAS is usually an isolated finding with a benign course. An association with congenital hypotrichosis and trichodental dysplasia has been reported in the literature.

Although SAS seems to be quite a rare disorder, it is believed that is not so scarce, but rather that it is poorly recognized and probably under-reported (less than 50 published cases, only two larger studies comprising 25 and

8 cases, respectively). If topical minoxidil does not lead to an improvement, low-dose oral minoxidil may be helpful.

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Abstract N°: 5701

Application of Ultrapulse CO2 Fractional laser in the Treatment of Simple Onychomycosis

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Introduction & Objectives:

Simple onycholysis is the separation of the nail plate from the nail bed, which occurs in fingers and toenails. It is diagnosed by the whitish appearance of the separated nail plate from the nail bed. The incidence of simple onycholysis is unknown, both men and women can suffer from this disease, while more often in women. Its histopathology is nonspecific. The key element of therapy involves regeneration of keratinized or epithelialized nail bed. However, due to the hard and barrier effects of the deck, penetrating the nails to deliver drugs poses a major challenge. Thus, the treatment usually has a poor curative effect and high recurrence rate. Ablative fractional laser can generate many tiny micro-channels(microscopic ablation zones, MAZs) in the nail plate, which is proved to be an effective method for nail drug delivery currently. This study is to investigate the safety and efficacy of ultrapulse fractional CO2 laser in the treatment of simple onycholysis.

Materials & Methods:

Twelve patients with simple onycholysis who were admitted to the outpatient department of our hospital from October 2023 to February 2024 were selected by medical history inquiry, physical examination, and laboratory examination. All patients received 4-8 times of ultra-pulsed fractional CO2 laser treatment at a 2-week interval. After ultra-pulse fractional CO2 laser treatment, topical drugs (hormone ointment/tretinoin ointment/calcineurin inhibitor, etc.) were applied. The therapeutic effect, adverse reactions and patient satisfaction were followed up.

Results:

The symptoms of onycholysis were completely relieved in 8 patients (66.67%), and the other 4 patients (33.33%) were greatly improved. No other adverse reactions were observed except pain symptoms immediately after the treatment.

Conclusion:

The special anatomical structure of the nail often leads to poor efficacy of topical drugs. The ultra-pulse CO2 fractional laser works on the nail plate to form a tiny thermal damage zone, so that topical drugs can better penetrate from the nail bed. At the same time, the photothermal stimulation can also promote the regeneration of the nail bed in the epithelization. The nail bed and the nail plate fit better and obtain better curative effect. This treatment has the advantages of minimal trauma, good curative effect, high patient acceptance and satisfaction, and no obvious adverse reactions have been observed. It provides a new idea for the treatment of simple onychomycosis.

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Abstract N°: 5798

Lichen planopilaris induced by chemotherapy for breast cancer

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Introduction & Objectives:

Lichen planopilaris (LPP) is a type of cicatricial alopecia connected with lymphocytic inflammatory response against hair follicles. LPP usually manifests as perifollicular erythema and scaling, absence of follicular openings, follicular plugging and patchy hair loss. Herein, we present a case of a patient with the diagnosis of LPP induced by the chemotherapy for breast cancer.

Materials & Methods:

A 60-year-old female with a history of breast cancer (Ca NST G1, ER positive, HER-2 positive; cT2N0, ypT1bN1a)* of the right mammary gland diagnosed in February 2020, was consulted due to lack of hair regrowth after the chemotherapy. The hair loss started about two months after initiation of treatment (4x dose-dense doxorubicin and cyclophosphamide (ddAC), 12x paclitaxel (PXL)). After the last course of the neo-adjuvant chemotherapy, she experienced some gradual hair regrowth in the peripheral regions of the scalp, but it was significantly poorer in the central part. At the time of the visit, the patient was after the 11th (out of 18) cycle of trastuzumab therapy. Three months prior, she also underwent a breast-conserving surgery with axillary lymph node dissection. Later, radiotherapy and adjuvant hormonal therapy (letrozole) were given. Clinically, erythema of the scalp was noted with notable hair thinning, mostly in the parietal and frontal area. Trichoscopy showed perifollicular erythema and perifollicular scaling, particularly in the parietal area, as well as the presence of abnormal hair shafts (i.e. pili torti) and increased percentage of vellus hairs. Histopathological evaluation of two biopsy samples revealed concentric perifollicular fibrosis with fields of resorptive granulomatous reaction and a mild perivascular lymphocytic infiltrate. Based on clinical, dermoscopic and histopathological presentation the diagnosis of lichen planopilaris was made. Since then, the patient was treated with multiple medications such as clobetasole propionate topical solution, topical and oral minoxidil, triamcinolone acetonide mesotherapy and, after the end of trastuzumab therapy, with oral isotretinoin (10 mg per day). Due to impaired tolerability of treatment (nausea, bone aches), the dose of isotretinoin was later reduced to 10 mg every other day, which resulted in the general improvement of patient's well-being. Meanwhile, hipertrichosis of the face was noted and therefore a decision to reduce the concentration of minoxidil in topical solution from 5% to 2% was made. Unfortunately, it has not resulted in the reduction of hairiness within the face which led to the complete cessation of this treatment. Eventually, reduction of erythema and lack of progression of alopecia were achieved. Nevertheless, the hair remains thin and the patient requires a hair prosthesis, which has a significant negative impact on her psychological condition. The patient remains under observation of the dermatology outpatient clinic.

Results:

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Conclusion:

Most chemotherapeutic agents cause temporary hair loss, yet several cases of chemotherapy-induced LPP have been reported in the literature, often in breast cancer patients. Despite its relatively rare occurrence, there is a

need to inform the patients about the possible risk of permanent hair loss and in case of such complications, multidisciplinary support, including dermatological treatments, should be provided.

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Abstract N°: 5940

Underdiagnosed condition of the nails: a case series

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Introduction:

Congenital malalignment of the great toenail (CMGT) is an underreported nail disorder defined by lateral deviation of the nail plate frequently associated with nail dystrophy. CMGT affects 1-2% of children, usually presenting in infancy or childhood. Given that this condition is rarely diagnosed in its early stages, complications are often present. Onychodystrophy becomes evident later in life as a result of repeated microtrauma from walking, crawling, physical training, and inappropriate footwear. Malalignment typically affects the halluces and is more often bilateral. This condition is still poorly understood and often misdiagnosed and treated as onychomycosis, with only a few reports in the literature.

Materials & Methods:

We report a case series of eight patients diagnosed with CMGT, highlighting the clinical and demographic characteristics and treatment options of affected individuals.

Results:

Eight patients were included, with a mean age of 19 years (range, 6 months – 55 years) and a 1:1 female-to-male ratio. Patients presented with different clinical pictures mostly with bilateral presentation and already developed complications (Fig. 1). Most common complications were discoloration, onychomadesis, nail plate thickening, onycholysis, disappearing nail bed, and paronychia. Other clinical and demographic data are detailed in Table 1. Treatment options for this condition range from conservative to surgical management depending on the severity of the condition and developed complications. Proper-fitting footwear and good nail-trimming practices should be recommended to decrease the risk of repeated trauma. There have been positive reports about the topical application of urea cream, 0.025% tretinoin cream, and thymol (1%-4%) with chloroform. Our patients were treated conservatively, including topical or intralesional corticosteroids, urea cream (10% and 30%), grinding, and nail taping. The combination of local corticosteroids and urea cream resulted in an improvement in nail appearance in the majority of patients. Treatment with repeated monthly intralesional corticosteroids appeared to be ineffective. Surgical therapy may be considered in severe cases and consists of rotating the nail matrix to the proper orientation. Since the best results are achieved before the age of 2, surgery was not an option for our older patients with severe clinical presentations.

Conclusion:

Unfortunately, the majority of patients are diagnosed with CMGT when complications have already developed. If recognized at birth or in early infancy, preventive measures could be implemented to avoid complications, and in cases of severe deviations, timely surgical treatment could be performed. Early detection of CMGT may also prevent inappropriate treatment, reduce the cost of time and money, and achieve favorable esthetic and functional outcomes. Therefore, raising awareness of this condition is crucial for improved diagnosis and

management.

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Abstract N°: 5964

Assessment of hair shaft damage subjected to the discoloration/coloring through quantification of protein loss

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Introduction & Objectives: Exposing the hair fiber to physical (curling iron) or chemical procedures (straightening, bleaching and coloring) can cause damage to its structure (cuticles and cortex) and, consequently, changes in physical and mechanical properties: shine, color, combability, breaking traction and protein composition (keratin). The latter is very important, and it is related to other properties of the shaft and it can result in rupture. The **Objectives** of this research was to evaluate the damage in protein content equivalent in albumin caused to caucasian hair (gray, light brown, black and light blonde) subjected to the action of *blonde* and *light brown* oxidative dyes using standardized hair strands and validated methodology.

Materials & Methods: The Lowry et al method modified by Peterson was used, which involves the reaction of the Folin-Phenol reagent with amino acids, peptides and protein extracted from the hair shaft. The result is a blue complex which is read on at 750 nm in spectrophotometer and, by calculations the equivalent protein damage in albumin (reference) is obtained. The method was validated and proved to be sensitive, specific, precise, accurate and easy to perform. Standardized strands of virgin caucasian hair were analyzed, previously washed with a sodium lauryl ether sulfate 10%w/v and dried naturally: light blonde, light brown, gray and black. They were subjected to the staining procedure with *light blonde* (10.0) and *light brown* oxidative dyes in a medium of ammonium hydroxide (alcalin médium) and 20 volume hydrogen peroxide.

Results: The *light blonde* dye caused more damage to the cuticles in all strands of caucasian hair compared to *light brown*, being statistically the same for light brown and black hair strand. These results was due to the higher concentration of ammonium hydroxide used to "open the cuticles", with a subsequent process of oxidation by 20 volume hydrogen peroxide of the deposited pigments and melanina that was more intense for the *light blonde* dye. Gray hair is much more porous than others and can absorb pigments of the dye more easily, but these can also be removed. Furthermore, the presence of greater porosity will reflect greater protein loss after treatments. The table presents the results of the average (n=6) protein loss for caucasian hair strands after treatment with different types of oxidative dye (*light blonde and light brown*).

Treatment (Oxidative dye)	**Loss protein (µg/g hair)/ type of hair**
	Gray
Loiro claro	2580,0a
Castanho claro	1925,0A

Results with different letters present a significant statistical difference, for α=5%, $p \leq 0.05$.

Conclusion: The *light blonde* oxidative dye caused more damage to the hair fiber than the *light brown* dye for all strands, inducing greater protein loss equivalent to albumin in descending order: gray, light brown, black and light blonde and the same protein loss behavior was observed for the *light brown* oxidative dye. This response suggests the importance of conditioning hair subjected to the oxidative dyeing process, especially *light blonde*, aiming to maintain the health of the hair fiber and reduce the risk of hair shaft breakage.

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Abstract N°: 6087

Prediction of long-term scalp hair regrowth at 24 months in patients with alopecia areata receiving ritlecitinib treatment in the ALLEGRO clinical trial program

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Introduction & Objectives: Ritlecitinib, an oral JAK3/TEC family kinase inhibitor, demonstrated efficacy and safety up to 48 weeks in patients aged ≥12 years with alopecia areata (AA) in the ALLEGRO phase 2b/3 study (NCT03732807). ALLEGRO-LT (NCT04006457) is an ongoing phase 3 open-label study investigating the long-term safety and efficacy of ritlecitinib in patients aged ≥12 years with AA. Given the chronic nature of AA, predicting treatment outcomes based on patient characteristics and early response pattern could enhance clinical decision-making. This post-hoc analysis evaluated the predictive value of demographic and disease characteristics to determine Severity of Alopecia Tool (SALT) score ≤20 response at Month 24.

Materials & Methods: ALLEGRO-LT enrolled patients into two arms: (1) roll-over patients with ≥50% scalp hair loss who received study intervention in either the ALLEGRO phase 2a study (NCT02974868) or ALLEGRO-2b/3, and (2) *de novo* patients with ≥25% scalp hair loss. This analysis included roll-over patients who received daily ritlecitinib 50-mg with (n=194) or without (n=191) an initial 4-week 200-mg daily loading dose, and *de novo* patients (n=447) who received daily ritlecitinib 50-mg with an initial 4-week 200-mg daily loading dose. The data cutoff was December 9, 2022. Random forest analyses with 5-fold cross-validation with 3 repetitions were performed to determine the predictive value of demographic and disease characteristics under two scenarios: (1) using baseline covariates to predict SALT ≤20 response at Month 24, and (2) using baseline covariates along with Month 6 covariates, specifically SALT score, Eyebrow Assessment score and Eyelash Assessment score, to predict SALT ≤20 response at Month 24. Presence of loading dose was included as a covariate in the models, and each model only included participants with complete observations. Data are presented for area under the receiver operating characteristic curve (AUROC) and mean accuracy. Variable importance was assessed based on the whole population of patients.

Results: Baseline demographics and disease characteristics are shown in **Table 1**. For Scenario 1, the AUROC ranged from 0.769 to 0.784, with maximum value for accuracy of 75.5% obtained at a cutoff of 0.6 for the predicted probability of SALT ≤20 response at Month 24 in the best random forest model (AUROC = 0.784). The most important variables for predicting the probability of SALT ≤20 response at Month 24 were non-AT/AU diagnosis, baseline SALT score, duration of significant (≥50%) scalp hair loss as determined by investigator assessment, current AA episode duration and duration of AA since diagnosis. For Scenario 2, the AUROC ranged from 0.826 to 0.836, with a mean accuracy of 79.6% at the 0.5 cutoff for the best random forest model (AUROC = 0.836). The most important variables for predicting SALT ≤20 response at Month 24 were the same as for Scenario 1 and additionally included SALT score at Month 6.

Conclusion: Specific demographic and disease characteristics may enable the prediction of the probability of a

SALT ≤20 response at Month 24 with ritlecitinib treatment in patients with AA. Integrating these variables into predictive models may be valuable for optimizing patient management and treatment decisions in AA.

Table 1. Demographic and baseline disease characteristics in roll-over and *de novo* patients included in the analysis.

	All patients (N=832)
Age, mean (SD), years	33.2 (14.2)
Female, n (%)	520 (62.5)
Race, n (%)	
White	570 (68.5)
Asian	200 (24.0)
Other	62 (7.5)
BMI, mean (SD), kg/m²	24.9 (5.3)
Type of AA	
AT/AU*	315 (37.9)
Other	517 (62.1)
Baseline SALT score, mean (SD)†	82.3 (23.6)
Eyebrow involvement, n (%)†‡	649 (78.0)
Eyelash involvement, n (%)†‡	588 (70.7)
Number of AA episodes, mean (SD)	2.9 (5.1)
Duration of current AA episode, years, mean (SD)	3.1 (2.7)
Duration of AA since diagnosis, years, mean (SD)	9.8 (10.4)
Duration of significant (≥50%) scalp hair loss, mean (SD), years	2.9 (3.3)
Prior pharmacological treatment for AA, n (%)	559 (67.2)
Comorbid conditions, n (%)	
Asthma	99 (11.9)
Autoimmune thyroiditis	43 (5.2)
Atopic dermatitis	109 (13.1)
Allergic rhinitis	70 (8.4)

AA, alopecia areata; AT, alopecia totalis; AU, alopecia universalis; BMI, body mass index; EBA, Eyebrow Assessment; ELA, Eyelash Assessment; SALT, Severity of Alopecia Tool.

*Participants in the AT and AU categories had a SALT score of 100 (complete scalp hair loss) at baseline and a clinical diagnosis of AT or AU by the investigator.

†Variable also assessed at Month 6.

‡Eyebrow and eyelash involvement was defined as patients with EBA or ELA scores, respectively, of 0 to 2 (no eyebrows/eyelashes to moderate eyebrows/eyelashes).

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Abstract N°: 6189

A Retrospective Analysis Of The Use Of Minoxidil And Androgen Directed Therapy In FFA

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Introduction & Objectives:

To assess systemic minoxidil and bicalutamide as a treatment for FFA.

- Frontal fibrosing alopecia (FFA) is a progressive patterned cicatricial alopecia.
- Androgen involvement is suggested by

pattern hair loss,

predilection in postmenopausal women,

reported improvement with androgen directed therapy.

FPHL commonly co-exist in women with FFA

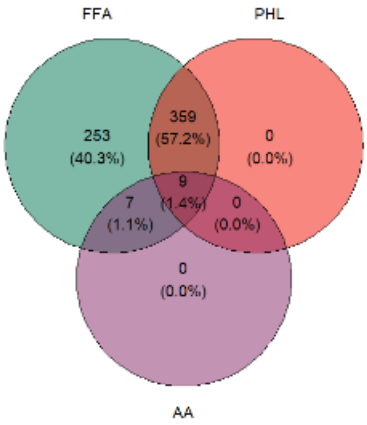
- We have a large cohort of FFA patients who have been treated with bicalutamide and/or systemic minoxidil.
- Many of these patients have received bicalutamide and minoxidil without additional anti-inflammatory therapy.

