

25th World Congress of Dermatology

International League of Dermatological Societies

03–08 JULY 2023 • SINGAPORE • SINGAPORE

PEER-REVIEWED
CONFERENCE REPORT



First oral IL-23 inhibitor in psoriasis

A first-in-class, oral, IL-23 receptor antagonist peptide, provisionally named JNJ-77242113, was associated with improved efficacy outcomes compared with placebo in patients with moderate-to-severe plaque psoriasis.

read more on

PAGE

7

Promising results for paroxetine in rosacea

In a first randomised-controlled trial, paroxetine appeared to be an efficacious and safe therapy for patients suffering from moderate-to-severe erythema of rosacea.

read more on

PAGE

12

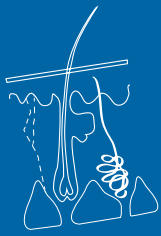
Excellent results for nemolizumab in PN

Findings from the phase 3 OLYMPIA 2 trial showed that nemolizumab improved signs and symptoms in patients with moderate-to-severe prurigo nodularis (PN) compared with placebo, without increasing the occurrence of adverse events.

read more on

PAGE

14



COLOPHON

Editor	Prof. Peter van de Kerkhof Radboudumc, the Netherlands
Reviewer	Dr Elena Pezzolo San Bortolo Hospital, Italy
Reviewer	Dr Marlous Grijzen University of Oxford Clinical Research Unit Jakarta, Indonesia
Publishing Director	Paul Willers
Editorial Operations Manager	Dr Rosalie Molenaar
Medical Science Officer	Dr Rachel Giles
Editorial Coordinators	Sanne Lauriks Dr Joery Goossens
Medical Writers	Robert van den Heuvel
Production Manager	Desiree Heijl
Graphic Design	MOOZ grafisch ontwerp
Graphics	Wim Kempink
Cover Photo	Shutterstock
ISSN	2468-8762 23:16

All rights reserved.
No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the publisher, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law.

Copyright ©2023 Medicom Medische Uitgeverij BV

Disclaimer:
Our independent peer-reviewed Medicom Conference Reports are made possible by sponsoring. The ideas and opinions expressed in this journal or other associated publications do not necessarily reflect those of Medicom Medical Publishers. Although great care has been taken in compiling the content of this publication, Medicom is not responsible or liable in any way for the currency of the information, for any errors, omissions or inaccuracies in the original articles, or for any consequences arising from the content. Products mentioned in this report may not be covered by marketing authorisation in some countries. Product information, applicable in your country, should be reviewed before prescribing. The mention of any product, service, or therapy in this publication should not be construed as an endorsement of the products mentioned. It is the responsibility of the treating physician or other health care provider, relying on independent experience and knowledge of the patient, to determine drug dosages and the best treatment for the patient. Readers are advised to check the appropriate medical literature and the product information currently provided by the manufacturer of each drug to be administered to verify the dosage, method, and duration of administration, or contraindications. Readers are also encouraged to contact the manufacturer with questions about the features or limitations of any products. Medicom assumes no responsibility for any injury or damage to persons or property arising out of or related to any use of the material contained in this publication or to any errors or omissions.

MED?COM
MEDICAL PUBLISHERS

Head Office	Postal address
Medicom Medical Publishers De Ruijterlaan 1-A 3742 AE Baarn The Netherlands	Medicom Medical Publishers PO Box 90 3740 AB Baarn The Netherlands

Telephone +31 85 4012 560
E-mail publishers@medicom-publishers.com

Contents

Letter from the Editor

3 Atopic Dermatitis

- 3 Rocatinlimab delivers efficacy and safety in atopic dermatitis
- 3 Head-to-head: paraffin- versus ceramide-based moisturiser for paediatric AD
- 4 JAK inhibitors for AD in the real world
- 4 Novel JAK1 inhibitor for patients with atopic dermatitis
- 5 Can lebrikizumab maintain response rates in atopic dermatitis?
- 5 Most patients with AD on dupilumab stick with this drug long-term

6 Psoriasis

- 6 Botulinum toxin A might provide efficacious treatment option for nail psoriasis
- 7 Encouraging results for first oral IL-23 receptor antagonist in plaque psoriasis
- 7 POETYK PSO-1 and 2: Long-term efficacy results of deucravacitinib in plaque psoriasis
- 8 Subcutaneous spesolimab for GPP flare prevention
- 8 Deucravacitinib versus other systemic therapies in Asian patients with psoriasis
- 9 Knocking out psoriasis with high-dose risankizumab?

10 Hair Disorders

- 10 Patients with AA report high long-term regrowth rates with baricitinib
- 11 Can ritlecitinib deliver long-term efficacy in alopecia areata?
- 11 TikTok videos on hair disorders lack reliability

12 Hidradenitis, Acne, and Rosacea

- 12 Spesolimab appears successful in hidradenitis suppurativa
- 12 Promising results for paroxetine in rosacea
- 13 Novel PPAR γ modulator reduces acne manifestations
- 14 Microencapsulated benzoyl peroxide shifts skin microbiome in rosacea

14 Other Skin Conditions and Teledermatology

- 14 OLYMPIA 2: Positive results for nemolizumab in prurigo nodularis
- 15 PRFM or PRP therapy for trophic ulcers due to leprosy?
- 15 Large teledermatology project in a remote island in Eastern Indonesia
- 16 Can AI-driven teledermatology increase access to healthcare in rural African settings?
- 17 Picosecond alexandrite laser safe and effective in benign pigmentary disorders
- 17 Gentamicin improves symptoms in paediatric Nagashima-type palmoplantar keratosis
- 17 Oleogel-S10 shows long-term efficacy and safety in dystrophic epidermolysis bullosa

Stay up-to-date
Follow us on Twitter

MED?COM
MEDICAL PUBLISHERS



Letter from the Editor

Dear colleagues,

The 25th World Congress was well attended by dermatologists from all over the world. In this report, we focus on inflammatory skin diseases.

Various treatment targets have been identified for atopic dermatitis:

- OX40-positive pathogenic T cells by anti-OX40 monoclonal antibody rocatinlimab,
- IL-13 inhibition by the novel inhibitor lebrikizumab, and
- various JAK inhibitors including the novel ivarmacitinib.

In psoriasis, botulinum toxin A may be an efficacious treatment option for patients with nail psoriasis, a refractory and difficult-to-treat condition. Important innovations in small molecules for systemic use were also presented. Two-year data on deucravacitinib showed a 14% loss of efficacy for PASI75 and 40% for PASI90 in the first year with no further decrease after 2 years. Further, encouraging results were shown for small molecule JNJ-77242113; 40.5% of the participants on the highest dose of JNJ-77242113 reached PASI100 compared with none on placebo. With respect to generalised pustular psoriasis, high-dose spesolimab was associated with fewer GPP flares than placebo: an 84% reduction in the risk of flare development was observed. A high-dose study on risankizumab with a single 600 mg versus 300 mg dose showed a mean absolute PASI of 0.6 at week 40. This is the first part of a study looking for the clinical and mechanistic effects of high-dose anti-IL-23 treatment. The hypothesis is that early high-dose treatment with anti-IL23 may lead to long-term deep remissions of psoriasis.

Furthermore, in hidradenitis suppurative, the anti-IL-36 molecule spesolimab proved to have a promising efficacy. In rosacea, paroxetine, a selective serotonin reuptake inhibitor, induced a remarkable improvement in erythema and flushing. And for acne, a topical preparation of PPAR γ modulator NAC-GED 5% proved to be effective.

Best regards,

Peter CM van de Kerkhof

RADBOUD UNIVERSITY NIJMEGEN MEDICAL CENTRE, THE NETHERLANDS



Biography

Peter C.M. van de Kerkhof is emeritus Professor of Dermatology and immediate past chairman of the Department of Dermatology of Radboud University Nijmegen. He is currently the coordinating Medical Officer of the International Psoriasis Council and chair of the scientific advisory board of the Dutch burn association. He has been working for many years on the pathogenesis and treatment of psoriasis. He has published more than 700 publications in peer-reviewed journals and has given many presentations on invitation at international conferences. He has served as president of the ESDR, EDF, and the International Psoriasis Council, and was board member of various international societies. Current interests are pathogenesis and development of biomarkers for psoriasis; real clinical practice research; and personalised medicine.

Conflict of Interest Statement:

Consultancy services for: Celgene, Ammirall, Amgen, Pfizer, Philips, AbbVie, Eli Lilly, Galderma, Novartis, Janssen Biotech, Janssen-Cilag, LEO Pharma, Sandoz, Mitsubishi Tanabe, Bristol Meyer Squibb, UCB, Dermavant.

Speaker services for: Celgene, Ammirall, Eli Lilly, Novartis, Jansen-Cilag, LEO Pharma, Sandoz, Bristol Meyer Squibb.

Atopic Dermatitis

Rocatinlimab delivers efficacy and safety in atopic dermatitis

Rocatinlimab was associated with significantly improved SCORAD and DLQI scores in patients with moderate-to-severe atopic dermatitis (AD) in a phase 2b trial. These improvements appeared to be maintained during a 20-week off-treatment period.

Rocatinlimab, an investigational anti-OX40 monoclonal antibody, was assessed as a potential treatment option for adult patients with moderate-to-severe AD in a phase 2b trial ([NCT03703102](#)). The 274 participants were randomised 1:1:1:1 to 1 of 4 doses of subcutaneous rocatinlimab or a placebo for 36 weeks. The Eczema Area and Severity Index (EASI) results were previously published [1]. Prof. Emma Guttman-Yassky (Icahn School of Medicine at Mount Sinai, NY, USA) currently presented the post-hoc efficacy results of SCORing Atopic Dermatitis (SCORAD) and Dermatology Life Quality Index (DLQI) scores at several time points [2].

After 16 weeks of treatment, SCORAD scores were significantly improved in the active arms compared with placebo: least squares (LS) mean changes ranged from -41.0 to -55.8, depending on dose level, versus -20.0 for placebo ($P < 0.001$ for all doses). The scores in the active arms continued to drop until week 36 (-57.5 to -72.3) and were maintained during the 20-week off-treatment period that followed. Likewise, DLQI scores at week 16 were significantly improved in participants receiving rocatinlimab compared with those receiving placebo (-38.3 to -50.4 vs -5.3; $P < 0.02$ for all doses). A maintained benefit was observed during the off-treatment period.

The safety profile of the agent was favourable. The most common treatment-emergent adverse events in the active arms were pyrexia (13–19%), nasopharyngitis (13–15%), and chills (4–22%). “Cases of pyrexia and chills were predominantly observed after the first dose of rocatinlimab, were mild or moderate in nature, and did not result in treatment discontinuation,” added Prof. Guttman-Yassky.

“Rocatinlimab is well tolerated and represents a potential novel treatment option for AD by inhibiting and reducing OX40-positive pathogenic T cells,” decided Prof. Guttman-

Yassky. “The durability of response that is observed with rocatinlimab is unique among current AD therapies and may be suggestive of disease modification.”

1. [Guttman-Yassky E, et al. Lancet. 2023;401\(10372\):204–214.](#)
2. Guttman-Yassky E, et al. Rocatinlimab improves SCORAD and DLQI in adults with moderate-to-severe atopic dermatitis and these effects were maintained in the 20-week off-treatment period in a double-blind randomized phase 2b study. Late-breaker Session 5, WCD 2023, 3–8 July, Singapore, Singapore.

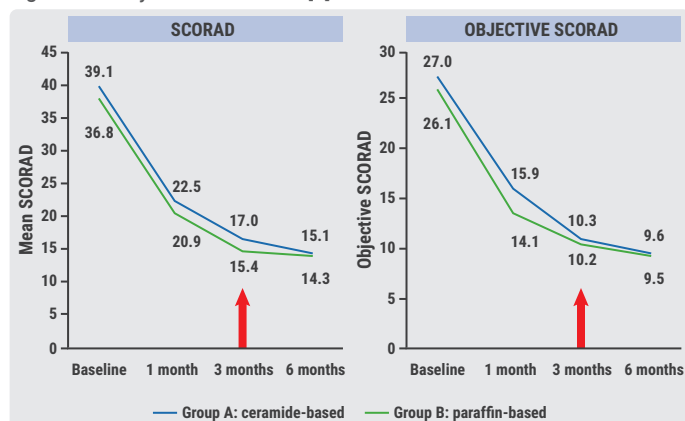
Head-to-head: paraffin- versus ceramide-based moisturiser for paediatric AD

Both a paraffin-based and a ceramide-based moisturiser provided improvements in disease activity in children with mild-to-moderate atopic dermatitis (AD). The efficacy of the 2 therapies appeared to be similar. However, the authors emphasised that a larger, randomised-controlled trial is needed to confirm the current findings.

“Moisturisers are the first-line treatment option for patients with AD,” noted Prof. Sachin Gupta (All India Institute of Medical Sciences, India). “They improve skin barrier function and xerosis, reducing disease severity, transepidermal water loss, and the need for topical corticosteroids.” Since few studies have directly compared different moisturisers, Prof. Gupta and co-investigators randomised 53 children with mild-to-moderate AD to a paraffin-based or a ceramide-based moisturiser to compare the efficacy of the 2 therapies [1]. The primary endpoint was the change on the SCORing Atopic Dermatitis (SCORAD) scale at 3 months.

At baseline, the mean SCORAD values were 39.1 and 36.8 in the ceramide group and paraffin group, respectively. These rates had dropped to 17.0 and 15.4 after 3 months, indicating that the 2 therapies are equally efficacious ($P = 0.37$; see Figure). Similarly, the Children’s Dermatology Life Quality Index and Infants’ Dermatitis Quality of Life Index (CDLQI/IDQOI) scores at 6 months did not demonstrate a clear difference between the 2 study groups, with values of 7.0 in the ceramide group and 6.4 in the paraffin group ($P = 0.35$). Of note, the use of corticosteroids was comparable across both arms. “Performing a regression analysis, we observed that the mean change in SCORAD was 0.78 at 3 months in both groups. However, the 95% CI was not within the predefined margin of equivalence, and we could therefore not prove equivalence,” explained Prof. Gupta.

Figure: Primary outcome results [1]



SCORAD, SCORing Atopic Dermatitis.

In conclusion, the paraffin-based and ceramide-based moisturisers appeared to be equally efficacious in children with AD, but larger studies are needed to validate these initial findings.

1. Gupta S, et al. Evaluation of a paraffin-based moisturizer as compared to a ceramide-based moisturizer in children with atopic dermatitis: a double-blinded two group equivalence randomized controlled trial. Late-breaker Session 3, WCD 2023, 3–8 July, Singapore, Singapore.

JAK inhibitors for AD in the real world

JAK inhibitors performed well in a real-world, Asian cohort of patients with atopic dermatitis (AD). Although most patients had received prior immunosuppressant therapies, JAK inhibitors delivered encouraging efficacy rates, in particular with respect to itch response.

“JAK inhibitors are used in a variety of diseases, including myeloproliferative neoplasms, rheumatoid arthritis, and inflammatory bowel disease,” said Dr Yik Weng (National Skin Centre, Singapore) [1]. “Recently, selective JAK inhibitors have been approved for the treatment of AD.” Dr Weng and colleagues analysed the efficacy and safety of baricitinib, abrocitinib, and upadacitinib in a real-world cohort of Asian patients with AD (n=53) [2]. The study mainly looked at safety and efficacy measures like itch response and Investigator Global Assessment (IGA) after 12 weeks of treatment.

Baricitinib was used by 66% of the participants, 21% used abrocitinib, and 13% used upadacitinib. Cyclosporin (62.3%), methotrexate (47.2%), azathioprine (39.6%), and dupilumab (35.8%) were prior systemic therapies that were most used in this study population. In total, 54% of the participants on baricitinib achieved an IGA response, defined as a score of 0 or 1, and an improvement of at least 2 points. For upadacitinib users and abrocitinib users, the corresponding rates were 67% and 70%. An itch score reduction of at least 4 points was

reached by 100% of the abrocitinib and upadacitinib users and by 71% of the baricitinib users. Furthermore, a self-reported improvement in their skin condition was reported by 100% of the participants on upadacitinib, 90% of the participants on abrocitinib, and 69% of the baricitinib users.

Adverse events: 11.3% of the participants had raised creatine kinase levels, 9.4% had herpes zoster, and 9.4% had raised lipid levels. Headache, transaminitis, and acne were observed in 5.7% of the participants.

“Patients receiving JAK inhibitors for AD usually had received previous other immunosuppressant agents,” summarised Dr Weng. “Nonetheless, a good treatment response was observed for all 3 investigated JAK inhibitors in this cohort, especially with regard to itch response. Abrocitinib and upadacitinib appeared to have a slight advantage over baricitinib with respect to efficacy.” However, the sample size and follow-up duration of this study were limited. These limitations need to be addressed to validate the current findings. “Finally, we need to understand the profile of patients who failed on dupilumab,” Dr Weng concluded his talk.

1. Chovatiya R, Paller AS. *J Allergy Clin Immunol*. 2021;148(4):927–940.
2. Weng YY, et al. Efficacy and adverse effects of oral JAK inhibitors in the treatment of atopic dermatitis: an initial real-world experience in an Asian clinical cohort. Late-breaker Session 5, WCD 2023, 3–8 July, Singapore, Singapore.

Novel JAK1 inhibitor for patients with atopic dermatitis

Ivamacitinib improved signs and symptoms in Chinese patients with moderate-to-severe atopic dermatitis (AD) in the phase 3 QUARTZ3 trial. The drug was well tolerated, supporting that this novel JAK1 inhibitor may be a treatment option for patients with AD.

“The JAK1 inhibitor ivamacitinib is currently under clinical development for the treatment of AD, rheumatoid arthritis, ankylosing spondylitis, ulcerative colitis, Crohn’s disease, and alopecia areata,” said Prof. Jianzhong Zhang (Peking University People’s Hospital, China). He shared the results of the phase 3 QUARTZ3 trial ([NCT04875169](https://clinicaltrials.gov/ct2/show/study/NCT04875169)), which randomised 256 Chinese patients with moderate-to-severe AD 1:1:1 to either 4 or 8 mg daily of the JAK1 inhibitor ivamacitinib or a placebo [1]. The co-primary endpoints of the study were an Investigator’s Global Assessment (IGA) score of 0 or 1 (i.e. clear/almost clear skin) with more than 2 points improvement on this scale, and an Eczema Area and Severity Index (EASI)75 response.

After 16 weeks of therapy, 48.2% of the participants in the 8 mg arm, 42.5% of the participants in the 4 mg arm, and 8.3% of the participants in the placebo arm achieved the first primary endpoint, with ivarmacitinib being significantly more efficacious than placebo ($P < 0.001$ for both). Similarly, an EASI75 response was reached in 71.8%, 60.9%, and 22.6% of the participants in the 8 mg arm, 4 mg arm, and placebo arm, respectively ($P < 0.001$ for both active arms). Notably, the ivarmacitinib arms already obtained a significantly higher efficacy than the placebo after 4 weeks of treatment.