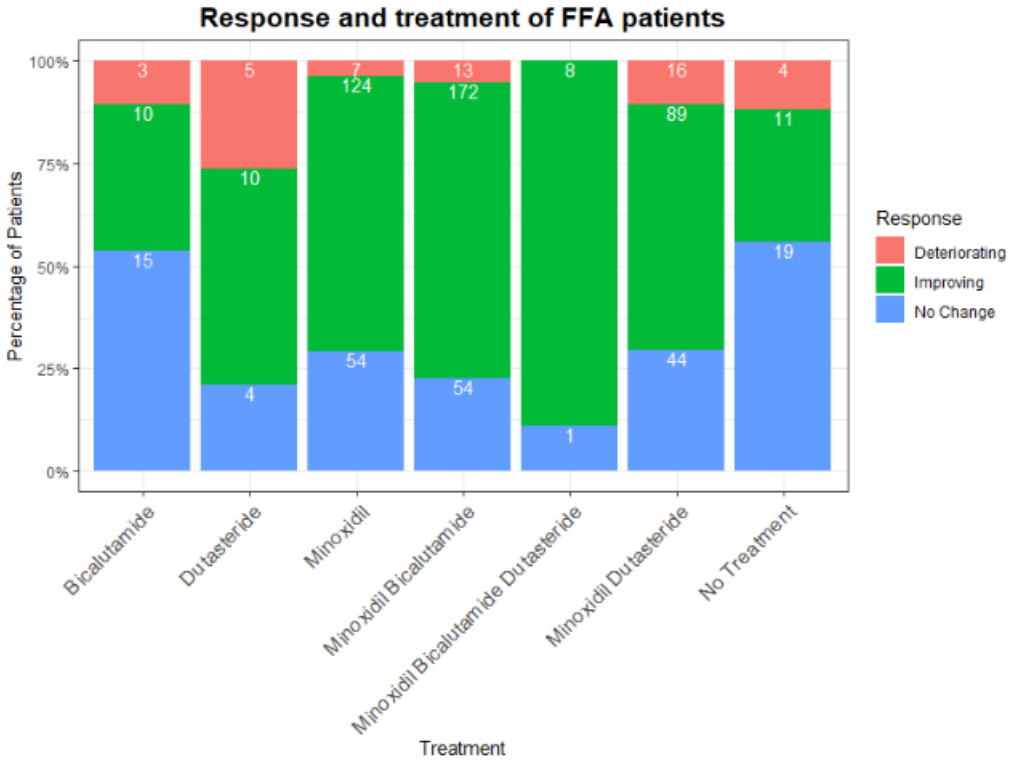
Materials & Methods:

- Individuals with FFA at Sinclair Dermatology between January 2021 and December 2023 were reviewed retrospectively.
- Based on most recent clinical visit and prescribed treatment, patients were categorized as
  - Improving (1)
  - No change (0)
  - Worsening (-1)
- Chi squared analysis was performed

Results:

- A total of 663 patients were identified
- 32(5%) of the patients were males
- 253(40.3%) patients only had FFA
- 359(57.2%) patients also had PHL (male/female).
- Minoxidil monotherapy fared significantly better than androgen directed treatment (67.2% vs 41.3%)
- There was no difference between minoxidil monotherapy vs combined minoxidil/androgen directed therapy
- When combined with minoxidil, bicalutamide showed a better response than dutasteride (72% improvement vs 60%)



- 

Conclusion:

- Minoxidil monotherapy is better than an androgen directed monotherapy.
- When combination therapy is required, Minoxidil/Bicalutamide is more effective than Minoxidil/Dutasteride

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Abstract N°: 6210

Evaluation of the clinical improvement, quality of life, and cardiovascular risk impact of baricitinib treatment used for alopecia universalis at a tertiary dermatology clinic

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Introduction & Objectives:

In this study, we aim to observe the clinical response, quality of life and cardiovascular risk factors of 12 patients diagnosed with Alopecia Universalis and treated with Baricitinib for at least 6 months in our clinic.

Under six months of baricitinib treatment, the clinical response and the impact of the disease on daily life quality were examined using the Severity of Alopecia Tool(SALT) and Dermatology Life Quality Index(DLQI) scales respectively at 0 and 24 weeks. Changes in triglyceride(TG) and high density lipoprotein(HDL) ratios between 0 and 24 weeks were analyzed to assess the predicted cardiovascular disease risk status of the patients.

Materials & Methods:

12 patients were enrolled to the study who were diagnosed clinically with alopecia universalis and treated with 4 mg oral baricitinib for 24 weeks between January 2023 and March 2024 in our dermatology clinic. Five of patients were female, and seven were male. Ages of the participants ranged from 14 to 45. None of the patients had a history of cardiovascular disease and/or dyslipidemia. No side effects or complications were reported during the treatment process.

In this retrospective cohort study, clinical and laboratory data were collected from patients during their visits at week 0 (baseline) and week 24 (follow-up).

The patients clinical responses were evaluated using the Severity of Alopecia Tool (SALT) and Dermatology Life Quality Index (DLQI) scales at weeks 0 and 24. Additionally fasting blood lipid profiles, were measured during the same above mentioned visits as routine screening for this patient group.TG and HDL data were recorded, and the TG/HDL ratios were calculated and documented in the patient form.

Changes in TG/HDL ratios between weeks 0 and 24 were examined to assess how baricitinib treatment affected cardiovascular risk in this patient population.

Results:

During treatment, a significant decrease in the patients' SALT scores was observed. While the mean SALT score was 91.6 at week 0, it was calculated as 34.1 at week 24. This finding indicates that baricitinib treatment is effective in alopecia universalis patients. Average score of the DLQI at week 0 was 15.1 and 4.75 at week 24. TG/HDL ratio was 1.63 at week 0 and 2.14 at week 24.

The data obtained were statistically analyzed using SPSS 29.0 ($p<0.05$)

Conclusion:

Decreased SALT scores during treatment indicates that baricitinib significantly reduces the symptoms of patients suffering from alopecia universalis.

When considering the decrease in both SALT score and DLQI concomitantly, baricitinib treatment leads to a significant improvement for alopecia universalis.

In this patient group, an increasing trend in TG/HDL ratios was observed over the 24-week treatment period. This suggests that long-term use of baricitinib treatment may increase the risk of cardiovascular disease. This finding while the disease is improving indicates more towards the effect of the medication rather than the natural course of the disease.

These results highlight that baricitinib treatment may contribute to clinical improvement and enhanced quality of life for patients with Alopecia Universalis. However, the same findings suggest that cardiovascular risk may have increased in this patient group.

Additional studies with larger patient groups are needed to better understand the role of new medications such as baricitinib in the treatment of alopecia universalis and to determine the efficacy and safety of baricitinib treatment.

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Abstract N°: 6211

Prevalence, clinical spectrum and trichoscopy findings of scalp hair disorders seen at a tertiary hospital in Nothern Tanzania

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Introduction & Objectives:

The prevalence and clinical spectrum of scalp hair disorders varies widely depending on the geographical location and ethnicity of the patients. Scalp hair disorders may cause considerable distress to patients and the psychological impact is often devastating. There are limited studies evaluating scalp hair disorders and their trichoscopic findings particularly in dark skinned populations.

This study aimed to determine the prevalence, clinical spectrum and trichoscopic findings of scalp hair disorders seen at a tertiary facility in Northern Tanzania.

Materials & Methods:

This descriptive cross-sectional hospital-based study included all patients with scalp hair disorders seen at a tertiary facility in Nothern Tanzania from January 2023 to May 2023. Patients were interviewed and examined, the information was collected using a demographic and clinical data sheet including trichoscopy features sheet. Data was entered and analyzed using SPSS 20.

Results:

Out of 1782 patients seen during the study period, a total of 175 (9.8%) had scalp hair disorders. The median age was 31 years with an interquartile range of 17-44. The most common scalp hair disorder seen was tinea capitis 38/175 (21.7%) followed in descending order by seborrheic dermatitis 34/175 (19.4%), scalp psoriasis 23/175 (13.1%), folliculitis decalvans 21/175 (12%), and alopecia areata 12/175 (11.4%). Trichoscopic findings of the respective hair disorders were similar to what has been described in literature however in different proportions.

Conclusion:

There is a wide spectrum of scalp hair disorders seen at RDTC, ranging from non-scarring to scarring disorder impacting this patient population. Knowledge of these disorders is essential to ensure appropriate diagnosis and treatment regimens are available. There is room for more research in regards to trichoscopy in dark skin especially in relation to disease severity.

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Abstract N°: 6326

A Novel Scalp Biopsy Technique: Hemostatic Wall Punch

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Introduction & Objectives:

The dermatological diagnosis often requires a scalp biopsy, a procedure frequently complicated by issues such as bleeding and hair interference. Current hemostatic methods, although available, are neither widely adopted nor highly effective in single-operator settings1. Our objective is to introduce and detail the efficacy of a new technique, the Hemostatic Wall Punch Technique, which integrates a hemostatic square stitch with a conventional 4mm punch biopsy to address these challenges effectively.

Materials & Methods:

The Hemostatic Wall Punch Technique starts with the delineation of the biopsy area under dermoscopy. A 1cm^2 square is marked around the selected site. The area is then anesthetized with 1cc of lidocaine 2% with epinephrine. Four hemostatic stitches are strategically placed in a square pattern around the perimeter of the marked area to create a hemostatic wall.

The central 4mm punch biopsy is then executed within the marked square (FIGURE 1), ensuring targeted tissue extraction2. Closure of the punch biopsy is performed with a central stitch, as is conventionally done. Notably, the four hemostatic stitches are removed at the end of the procedure.

Results:

This technique significantly significantly reduces bleeding and provide a clear field of vision for dermatologists by restricting hair movement, as the stitches act as anchors, preventing hair displacement. The hemostatic wall ensures that the biopsy is completed efficiently with minimal bleeding. This method does not introduce any additional costs in comparison with the standard punch biopsy as it employs the same materials.

Conclusion:

The integration of hemostatic square stitching optimizes scalp biopsy procedures by effectively addressing two critical aspects: haemostasis and clear field for punch extraction.This method simplifies the procedure, reduces the necessity for additional assisting personnel, and represents a cost-effective strategy that could be readily adopted in routine clinical practice.

References:

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2. Klein EJ, Brinster N, Shapiro J, Lo Sicco K. Clinical pearl: Punch biopsy technique for alopecias. Int J Womens Dermatol. 2022 Oct 10;8(3):e054. doi: 10.1097/JW9.0000000000000054. PMID: 36249535; PMCID: PMC9553378.

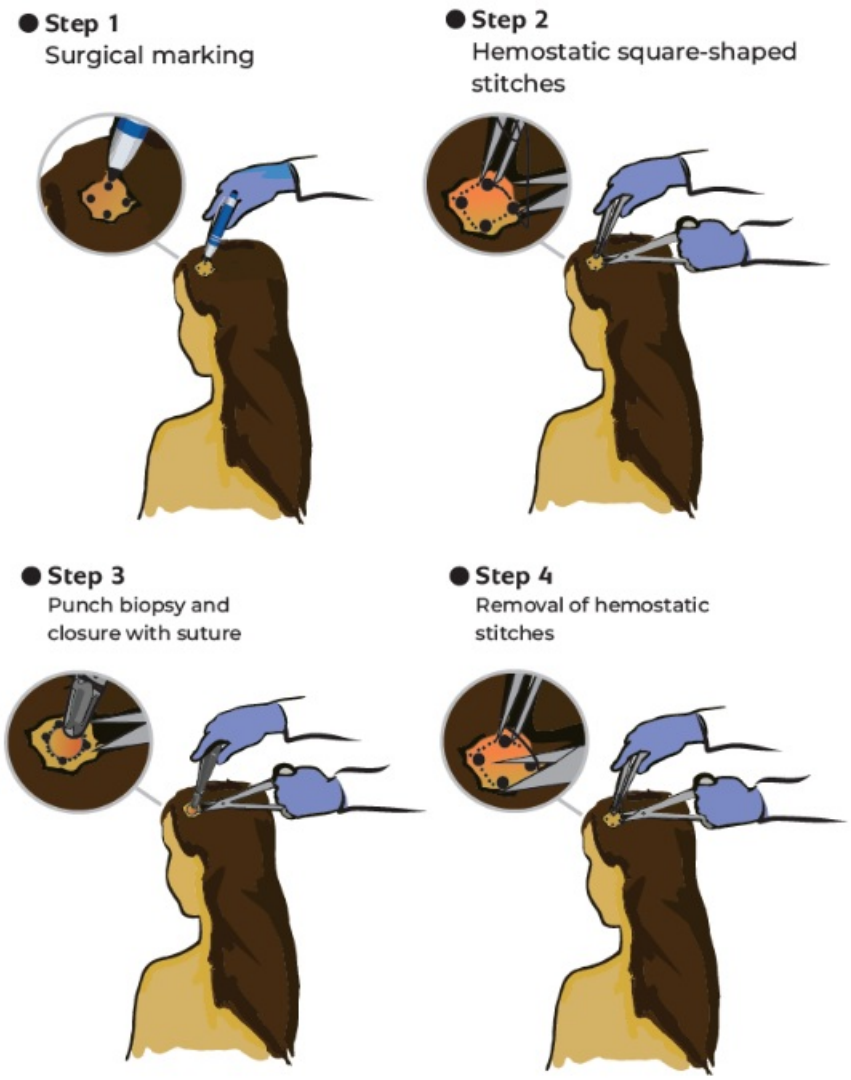

FIGURE 1 – Step by step

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Abstract N°: 6360

Quinquaud's disease: a case study. Features of diagnosis and treatment of patients with folliculitis decalvans.

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Quinquaud's disease: a case study. Features of diagnosis and treatment of patients with folliculitis decalvans.

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Introduction & Objectives:

Folliculitis decalvans is a chronic, neutrophilic inflammation of the skin on the scalp characterized by painful, purulent follicular exudation resulting in primary cicatricial alopecia. However, unclear etiology and insufficient clinical practice makes FD difficult to treat. We present here a case report of patient with FD, who presented to our clinic.

Materials & Methods:

A 44-year-old female, with a histology verified diagnosis of folliculitis decalvans, considers herself sick since 2014, when the first signs of itching in the affected area of the skin, trichodynia and hair loss appeared. According to the patient, the disease proceeded in a chronic form, the condition of the skin on the scalp did not improve, the area of cicatricial alopecia was increasing. Prior to admission to our clinic the patient had received only topical steroids. Within a few days we conducted a clinical and laboratory examination and examined the skin of the scalp by trichoscopy and dermoscopy. We established and confirmed the bacterial skin infection: *S. aureus* and took skin and hair for identify a fungal infection (negative result). As the patient did not want to take oral isotretinoin, azithromycin 500 mg twice a day was sought. Also was instituted topical steroids and antiseptics, shampoos and photodynamic therapy treatment.

Results: Analyzing this clinical case, in our opinion, the patient was insufficiently examined, as a result, a lot of time was lost and irreversible changes occurred. Most importantly, bacteriological research was not carried out and the culture of the bacterial species with antibiotic sensitivity testing was not conducted. Combination of oral azithromycin, topical treatment and photodynamic therapy gave successfully reduced inflammation and led to symptom resolution.** Consequence, the therapeutic goal was achieved and the patient's request not to oral isotretinoin was satisfied. During two months of treatment, the patient did not have new follicular pustules and perifollicular crusts, any discomfort, or pain of the skin on the scalp and did not notice hair loss.

Conclusion: Folliculitis decalvans is difficult to diagnose, so a detailed instrumental examination and specific treatment should begin immediately from the first manifestations of the disease. The given clinical case demonstrates the need for general clinical examination, trichoscopy or dermoscopy, pathohistological evaluation of a punch biopsy of the affected skin area in order to accurately establish the diagnosis of Quinquaud's disease and conduct appropriate multidisciplinary treatment as soon as possible.

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Abstract N°: 6453

Topical immunotherapy with Diphencyprone in moderate to severe alopecia areata in children

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Introduction & Objectives:

Alopecia areata is a chronic inflammatory non-scarring alopecia directed against anagen hair follicles and can occur at any age. Even though majority of the cases in children are self-limiting and localized, a sub-set of pediatric alopecia areata exists, which is extensive, progressive and chronic, often requiring systemic immunomodulatory drugs. It is particularly challenging to treat this subset and the appropriate treatment decision has to be arrived at after assessing the child's physical and emotional health, the impact on acceptance among peers, self-confidence, parental expectations etc.

Topical diphencyprone (DPCP) immunotherapy is used to treat refractory and advanced alopecia areata. The safety and efficacy of DPCP in adults with alopecia areata has been evaluated in several studies. However, the use of topical immunotherapy in children has been looked at only in a few.

Our objective was to study the efficacy, safety and adverse effects in children undergoing treatment with DPCP for moderate to severe alopecia areata.