Prof. Zhang mentioned that both ivarmacitinib doses were well tolerated and that no increase in serious adverse events was observed in the active arms, as compared with the placebo arm. The most common adverse events in the 8 mg arm were upper respiratory infections (14.1%), increased blood creatine phosphokinase (11.8%), proteinuria (9.4%), folliculitis (9.4%), and hyperlipidaemia (9.4%).

“The results of this study indicate that ivarmacitinib may be a potential therapy for patients with moderate-to-severe AD,” concluded Prof. Zhang.

1. Zhang J, et al. Ivarmacitinib, a highly selective JAK1 inhibitor for moderate-to-severe atopic dermatitis (AD): 16-week results in Chinese population from a Phase 3 pivotal study. Late-breaker Session 5, WCD 2023, 3–8 July, Singapore, Singapore.

Can lebrikizumab maintain response rates in atopic dermatitis?

Durable responses were observed for patients with moderate-to-severe atopic dermatitis (AD) who responded to lebrikizumab induction therapy, irrespective of concomitant use of topical corticosteroids, in an analysis of 3 phase 3 trials.

Prof. Emma Guttman-Yassky (Icahn School of Medicine at Mount Sinai, NY, USA) and co-investigators aimed to assess the maintenance of efficacy and the safety of lebrikizumab in patients with moderate-to-severe AD by analysing responders from the ADvocate 1 ([NCT04146363](#)) and ADvocate 2 trials ([NCT04178967](#)) ($n=281$ in total), and the ADjoin trial ([NCT04392154](#); $n=86$) [1]. The novel IL-13 inhibitor lebrikizumab has previously been demonstrated to alleviate signs and symptoms of adult and adolescent patients with AD after 16 weeks of therapy [2]. Here, the research team primarily looked at the Investigator Global Assessment (IGA) and Eczema Area and Severity Index (EASI)75 responses from week 16 to week 52 for the ADvocate trials and up to week 56 for the ADjoin trial.

In the ADvocate 1 and 2 trials, 71.2% and 76.8% of the participants maintained an IGA response of 0 or 1 (i.e. clear or almost clear skin) at week 52 for the 2-week dosing and 4-week dosing regimen, respectively, whereas the corresponding rate for those who were in the withdrawal condition after week 16 ($n=60$) was 47.9%. In the ADjoin trial, the IGA 0/1 rate was 96.8% in the 2-week dosing regimen and 78.4% in the 4-week dosing regimen. Similar maintenance trends were observed for the EASI75 responses: of the participants in the 2-week dosing groups who achieved EASI75 at the end of the induction period of the ADvocate 1 and 2 trials, 78.4% maintained this response at week 52. In the 4-week dosing group, 81.7% of the participants reached this endpoint. For the ADjoin trial, the corresponding rates were 85.8% for the 2-week dosing group and 81.2% for the 4-week dosing group. “IGA 0/1 and EASI75 response rates were maintained, regardless of topical corticosteroids use during the induction period,” commented Prof. Guttman-Yassky.

She further stated that the safety profile of lebrikizumab was consistent with previously reported data on this agent in patients with AD. Approximately 50% of the participants experienced at least 1 adverse event, which were mostly mild or moderate and did not lead to treatment discontinuations.

In summary, patients with moderate-to-severe AD who responded to lebrikizumab induction therapy displayed durable responses with maintenance therapy, regardless of the use of topical corticosteroids during induction. According to the authors, the response rates were comparable for the 2-week and 4-week dosing regimens.

1. Guttman-Yassky E, et al. Maintenance of efficacy and safety with lebrikizumab up to one year of treatment in patients with moderate-to-severe atopic dermatitis with or without topical corticosteroids. Late-breaker Session 5, WCD 2023, 3–8 July, Singapore.
2. [Warren RB, et al. Br J Dermatol. 2023; 88\(Suppl 4\).](#)

Most patients with AD on dupilumab stick with this drug long-term

A real-world study indicated that the long-term drug survival rate of dupilumab in patients with moderate-to-severe atopic dermatitis (AD) is high. Few patients discontinued the agent due to side effects or ineffectiveness. An additional analysis showed that early onset of AD was associated with reduced dupilumab survival in the study population.

“Real-world data on the long-term survival of dupilumab use and the associated predictors in patients with moderate-

to-severe AD is limited,” said Dr Elena Pezzolo (San Bortolo Hospital, Italy). Therefore, Dr Pezzolo and co-investigators prospectively evaluated dupilumab drug survival in a cohort of adult patients with moderate-to-severe AD [1].

Included were 363 participants who were followed for up to 4 years. Participants had received at least 4 weeks of dupilumab therapy to be eligible for this study. The classical AD phenotype accounted for 60.1% of the cases, whereas 16.2% of participants had the portrait phenotype (also referred to as head and neck dermatitis), and 10.7% had the prurigo nodularis-like phenotype. Allergic asthma, allergic rhinitis, and food allergy were present in 30.0%, 40.7%, and 34.1% of the participants, respectively. Furthermore, 28.6% had received 1 prior immunosuppressive agent, whereas 71.4% had received at least 2 prior immunosuppressive agents.

On average, the participants achieved a 60.8% reduction of the Eczema Area and Severity Index (EASI) score from baseline to week 4. In addition, 40.2% reached an EASI score of 7 or lower. After 4 years of follow-up, 12% of the

patients had discontinued dupilumab. Adverse events (7.8%) and ineffectiveness (29.6%) were among the main reasons for discontinuation of the agent. Conjunctivitis (3.3%), psoriasiform, and/or urticarial lesions (1.1%) were the most frequently observed side effects that led to dupilumab discontinuation. Furthermore, early onset of AD (before the age of 18 years) was the only significant predictor of reduced duration of dupilumab drug survival (HR 1.32; 95% CI 1.12–1.78; P=0.04).

“Only a limited number of patients discontinued dupilumab due to adverse events or ineffectiveness after 4 years of follow-up, suggesting that the 4-year drug survival of dupilumab in patients with moderate-to-severe AD is good,” concluded Dr Pezzolo. “However, the sample size of the current study is limited, and larger real-world studies are needed to validate our findings and discover factors that are associated with dupilumab drug survival.

1. Pezzolo E, et al. Long-term drug survival of dupilumab and associated predictors in moderate-to-severe atopic dermatitis: a real-world prospective cohort study. Session Atopic dermatitis 2, WCD 2023, 3–8 July, Singapore, Singapore.

Psoriasis

Botulinum toxin A might provide efficacious treatment option for nail psoriasis

Botulinum toxin A may be an effective treatment option for nail psoriasis, a hard-to-treat condition for which new treatment options are highly needed. In a randomised-controlled trial, a single injection of botulinum toxin A appeared to be equally efficacious as multiple injections of corticosteroids.

“The current treatment options for patients with nail psoriasis come with substantial limitations,” stated Dr Premjit Juntongjin (Thammasat University, Thailand) [1]. “For example, topical treatments are often poorly absorbed, whereas systemic treatments can induce systemic adverse events. Also, biologics are costly and local injections are often painful and require multiple sessions.” For this purpose, Dr Juntongjin and co-investigators designed a study to investigate an alternative treatment for nail psoriasis.

The study randomised 64 nails of 16 individuals with nail psoriasis to 1 of 4 investigational conditions:

- a single intralesional botulinum toxin A injection,
- 2 intralesional injections with triamcinolone acetonide,
- topical calcipotriol/betamethasone, once daily,
- wait-and-see.

After a treatment period of 16 weeks and a follow-up period of 8 weeks, the investigators analysed the efficacy of the treatment options.

All active treatment options significantly outperformed the wait-and-see approach in terms of the percentage change in the total target Nail Psoriasis Severity Index (NAPSI) score (P<0.01). “Interestingly, multiple corticosteroid injections were not superior to a single botulinum toxin A injection at any time point,” commented Dr Juntongjin. Looking at the nail bed NAPSI score, botulinum toxin A was associated with significantly improved outcomes compared with corticosteroid injections at week 24 (P=0.002). There were

no significant differences in pain or adverse reactions when the different treatment regimens were compared.

“The results of the current study demonstrate that botulinum toxin A may be an efficacious treatment option for patients with nail psoriasis, a refractory and difficult-to-treat condition,” decided Dr Juntongjin. “The effect of botulinum toxin A on neurogenic inflammation, a less explored pathogenesis of psoriasis, may explain the effect that we observed in this trial.”

1. Juntongjin P, et al. Efficacy of intralesional botulinum toxin, intralesional corticosteroids and topical vitamin D/steroid in nail psoriasis: a comparative randomized intra-individual controlled study. Late-breaker Session 1, WCD 2023, 3–8 July, Singapore, Singapore.

Encouraging results for first oral IL-23 receptor antagonist in plaque psoriasis

A first-in-class, investigational, oral, IL-23 receptor antagonist peptide, provisionally named JNJ-77242113, was associated with improved efficacy outcomes compared with placebo in patients with moderate-to-severe plaque psoriasis, in a phase 2b study.

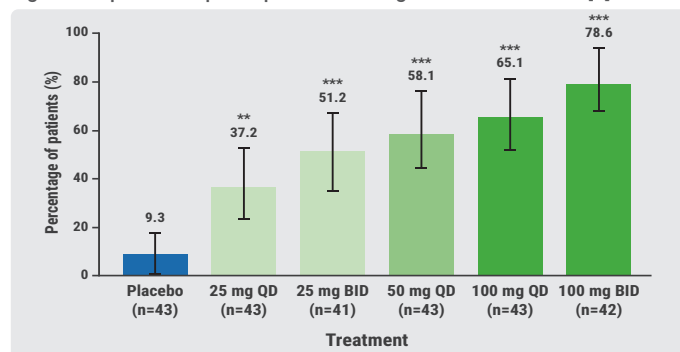
“There are currently no orally delivered therapeutics for psoriasis selectively targeting the IL-23 pathway,” said Dr Robert Bissonnette (Innovaderm Research, Canada) [1]. JNJ-77242113 is a first-in-class, oral, IL-23 antagonist peptide. “Because of the gastrointestinal stability and potency of this investigational agent, it is able to deliver systemic IL-23 pathway blockade via oral dosing,” added Dr Bissonnette.

The FRONTIER 1 trial ([NCT05223868](#)) randomised 255 patients with moderate-to-severe plaque psoriasis 1:1:1:1:1 to 1 of 5 doses of JNJ-77242113, ranging from 25 mg once daily to 100 mg twice daily, or a placebo. Dr Bissonnette and colleagues looked primarily at the proportion of participants achieving Psoriasis Area and Severity Index (PASI)75 after 16 weeks of treatment [2].

A significant dose-response was observed for PASI75 after 16 weeks of therapy: 9.3% of the participants on placebo reached PASI75 compared with 37.2% ($P<0.01$) and 78.6% ($P<0.001$) of the participants on the lowest dose and highest dose of JNJ-77242113, respectively (see Figure). Furthermore, 40.5% of the participants on the highest dose of JNJ-77242113 reached PASI100 compared with none on placebo.

Dr Bissonnette added that patients responded quickly to the agent, with over 20% of the participants in the high-dose

Figure: Proportion of participants achieving PASI75 at week 16 [2]



** $P<0.01$; *** $P<0.001$. As compared with placebo.
BID, twice daily; QD, once daily.

group achieving PASI75 at week 4. In terms of Investigator’s Global Assessment (IGA) response, 64.3% of the participants in the highest dose group achieved a score of 0 or 1, compared with 11.6% of the participants in the placebo. In addition, 45.2% of the participants in the high-dose group reached an IGA score of 0, whereas none of the participants on placebo reached this score.

No dose-related trends were observed regarding adverse events. The proportions of participants who experienced at least 1 adverse event were comparable for the 6 arms of the study. COVID-19 (10.8%) and nasopharyngitis (7.1%) were the most frequently reported adverse events.

In conclusion, JNJ-77242113 showed promising efficacy results in this phase 2b study and was well tolerated in a population of patients with moderate-to-severe plaque psoriasis.

1. Fourie A, et al. Presented at ISID meeting; May 10-13, 2023; Tokyo, Japan. ID1109.
2. Bissonnette R, et al. A phase 2, randomized, placebo-controlled, dose-ranging study of oral JNJ-77242113 for the treatment of moderate-to-severe plaque psoriasis: FRONTIER 1. Late-breaker Session 1, WCD 2023, 3–8 July, Singapore, Singapore.

POETIK PSO-1 and 2: Long-term efficacy results of deucravacitinib in plaque psoriasis

A follow-up analysis of the POETIK PSO-1 and PSO-2 trials demonstrated maintained efficacy with continued deucravacitinib treatment over 2 years in patients with moderate-to-severe plaque psoriasis, further supporting the use of deucravacitinib in this population.

“Deucravacitinib is a TYK2 inhibitor, uniquely binding to the regulatory domain of TYK2, driving the selectivity of the molecule,” started Prof. Mark Lebwohl (Icahn School of Medicine at Mount Sinai, NY, USA). “It represents the first

in a new class of molecules.” The phase 3 POETYK PSO-1 ([NCT03624127](#)) and PSO-2 ([NCT03611751](#)) trials showed that deucravacitinib is superior to placebo for the treatment of patients with moderate-to-severe plaque psoriasis [1,2]. Participants who completed these trials could enrol in the POETYK PSO-LTE trial ([NCT04036435](#)), receiving continued deucravacitinib. Prof. Lebwohl presented data from participants who entered this long-term extension trial after achieving Psoriasis Area and Severity Index (PASI)75 at week 16 in one of the initial trials (n=313) [3].

At week 52, the PASI75 rate dropped from 100% to 86.5%, but it slightly increased again to 89.1% at week 112, as measured by the treatment failure rules (TFR). Similarly, PASI90 rates were maintained at weeks 16, 52, and 112 with rates of 55.9%, 60.6%, and 59.5%, respectively. Also, the static Physician's Global Assessment (sPGA) 0/1 rate was 70.2% at week 52 and this was maintained at week 112, with 68.8%.

In summary, high clinical activity rates were maintained at week 112 in patients with moderate-to-severe plaque psoriasis who reached PASI75 at week 16 in the POETYK PSO-1 and PSO-2 trials, supporting the use of this once-daily, oral therapy.

1. [Armstrong AW, et al. J Am Acad Dermatol. 2023;88\(1\):29–39.](#)
2. [Strober B, et al. J Am Acad Dermatol. 2023;88\(1\):40–51.](#)
3. Lebwohl MG, et al. Deucravacitinib long-term efficacy with continuous treatment in plaque psoriasis: 2-year results from the phase 3 POETYK PSO-1 AND PSO-2 trials. Session Psoriasis 1, WCD 2023, 3–8 July, Singapore, Singapore.

Subcutaneous spesolimab for GPP flare prevention

High-dose, subcutaneous spesolimab was associated with fewer flares compared with placebo over 48 weeks in patients with generalised pustular psoriasis (GPP). Together with the favourable safety profile of the agent, these results support a potential role for spesolimab in the prevention of flares in patients with GPP.

“In many countries, therapy with intravenous spesolimab is an approved treatment for patients with GPP in the context of controlling acute flares,” claimed Prof. Bruce Strober (Yale University School of Medicine, CT, USA) [1]. “However, a high unmet need remains with respect to GPP flare prevention.” Therefore, the Effisayil 2 trial ([NCT04399837](#)) randomised 123 patients with GPP 1:1:1 to 1 of 3 doses of spesolimab or a placebo to assess the efficacy of spesolimab for the prevention of flares in GPP. The lowest dose group started with a 300 mg loading dose, followed by 150 mg every 12

weeks. The highest dose group started with a 600 mg loading dose, followed by 300 mg every 4 weeks. Prof. Strober presented the primary outcome results of time to GPP flare by week 48 [2].

High-dose spesolimab was associated with fewer GPP flares than placebo: an 84% reduction in the risk of flare development was observed, with a corresponding hazard ratio of 0.16 (95% CI 0.05–0.54; P=0.0005). In the placebo arm, 51.6% of the participants experienced at least 1 flare, compared with 12.7% of the patients in the high-dose spesolimab arm. Prof. Strober added that no flares were seen in the high-dose spesolimab group after week 4. Spesolimab also positively affected quality-of-life: high-dose spesolimab reduced the risk for Psoriasis Symptom Scale (PSS; HR 0.42; P=0.013) and Dermatology Life Quality Index (DLQI) questionnaire (HR 0.26; P=0.0010) worsening up to week 48, compared with placebo.

The authors did not observe a dose-dependent pattern with regard to safety, and the incidence of adverse events was similar between the spesolimab arms and the placebo arm. Although there was a higher rate of localised injection site reactions in the active drug arms, these events were mostly mild and did not lead to treatment discontinuation.

“The positive benefit-risk profile of subcutaneous spesolimab shows that this therapy may have a role in the prevention of flares in patients with GPP,” concluded Prof. Strober.

1. [Bachelez H, et al. N Engl J Med 2021;385:2431–2440.](#)
2. Lebwohl M, et al. Spesolimab for the prevention of generalized pustular psoriasis (GPP) flares: results from the randomized, placebo-controlled trial Effisayil 2. Late-breaker Session 1, WCD 2023, 3–8 July, Singapore, Singapore.

Deucravacitinib versus other systemic therapies in Asian patients with psoriasis

The efficacy of deucravacitinib for the treatment of moderate-to-severe plaque psoriasis was comparable to that of most other biologics, according to a systematic review and network meta-analysis that indirectly compared the efficacy of systemic therapies for psoriasis in Asian patients. Therefore, the oral therapy deucravacitinib appears to be an efficacious and convenient therapy for this population.

“No network meta-analyses comparing systemic therapies for the treatment of Asian patients with moderate-to-severe plaque psoriasis have been published to date,” said Prof. Tsen-Fang Tsai (National Taiwan University

Hospital, Taiwan). “Nonetheless, evidence indicates that the comparative efficacy of systemic therapies may be different in Asian populations compared with White patients due to lifestyle differences, patient characteristics, and clinical practice” [1,2]. Therefore, the current study aimed to determine the comparative effectiveness of deucravacitinib relative to other systemic therapies in (East)-Asian patients with moderate-to-severe plaque psoriasis [2]. The authors selected 20 trials for the network meta-analysis. Prof. Tsai added that bimekizumab, cyclosporine, dimethyl fumarate, and methotrexate were not included as comparators, due to the lack of available data for Asian patients.