Materials & Methods:

We performed a retrospective study of children less than 18 years of age suffering from moderate-severe alopecia areata (>50% scalp involvement), who were treated at our centre from 2015-2023.

All children followed the same immunotherapy protocol beginning with sensitization with 2%DPCP followed by DPCP in concentrations of 0.000001%, 2 weeks later. Thereafter, treatment continued on a weekly basis with increasing concentrations of DPCP if there was no significant reaction. A complete response was defined as full re-growth of scalp hair and a partial response was defined as any hair regrowth other than full regrowth.

Results:

A total of 33 patients were studied with a male: female ratio of 1.5:1. Average duration of treatment was 7.2 months, average onset of response was at 3-16 weeks. Complete response was seen in 12 (42%) patients, partial in 13(43.3%) and 3 were non-responders. 6 patients (21.4%) suffered from relapses; 4 of them while on treatment, 2 after stopping treatment. Eczematous reactions, occipital lymphadenopathy, depigmentation, urticarial or id eruptions and pigmented contact dermatitis were the adverse effects noted. Only one patient had a wide-spread eczematous reaction meriting discontinuation of the treatment. Sensitization and contact dermatitis among the handling staff and clinicians was more common and was of concern.

Conclusion: Topical immunotherapy seems an effective and fairly safe treatment modality for extensive alopecia areata in children withoutthe attendant risks of systemic immunomodulation.

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Abstract N°: 6544

A Pediatric Case of Discoid Lupus Erythematosus Mimicking Tinea Capitis

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Introduction:

Discoid lupus erythematosus (DLE) is uncommon in children. Diagnosis can be challenging, particularly when lesions are confined to the scalp, and especially in the early non-cicatricial stages.

This report highlights the importance of trichoscopy in evaluating children with alopecia and identifying characteristic patterns of scarring dermatoses, as exemplified by this case of scalp DLE.

Case presentation:

A 9-year-old boy presented with a 4-week history of alopecic scalp lesions. Notably, the patient had previous contact with cats. Physical examination revealed a 7-centimeter erythematous, scaly, non-scarring alopecic plaque on the vertex. The hair pull test was positive, and no fluorescence was detected under Wood's lamp. Infectious causes were initially considered, particularly tinea capitis, but both fungal and bacterial tests were negative. After removing the crusts, dermoscopy revealed broken hair as well as short vellus hair, perifollicular scaling, pinkish red background, arborising and linear vessels, red follicular dots, follicular keratotic plugs, and the highly specific "red spider on yellow dots" sign. Therefore, we performed a biopsy that confirmed the diagnosis of scalp DLE in its active phase and the patient was started on topical corticosteroids, hydroxychloroquine and oral prednisone.

Discussion:

Discoid lupus erythematosus (DLE) is very uncommon among children. Scalp DLE is one of the main causes of primary cicatricial alopecia. Yet, identifying it in its initial non-scarring stages can be challenging, particularly in pediatric cases, as it can mimic more common causes of alopecia such as tinea capitis or alopecia areata. Trichoscopy has emerged as a valuable tool in evaluating children with alopecia. It enables early diagnosis, differentiation between infectious and inflammatory disorders, evaluation of disease activity and prognosis, and guides biopsy procedures when necessary. Distinctive dermoscopic features of Scalp DLE include follicular keratotic plugs sometimes encircled by arborizing vessels, forming the "red spider on yellow dots" sign. Additionally, whitish and perifollicular scales, speckled brown pigmentation, a pink-white background, red dots, and fibrotic white dots are observed. Most of these trichoscopic findings were evident in our patient.

Conclusion:

Though pediatric DLE is rare, prompt detection and treatment are essential in preventing scarring and permanent hair loss. Hence, dermatologists should remain vigilant of this condition and be attentive to its distinctive dermoscopic features when examining children with alopecia.

Haut du formulaire

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Abstract N°: 6574

Trichoscopic Insights into Folliculitis Decalvans: A 13-case series

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Introduction & Objectives:

Folliculitis decalvans (FD) is a rare neutrophilic scarring alopecia that primarily affects young individuals, with a male predominance. We investigated its trichoscopic features through a hospital-based series.

Materials & Methods:

A retrospective study was conducted at the dermatology department of Hedi Chaker Hospital in Sfax over a period of 3 years (April 2021 to April 2024), including all patients with clinically or histologically diagnosed FD. The Dermlite II PRO dermoscope was used under non-polarized light.

Results:

We included 13 patients. The female-to-male sex ratio was 1.66. Vertex localization was noted in 10 patients (69%) and occipital region involvement was observed in 2 patients. One patient showed histologically confirmed FD of the barbae. Trichoscopy revealed tufted hairs, loss of follicular openings, red-milky areas, and yellowish crusts in all patients. Yellow sliding sheaths, hairpin vessels, and follicular pustules were observed in 50% of patients. The “starburst sign” and “blue blotch” were each found in only one patient. Rosettes were found in the one patient with FD of the barbae.

Conclusion:

Our findings are consistent with those of Uchiyama et al.’s series of 42 cases. FD combines red and yellow signs on trichoscopy. Erythema and perifollicular hemorrhages indicate early inflammation, while follicular pustules, yellow sliding sheaths, and yellow crusts represent neutrophilic infiltrate and serve as markers of activity. Other signs, such as the starburst pattern and blue blotch, are less frequent. The starburst pattern reflects epidermal hyperplasia. It was less commonly reported in our series (12.5% vs. 64%). Blue blotches are round, blue areas without structures. Their mechanism involves chronic inflammation and fibrosis leading to melanocyte proliferation with dermal melanin accumulation. Our case series stands out by the presence of a case of FD of the barbae. This rare localization is only reported in 3 cases of the literature. Rosettes seen in this case are however nonspecific and they represent the optical effect between polarized light and follicular structures.

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Abstract N°: 6577

Perinevoid Alopecia: A Case Report of a Rare Entity

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Introduction & Objectives:

Perinevoid alopecia is a rare variant of alopecia areata that occurs around a central pigmented nevus. Although its pathogenesis is unclear, it is thought to be secondary to an inflammatory response against nevi or melanocytic structures.

Materials & Methods:

We present a male patient with a central brown papule and surrounding alopecia in whom perinevoid alopecia was diagnosed on the basis of clinical and dermoscopic findings.

Results:

A 33-year-old male patient presented with a hairless patch around a newly noticed nevus on his scalp of 2 months' duration. The patient had an unremarkable past medical and family history. He did not describe any local irritation. A dermatological examination revealed a 5-mm diameter brown pigmented papule, surrounded by a 1.5-cm diameter area of non-scarring alopecia in the occipital area. Dermoscopic examination showed a round melanocytic nevus with a cobblestone pattern and a surrounding alopecic patch with short vellus hairs, broken hairs and yellow dots. Wood's light examination of the area of alopecia was negative. The patient refused biopsy. He was followed up for 5 months without treatment. No enlargement of the alopecic area or growth of the nevus was observed. Due to the patient's cosmetic concerns, intralesional triamcinolone acetonide was applied twice with an interval of one month. After treatment, complete hair growth was achieved in the alopecic area.

Conclusion:

Perinevoid alopecia is an extremely rare condition characterised by an alopecic patch with a central nevus. A recent article by Zhang et al reviewed 16 cases from 12 studies between 1976 and 2023. Perinevoid alopecia was found to be more common in male patients. One of the most common localisations was found to be the occipital region, as in our case. Intradermal nevi, compound nevi, combined nevi and blue nevi were found in perinevoid alopecia cases. 5 cases had dermoscopic examination of the alopecic areas and yellow dots, black dots, exclamation mark hairs, vellus hairs and broken hairs were reported. Histopathological examination revealed the inflammatory cell infiltrate in nevus cells, hair follicles and perifollicular areas in 11 cases.

The pathophysiological mechanism of the perinevoid alopecia is still unknown. It is thought that the immune cells around the nevus attack the hair follicles.

The treatment options employed for perinevoid alopecia included surgical excision, intralesional steroid injections, topical steroids and minoxidil 5% solution. As in our case, intralesional steroid injections may also be a good treatment option that may mitigate the local inflammatory response in the region and stimulate hair regrowth.

In conclusion, we report a case of perinevoid alopecia to provide further evidence for the occurrence of this rare entity and the effectiveness of intralesional steroid therapy, particularly for patients who prefer non-surgical interventions.

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Abstract N°: 6646

Diverse Treatments for Alopecia Areata: Efficacy, Safety, and Practical Applications

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Diverse Treatments for Alopecia Areata: Efficacy, Safety, and Practical Applications

Abstract:

Introduction & Objectives:

Alopecia areata is an autoimmune condition characterized by unpredictable hair loss that affects the scalp and other body areas. This abstract aims to evaluate the diverse treatment options available for alopecia areata, focusing on their efficacy, safety, and practical considerations.

Materials & Methods:

A comprehensive review of clinical studies and meta-analyses was conducted to assess various therapeutic strategies for alopecia areata. The data extracted included patient demographics, treatment protocols (topical, systemic, or procedural), clinical outcomes (hair regrowth and patient satisfaction), and adverse event profiles. Primary treatments included corticosteroids, immunosuppressants, biologics, and newer interventions.

Results:

The review highlighted several key treatment modalities:

Topical Corticosteroids: Effective for mild, limited cases with low risk of systemic effects. Results show moderate hair regrowth with potential local side effects like skin atrophy.

Systemic Corticosteroids: Often used for rapidly progressive or widespread disease, providing short-term benefits but associated with significant side effects.

Topical Immunotherapy (DPCP, SADBE): Successful in many patients, leading to sustained hair regrowth after desensitization. Common side effects include pruritus and dermatitis.

JAK Inhibitors: Emerging evidence supports oral JAK inhibitors (tofacitinib, ruxolitinib) for rapid and substantial hair regrowth in severe cases, though high recurrence rates and potential side effects necessitate further study.

Biologics (Dupilumab): Under investigation, showing some promise in clinical trials.

Light-Based Therapies: Laser and phototherapy have been tried, with mixed results and limited evidence.

Platelet-Rich Plasma (PRP): Offers promising results for some patients, with a favorable safety profile and minimal side effects.

Conclusions:

Alopecia areata requires a personalized treatment approach due to the unpredictable nature of the condition. Current treatments range from topical and systemic corticosteroids to newer agents like JAK inhibitors. While many treatments demonstrate varying levels of efficacy, the choice should consider the patient’s condition

severity, treatment tolerance, and potential adverse effects. Future research should focus on long-term safety data, combination therapies, and more targeted approaches to optimize outcomes and minimize relapse rates.

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Abstract N°: 6658

Efficacy and Safety of Topical GT20029 Solution in Chinese Adult Males with Androgenetic Alopecia: Results of a Randomized, Double-blind, Vehicle-controlled, Multicenter Phase II Study

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Introduction & Objectives:

Androgenetic alopecia (AGA) affects approximately 21.3% of Chinese male adults [1]. Current standard of pharmaceutical care includes topical 5% minoxidil and oral finasteride [2]. GT20029 is an innovative, first-in-class topical Androgen Receptor Proteolysis Targeting Chimera (AR-PROTAC) drug candidate currently under clinical development for AGA and acne vulgaris. GT20029 recruits AR in proximity to an E3 ubiquitin ligase to initiate AR ubiquitination and its subsequent degradation.

Materials & Methods:

Chinese adult male patients with Hamilton-Norwood IIIv-V AGA were randomly assigned in a 1:1:1:1:1:1 ratio to six groups, 0.5% GT20029 QD [once daily], 1.0% GT20029 QD, vehicle QD, 0.5% GT20029 BIW [twice weekly], 1.0% GT20029 BIW, and vehicle BIW. Treatment duration was 12 weeks. This trial was registered at chinadrugtrials.org.cn (CTR20230669).

Primary efficacy endpoint was change from baseline (CFB) of target area hair counts (TAHC) at week 12. Secondary efficacy endpoints include CFB of TAHC at week 6 and CFB of target area hair diameters (TAHW) at week 6 and week 12.

Safety endpoints include incidence, type, severity, causality of treatment-emergent adverse events (TEAE).

Results:

The trial enrolled 180 subjects, of which 179 received the allocated treatment (**Figure 1**). Demographics and baseline characteristics were overall balanced between groups (**Table 1**).

Primary efficacy endpoint

TAHC at week 12 were increased from baseline for all GT20029 groups (P<0.001 for all). For the QD dosing groups (**Figure 2A**), 0.5% QD was superior to vehicle QD with statistically significant and clinically meaningful difference (Difference of least squares mean ± standard error 6.69±3.10 hairs/cm2, P=0.032). For the BIW dosing groups (**Figure 2B**), 1.0% BIW was superior to vehicle BIW with statistically significant and clinically meaningful difference (7.36±3.21 hairs/cm2, P=0.023).

Secondary efficacy endpoints

TAHC at week 6 were increased from baseline for all GT20029 groups (**Figure 3A**). 0.5% BIW showed statistically significant greater increase of TAHC at week 6 compared to vehicle BIW (9.80±3.79 hairs/cm2, P=0.011). TAHW at week 6 and week 12 were increased from baseline for all GT20029 groups (**Figure 3B**). Compared to vehicle BIW, 0.5% BIW showed statistically significant greater increase of TAHW at week 6 (0.50±0.23 mm/cm2, P=0.032) and 1.0% BIW showed statistically significant greater increase of TAHW at week 12 (0.56±0.22 mm/cm2, P=0.011).

Safety

TEAEs occurred in 58 (49.2%) subjects for the GT20029 groups and 33 (54.1%) subjects in the vehicle groups. Treatment-related adverse events (TRAE) occurred in 17 (14.4%) subjects for the GT20029 groups and 5 (8.2%) subjects for the vehicle groups. TRAEs with incidence ≥5% in any group were application site pruritus and application site dermatitis. No treatment-related serious adverse events, discontinuation due to TRAE, or sexual dysfunction occurred (**Table 2**).

Conclusion:

As the first PROTAC in dermatological disorders, topical GT20029 has exhibited promising efficacy in male AGA as well as great safety profile. Furthermore, less frequent dosing may provide a more convenient treatment option for male AGA patients.

References

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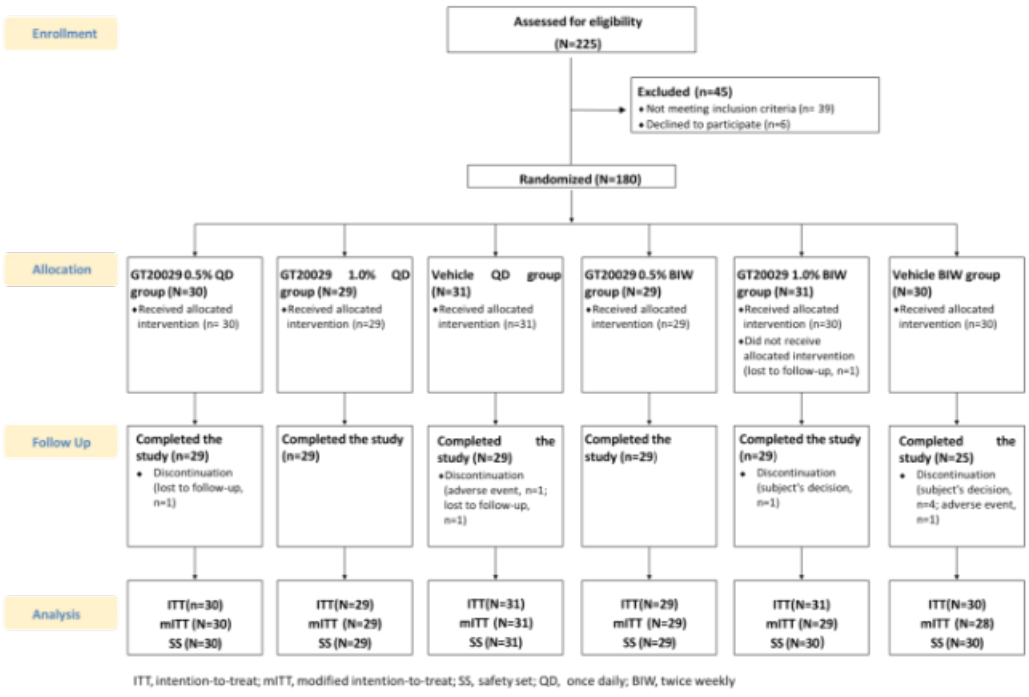
Figure 1 Subjects disposition