After 10–16 weeks, the estimated Psoriasis Area and Severity Index (PASI)75 response was 66% for participants who were treated with deucravacitinib (95% CI 49–80%), which appeared to be higher than the response rate of participants who were being treated with apremilast (24%; 95% CI 12–40), whereas no significant differences were observed between deucravacitinib and TNF- α inhibitors, ustekinumab, and tildrakizumab. The efficacy rates in participants on IL-17 inhibitors, guselkumab, or risankizumab appeared to be somewhat higher (87–98% depending on the agent and dose used; see Figure) than that of deucravacitinib. Similar results were reported for PASI90 responses.

Prof. Tsai mentioned that few studies that met the inclusion criteria reported long-term endpoints or data on biologic experience. “These data are important for the management of psoriasis and including this information in our network meta-analysis would have improved our understanding of

psoriasis management in Asian patients. Nonetheless, oral deucravacitinib appears to be a convenient therapy with comparable efficacy to that of most biologics,” he concluded.

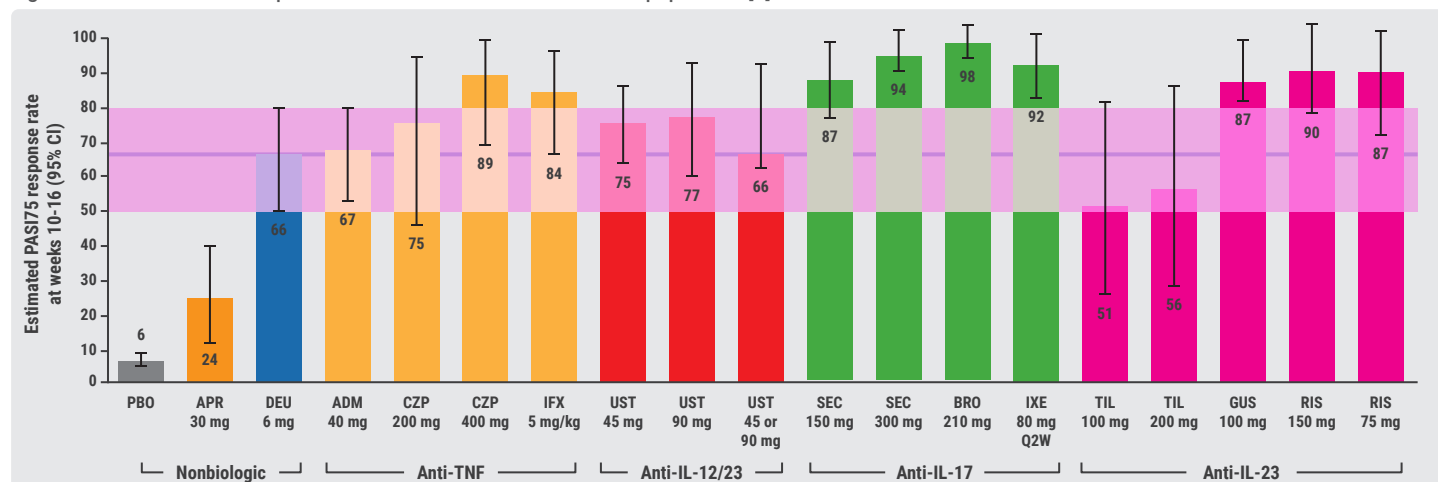
1. Yu C, et al. *Dermatology and Therapy*. 2023;13:187–206.
2. Tsai T-F, et al. Indirect comparison of deucravacitinib and other systemic treatments for moderate to severe plaque psoriasis in Asian population: A systemic literature review and network meta-analysis. Session Psoriasis 1, WCD 2023, 3–8 July, Singapore, Singapore.

Knocking out psoriasis with high-dose risankizumab?

High induction dosing of risankizumab was remarkably efficacious in a population of patients with moderate-to-severe psoriasis, according to the interim results of the phase 2 KNOCKOUT trial. Further analyses will provide data on the duration of efficacy and the role of resident-memory T cells in this process.

Dr Andrew Blauvelt (Oregon Medical Research Center, OR, USA) and co-researchers aimed to evaluate whether high-dose IL-23 inhibition results in long-term remission in patients with moderate-to-severe plaque psoriasis [1]. “By hitting hard and early in the treatment course, we may reduce resident-memory T cells in the skin, which are potential drivers for chronic recurrence of psoriasis,” he clarified. He added that IL-23 inhibitors, such as risankizumab, have been associated with long disease-free intervals after drug cessation [2]. In the ongoing, phase 2 KNOCKOUT study (NCT05283135), 20 participants were randomised 1:1 to a single dose of 300 mg or 600 mg risankizumab, subcutaneously administered. Dr Blauvelt presented the interim efficacy outcomes after 40 weeks of treatment [1].

Figure: Estimated PASI75 response rates at weeks 10–16 in an Asian population [2]



ADM, adalimumab; APR, apremilast; BRO, brodalumab; CZP, certolizumab pegol; DEU, deucravacitinib; GUS, guselkumab; IFX, infliximab; IL, interleukin; IXE, ixekizumab; PASI, Psoriasis Area and Severity Index; PBO, placebo; RIS, risankizumab; SEC, secukinumab; TIL, tildrakizumab; TNF, tumour necrosis factor; UST, ustekinumab.

At week 40, 88.9% of the participants achieved Psoriasis Area and Severity Index (PASI)90 and 66.7% of the participants reached PASI100. Dr Blauvelt mentioned that during the execution of this interim analysis, it was unknown if participants were on the 300 mg or the 600 mg dose. “More important, however, is that the mean absolute PASI was 0.6 at week 40,” he added. “We had 1 outlier, a morbidly obese patient who failed all biologics; he achieved an absolute PASI of 10. But everyone else is dropping out. We’re knocking out psoriasis with this initial high dosing.” Finally, there were no safety issues, according to Dr Blauvelt.

Future analyses from this study at week 52 will display how long psoriasis can be knocked out in these patients and whether the number of resident-memory T cells in fact dropped after the cessation of high-dose induction therapy with risankizumab.

1. Blauvelt A, et al. High induction dosing of Risankizumab in patients with moderate-to-severe plaque psoriasis: interim results from the phase 2 KNOCKOUT study (NCT05283135). Late-breaker Session 5, WCD 2023, 3–8 July, Singapore, Singapore.
2. [Blauvelt A, et al. JAMA Dermatol. 2020;156:649–658.](#)

Hair Disorders

Patients with AA report high long-term regrowth rates with baricitinib

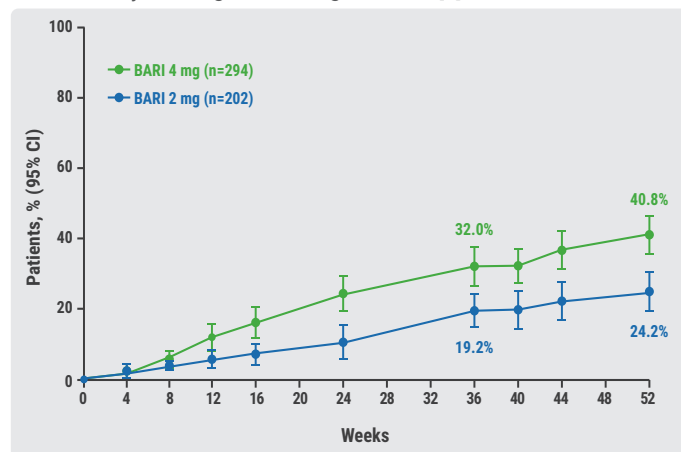
Patient-reported outcomes from 2 phase 3 clinical trials confirmed that baricitinib is an efficacious therapy for patients with severe alopecia areata (AA). After a year of follow-up, a larger proportion of participants reached a self-reported complete or nearly complete regrowth of scalp, eyebrow, or eyelash hair than at week 36. The 4 mg dose of baricitinib was associated with higher response rates than the 2 mg dose.

Baricitinib is an efficacious therapy for patients with severe AA, as shown by the results of 2 phase 3 trials [1]. “To gain a better view on the efficacy of this agent, we need to evaluate responses from the patient’s perspective,” argued Dr Maryanne Senna (Harvard Medical School, MA, USA) [2]. Dr Senna discussed patient-reported outcomes for scalp hair, eyebrow, and eyelash regrowth during 52 weeks of treatment with baricitinib, using findings from the BRAVE-AA1 ([NCT03570749](#)) and BRAVE-AA2 ([NCT03899259](#)) trials.

Both trials randomised participants with severe AA (n=654; n=546) 2:2:3 to placebo, 2 mg baricitinib daily, or 4 mg baricitinib daily. Of note, over 50% of the participants had 95–100% hair loss at baseline. Participants in the placebo arm were not included in the current analysis.

After 52 weeks, 35.3% and 19.1% of the participants in the 4 mg and 2 mg arms achieved a Scalp Hair Assessment PRO score of 0 or 1. At week 36, the corresponding rates were 33.7% and 16.0%, showing that regrowth of scalp hair increased in the long term. For the patient-reported outcome measure reporting on eyebrow regrowth, scores of 0 or 1 were reached by 33.8% of the patients in the 4 mg arm at week 36, increasing to 40.4% at week 52. For the 2 mg arm, the corresponding rates were 15.7% and 21.3%. Similar findings were reported for patient-reported eyelash regrowth (see Figure).

Figure: Proportion of patients achieving a patient-reported outcome score of 0 or 1 on eyelash regrowth through week 52 [2]



BARI, baricitinib; CI, confidence interval.

In summary, the proportion of patients reporting complete or nearly complete scalp hair, eyebrow, and eyelash regrowth continued to increase from week 36 to week 52 in patients with severe AA on baricitinib. The response rates were higher in the 4 mg arm than in the 2 mg arm.

1. King B, et al. *N Engl J Med* 2022;386:1687–1699.
2. Senna MM, et al. Patient reported outcomes for scalp, eyebrow, and eyelash involvement in patients with severe alopecia areata treated with baricitinib: 52-week results from two phase 3 clinical trials. Session Hair Disorders 1, WCD 2023, 3–8 July, Singapore, Singapore.

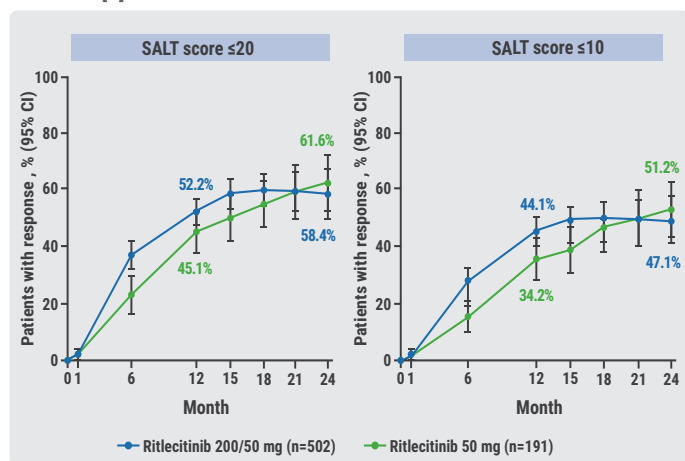
Can ritlecitinib deliver long-term efficacy in alopecia areata?

The efficacy of ritlecitinib as a therapy for patients with alopecia areata (AA) continued to increase over 2 years of follow-up of the ALLEGRO trials. Importantly, the agent was well tolerated in the long term. The long-term trial is ongoing and further results are expected in the future.

Prof. Melissa Piliang (Cleveland Clinic, OH, USA) presented the efficacy results from a pooled analysis of the pivotal phase 2b/3 ALLEGRO trial ([NCT03732807](#)) and the ALLEGRO-LT trial ([NCT04006457](#)) [1]. In total, 502 participants with AA received a 200 mg loading dose of ritlecitinib for 4 weeks followed by a daily dose of 50 mg, and 191 participants received 50 mg daily, without the loading dose.

After 24 months of therapy, 58.4% of the participants in the loading-dose arm and 61.6% of the non-loading-dose arm achieved a Severity of Alopecia Tool (SALT) score ≤ 20 (see Figure). Prof. Piliang clarified that the initial advantage in response rate of the 200 mg loading-dose group was no longer present at 24 months of follow-up. “At 12 months, we

Figure: The proportion of patients with SALT score ≤ 20 and ≤ 10 up to month 24 [1]



CI, confidence interval; SALT, Severity of Alopecia Tool.

observed response rates of 52.2% in the 200/50 mg arm and 45.1% in the 50 mg arm. These rates continued to increase in the following year and turned out to be similar at 24 months.” Furthermore, a SALT score ≤ 10 was reached by 47.2% and 51.2% of the participants in the 200/50 mg arm and 50 mg arm, respectively.

The most common adverse events were headache (15.2–15.5%), SARS-CoV-2-positivity (12.2–14.7%), nasopharyngitis (11.0–11.2%), and acne (10.4–11.5%). Herpes simplex was seen in 2% of the participants and herpes zoster was reported in 1.2–3.7% of the participants.

“These results demonstrate the clinically meaningful and sustained long-term efficacy of ritlecitinib in patients with AA,” concluded Prof. Piliang.

1. Piliang M, et al. Long-term efficacy of ritlecitinib up to month 24: integrated analysis of the ALLEGRO phase 2b/3 and long-term phase 3 clinical studies in alopecia areata (AA). Late-breaker Session 3, WCD 2023, 3–8 July, Singapore, Singapore.

TikTok videos on hair disorders lack reliability

Video content on TikTok related to hair disorders lacks reliability, even when the videos are created by dermatologists or other physicians. Still, physician-made videos were more reliable than non-physician-made videos. Citing sources and providing additional reading options are possible actions that could be taken to improve video content on hair disorders.

“TikTok is a video-focused social network with 1.4 billion monthly users,” explained Dr Betty Nguyen (University of Miami, FL, USA). “It is one of the fastest growing social media platforms in the world and has been used to spread dermatologic information.” Studies reporting on this information found that the video content had major shortcomings, even when videos were made by physicians [1,2].

The current study investigated the characteristics of TikTok’s most viewed videos on alopecia [3]. The authors looked at the type of hair condition being discussed, who made the videos, the content of the videos, and the reliability of the content. The top 25 most viewed videos for the top 8 most popular hair disorders were included in the analysis (n=200).

Videos on alopecia areata (43 million views), traction alopecia (24 million views), and trichotillomania (10 million views) were the most frequently viewed diagnoses. Patients were

responsible for 64.5% of the most popular video content. Board-certified dermatologists (9.8%), self-proclaimed hair experts (8.7%), and other medical practitioners (4.4%) were other sources of popular videos. The video content was mostly about personal experiences (54.6%). However, educational videos (32.8%), hair care tips (18.6%), and product reviews (13.7%) were also common topics in the most popular videos. The educational videos covered treatment options (70.0%), aetiology (58.3%), diagnosis (15.0%), and nutrition (8.3%).

Dr Nguyen and co-investigators assessed the reliability of the content using the DISCERN score. This instrument rates the

reliability and quality of online health information on a scale from 1 to 5; 1 being 'low quality with serious or extensive shortcomings', and 5 being 'high quality with minimal shortcomings'. Although the videos made by physicians had higher DISCERN scores than the videos of non-physicians (2.22 vs 1.52; $P < 0.0001$), the scores indicate that even the physician-made content had serious shortcomings. "Citing sources, discussing the risks and benefits of treatment options, and providing options for additional reading could be areas for improvement of the videos," argued Dr Nguyen.

1. Zheng DX, et al. *Pediatr Dermatol*. 2021;38(1):336–338.
2. Rehman R, et al. *JAAD Int*. 2021;5:98–100.
3. Nguyen B, et al. Alopecia content on TikTok: A cross-sectional analysis. Session Hair disorders 1, WCD 2023, 3-8 July, Singapore, Singapore.

Hidradenitis, Acne, and Rosacea

Spesolimab appears successful in hidradenitis suppurativa

Spesolimab was associated with decreased total count of hidradenitis suppurativa (HS) lesions in a proof-of-concept study. Moreover, the agent was well tolerated. According to the authors, the results of the current study support further investigation of spesolimab in patients with HS.

"Spesolimab is an IL-36 inhibitor and there is evidence that IL-36 agonists are overexpressed in HS, especially with respect to draining tunnels," said Prof. Afsaneh Alavi (Mayo Clinic, MN, USA) [1,2]. Prof. Alavi presented the primary results of a proof-of-concept trial ([NCT04762277](#)) that randomised 52 patients with moderate-to-severe HS 2:1 to spesolimab or a placebo [2]. The participants in the active arm were continuously treated with spesolimab over 24 weeks: they received a loading dose of 1,200 mg spesolimab, intravenously administered at weeks 0, 1, and 2, followed by a maintenance dose of 1,200 mg subcutaneously every 2 weeks. The primary outcome was the percentage change from baseline in total abscess and inflammatory nodule count after 12 weeks of treatment.

"All lesion types were reduced after 12 weeks of treatment with spesolimab," said Prof. Alavi. Though there was only a slight numerical advantage of spesolimab over placebo in the

primary endpoint (-38.8% vs -34.7%). However, for example, the percentage change from baseline in drainage tunnel count favoured the spesolimab arm over the placebo arm (-40.1% vs +56.6%). The 12-week, open-label extension study also showed ongoing reductions in abscesses, inflammatory nodules, and draining tunnels with spesolimab.

The safety profile of spesolimab was favourable and in line with previous publications on this agent. Injection-site reactions, such as injection-site pain (8.3%) and injection-site erythema (11.1%), were the most common treatment-related adverse events in the spesolimab arm.

Prof. Alavi concluded that these results support further development of spesolimab in patients with HS.

1. Hessam S, et al. *Br J Dermatol*. 2018;178:761–767.
2. Alavi A, et al. Spesolimab for hidradenitis suppurativa: a proof-of-concept study. Session Acne, Hidradenitis Suppurativa, Rosacea 1, WCD 2023, 3–8 July, Singapore, Singapore.

Promising results for paroxetine in rosacea

Paroxetine appeared to be an efficacious and safe therapy for patients suffering from moderate-to-severe erythema of rosacea in a first randomised-controlled trial. Further studies looking at the long-term efficacy and in-depth mechanisms of this agent are ongoing.

“Paroxetine is a selective serotonin reuptake inhibitor that decreases menopausal hot flashes,” said Dr Yingxue Huang (Central South University, China) [1]. “Since the treatment options for flushing in rosacea are limited, we aimed to evaluate the effect of paroxetine for this condition.” Dr Huang added that similar psychotropic drugs have been reported to alleviate the symptoms of rosacea, but that these effects have not yet been tested in larger studies. Therefore, the PRRERCT trial randomised 112 participants with rosacea with refractory erythema 1:1 to a daily dose of 25 mg paroxetine or a placebo. The primary endpoint was achieving success at the Clinician Erythema Assessment (CEA), defined as an improvement of at least 2 grades or a score of 0 or 1 after 12 weeks of treatment.