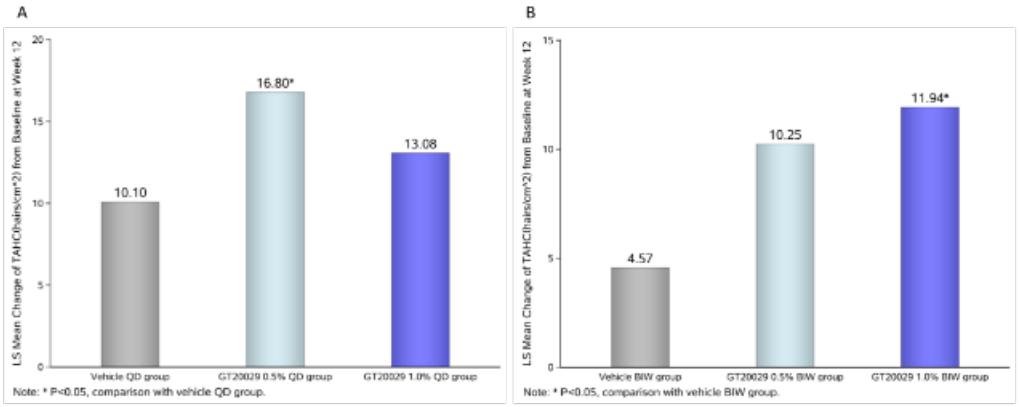
ITT, intention-to-treat; mITT, modified intention-to-treat; SS, safety set; QD, once daily; BIW, twice weekly

Table 1 Demographic and baseline characteristics

	0.5% QD (N=30)	1.0% QD (N=29)	Vehicle QD (N=31)	0.5% BIW (N=29)	1.0% BIW (N=31)	Vehicle BIW (N=30)	Total (N=180)
Age, years, mean (SD)	32.5 (5.69)	31.2 (8.41)	32.3 (9.10)	32.1 (6.36)	32.2 (6.98)	31.2 (7.24)	31.9 (7.31)
Male, n (%)	30 (100.0)	29 (100.0)	31 (100.0)	29 (100.0)	31 (100.0)	30 (100.0)	180 (100.0)
Ethnicity Chinese Han, n (%)	29 (96.7)	28 (96.6)	30 (96.8)	28 (96.6)	29 (93.5)	30 (100.0)	174 (96.7)
BMI, kg/m^2, mean (SD)	25.33 (4.700)	24.85 (3.972)	25.92 (3.698)	25.00 (3.106)	25.09 (3.374)	24.75 (4.098)	25.16 (3.827)
Hamilton-Norwood, n (%)							
IIIv	9 (30.0)	12 (41.4)	13 (41.9)	13 (44.8)	10 (32.3)	11 (36.7)	68 (37.8)
IV	14 (46.7)	10 (34.5)	11 (35.5)	10 (34.5)	16 (51.6)	13 (43.3)	74 (41.1)
V	7 (23.3)	7 (24.1)	7 (22.6)	6 (20.7)	5 (16.1)	6 (20.0)	38 (21.1)
TAHC, hairs/cm^2, mean (SD)	116.35 (22.339)	105.13 (29.008)	119.20 (23.302)	115.05 (31.092)	117.42 (29.549)	119.70 (24.827)	115.56 (26.899)
TAHW, mm/cm^2, mean (SD)	6.19 (1.502)	5.84 (1.993)	6.17 (1.393)	6.22 (2.191)	6.61 (1.940)	6.54 (1.997)	6.27 (1.845)
Time since initial AGA diagnosis, years, mean (SD)	0.334 (1.0079)	0.533 (1.5909)	0.557 (1.8923)	0.589 (1.5104)	0.339 (1.1359)	0.478 (1.4885)	0.471 (1.4502)
Family history of AGA, n (%)	12 (40.0)	17 (58.6)	18 (58.1)	16 (55.2)	14 (45.2)	20 (66.7)	97 (53.9)
Prior treatment of AGA, n (%)	3 (10.0)	4 (13.8)	3 (9.7)	2 (6.9)	2 (6.5)	3 (10.0)	17 (9.4)

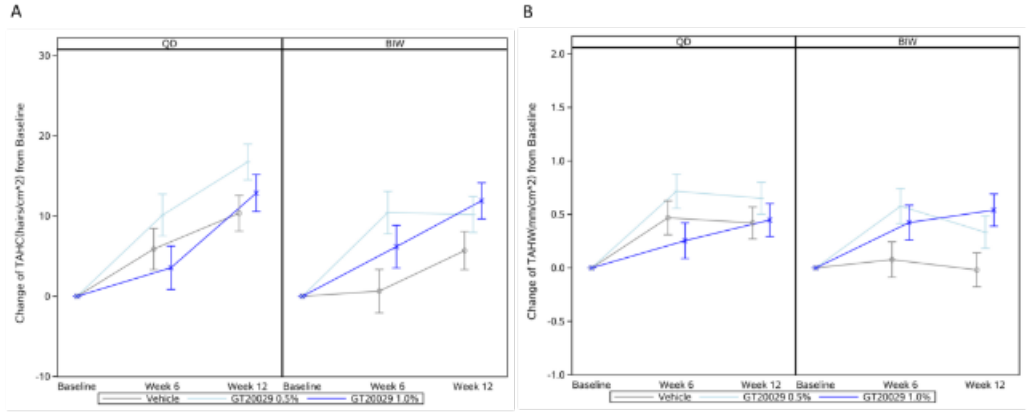
BMI, body mass index; SD, standard deviation; TAHC, target area hair counts; TAHW, target area hair width; AGA, androgenetic alopecia; QD, once daily; BIW, twice weekly

Figure 2 (A) Change of TAHC from baseline at Week 12 in QD groups (B) Change of TAHC from baseline at Week 12 in BIW groups



Covariance analysis (ANCOVA) was used to calculate the least squares means of the change in TAHC at week 12 from baseline for each group

Figure 3 (A) Change of TAHC from baseline at week 6 and week 12 in QD and BIW groups (B) Change of TAHW from baseline at week 6 and week 12 in QD and BIW groups



Data were presented as least squares mean ± standard error
Mixed-Effects Model for Repeated Measures (MMRM) was used to calculate the least squares means of the changes in TAHC and TAHW at weeks 6 and 12 from baseline for each group

Table 2 Treatment-emergent adverse events

	0.5% QD (N=30)	1.0% QD (N=29)	Vehicle QD (N=31)	0.5% BIW (N=29)	1.0% BIW (N=30)	Vehicle BIW (N=30)	GT20029 Combined (N=118)	Vehicle Combined (N=61)	Total (N=179)
TEAE	12 (40.0)	17 (58.6)	17 (54.8)	14 (48.3)	15 (50.0)	16 (53.3)	58 (49.2)	33 (54.1)	91 (50.8)
Grade 3 or higher	0	1 (3.4)	0	1 (3.4)	1 (3.3)	1 (3.3)	3 (2.5)	1 (1.6)	4 (2.2)
TEAE leading to treatment discontinuation	0	0	1 (3.2)	0	0	1 (3.3)	0	2 (3.3)	2 (1.1)
TEAE leading to study withdrawal	0	0	1 (3.2)	0	0	1 (3.3)	0	2 (3.3)	2 (1.1)
SAE	0	0	0	0	0	1 (3.3)	0	1 (1.6)	1 (0.6)
TRAE	3 (10.0)	5 (17.2)	3 (9.7)	5 (17.2)	4 (13.3)	2 (6.7)	17 (14.4)	5 (8.2)	22 (12.3)
Grade 3 or higher	0	0	0	0	0	0	0	0	0
TRAE leading to treatment discontinuation	0	0	0	0	0	0	0	0	0
TRAE leading to study withdrawal	0	0	0	0	0	0	0	0	0
Treatment-related SAE	0	0	0	0	0	0	0	0	0
TRAE with incidence≥5% in any group									
Application site pruritus	1 (3.3)	5 (17.2)	1 (3.2)	1 (3.4)	3 (10.0)	2 (6.7)	10 (8.5)	3 (4.9)	13 (7.3)
Application site dermatitis	0	0	0	2 (6.9)	0	0	2 (1.7)	0	2 (1.1)

Adverse events were coded using MedDRA 26.1. Severity of adverse events was graded using DAIDS (Division of AIDS) V2.1. TEAE, treatment-emergent adverse events; TRAE, treatment-related adverse events; SAE, serious adverse events. Data are presented as n (%)

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Abstract N°: 6661

Pigmented onychomatricoma mimicking nail apparatus melanoma: a rare and unknown differential diagnosis

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Introduction & Objectives:

Onychomatricoma (OM) is a rare benign fibroepithelial tumor arising from the nail matrix more frequently described in light-skinned female individuals. The diagnosis of OM is made through the classical clinical and histopathological signs associated with complementary diagnostic methods (table 1). Melanonychia is a rare clinical presentation of OM, and, in this case, it is termed pigmented onychomatricoma (POM). We report a case of this rarely variant of OM.

Table 1: Clinical, dermoscopy and histopathology signs found in onychomatricoma.

Clinical features	Dermoscopy	Histopathology
▪ Localized or diffuse thickening of the nail plate ▪ Splinter hemorrhage ▪ Xanthonychia ▪ Transverse overcurvature ▪ Presence of holes in the distal margin of the nail plate	▪ Longitudinal parallel white lines ▪ Parallel lesion edges ▪ Splinter hemorrhages ▪ Thickening of the free edge with multiple woodworm-like or honeycomb cavities	▪ Fibroepithelial lesion originating from the ungual matrix ▪ Filiform projections into the nail plate ▪ An epithelial lining and fibromyxoide stroma ▪ **Immunohistochemical** expression of CD34 by stromal tumor cells

Materials & Methods:

Results:

We report a case of a 63-year-old phototype V woman presented with a 2-year history of asymptomatic melanonychia of the right great toe. The patient denied any previous history of trauma.

Physical examination demonstrated a longitudinal black band extending from the proximal nail matrix to the distal free edge. There was an extension of pigmentation on the proximal nail fold and cuticle.

There was thickening of the nail plate with transverse overcurvature and presence of holes in the distal margin.

Dermoscopy showed melanonychia with parallel white line and multiple cavities in the free edge. During surgery, a firmly attached finger-like pigmented tumor was observed originating from the nail matrix.

In the anatomopathological examination we observed a fibroepithelial tumor, in the region of the nail matrix, with the formation of papillae covered by epithelium similar to that of the matrix and stroma with proliferation of monomorphous spindle cells. In areas, we observed evident melanic pigmentation of the tumor epithelium and melanophages in the superficial stroma. The tumor papillae project towards the proximal portion of the nail plate, which exhibits pachyonychia and small rounded cavitations related to the tumor projection points and sometimes filled with serum. Immunohistochemically, stromal cells diffusely expressed CD34.

The set of clinical, dermoscopic and histological features confirmed the diagnosis of POM.

Conclusion:

POM has been considered an extremely rare nail tumor with only a few cases described in the literature (table 2). The differential diagnosis is significantly different from classical OM, and includes pigmented Bowen's disease, pigmented onychomycosis and subungual melanoma.

Table 2: Features found in previously published cases

Study	Case	Year	Country	Ethnicity/phototype	Age	Gender	Duration	Location			Trauma
Fayol et al	1	2000	France	NR	64	Male	NR	Left	2nd	Toe	NR
	2				50	Male		Left	4th	Toe	
	3				24	Female		Right	Great	Toe	
Fanti et al	4	2015	Italy	NR	72	Female	3 years	Right	2nd	Finger	No
Wynes et al	5	2015	USA	NR	63	Male	12 months	Left	3rd	Toe	No
Ocampo-Garza et al	6	2017	Brazil	Type IV skin	52	Female	3 years	Right	Great	Toe	Yes
	7			Type III skin	31	Male	5 years	Right	5th	Toe	Yes
	8			Type IV skin	48	Male	2 years	Right	3rd	Finger	Yes
	9			Type IV skin	45	Male	3 years	Right	2nd	Toe	No
Isales et al	10	2018	USA	NR	48	Male	15 months	Right	3rd	Finger	Yes
Jung et al	11	2018	South Korea	Asian skin (phototype not specified)	67	Male	8 months	Left	Great	Toe	NR
West et al	12	2018	USA	NR	40	Male	12 months	Left	2nd	Toe	NR
Madi et al	13	2019	Lebanon	Dark-skinned (phototype not specified)	23	Male	NR	Right	Thumb	Finger	Yes
Nguyen at al	14	2019	USA	NR	47	Female	2 years	Right	3rd	Finger	Yes
Peruilh-Bagolini et al	15	2021	Chile	NR	62	Male	2 years	Left	3rd	Finger	NR
Kuriyama et al	16	2021	Japan	East Asian skin (phototype not specified)	53	Male	2 years	Right	Great	Toe	NR
Kameda E et al	17	2022	Japan	Japanese (phototype not specified)	63	Male	10 years	Right	Great	Toe	NR
Park SJ et al	18	2022	South Korea	NR	47	Male	16 years	Right	Thumb	Finger	Yes
Grover et al	19	2023	India	Indian/Phototype IV	41	Female	10 years	Left	3rd	Finger	NR
Current case	20	2024	*****	Type V skin	63	Female	2 years	Right	Great	Toe	No

According to reported cases, this variant preferentially affected males (70%) and involved the toenails in 60% of cases, as opposed to classic OM. In addition to our case, the literature review found that among the 19 reported cases, 9 mentioned characteristics of the patients' skin. All of these reported phototype III to V or asian or dark skin.

The presence of an extension of pigmentation on the proximal nail fold and cuticle in our case is consistent with pseudo-Hutchinson's sign. There are several conditions associated with non-melanoma Hutchinson's sign as ethnic pigmentation, infections, traumas, tumours of the nail unit.

These differences can cause delays in diagnosis. Familiarity with POM is important as it is within the clinical and histologic differential of nail unit melanoma. The recognition of key characteristic features of POM is essential for early suspicion and appropriate management of this rare tumor.

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Abstract N°: 6736

Essential syphilitic alopecia: a trichologic challenge

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Introduction

Syphilis is a systemic STD caused by Treponema pallidum. It represents a worldwide public health concern, with a global increasing incidence of 5.6 million new cases per year. The first manifestation of primary syphilis is the chancre. If left untreated, the disease progresses to secondary and tertiary syphilis, with varied clinical presentations. Syphilitic alopecia (SA) is an inflammatory, non-scarring form of alopecia that represents around 2-4% of secondary syphilis manifestations.

Case report

A 32-year-old male presented with a 4-month history of hair loss. On physical examination, multiple, oval-to-round, ill-defined patches of alopecia affected the whole scalp. Trichoscopy revealed absence of terminal hairs, presence of vellus hairs, and discrete telangiectasias over the patches. The rest of the physical exam appeared normal. The patient denied practicing high risk sexual activities and previous venereal diseases. However, based on the clinical image, syphilis tests were requested. The Venereal Disease Research Laboratory test (VDRL) title was 1:128, followed by a positive fluorescent treponemal antibody absorption test. Laboratory examinations excluded other sexually transmitted diseases (STDs). Hence, the diagnosis of essential syphilitic alopecia (SA) was established. The patient received a single dose of benzathine penicillin G 2.4 million units intramuscularly. At the 6-month follow-up, patches of alopecia resolved, VDRL titles decreased to 1:32, and control testing for other STDs was negative. At the 2-year visit, VDRL was negative.

Discussion

SA predominantly affects middle-aged males. The disease can virtually involve all hair-bearing areas, but often presents in the scalp, eyebrows, eyelashes, and beard region. Two types of SA have been described: symptomatic and essential. The first refers to the presence of an accompanying papulosquamous rash on the scalp, while the latter only shows hair loss. Essential SA typically presents as a “moth-eaten” patchy alopecia, showing poorly defined areas of decreased hair density. There are also diffuse and mixed patterns which may be harder to diagnose. The differential diagnoses include tinea capitis, alopecia areata, trichotillomania, and telogen effluvium.

Trichoscopy and histopathology may provide diagnostic clues, but the definitive diagnosis is established by a positive non-treponemal test followed by a positive treponemal test. SA trichoscopic findings include absence of terminal hairs, presence of broken hairs, vellus hairs, and dilated capillaries. Usually, a plasmocytic infiltrate can be observed on histopathology, and spirochetes can be found invading the hair follicle with immunohistochemistry.

The treatment of choice is a single, intramuscular dose of benzathine penicillin G 2.4 million units. A fourfold yearly decrease in VDRL titles indicates an adequate therapeutic response.

Conclusion

Essential SA may mimic other more trivial forms of alopecia. Therefore, the clinical presentation, trichoscopic findings, and adequate interrogation are crucial for raising suspicion of this diagnosis, despite being no apparent cause for concern. SA successfully resolves after treatment without sequelae or further disease progression.

However, it is vital to exclude other STDs and educate patients about high-risk sexual behaviors and regular screening, particularly due to increasing worldwide syphilis incidence.

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Abstract N°: 6761

Regenerative hair solutions: from exosomes to dutasteride

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Introduction & Objectives:

Hair loss is dermatological problem which can have an important impact on the social and psychological aspect of the patient. Androgenetic alopecia (AGA) is the most common form and varies by age, sex, and ethnicity. It is more common in men, but women are also affected. Hair loss has its pathogenic origin, both genetic and hormonal, in association with other factors such as microinflammation, concomitant diseases, vitamin alterations, especially in women. The objective is to evaluate the safety and effectiveness of an intradermal solution with plant exosomes and dutasteride, plus home treatment for hair loss.

Materials & Methods:

27 patients of both sex with androgenetic alopecia were treated intradermally with a solution containing 0.05 dutasteride, Aloe Vera exosomes, copper peptides and vitamin B complex. The protocol consisted of 6 sessions every month. At each session, 2 ml were administered by nappage and point-by-point technique at 2 mm depth. The clinical phase was completed with home treatment consisting on lotion, shampoo and nutritional supplements based on Aloe Vera exosomes, peptides, vit B complex and zinc. In vitro and ex vivo biodistribution studies were performed to determine the targets on which the key active ingredients act.

Results:

Data showed a clinical improvement registered by standard photography. In vitro results evidenced a decrease 5 alpha-reductase type 2 gene (SRD5A2), an increase in VEGF, important for the vascular component, and an increase in Wnt, which contributes to the onset of anagen. Microscopy results showed a reduction in sebum production Ex vivo biodistribution studies proved that ingredients targeted the pilosebaceous unit.

Conclusion:

We offer another solution for hair therapy which can be helpful for restoring this dermatological problem.

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Abstract N°: 6827

Mechanism study of Baicalin on hair promotion via inhibiting TLR4/NF-κB signaling pathway

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Introduction & Objectives: To investigate the promotional effect of baicalin (BAI) on hair regeneration and its potential mechanism of action.

Materials & Methods: In this study, a hair regeneration homogenisation model was established using female C57BL/6J mice, and hair follicle development was assessed by skin follicle development images and appearance scores at different time points. Histological analyses were performed using H&E staining to calculate the number, length, diameter of hair follicles and skin thickness. A combination of network pharmacology and experimental validation to identify target proteins and signalling pathways of BAI to promote hair growth. Protein expression associated with the TLR 4/NF-κB pathway was assessed by Western Blot and the anti-inflammatory properties of BAI were confirmed using an in vitro LPS-induced inflammation model.Intermolecular interactions between BAI and CD14 were assessed using molecular docking, DARTS, CETSA and ITDRF techniques. The effect of BAI on LPS-induced inflammatory responses was observed by constructing a CD14-silenced HaCaT cell model.

Results: Animal experiments showed that BAI could concentration-dependently promote the advancement of hair follicles into the anagen phase in mice. Significant enhancement of hair follicle number, length, diameter and skin thickness was observed in BAI-treated mice. Network pharmacology analysis highlighted the importance of inflammatory cytokines such as IL-6, IL-1β, and TNF-α in BAI-promoted hair growth. GO and KEGG analyses indicated that BAI promoted hair regeneration by modulating inflammatory pathways, particularly Toll-like receptors and NF-κB signaling pathway. WB experiments showed that BAI significantly reduced the expression of proteins related to TLR4/NF-κB signaling pathway in mice. CCK-8 results indicated that BAI reversed the inhibitory effect of LPS on the proliferation of HaCaT cells and DPCs. EdU and wound healing assays confirmed the promotional effect of BAI on the proliferation and migration ability of HaCaT cells. Immunofluorescence staining showed that BAI inhibited LPS-induced NF-κB p65 nuclear translocation and CD14 expression. WB results indicated that BAI significantly down-regulated the expression of TLR4/NF-κB signaling pathway-related proteins in HaCaT cells and DPCs. Molecular docking and target stability assay demonstrated that BAI had stable binding to CD14. In CD14-silenced HaCaT cells, BAI lost its anti-inflammatory effect and was unable to inhibit LPS-induced NF-κB p-p65 activation and inflammatory factor increase.

Conclusion: The study demonstrated that BAI inhibits the activation of TLR4/NF-κB signaling pathway through intermolecular interactions with CD14, exerts anti-inflammatory effects and promotes hair regeneration. This research provides significant molecular mechanisms and experimental evidence for the development of new hair regeneration treatment strategies.

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Abstract N°: 6862

Human transformed skin-derived precursors exosomes containing miR-221-3p promote hair regeneration through DKK2-mediated Wnt/β-catenin signaling pathway

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Title：Human transformed skin-derived precursors exosomes containing miR-221-3p promote hair regeneration through DKK2-mediated Wnt/β-catenin signaling pathway

Introduction & Objectives:

Pathological alopecia is common in a variety of skin diseases, involving a large number of people, its premature aging tired appearance leads to patients introverted, low self-esteem, depression and even suicidal tendencies, causing a great burden to the family and society. Stem cells and their paracrine products are emerging treatments for alopecia. Many previous treatments applying stem cell have been limited by the cell quantity and quality. We developed a new stem cell culture model, hoping to verify the role of human transformed skin-derived precursors (hSKPs) and their paracrine products in promoting hair growth under this model, and to discover new mechanisms regulating this role.

Materials & Methods:

The bottleneck of hSKPs mass production was broken through 3D directed induced transformation technology, a large number of exosomes derived from hSKPs were obtained by using ultra-high-speed centrifugation technology, and the extracellular vesicles derived from human transformed skin precursor cells were used for intervention experiments on hair follicle cells, in vitro hair follicles and animal models, and transcriptome sequencing was performed. The miRNA with the highest differential expression were screened out, and their downstream regulatory mechanisms were explored through subsequent in vivo and in vitro experiments.

Results:

By regulating the Wnt/β-catenin signaling pathway, the exosomes derived from hSKPs promote the proliferation of HFSCs and DPCs, the growth of isolated hair follicles, and the hair transition to the growth phase in alopecia mouse models, and prolong the growth phase. Proteins and miRNAs contained in exosomes derived from hSKPs can regulate multiple signaling pathways in hair follicles, thus promoting hair follicle growth and cycle transformation. The sequencing results showed that miR-221-3p may be the key molecule. In this study, by constructing a miRNA transfection vector and intervening the back hair follicles of mice, it was found that, compared with the blank group, miR-221-3p could induce the entry of mouse hair follicles and prolong the growth period. Dual luciferase reporting experiments confirmed the targeting relationship between miR-221-3p and the negative regulatory protein DKK2 upstream of the Wnt signaling pathway. After transfecting miR-221-3p into dermal papilla cells, we observed that miR-221-3P down-regulated DKK2 expression, activated Wnt pathway, and promoted cell proliferation and migration.

Conclusion:

Therefore, we believe that 3D directed induced transformation technology can solve the problem of mass production of hSKPs, and its exosomes can promote hair growth. Further exploration has found that miR-221-3p can down-regulate DKK2 expression in dermal papillae cells, activate Wnt signaling pathway, and then positively

regulate hair follicle growth cycle, which may become a new target for the treatment of androgenic alopecia.

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Abstract N°: 6877

Traction alopecia secondary to an oxygen mask in a child: a case report

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Introduction & Objectives:

Traction alopecia is a form of traumatic hair loss characterized by a loss of hair followed by secondary alopecia due to tension on the hair shaft. It can manifest in acute or chronic forms, whether intentional or accidental, self-inflicted or inflicted by others. We report the case of a child who developed traction alopecia secondary to prolonged wearing of an oxygen mask.

Materials & Methods:

Results:

This concerns a 2-year-old girl hospitalized in the pediatric ward for management of bronchoalveolitis. The patient was treated with antibiotics and a high-concentration oxygen mask for one week.

The clinical examination revealed alopecic patches on the occipital and temporal areas, with a negative traction sign. Dermoscopic examination found white dots and a reduction in hair follicles, with no perifollicular erythema or yellow dots. Additionally, the patient exhibited brownish plaques resembling scars on her face, localized on the nose and cheeks where the oxygen mask was placed. Dermoscopy showed a salt-and-pepper appearance.

Traction alopecia predominantly affects women, primarily due to hair styling practices. Excessive pulling of the hair through various hairstyles can lead, prior to the onset of traction alopecia, to a painful and usually non-infectious irritative folliculitis. However, the cause can also be iatrogenic, as seen in this young girl who experienced traction alopecia following prolonged use of an oxygen mask.

Unfortunately, there is no approved treatment for traction alopecia. The medical treatment for early cases includes topical corticosteroids applied by the patient at home, sometimes combined with corticosteroid injections. Therapeutic abstention was recommended for our patient.

Conclusion:

Traction alopecia is typically diagnosed through a clinical examination. A dermatoscope may be used to visualize the affected area. In rare cases, a skin biopsy may be performed to exclude other forms of alopecia.

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Abstract N°: 6965

Alopecia areata involves beard hair as commonly as scalp hair in post-pubescent males- implications for the morphological classification and scoring of disease

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Introduction & Objectives:

Alopecia Areata (AA) involves the terminal hair on any body site but clinical studies mostly concentrate on AA of scalp hair. This study aims to assess the frequency of involvement of scalp hair, beard hair, eyebrows, eyelashes and body hair in patients with AA and analyze whether the beard hair is involved as commonly as scalp hair in post-pubescent males.

Materials & Methods:

Data of patients of AA registered over 2-years at our institute was analyzed for the site(s) of involvement, morphological type of disease, and associated cutaneous/medical disorders.

Results:

A total of 410 patients (242 males and 168 females) of AA were seen over the 2-year period and among them, scalp involvement was seen in 198 patients (48.3%), beard hair alone was involved in 70 patients (17.1%) and both beard and scalp hair were involved in 46 (11.2%) patients. Among the 242 males, 184 males were >17 years of age and in this subgroup about 63% (116/184) patients had beard hair involvement with or without scalp hair involvement. Multifocal type was the commonest morphological type of AA seen while some patients with extensive involvement of scalp, beard and body hair could not be classified into any known morphological type. We propose the term Alopecia Subuniversalis for this pattern of involvement.

Conclusion:

With beard hair being involved as commonly as scalp hair, we propose the use of a composite scoring that can assess the severity of AA on beard hair, eyebrows and eyelashes. We also propose an additional morphological type ‘Alopecia Subuniversalis’ to describe extensive involvement of scalp and other hair bearing areas on face and body.

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Abstract N°: 7006

Management of Androgenetic Alopecia with Botulinum toxin A injections : A series of 10 cases

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Introduction & Objectives:

Androgenetic alopecia(AGA) affects around 58% of males in the age group of 30-50 years. Recently, injections of Botulinum Toxin A into the scalp musculature have been postulated to show good results in androgenetic alopecia. We present here a series of 10 cases of androgenetic alopecia who received Botulinum A toxin injections.

Materials & Methods:

A total of 10 male patients with different grades of AGA (ranging from 3 to 5 on the Hamilton Norwood scale) were selected and informed consent was taken. After the initial assessment, the patients were administered Botulinum A toxin injections intramuscularly into the scalp at 30 fixed points covering the periauricular, frontal, temporal and occipital muscles. The toxin was prepared by diluting 100 units in 2.5 ml Normal Saline. The dose of the toxin ranged from 60 units to 100 units depending upon the grade of alopecia. The dose was divided equally among the injection sites. The procedure was repeated once monthly for 3 months. The patients were called for a follow up visit at six months. Self assessment scores were taken and photographic assessment and trichoscopy were done at baseline, 3 and 6 months.

Results:

Ten patients with AGA grades ranging from 3 to 5 were managed with this intervention. Of these one patient was lost to follow up after one session. Nine patients received the treatment at monthly interval for 3 months. Of these, at 3 months , 4 patients reported good response to the treatment while 2 patients reported excellent response. At the end of 6 months, 8 patients reported that they were satisfied with the treatment, of whom, 3 reported excellent response while 5 reported good response. On trichoscopy, there was improvement in the parameters of yellow dots, hair diversity and perifollicular hyperpigmentation.

On photographic assessment, more than 25 % improvement could be seen in 6 patients at 3 months, while more than 50 % improvement was seen in 8 patients at 6 months. One patient showed 25% improvement after 6 months. The improvement seen in the case series corresponds to the results shown in the previous studies by Singh et al, Zhou et al and El- Gamal et al.1,2,3

Adverse effects were minimal and transient and included mild pain post procedure in 2 patients.

However, the series is limited by small sample size and the inclusion of limited grades of alopecia. Hair counts were not performed as part of the study. Bigger studies with a more diverse range of patients need to be performed to further determine the efficacy.

Conclusion:

Botulinum toxin A is a safe and effective modality of treatment for management of AGA. The ease of administration and simplicity of preparation make it an effective tool in the dermatological armamentarium.

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Abstract N°: 7101

A Covid pandemic purchase repurposed as a novel treatment in Alopecia Areata.

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Introduction & Objectives:

Alopecia areata (AA) represents a complex autoimmune disorder characterized by the sudden onset of non-scarring hair loss, a condition that extends far beyond mere physical manifestations, often inflicting profound emotional and psychosocial distress on those affected. While the scalp serves as the primary battleground, AA is indiscriminate in its targets, capable of causing hair loss in any hair-bearing area of the body. This unpredictability further compounds the challenges faced by individuals grappling with this enigmatic condition, as the loss of hair can be persistent or follow a relapsing-remitting course, casting a shadow of uncertainty over their lives.

Materials & Methods:

We present a 46-year-old female with a longstanding history of alopecia universalis, a chronic hair disorder characterized by extensive non-scarring hair loss across the body, including the scalp, eyebrows, and eyelashes. The condition has inflicted significant psychological distress on the patient since its onset in 2005, with all previous systemic treatments available in South Africa proving unsatisfactory.

Despite its rarity of the drug availability in state hospitals in South Africa, Baricitinib was located at our centre. This was initially purchased for COVID-19, to be used during the pandemic. It was only made available to dermatology after four months of rigorous advocacy efforts. Following approval from the hospital's Pharmacy and Therapeutics Committee (PTC). The patient was commenced on treatment at a dose of 4 mg daily orally of Baricitinib. However, after three months of treatment, minor improvements in growth of hair have been observed till date but it is still early in treatment regimen but treatment is ongoing and a promising outcome looms on the horizon.

Results:

Our presentation unveils one of the first recorded case of AA in Africa utilizing Baricitinib as a treatment, in our resource limited setting. AA, an autoimmune disease, manifests as non-scarring hair loss on the scalp and other areas, profoundly impacting on a patient life both physically and psychologically. While a myriad of therapies, both topical and systemic, have been harnessed off-label for severe AA, the emergence of Baricitinib marks a paradigm shift as treatment of AA.

Despite its official endorsement solely for rheumatoid arthritis in our country, our repurposing of Baricitinib have yielded promising outcomes in addressing alopecia universalis, a testament to the versatility and adaptability of existing medications. Through our presentation, we shine a spotlight on the transformative potential of repurposed medications in addressing unmet medical needs, offering a ray of hope to individuals grappling with the debilitating effects of AA.

Conclusion:

Baricitinib presents a beacon of hope amidst the tumult of AA. As an oral, selective, reversible inhibitor of Janus kinases 1 and 2 (JAK1/2), Baricitinib presents a novel therapeutic approach to tackling AA by disrupting the intricate cytokine signalling pathways implicated in its pathogenesis. This innovative therapy, recently approved by the US Food and Drug Administration (FDA) in June 2022, marks a significant milestone as the first-ever FDA-

approved treatment specifically targeting severe alopecia areata. The advent of Baricitinib represents a beacon of hope in the quest for effective treatments.

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Abstract N°: 7148

Efficacy of Platelet-rich Plasma Derived Exosome for Enhancing Hair Growth: In Vivo Study on Mice Model of Androgenetic Alopecia

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Introduction & Objectives:

Androgenetic alopecia (AGA) is a gradual reduction of terminal hair follicles (HFs) on the scalp, caused by androgen influence, particularly dihydrotestosterone. AGA is an autosomal dominant condition characterized by a shortened duration of the active growth phase (anagen phase) and an increased duration of the resting phase (telogen phase) in HFs. Consequently, there is a disruption in the hair growth cycle whereby terminal HFs gradually transform into short, thin, non-pigmented vellus HFs with a shorter growth period. This process is known as miniaturization, eventually leading to baldness.

Effective therapeutic options for treating baldness in AGA are still limited despite the high prevalence of this condition. Platelet-rich plasma exosomes (PRP-Exo) exhibit higher expression of platelet-derived growth factor-BB, transforming growth factor beta 1, basic fibroblast growth factor, and vascular endothelial growth factor compared to conventional platelet-rich plasma forms. Additionally, PRP-Exo is more stable and can be applied at a later time after preparation. Investigating the effectiveness of PRP-Exo as an alternative treatment candidate for AGA holds great potential for further development. Based on these considerations, the researchers were interested in investigating the efficacy of PRP-Exo without activator on an AGA mice model in terms of hair follicle density and anagen to telogen ratio.

Materials & Methods:

Induction of AGA was performed by subcutaneous injection of 0.1 cc of testosterone on the dorsal skin of the mice, once daily for 10 days. Subsequently, the mice were divided into two different groups: the control group, which received testosterone induction without further treatment, and the treatment group, which received testosterone induction followed by subcutaneous injection of 0.1 cc of PRP-Exo on days 11, 18, and 25. Injections were administered at a marked point on the dorsal area using a waterproof marker. After the completion of the treatments, the mice were returned to their respective cages.