After 12 weeks, participants receiving paroxetine were significantly more likely to reach CEA success than participants on placebo (42.9% vs 20.8%; P=0.02). In addition, a greater proportion of participants in the experimental arm achieved flushing success (44.9% vs 25.0%; P=0.04) or an improvement in burning sensation (46.9% vs 18.8%; P=0.003).

Regarding safety, the rate of treatment-emergent adverse events was 24.1% in the paroxetine arm and 11.1% in the placebo arm. The most common treatment-emergent adverse events in the experimental arm were dizziness (10.3%), lethargy (10.3%), and nausea (8.6%).

“The regulation mechanisms of serotonin intake may explain the effectiveness of paroxetine for the treatment of rosacea ‘redness,’ since serotonin uptake plays an important role in vasomotor balance,” explained Dr Huang. “The results of the current trial indicate that paroxetine may be an effective and well-tolerated alternative treatment for patients with moderate-to-severe erythema of rosacea.” Further studies assessing the long-term efficacy and in-depth mechanism of this agent in rosacea are ongoing.

1. Huang Y, et al. Paroxetine is an effective treatment for refractory erythema of rosacea: primary results from the PRRERCT (prospective rosacea refractory erythema randomized controlled trial). Session Acne, Hidradenitis Suppurativa, Rosacea 1, WCD 2023, 3–8 July, Singapore, Singapore.

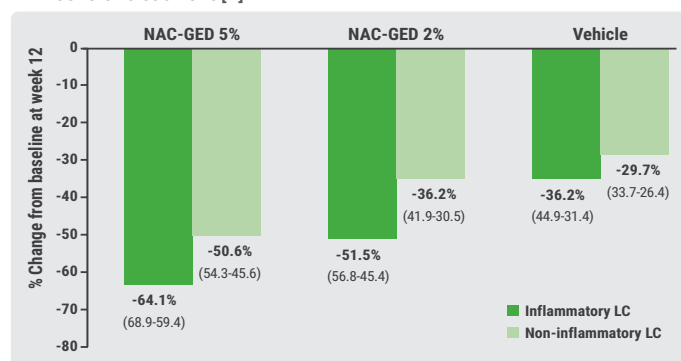
Novel PPAR γ modulator reduces acne manifestations

The novel PPAR γ modulator NAC-GED 5% was associated with improved acne manifestations in patients with moderate-to-severe acne in a phase 2b study. With an accompanying favourable safety profile, this result warrants the evaluation of NAC-GED 5% in a phase 3 trial.

N-acetyl-GED-0507-34-levo (NAC-GED) is a small molecule developed for the topical treatment of acne. It is formulated as a hydrophilic, non-alcoholic gel. The phase 2b GEDACNE study ([EudraCT_2018-003307-19](#)) randomised 450 patients with moderate-to-severe facial acne vulgaris 1:1:1 to treatment with NAC-GED 5% gel, NAC-GED 2% gel, or a placebo. The primary endpoints were the percentage change from baseline in total lesion count and success on the Investigator’s Global Assessment (IGA) scale for acne, defined as a 0 or 1 score (i.e. clear or almost clear skin) or a reduction of at least 2 points. Prof. Mauro Picardo (International Medical University, Italy) presented the primary findings [1,2].

After 12 weeks of treatment, the percentage change from baseline in total lesion count was -57.1% in the NAC-GED 5% arm, -44.7% in the NAC-GED 2% arm, and -33.7% in the placebo arm. Both experimental arms significantly outperformed the placebo arm and the higher dose regimen significantly outperformed the lower dose regimen (P<0.001 for all). The IGA success rates were 45%, 33%, and 24%, respectively, and the differences between the NAC-GED 5% arm and the other 2 arms were significant (P<0.001 for all). Furthermore, significant changes were observed for both inflammatory lesions and non-inflammatory lesions (see Figure). The investigational agent was well tolerated and neither gender nor age influenced responsiveness.

Figure: Changes in inflammatory and non-inflammatory lesion count after 12 weeks of treatment [1]



LC, lesion count; NAC-GED, N-acetyl-GED-0507-34-levo.

“The PPAR γ modulator NAC-GED 5% gel achieved both primary endpoints in a population of patients with moderate-to-severe facial acne vulgaris and will therefore be studied in a phase 3 trial,” concluded Prof. Picardo.

1. Picardo M, et al. Successful modulation of the PPAR γ -receptor in the treatment of acne vulgaris: results of an international phase 2b study with NAC-GED-0507 gel. The GEDACNE study. Session Acne, Hidradenitis Suppurativa, Rosacea 1, WCD 2023, 3–8 July, Singapore, Singapore.
2. [Picardo M, et al. Br J Dermatol. 2022;187\(4\):507–514.](#)

Microencapsulated benzoyl peroxide shifts skin microbiome in rosacea

Microencapsulated benzoyl peroxide improved rosacea and shifted the skin microbiome after 8 weeks, reducing *Staphylococcus epidermidis* and increasing *Cutibacterium acnes*. Furthermore, the authors of the current study argued that an increase in the histidine degradation pathway may be indicative of a functional change in the skin.

“Benzoyl peroxide, if normally formulated, is highly reactive and not well tolerated by patients with rosacea,” Prof. Raja Sivamani (Pacific Skin Institute, CA, USA) started his presentation [1]. “In fact, it will create more inflammation and free radical damage. However, microencapsulated benzoyl peroxide is efficacious and well tolerated. Our aim is not to figure out if it works, but why it works.” Participants with rosacea were randomised to receive microencapsulated benzoyl peroxide (n=15) or a placebo (n=16). The main purpose of the study was to evaluate changes to the skin microbiome. Prof. Sivamani emphasised that the study method only allowed for the collection of aerobic environments and not anaerobic environments.

After 8 weeks of treatment, no difference was observed in the Shannon diversity index in either the active group or the

placebo group. “However, looking at the actual genera, a couple of bacteria drew our attention,” Prof. Sivamani added. A non-significant slight reduction in *Staphylococcus epidermidis* (P=0.11) and an increase in *Cutibacterium acnes* (P=0.034) were reported from baseline to week 8 in the active treatment group. These shifts were not observed in the placebo arm. Furthermore, a significant elevation in the histidine degradation pathway was reported in the active arm. “If the microbes are degrading histidine, the thought is that they are being delivered more histidine,” argued Prof. Sivamani. “And histidine is one of the vital amino acids of the skin barrier. In combination with the improvement in rosacea, we argue that histidine utilisation is going up, reflecting the improved skin barrier that we observed from the clinical data.”

In conclusion, microencapsulated benzoyl peroxide improved rosacea symptoms by shifting the skin microbiome. The changes observed in the histidine degradation pathway suggest a functional change in the skin as well. “The next step is to analyse whether changes in the skin microbiome persist after the treatment is ended,” Prof. Sivamani concluded.

1. Sivamani RK, et al. Microencapsulated Benzoyl Peroxide Cream, 5% Effects on the Microbiome of the Skin in Subjects With Moderate to Severe Rosacea. Late-breaker Session 1, WCD 2023, 3-8 July, Singapore, Singapore.

Other Skin Conditions and Teledermatology

OLYMPIA 2: Positive results for nemolizumab in prurigo nodularis

Nemolizumab improved signs and symptoms in patients with moderate-to-severe prurigo nodularis (PN), compared with placebo. Findings from the phase 3 OLYMPIA 2 trial also showed that the frequency of treatment-emergent adverse events was similar in both study groups.

The IL-31 receptor alpha antagonist nemolizumab displayed encouraging efficacy and safety results for patients with PN in a previously published phase 2 study [1]. The results of this study instigated the design of a phase 3 study. The phase 3 OLYMPIA 2 trial ([NCT04501666](https://clinicaltrials.gov/ct2/show/study/NCT04501666)) randomised 274 participants with moderate-to-severe PN 2:1 to nemolizumab every 4 weeks,

subcutaneously administered with a weight-based dosing, or to a placebo. The primary endpoints were the proportion of participants with an improvement from baseline on the Peak Pruritus Numerical Rating Scale (PP NRS) of at least 4 points, and the proportion of participants with Investigator’s Global Assessment (IGA) success, defined as a 0 or 1 score (i.e. clear or almost clear), or an improvement of at least 2 points. Prof. Sonja Ständer (University Hospital Münster, Germany) presented the results after the 16-week treatment period [2].

After 16 weeks of therapy, an improvement of at least 4 points on the PP NRS was seen in 56.3% of the participants on nemolizumab and in 20.9% of those on placebo (P<0.0001). IGA success was achieved by 37.7% of the participants in

the experimental arm and 11.0% of those in the control arm ($P < 0.0001$). Interestingly, both primary endpoints already significantly favoured nemolizumab over placebo after 4 weeks of therapy. Furthermore, significant improvements in sleep disturbance were observed after 4 and 16 weeks in the experimental arm as compared with the placebo arm:

- ≥ 4 -point improvement in SD-NRS at week 4: 37.2% versus 9.9%; $P < 0.001$;
- ≥ 4 -point improvement in SD-NRS at week 16: 51.9% versus 20.9%; $P < 0.001$.

Treatment-emergent adverse events were reported in 61.2% of the participants in the nemolizumab arm and 52.7% of those in the placebo arm. The most common treatment-emergent adverse events in the nemolizumab arm were headache (6.6%), atopic dermatitis (5.5%), and neurodermatitis (3.8%). Prof. Ständer added that the cases of atopic dermatitis were generally well managed with topical therapies and did not lead to study discontinuations.