Measurement of the test results was conducted on day 32 by collecting skin tissue from the treated area on the dorsal skin of the mice using a 2×2 cm excision biopsy method extending to the subcutaneous layer. Histopathology specimens were prepared using hematoxylin and eosin (HE) staining.

The ethical considerations of this research were overseen by the Health Research Ethics Committee of the hospital, in accordance with the guidelines outlined in the Helsinki Declaration regarding the use of laboratory animals.

Results:

Histopathological examination results regarding hair follicle density using HE staining are shown in Figure 1 and Table 1. Evaluation in both groups indicated an increase in hair follicle density in the treatment group.

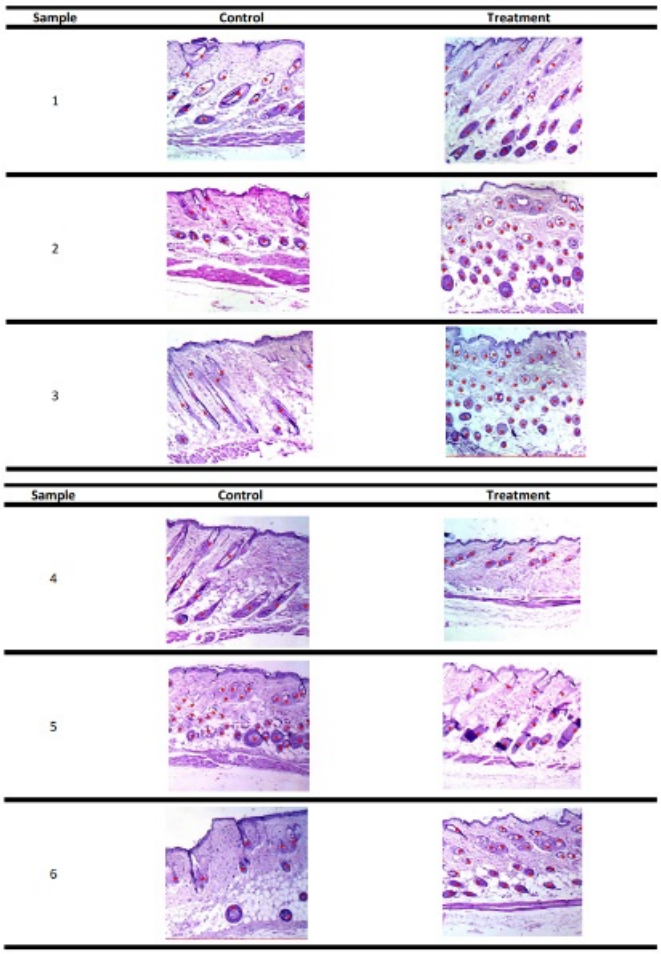

Figure 1. From the histopathological images, it is evident that the treatment group exhibits a higher density of hair follicles compared to the control group (HE 40X).

Table 1. Hair follicle density post research

Group	Hair follicle density (Mean ± standard deviation)	Minimum	Maximum
Control	24.00 ± 6.57	14.50	29.25
Treatment	68.61 ± 7.64	58.50	79.50

Histopathological examination results regarding the anagen:telogen ratio using HE staining are shown in Figure 2 and Table 2. Evaluation in both groups demonstrated an increase in anagen hair (indicated by red arrows; telogen indicated by yellow arrows) in the treatment group.

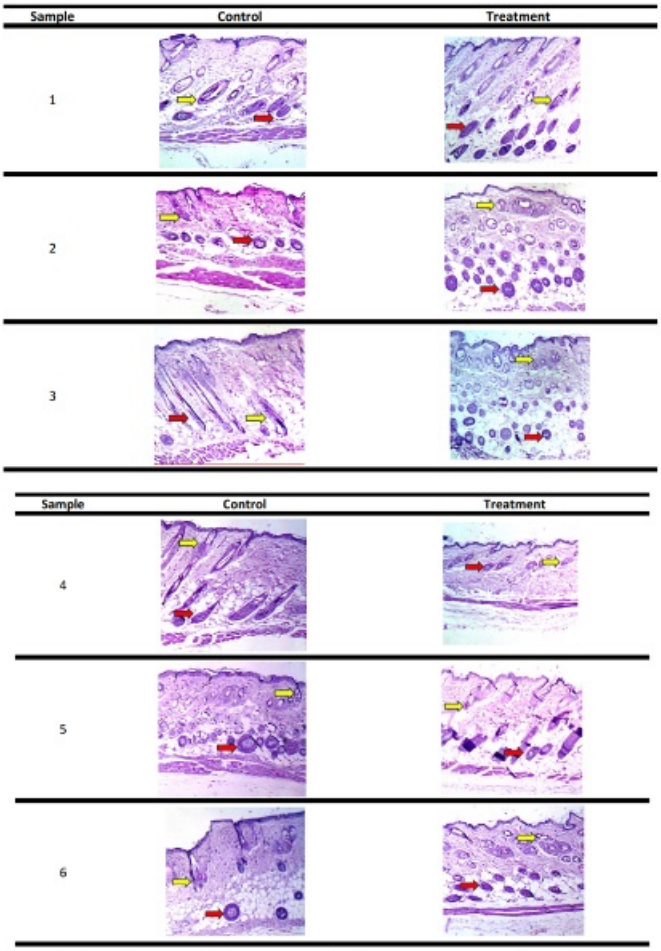

Figure 2. From the histopathological images, it is apparent that the treatment group has a higher number of hair follicles in the anagen phase compared to the telogen phase, in contrast to the control group (HE 40X).

Table 2. Anagen to telogen ratio post research

Group	Anagen to telogen ratio (Mean ± standard deviation)	Minimum	Maximum
Control	0.15 ± 0.02	0.13	0.17
Treatment	0.34 ± 0.04	0.27	0.38

Conclusion:

The findings of this study provide evidence supporting the conclusion that there is a significant improvement in hair follicle density and anagen to telogen ratio in the PRP-Exo treatment group. 2

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Abstract N°: 7222

The bitter taste receptor TAS2R50 is a novel regulator of human scalp hair follicle pigmentation: a new strategy for repigmenting gray hair?

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Introduction & Objectives:

Bitter taste receptors (TAS2Rs) are G-protein-coupled receptors historically associated with the perception of bitter taste. However, TAS2Rs are also present outside of the oral cavity, including in human skin cells and hair follicles (HFs). Yet, their role in skin/HF physiology remains obscure. Since our transcriptomic data suggested that TAS2R50 is expressed in HFs, we have followed this up by IF microscopy.

Materials & Methods:

Full-length anagen VI scalp HFs were collected from healthy donors and cultured for 6 days in a serum-free medium in presence or absence of amarogentin (AM). After 6 days of organ culture, the samples were frozen in liquid nitrogen. 6µm of tissue cryosections were performed and processed for quantitative (immuno)-histomorphometry analyses.

Results:

We first confirmed the presence of TAS2R50 protein in the hair matrix and the outer root sheath of human anagen scalp HFs. Next, when TAS2R50 was stimulated with AM for 6 days, quantitative (immuno)histomorphometry revealed a significant increase in melanogenesis (Masson-Fontana histochemistry) and expression of the pre-melanosomal marker, gp100, in HFs treated with AM compared to control HFs. The number of gp100+ cells was higher and the number of dendrites per gp100+ melanocyte was significantly increased. All these effects were abrogated when AM was co-administered with TAS2R50 siRNA ex vivo, demonstrating that pigmention stimulation by AM was mediated by TAS2R50. Remarkably, even some TAS2R50 agonist-treated white HFs showed a significant increase in melanin production ex vivo.

Conclusion:

In summary, our data introduce signaling mediated by the bitter taste receptor, TAS2R50, as an unsuspected, novel regulator of human HF pigmentation, which can even reactivate melanin production in selected white HFs. Besides the obvious clinical appeal of safe tastants as non-drug TAS2R50 agonists in the management of canities and poliosis, our data underscore the reversibility of hair greying - and raise the very intriguing question, which endogenous (intrafollicularly generated?) “tastants” physiologically communicate with TAS2R50.

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Abstract N°: 7245

Trichoscopy in Traumatic Alopecia Induced by Hair Pulling

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Introduction & Objectives:

Traumatic alopecia refers to hair loss induced by pressure, friction, or traction secondary to cosmetic practices or hair pulling. Physical abuse can result in traumatic hair loss that is challenging to distinguish from other forms of alopecia such as trichotillomania.

Materials & Methods:

Results:

Case 1: A 30-year-old woman was referred to us by the department of forensic and legal medicine for evaluation of alopecic hair patches said to have followed an incident of domestic violence. She presented with diffuse, large, ill-defined patches of alopecia, mainly on the frontal and parietal scalp. To substantiate her claim, she brought the bundle of hair she had lost all at once with her. Trichoscopy revealed multiple flame-like hairs, coiled hairs, broken hairs with ragged distal ends, black dots, tulip hairs, angulated hairs, and V hairs.

Case 2: A 34-year-old woman was also referred to us for extensive alopecia of the vertex, which reportedly occurred after an episode of domestic violence. Trichoscopy revealed hemorrhages, flame-like hairs, and broken hairs with ragged distal ends.

Conclusion:

Traumatic alopecia is often caused by trichotillomania and cosmetic practices, but it can also be caused by physical abuse. When abuse results in alopecia, scalp bruises and tenderness are usually reported. However, these signs are not always present. The trichoscopic signs of hair pulling have been described in the literature mainly in the context of trichotillomania. Broken hairs at different lengths, black dots, coiled hairs, angulated hairs and trichoptilosis are among the first described signs of trichotillomania. Flame-like hairs are seen in active trichotillomania, and they are the remnants of recently pulled hairs. Tulip hairs and V hairs representing two or more hairs emerging from the same follicle that got broken and the same length are also relatively specific to trichotillomania. Traumatic alopecia caused by physical abuse can mimic trichotillomania especially when damage to the scalp's soft tissues cannot be identified. While we cannot confirm whether our patients experienced harm from specific individuals, the presence of these signs helped us diagnose the mechanism of their hair loss: hair pulling. Given the pain that hair pulling causes, it seemed unlikely that they were the sole cause of their massive hair loss. However, as dermatologists, our aim is to identify the mechanism of hair loss rather than assign responsibility to a specific perpetrator.

Trichoscopic signs of traumatic alopecia can result from trichotillomania, trichotillomania by proxy, and aggressive hair pulling during an incident of physical abuse. Distinguishing between these conditions relies on considering the contextual factors associated with each individual case. Trichoscopic signs associated with trichotillomania should be extrapolated to other causes of alopecia caused by active hair pulling.

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Abstract N°: 7273

Phaneric involvement in Clouston syndrome : Three familial cases.

Meryame Hammouch[1]

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Introduction & Objectives:

Clouston syndrome is an autosomal dominant inherited disease characterized by manifestations involving the appendages, particularly consistent involvement of the nails, alopecia, and frequent palmoplantar keratoderma. In this study, we describe the cases of three members of the same family with Clouston syndrome.

Case report:

The three cases studied include an eleven-year-old girl, a two-year-old boy, and their father. All of them presented with alopecia with fine and brittle hair, sparse eyelashes and eyebrows, nail dystrophy, palmoplantar keratoderma, poikiloderma in the axillary, inguinal, subumbilical folds, and at the neck level, as well as dental abnormalities. The symptoms were present from birth, but sweating and intellectual development were normal.

Discussion:

Clouston syndrome, also known as hidrotic ectodermal dysplasia type 2, is a rare genetic disorder with autosomal dominant inheritance. It is primarily characterized by a triad of symptoms: alopecia, nail dystrophy, and palmoplantar keratoderma. Affected patients have dry, fine, and brittle hair, which can lead to total alopecia. Eyebrows and eyelashes may be absent or sparse. Palmoplantar keratoderma is generally widespread, and some cases may also present photosensitivity. However, sweating remains normal, and physical and psychomotor development is generally normal. In the case of the three patients in our study, in addition to the classical triad of Clouston syndrome, including alopecia, nail dystrophy, and palmoplantar keratoderma, we also observed poikiloderma in skin folds and dental anomalies.

Conclusion:

In conclusion, Clouston syndrome can present with variable manifestations and may be confused with other forms of hair dysplasia. Proper management and regular follow-up are necessary for these patients to address symptoms and prevent potential complications.

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Abstract N°: 7355

Erosive Lichen Planopilaris and Frontal Fibrosing Alopecia: A rare association

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Erosive Lichen Planopilaris and Frontal Fibrosing Alopecia: A rare association

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Introduction & Objectives:

Erosive lichen planopilaris (ELPP) is characterized by a progressive inflammation of the hair follicle, leading to tissue destruction and irreversible scarring. Conversely, frontal fibrosing alopecia (FFA) manifests as frontal hair loss, marked by a receding hairline and absent eyebrows. While their co-occurrence is rare, they may share common pathophysiological mechanisms. Herein, we describe the clinical, dermoscopic and therapeutic features of this uncommon association

Materials & Methods:

We present the case of a 45-year-old female with a 12-year history of scarring alopecia. She had undergone treatment with hydroxychloroquine, but without improvement. Clinical examination revealed band-like cicatricial alopecia in the frontotemporal zone of the scalp, alopecia of the eyebrows, a 15cm erosive plaque on the vertex, and multiple atrophic and erythematous plaques on the fronto-parietal zone. Dermoscopic examination showed perifollicular scales and erythema with a lack of follicular openings in the frontal alopecia area. On the vertex, we observed an erythematous background, peri-follicular and inter-follicular scales, and white structureless areas. Skin biopsies demonstrated perifollicular lymphocytic infiltration, basal vacuolization, and signs of dermal papillary fibrosis, confirming the diagnosis of LPP and FFA. The patient was treated with a combination of topical corticosteroids, which led to healing of the erosive plaque. Due to the scalp atrophy and recurrence, she was prescribed prednisone (1mg daily) with a progressive tapering regimen.

Results:

The co-occurrence of LPP and FFA prompts inquiries into their common etiology and pathogenesis. Genetic, autoimmune, and environmental factors have all been implicated as potential contributors to the development of these conditions. Moreover, the resemblance in clinical presentations can pose challenges in accurately diagnosing the conditions and initiating timely treatment. Dermoscopic features like reticulation and perifollicular white dots, in conjunction with histopathological findings, play a pivotal role in confirming the diagnosis of LPP and FFA, thus aiding in distinguishing this association from other inflammatory scalp disorders.

Conclusion:

The rare association of LPP and FFA is crucial to identify in clinical practice. This association presents diagnostic and therapeutic challenges. A deeper understanding of their pathogenesis could pave the way for novel therapeutic approaches for patients with this rare and often debilitating combination

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Abstract N°: 7376

solitary longitudinal acro-osteolysis: a rare cause of nail dystrophy

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Introduction & Objectives:

Acro-osteolysis (AO) is a progressive bone resorption of the distal phalanges of the hands and feet. Two patterns of acro-osteolysis have been recognized, based on radiography: transverse and longitudinal AO. The associated nail involvement frequently present helps clarify the diagnosis, as the shape of the ungual tablet depends on the integrity of the underlying bone. We report a case of idiopathic monodactylic AO in an HIV-positive patient, revealed by a keratotic tumor of the thumb.

Haut du formulaire

Materials & Methods:

A 55-year-old patient, smoker, was followed since 2007 for a retroviral infection discovered following pneumocystosis, currently on treatment. He had a hyperkeratotic tumor of the right thumb evolving over a year. He had no symptoms of Raynaud's phenomenon or history of psoriasis, traumatic hand injury, or exposure to polyvinyl chloride. He had no family history of congenital bone dysplasia and psoriasis. Physical examination revealed a 0.5 cm diameter painful ulceration on the right thumb, with a verrucous surface. X-rays showed a longitudinal resorption of the distal phalange of the thumb. Two deep skin biopsies ruled out verrucous carcinoma. Laboratory investigations including phosphorus/calcium balance were normal. The latest co-infection screening results were negative (hepatitis C, hepatitis B, syphilis, toxoplasmosis, CMV…). The probable diagnosis was an idiopathic longitudinal acro-osteolysis associated with an HIV infection.

Results:

Acro-osteolysis (AO) is a rare condition characterized by resorption of the distal phalanges of the fingers and/or toes. Radiography is the gold standard for the diagnosis of AO. The etiopathogenesis of this osseous destruction is unclear: vascular, neurogenic, and traumatic factors.

Two subgroups suggesting aetiological diagnosis may be distinguished: transverse AO and longitudinal AO. Transverse AO are suggestive of toxic causes, congenital familial conditions or repetitive micro-trauma, while longitudinal forms are more often seen in a setting of neurological, vascular, metabolic disorders or idiopathic forms.

Various skin and nail changes have been reported in this condition. Nail plate involvement may constitute the sole manifestation of AO, especially in idiopathic forms. In fact, with transverse AO, we find brachyonychia and digital pseudo-clubbing, while onycholysis, subungual hyperkeratosis, anonychia or pincer nail are indicative of longitudinal AO. Clinical presentation can be alarming when it involves an isolated lesion, mimicking verrucous carcinoma as in the case of our patient.

Conclusion:

Acro-osteolysis is an uncommon condition. Herein we report a case of longitudinal monodactylic acro-osteolysis

with nail dystrophy associated to HIV infection, and with no discernible cause.

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Abstract N°: 7436

Selective protection of healthy human hair follicles and their stem cells from chemotherapy-induced damage by a novel topically effective p53-targeting peptide

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Introduction & Objectives:

Chemotherapy-induced alopecia (CIA) remains one of the most distressing adverse effects of cancer therapy. No pharmacological treatments are available that selectively protect healthy hair follicles (HFs) and their epithelial stem cells (eHFSCs) from acute and permanent chemotherapy-induced damage without awarding survival benefits to cancer cells. Here, we report that human hair matrix keratinocytes and eHFSCs can be protected against two key CIA-inducing drugs (paclitaxel [PTX] and 4-hydroperoxycyclophosphamide [4-HC]) *ex vivo* by transient, p21-dependent cell cycle arrest induced only in healthy proliferating cells by activation of p53 with ALRN-6924. This clinical-stage "stapled peptide" binds to MDM2 and MDMX, the endogenous inhibitors of p53, and thus activates p53 signaling in cells with a wild-type TP53 genotype (note that 50% of cancers are TP53-mutant).

Materials & Methods:

Full-length anagen VI scalp HFs or 4 mm scalp full-thickness skin punches were collected from healthy donors and cultured for 3 days in a serum-free medium. After 3 days of organ culture, the samples were frozen in liquid nitrogen. 6µm of tissue cryosections were performed and processed for quantitative (immuno)-histomorphometry analyses.

Results:

Pretreatment of human scalp HFs with ALRN-6924 significantly inhibits PTX- and 4-HC-induced premature catagen development and hair matrix damage, HF pigmentary abnormalities, apoptosis measured by cleaved-caspase-3, "mitotic catastrophe" and micronucleation. It also reduces DNA damage (g-H2Ax), apoptosis, and pathological epithelial-mesenchymal transition in eHFSCs (co-expression of vimentin/Slug and Keratin 15). Most of these CIA-protective effects were also seen after topical ALRN-6924 application to organ-cultured, chemotherapy-treated human scalp skin.

Conclusion:

We thus introduce a novel principle for the selective protection of rapidly proliferating healthy human epithelial tissues and their stem cells from chemotherapy-induced damage as a highly innovative strategy for protecting patients with TP53-mutant cancers against acute and permanent CIA.

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Abstract N°: 7465

Nail Unit Ultrasound: What The Dermatologist Should Know

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Introduction & Objectives:

Assessing nail disorders (ND) is challenging. Encouragingly, dermatologists' engagement with this domain has increased over time, alongside the advancements in imaging techniques such as Nail Unit High Frequency Ultrasound (NU-HFUS). Owing to its non-invasiveness, safety, accuracy, and celerity, HFUS has emerged as an invaluable imaging modality in dermatological clinical settings. However, an understanding of its appropriate application in onychology remains lagging.

The aim of this study was to provide a baseline assessment concerning the use and indications of NU-HFUS.

Materials & Methods:

A digital survey comprising 15 multiple-choice questions regarding NU-HFUS technical requirements, applications, results reliability, requisition format and alternative NU imaging modalities, was made available online among 84 clinicians' members of the Network of Nail Research and Treatment during the first quarter of 2024. Responses were confidential, anonymous, and grouped prior analysis, with no financial remuneration offered.

Results:

44 clinicians completed the survey comprehensively 38 dermatologists, 6 radiologists. The findings included:

Technical considerations and other imaging studies

84% acknowledged that NU-HFUS should be performed with a 15 MHz or higher linear probe.

95.5% acknowledged that NU-HFUS should be conducted in grayscale and Doppler.

70.5% recognized that NU-HFUS should always be performed comparatively with the contralateral NU.

95.5% correctly identified the fundamental requisites for performing NU-HFUS: trained operator in ND, gray scale HFUS with color Doppler, and conspicuous gel.

31.8% correctly identified the annual volume of 300 studies to demonstrate proficiency in performance among operators.

68.2% were knowledgeable that NU contrast-enhanced MRI with dedicated foot coil, is the correct requisition for ND.

61.4% acknowledged the correct requisition for the study of nail exostosis is anteroposterior, lateral, and magnified oblique view radiography of the affected NU.

Main applications

88.6% recognized that NU-HFUS is indicated in nail psoriasis, lichen planus, viral wart, subungual exostosis, myxoid

cyst, retronychia, onychomadesis, onychocryptosis, benign and malignant tumors.

100% correctly identified NU-HFUS as the method of choice for assessing ND.

Confidence in NU-HFUS

81.4% routinely requisitioned NU-HFUS upon clinical indication.

93% revealed confidence in the information provided by NU-HFUS report.

Other imaging studies

77.3% correctly identified that NU MRI is indicated in cases of suspected medullary bone involvement by cancer, osteomyelitis, and subungual melanoma.

Conclusion:

The findings suggest that there is a need for greater clarity among clinicians regarding fundamental concepts about NU-HFUS correct performance, and main applications. This highlights an opportunity that may aid in building a consensus statement on NU-HFUS to assist with diagnosis and clinical decision-making in patients with ND.

EADV CONGRESS
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EUROPEAN ACADEMY OF DERMATOLOGY & VENEREOLOGY

Abstract N°: 7484

The forgotten hair growth-promoting immunosuppressant: Tacrolimus stimulates human scalp hair follicle growth ex vivo

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Introduction & Objectives:

The immunoinhibitory calcineurin inhibitor, tacrolimus (FK 506), not only suppresses expression/secretion of several pro-inflammatory cytokines, but also restores IFNg-induced human hair follicle (HF) immune privilege collapse *ex vivo*. Moreover, tacrolimus is profoundly hair cycle-modulatory in rodents *in vivo*. However, it is unknown how tacrolimus impacts on human HF growth.

Materials & Methods:

Anagen VI scalp HFs were collected from healthy donors and cultured for 6 days in a serum-free medium in presence or absence of tacrolimus (10, 100nM). After 6 days of organ culture, the samples were frozen in liquid nitrogen. 6µm of tissue cryosections were performed and processed for quantitative (immuno)-histomorphometry analyses.

Results:

Quantitative (immuno-)histomorphometry showed that tacrolimus (100nM) prolongs anagen/inhibits catagen, just as in mice, yet without significantly affecting hair matrix keratinocyte proliferation/apoptosis. Expression of catagen-promoting TGFB2 protein in outer root sheath keratinocytes was decreased, while that of anagen-promoting IGF1 was increased *ex vivo*. Furthermore, FGF/KGF protein expression was increased in hair matrix keratinocytes. Interestingly, tacrolimus (100 nM) also increased protein expression of keratin 15 in the bulge and of keratin 85 in the precortical hair marix. We are currently analyzing additional hair biology read-out parameters and are searching by gene expression profiling for unconventional, NFATc1-independent mechanisms of action that may explain the remarkable hair growth-promoting effects of tacrolimus.

Conclusion:

Taken together, these preliminary data show that tacrolimus exerts similar hair growth-stimulatory effects on human scalp HFs as the other main calcineurin inhibitor, cyclosporine A, but likely via different pathways, and thus deserves systematic exploration as a candidate hair growth-stimulatory agent, namely in the management of alopecia areata, FFA and androgenetic alopecia.

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Abstract N°: 7488

Sisaipho: a rare presentation of Alopecia Areata.

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Introduction:

Alopecia areata (AA) sisaipho is an uncommon variant of AA, first described by Muñoz and Camacho in 1996. It is described as scalp hair loss sparing the temporal and occipital areas, in contrast to ophiasis. This entity has been little reported, and there is no dermoscopic description in the literature. The particularity of our observation lies in the contribution of dermoscopy to the diagnosis and follow-up of AA Sisaipho.

Case report:

A 28 years old postpartum woman presented with 3 months of hair loss. Physical examination revealed an alopecic plaque affecting mainly the vertex, with centrifugal progression sparing the temporal and occipital areas, and a SALT (Severity of Alopecia Tool) score of 34. Her eyebrows and eyelashes were unaffected. Dermoscopic findings revealed black dots, vellus hair, exclamation mark and broken hair. The biological workup revealed a discrete martial anemia, correct vitamin D levels and a normal TSH value. The patient received topical class I superpotent corticosteroids, local minoxidil 5% and zinc supplementation with a transitional regression of the peladic plaque. After the incomplete response, intralesional corticosteroids and oral pulses of betamethasone (6 mg biweekly) were with significant improvement. No adverse effects of treatment were detected in our patient. Dermoscopy findings during treatment showed yellow dots and vellus hair.

Discussion: Alopecia areata (AA) is an autoimmune condition characterized by nonscarring hair loss. Sisaipho, also called as ophiasis inversus, is a rare variant of AA in which patients present with alopecia involving mainly the top of the vertex, with a centrifugal progression sparing the ophiasic zones. Contrary to ophiasis, eyebrow and eyelashes involvement are infrequent in Sisaipho AA. Based on the literature, Sisaipho type is associated more frequently to previous or concomitant disorders such as atopy, vitiligo, or thyroid disease than other AA variants. AA sisaipho patients also tend to have more onychopathy, mainly trachyonychia, which is a predictor of poor prognosis in some studies. In our case, the patient was at a high-risk of hair loss (post-partum period), and reported no comorbidities associated with Sisaipho AA. Dermoscopy findings of Sisaipho AA have never been described in the literature. We have considered it to be similar to classic AA. In our case, the initial dermoscopic examination revealed signs in favour of active alopecia areata with black dots, vellus hair, exclamation mark and broken hair. After initiation of treatment, signs of AA regrowth also appeared such as yellow dots and vellus hairs. Treatment of alopecia areata is dependent on age of patient as well as the extent and duration of scalp involvement. Treatments include steroids, topical immunotherapy, topical minoxidil, anthralin, and immunosuppressants. In our case, we had a partial response with local treatment. A better response was observed with the addition of intra-lesional corticosteroid injections and oral betamethasone pulses.

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Abstract N°: 7531

A scar(r)y new perspective in frontal fibrosing alopecia pathogenesis: The common fragrance, linalool, promotes hair follicle stem cells damage in part through olfactory receptor activation

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Introduction & Objectives:

It has been speculated that environmental factors may explain the greatly increased prevalence of frontal fibrosing alopecia (FFA) over the last decades. Since many FFA patients are sensitized to allergens found in leave-on skin products, we investigated if one of the most frequently FFA-associated allergens, Linalool, a fragrance that is ubiquitous in personal care products, promotes core FFA pathogenesis elements, and if this is also mediated by the direct activation of the olfactory receptor OR1A1 of which Linalool is a known agonist.

Materials & Methods:

Human full-thickness skin biopsies (4 mm punches) were collected from healthy or non-lesional FFA scalp skin and cultured in 5ml of supplemented William's E + RMPI (1:1) medium containing either vehicle or 1% linalool for 6 days. The biopsies were frozen after 6 days of culture, and cryosections of 7µm thickness were used for quantitative (immuno-)histomorphometry analyses. For OR1A1 knockdown, full length human HFs have been treated with 5 nmol of either non-targeting oligoes or siOR1A1, for 48h. The medium then changed and 0.1% linalool was applied to all the HFs for the following 4 days. After 6 days of organ culture, the samples were frozen in liquid nitrogen and 6µm of tissue cryosections were performed and processed for quantitative (immuno)-histomorphometry analyses.

Results:

Ex vivo, Linalool significantly decreased the number of K15+ epithelial HF stem cells (eHFSCs) and upregulated bulge expression of MHC class Ia and MICA, both in healthy and non-lesional scalp HFs from FFA patients with documented linalool sensitization. The latter also showed an increased number of eHFSCs undergoing EMT (K15+/vimentin+ cells). Given that OR1A1 mRNA and protein are expressed in the bulge of human HFs, we next performed knockdown experiments in healthy full-length HFs in presence of 0.1% Linalool. Our data show anagen prolongation and reduced EMT in siOR1A1+linalool HFs. Finally, siOR1A1+linalool decreases MHC class I and partially decreases MICA expression.

Conclusion:

These pilot data strongly suggest that Linalool promotes core FFA pathobiology events (bulge immune privilege collapse and irreversible eHFSCs damage) in sensitized FFA patients and healthy scalp HFs through the specific activation of OR1A1.

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Abstract N°: 7541

Study of cutaneous barrier function in patients with frontal fibrosing alopecia

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Introduction & Objectives:

Clinically, two lesional areas can be observed in frontal fibrosing alopecia (FFA): an alopecia area and another area with a tendency to hair loss, the implantation line of the scalp. It is possible to assess skin homeostasis through biophysical parameters, that could be used to monitor the development of this pathology. However, there are currently insufficient studies that have examined barrier function and skin homeostasis in patients with FFA.

The aim of this study was to evaluate the barrier function of two affected areas in patients with FFA.

Materials & Methods:

Cross-sectional study involving patients with FFA diagnosed by a dermatologist. The skin barrier function was assessed objectively in one area of the hairline and one area of the hair loss region using the PCE-DDO 10 Hardness Tester and the Multi-Probe Adapter (MPA) with corresponding measuring probes. The skin barrier function parameters measured were skin temperature, erythema index, stratum corneum hydration (SCH), transepidermal water loss (TEWL), hardness, skin deformity, and surface lipids. Disease severity was evaluated using the FFASS (Frontal Fibrosing Alopecia Severity Score) score.

Results:

Twenty female patients took part in the study, with a mean age of 63.65 years. The mean FFASS was 11.31. Statistically significant differences were found between the two locations under analysis with respect to erythema index (246.15 arbitrary unit (AU) vs 182.21 AU, P<0.001), SCH (61.91 AU vs 74.86 AU, P<0.001), hardness (51. 97 shore vs 47.65 shore, P=0.006), and skin deformity (0.96 millimeters (mm) vs 1.12 mm, P= 0.021), with each of the parameters being higher at the implantation line, except for SCH and skin deformity. There was a statistically significant positive association for the variables erythema index (r=0.486, P=0.03), SCH (r=0.742, P<0.001), hardness (r= 0.454, P= 0.044), and skin deformity (r= 0.879, P<0.001) between the two locations. The analysis also reflected associations close to statistical significance for variables such as temperature (33.26 °C vs 33.10 °C, P= 0.121), and surface lipids (33.60 µg/cm2 vs 27.75 µg/cm2, P= 0.105). In patients with follicular erythema at the implantation line, a significant increase in the erythema index was found in comparison to patients without erythema (271.23 AU vs 187.65 AU, P= 0.012).

Conclusion:

Differences in homeostasis parameters have been observed between an alopecia area and another area with a tendency to hair loss in patients with FFA. Although further studies are still needed, the measurement of biophysical variables through probes is easily reproducible and could be useful for individual assessment and monitoring of disease status in patients with FFA.

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Abstract N°: 7554

A new chemosensory control of human hair growth: Olfactory receptor OR10J1 stimulation promotes scalp hair follicle growth and progenitor cell generation ex vivo

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Introduction & Objectives:

Human skin utilizes olfactory receptors (OR) to regulate, e.g., keratinocyte proliferation and hair growth. Since we noted that human hair follicles (HFs) increase their transcription of OR10J1, when stimulated with the OR2AT4-agonistic fragrance, Sandalore, we followed this up by IF microscopy and found OR10J1 protein expression in the sub-bulge epithelium of scalp HFs.

Materials & Methods:

Full-length anagen VI scalp HFs were collected from healthy donors and cultured for 6 days in a serum-free medium in presence or absence of the OR10J1 agonist, the synthetic odorant dimetol (250µM or 500µM).

For OR10J1 knockdown, full length human HFs have been treated with 5 nmol of either non-targeting oligoes or siOR10J1, for 48h. The medium then changed and 250µM dimethol was applied to all the HFs for the following 4 days.

After 6 days of organ culture, the samples were frozen in liquid nitrogen and 6µm of tissue cryosections were performed and processed for quantitative (immuno)-histomorphometry analyses.

Results:

Treatment of organ-cultured scalp HFs with the established OR10J1 agonist, the synthetic odorant dimetol, significantly increased OR10J1 protein expression in the sub-bulge, indicating both, receptor functionality and positive feedback regulation of this OR. Dimetol also prolonged the duration of anagen ex vivo compared to vehicle-treated HFs, accompanied by a significant increased proliferation and reduced apoptosis in the hair matrix and overall increase hair shaft elongation. Just like OR2AT4-agonistic Sandalore, dimetol also significantly increased protein expression of anagen-promoting, IGF-1 and decreased that of catagen-inducing, TGF-β2 – yet another OR identified to differentially regulate the production of potent growth factors in a human (mini-)organ. Quantitative immunohistomorphometry also revealed that dimetol significantly increased the number CD34+ cells in the sub-bulge and enhanced their CD34 expression level. Since anagen prolongation and CD34+ cell number increase by dimetol was abrogated by co-administration of OR10J1 siRNA, this demonstrated that the above effects were specifically mediated via OR10J1.

Conclusion:

Our findings expand the range of functional ORs through which human HFs regulate their growth and can be targeted by common fragrances for hair growth promotion. Given that androgenetic alopecia HFs show a diminished capacity to generate CD34+ progenitor cells, OR10J1 agonists like dimetol deserve in-depth exploration as novel, non-drug hair therapeutics namely in pattern balding.

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Abstract N°: 7568

Cutaneous barrier function in patients with alopecia areata: A cross-sectional study

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Introduction & Objectives:

Alopecia areata (AA) is an autoimmune disease that progresses by outbreaks. Patients may present both active and regrowing lesions that may be clinically and dermoscopically evident. Measurement of skin homeostasis and barrier function is of value in other immune-mediated skin diseases.

However, there are no studies assessing barrier function in patients with AA. Measuring biophysical parameters could contribute to a better understanding of the aetiopathogenesis of this disease and to identify response biomarkers.

The aim of this study was to compare the biophysical parameters in patients with AA with and

without signs of scalp repopulation.

Materials & Methods:

Cross-sectional study involving patients with AA diagnosed by a dermatologist. Areas with and without signs of repopulation on the scalp were selected via dermoscopy. The skin barrier function was measured objectively in an area with signs of scalp repopulation and in an area without signs of scalp repopulation using the PCE-DDO 10 Hardness Tester and the Multi-Probe Adapter (MPA) with corresponding measuring probes. The skin barrier function parameters assessed were erythema index, skin temperature, hydration of the stratum corneum (SCH), transepidermal water loss (TEWL), surface lipids, and hardness. Disease severity was evaluated using the SALT (Severity of Alopecia Tool) score.

Results:

Twelve patients took part in the study, 66.66% (8/12) were female and the mean age was 38.42 years. The mean SALT was 41.75. Statistically significant differences were found between the two locations with respect to the erythema index (381.13 arbitrary units [AU] vs. 264.3 AU, $P<0.001$), being higher in the area without signs of repopulation. The analysis also reflected associations close to statistical significance in variables such as temperature (33.69 °C vs 33.392 °C, $P=0.063$), being higher in the zone without signs of repopulation, and surface lipids (106.83 µg/cm2 vs 125.17 µg/cm2, $P=0.072$) and SCH (42.77 AU vs 48.11 AU, $P=0.077$), being higher in the zone with signs of repopulation. There is a statistically significant positive association in the variables of temperature ($r=0.631$), $P=0.028$), erythema index ($r=0.793$, $P=0.002$), surface lipids ($r=0.641$, $P=0.025$), and SCH ($r= 0.880$, $P<0.001$) between both lesional areas.

Conclusion:

Differences in homeostasis parameters have occurred between areas with and without signs of repopulation in patients with AA. Although further studies are still needed, the measurement of biophysical variables through probes is easily reproducible and could be useful for individual assessment and monitoring of disease status in patients with AA.

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Abstract N°: 7862

Deucravacitinib in the treatment of lichen planopilaris - interim analysis

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Introduction & Objectives:

Lichen Planopilaris (LPP) is a form of lymphocyte-mediated scarring alopecia. It presents as discrete patches with characteristic perifollicular erythema and scale involving the scalp. LPP is histopathologically characterized by lichenoid inflammation at the infundibular portion of a hair follicle. Cutaneous Lichen Planus (LP) is characterized by a Type I and Type II IFN driven cell mediated cytotoxic immune response that is highly responsive to JAK1, 2 inhibitions 1-3. However, unlike LP, LPP is a chronic, scarring condition. The etiology of LPP as well as the scarring is poorly understood; however, Th17 cells are thought to play a critical role in this process. TYK2 activates STAT-dependent gene expression and functional responses of interleukin (IL)-12, IL-23, and type I interferon (IFN) receptors. IL-12 promotes Th1 differentiation in T-cells and enhances the production of IFN gamma 4. Deucravacitinib is an oral selective inhibitor of tyrosine kinase 2 (TYK2), a member of the Janus kinase (JAK) family. Our aim is to evaluate the safety and efficacy of Deucravacitinib in LPP as assessed by the change in Physician Global Assessment (PGA) and the Lichen Planopilaris Activity Index (LPPAI) of the hair. Herein, we report the interim 12- and 16-week data of an open label study of Deucravacitinib in LPP.

Materials & Methods:

This study (NCT-06091956) included patients over the age of 18 with biopsy proven, active LPP. Patients with end-stage scarring hair loss but without significant active disease were excluded. Prior treatments were allowed; however, a washout period of 2 weeks for topical and 4 weeks or longer for systemic agents was required. Patients were treated with Deucravacitinib 6 mg twice daily. Patients were evaluated every 4 weeks and assessed by PGA, LPPAI, Dermatology Life Quality Index (DQLI), Visual Analogue Score (VAS), Visual Rating Score (VRS), Numerical Rating Scale (NRS), Skindex-16, photographs and safety monitoring between weeks 0-24 (primary endpoint week 24). Therapy was stopped at week 24 and patients were evaluated at week 28 with continued assessment and laboratory monitoring.

Results:

Patients (N=10) had a mean (SD) age of 61.4 (11.7) years, 70 % were female, and 100% were White. Baseline mean (SD) Lichen Planopilaris Activity Index (LPPAI), Dermatology Life Quality Index (DQLI), Visual Analogue Score (VAS), Numerical Rating Scale (NRS), and Skindex-16 scores were 3.8 (1.2), 3.8 (2.0), 3.4 (2.4), 4.2 (2.4), and 36.3 (18.6) respectively; the median (range) disease duration was 6.4 (1.67-15) years, and 100% of patients received prior treatment for LPP. The mean (SD) number of treatments prior to Deucravacitinib treatment for LPP was 4.1 (1.8). The mean (SD) number of systemic treatments prior to Deucravacitinib treatment for LPP was 1.7 (1.3). At Week 12 and 16 compared to baseline, there was a significant improvement in LPPAI (2.1-point decrease at week 12 p=0.004 and 2.4-point decrease at week 16 p=0.016). Deucravacitinib was well tolerated, with no drug related, serious treatment-emergent adverse events (TEAEs), or TEAEs leading to discontinuation. There was a statistically significant improvement with PGA response rates compared to week 2 (N=10, 20%) at Week 12 (N=9,

77.8%, p=0.034) and Week 16 (N=7, 100%, p=0.008).

Conclusion:

This was the first clinical trial to investigate a selective TYK2 inhibitor in LPP. Patients with LPP experienced improvements in PGA and LPPAI. Future studies and clinical trials are warranted.

Figure 1. Physician Global Assessment (PGA) percentage by time points

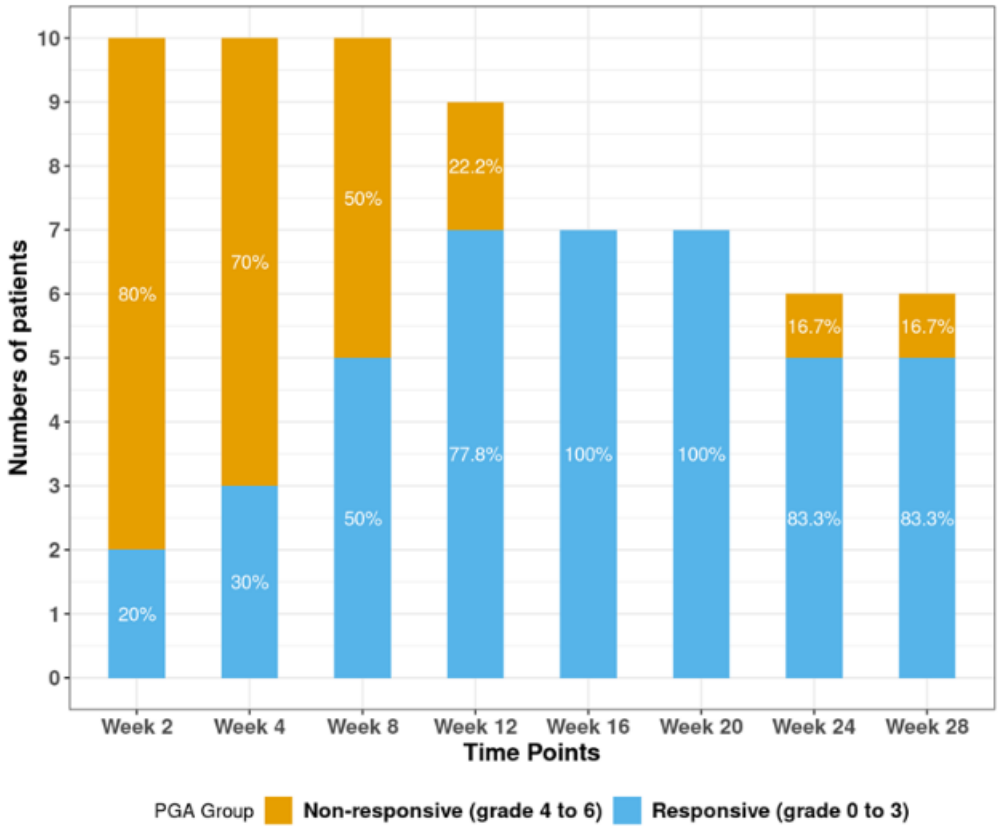

Figure 1. Bar plots for Physician Global Assessment (PGA) binary group over time.

Figure 2. Lichen Planopilaris Activity Index (LPPAI) Score by time points

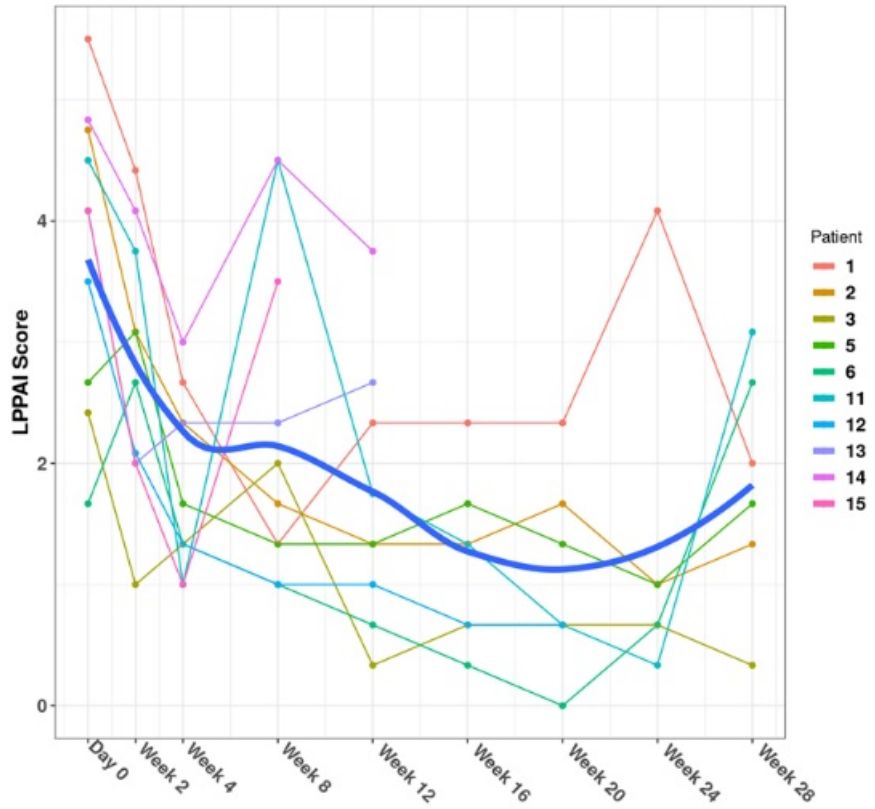

Figure 2. Spaghetti plot for the Lichen Planopilaris Activity Index (LPPAI) score at each time point for each patient. The bold blue line is the overall trend.

Figure 3. Numerical Rating Scale (NRS) Score by time points

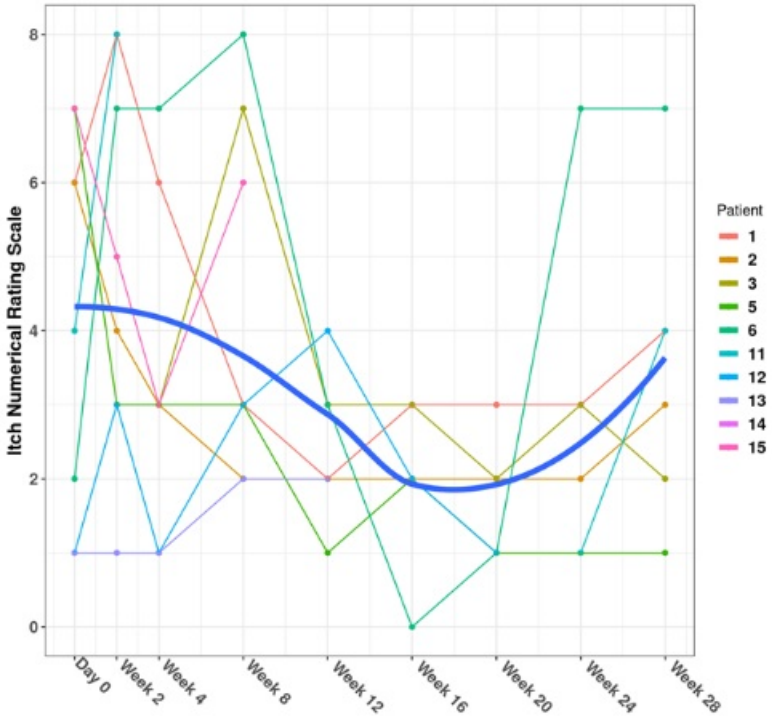

Figure 3. Spaghetti plot for the Numerical Rating Scale (NRS) score at each time point for each patient. The bold blue line is the overall trend.

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Abstract N°: 7893

Randomized vehicle-controlled clinical trial with the topical JAK inhibitor delgocitinib in patients with frontal fibrosing alopecia demonstrates biomarker and clinical efficacy

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Introduction & Objectives:

Frontal fibrosing alopecia (FFA) is a scarring alopecia with increasing prevalence, particularly in women. It is characterized by progressive frontotemporal recession leading to permanent hair loss. While early diagnosis and treatment are pivotal, there are currently no approved or efficacious, treatments. Th1/IFN-γ activation has been recently shown to play a role in FFA pathogenesis. We performed a single-site, double-blinded, randomized, vehicle-controlled phase 2a trial to investigate the effect of the topical pan-JAK inhibitor delgocitinib on modulating the Th1/INF-γ-driven inflammation and clinical disease severity in FFA.

Materials & Methods:

Thirty FFA patients were randomized 1:1 to twice daily treatment with delgocitinib cream (20 mg/g) or matching vehicle cream for 12 weeks followed by 12 weeks of open-label extension (OLE) with delgocitinib followed by a 2-week safety follow-up period. Skin biopsies were taken from lesional and non-lesional scalp at baseline and week 12 and processed for transcriptomic analysis. The primary efficacy endpoint was to assess molecular signature changes following topical application of delgocitinib cream 20 mg/g in subjects with FFA. Furthermore, clinical severity scores and trichoscopic images of hair counts were monitored throughout the study.

Results:

Transcriptomic analyses revealed that expression of selected Th1/IFN-γ-related genes was decreased compared to baseline in delgocitinib but not vehicle-treated lesions after 12 weeks of treatment. These included CXCL9 (-3.10; $p<0.05$), CXCL10 (-2.60; $p<0.1$), and IFN-γ (-1.49; $p=0.22$). Delgocitinib-treated lesions had a 4% improvement in normalization towards non-lesional transcriptomic profile ($p < 0.001$) while the vehicle-treated lesions showed a 33% further worsening. Decrease in total LPPAI (Lichen Planopilaris Activity Index) and FFASS (Frontal Fibrosing Alopecia Severity Scores) was numerically greater in the delgocitinib group (compared to vehicle) during the vehicle-controlled period with statistical significance at Week 12 ($p = 0.023$) for FFASS. Both LPPAI and FFASS further improved during the OLE. At the end of the OLE period, all subjects had obtained at least stabilization of disease based on hair line measurements and all subjects treated with delgocitinib for 24 weeks had obtained some degree of hair regrowth. In the vehicle-controlled treatment period, trichoscopy analyses demonstrated increased number of hairs and follicular units per cm2 in the delgocitinib-treated group, whereas these were reduced in the vehicle group. Delgocitinib treatment was well tolerated in FFA with no safety issues identified.

Conclusion:

Topical treatment with the JAK inhibitor, delgocitinib for 24 weeks stabilized hair shedding and showed some evidence of hair regrowth while reducing local Th1/ IFN-γ inflammation in scalp of FFA patients. Further research could elucidate the potential of delgocitinib in FFA treatment.