In conclusion, in the OLYMPIA 2 trial, nemolizumab outperformed placebo for the treatment of PN without adding substantial toxicity.

1. Ständer S, et al. *N Engl J Med* 2020;382:706–716.
2. Ständer S, et al. Patients with prurigo nodularis treated with nemolizumab achieved itch-free state: Results from a phase 3 trial (OLYMPIA 2). Late-breaker Session 1, WCD 2023, 3–8 July, Singapore, Singapore.

PRFM or PRP therapy for trophic ulcers due to leprosy?

Both topical autologous platelet-rich fibrin (PRFM) with total contact cast and perilesional injectable autologous platelet-rich plasma (PRP) therapy with total contact cast reduced the surface area of trophic ulcers due to leprosy. As PRFM is more cost-effective and less resource-consuming, it may therefore be the preferred treatment option for these patients.

Prof. Amrita Sil (Rampurhat Government Medical College & Hospital, India) and her research team conducted a trial to compare PRFM and PRP therapy for patients with trophic ulcers due to leprosy [1]. They randomised 52 participants 1:1 to either of the 2 treatment groups and hypothesised that PRFM was non-inferior to PRP therapy.

The mean ulcer surface area decreased from 290.04 cm² at baseline to 152.77 cm² at the final follow-up visitation (week 10) in the PRFM group ($P < 0.05$). For the PRP group,

the corresponding numbers were 422.48 cm² and 247.84 cm² ($P < 0.05$; see Table). Notably, no significant difference was observed between the mean changes in surface area of the 2 groups at week 10 ($P = 0.64$). In the PRFM group, 2 adverse events were reported: 1 case of discoid dermatitis and 1 case of cellulitis. In the PRP group, 3 adverse events were observed: cellulitis, callosity, and maggot formation.

Table: Changes in surface area of trophic ulcers due to leprosy [1]

Surface area Mean \pm SD	Group A (PRFM) n=26	Group B (PRP) n=25	P-value (intergroup)
Baseline (wk 0)	290.04 \pm 281.42	422.48 \pm 657.30	0.6309
1 st follow-up (wk 2)	218.19 \pm 275.79	323.04 \pm 574.32	0.7133
2 nd follow-up (wk 4)	191.15 \pm 332.17	258.48 \pm 473.62	0.6993
3 rd follow-up (wk 6)	163.89 \pm 304.83	244.12 \pm 487.88	0.5847
4 th follow-up (wk 8)	151.69 \pm 335.69	212.56 \pm 445.64	0.4220
5 th follow-up (wk 10)	152.77 \pm 336.09	247.84 \pm 635.96	0.6370
P-value (within group)	<0.05	<0.05	

PRFM, platelet-rich fibrin; PRP, platelet-rich plasma; SD, standard deviation.

Prof. Sil summarised that both therapies were efficacious in reducing the surface area of the ulcers and that PRFM was non-inferior to PRP therapy. Since PRFM is less time-consuming and will generally lead to less blood loss than PRP therapy, this may be the preferred treatment option in patients with trophic ulcers due to leprosy.

1. Sil A, et al. Efficacy and safety of topical autologous platelet-rich-fibrin-membrane with total-contact-cast versus perilesional injectable autologous platelet-rich-plasma therapy with total-contact-cast in trophic ulcer due to leprosy: an observer-blind, randomised, active-controlled, non-inferiority trial. Late-breaker Session 3, WCD 2023, 3–8 July, Singapore, Singapore.

Large teledermatology project in a remote island in Eastern Indonesia

A teledermatology project on a remote Indonesian island resulted in numerous benefits for local health workers and patients. Diagnostic accuracy, satisfaction, and confidence of local healthcare workers improved, whereas out-of-pocket costs and travel time for patients were reduced. “Teledermatology offers sustainable and scalable opportunities, strengthening local ownership and capacity,” concluded the authors of the project.

“Indonesia is a large archipelagic country, and dermatological conditions are mostly managed by frontline healthcare workers,” outlined Dr Marlous Grijzen (University of Oxford, UK) [1]. “Many of these healthcare workers don’t have expertise in diagnosing and treating skin diseases.” Dr Grijzen and colleagues chose the Indonesian island Sumba to assess the

efficacy and applicability of their teledermatology tool aimed at supporting local healthcare workers with clinical decision-making. The remote island has around 800,000 inhabitants. Marlous Grijzen and her team collaborate with the Sumba Foundation, a local NGO that supports 5 primary health clinics on the island. There is no dermatologist available on the island. Of the 40,000 patients who visit the clinics each year, 10–15% have skin-related complaints. “The main goals of our project are to improve access to quality skincare and develop a better understanding of the needs of the community.”

Dr Grijzen and co-investigators used a store-and-forward platform as a method to deliver teledermatology. Local healthcare workers were trained in diagnosing and managing common skin diseases, including simple diagnostic skills such as a skin scraping or slit skin smear.

Of the 307 cases that thus far have been analysed over a period of 2 years, skin infections and infestations were the most commonly observed skin diseases (52.8%), followed by eczematous conditions (27.7%). Importantly, 17% of the cases were attributable to neglected tropical skin diseases, such as leprosy, scabies, and snake bites. Dr Grijzen mentioned that the diagnostic agreement between the healthcare workers and a trained dermatologist in terms of Kappa value increased from 0.45 in months 1–6 to 0.76 in months 19–24.

Finally, Dr Grijzen summarised some other accomplishments that the project has achieved to date: “Over 10,000 patients with skin diseases have benefitted from this project. The diagnostic accuracy of the local healthcare workers increased significantly over time and 95% of the consultations could be resolved on-site without the need for referral to a specialist. Healthcare workers demonstrated high satisfaction and improved confidence in skin-related clinical decision-making, according to a survey. Finally, patient travels, healthcare consumption, and out-of-pocket costs were reduced,” added Dr Grijzen.

1. Grijzen M, et al. Improving access to skin care through teledermatology in a remote island in Eastern Indonesia. Session Teledermatology, WCD 2023, 3–8 July, Singapore, Singapore.

Can AI-driven teledermatology increase access to healthcare in rural African settings?

Artificial intelligence (AI)-driven teledermatology may offer a solution to the limited access to dermatologic care in some parts of Africa. Since access to smartphones

is high and internet connections are generally good, healthcare workers may improve their clinical decision-making skills with respect to skin disease through smartphone-guided teledermatology.

“The access to dermatologic care in [some parts of] Africa is very limited,” emphasised Mr Philippe Gottfrois (Basel University, Switzerland) [1]. “For example, to provide annual coverage for the entire population of Madagascar, dermatologists would have to see 5,200 patients per day.” Mr Gottfrois added that most healthcare workers are not trained in dermatology. “Also, dermatologists are mostly based in larger cities, leaving the rural areas uncovered. Fortunately, 57% of the population has a smartphone and the internet connection is generally good,” he said.

“Our AI-driven teledermatology project uses the high access to smartphones to offer teledermatology, in order to educate medical workers in managing common skin conditions,” said Mr Gottfrois. He explained that 5 conditions account for 80% of the consultations in Africa: dermatophytosis, insect bites, atopic dermatitis, scabies, and impetigo. Therapies are available for these conditions, and swift interventions can heal patients with these diseases efficiently.

The AI-teledermatology platform that is developed by Mr Gottfrois and colleagues begins with data collection by first healthcare providers. They take pictures of the skin condition and collect additional relevant patient information, which are then transferred via WhatsApp to a web-based app. This app will run an AI-driven diagnostic decision-making tool, informing the healthcare provider. He or she then decides whether there is a need to contact a dermatologist, who may provide feedback through telecommunication or whether the provided diagnosis by the app is sufficient.

Thus far, 1,400 cases of common skin diseases have been collected across Madagascar, Guinea, Tanzania, and Malawi, with an equal distribution of Fitzpatrick skin types 3 to 6. Pictures and additional data are added to the web app to create an AI-driven case atlas. The first results indicate that this approach has a sensitivity of 80% and a specificity of 85% with regard to detecting eczema. Further results are expected after the initiation of a clinical study in October 2023.

1. Gottfrois P, et al. Passion project: AI driven teledermatology for common skin conditions in Africa. Session Teledermatology, WCD 2023, 3–8 July, Singapore.

Picosecond alexandrite laser safe and effective in benign pigmentary disorders

Long-term data from a study investigating picosecond alexandrite laser (PSAL) therapy for patients with benign pigmentary disorders demonstrated that this was a safe and effective therapy for the removal of excessive facial pigmentation, irrespective of age, sex, skin type, and disease type.

Dr Kentaro Oku (Hills Grace Clinic, Japan) and his research team assessed the long-term efficacy and safety of 755-nm PSAL for the removal of excessive facial pigmentation in patients with benign pigmentary disorders [1]. They assessed 786 cases for post-inflammatory hyperpigmentation (PIH) and looked at age, gender, disease type, number of treatments, global aesthetic improvement scale (GAIS), and Fitzpatrick skin type.

Most participants received therapy for solar lentigines (89.4%) and/or seborrheic keratosis (51.9%). Freckles (9.1%), Hori's nevus (5.3%), and nevus of Ota (1.1%) were other reasons for participants to seek treatment. PIH was seen in 5.6% of the participants, and 1 case of transient vitiligo was reported.

Regarding GAIS scores, 17.4% achieved a 'very much improved' score, an additional 33.7% reached a 'very improved' score, and another 45.4% reached the 'improved' level of the scale. Only 3.4% of the participants had an 'unaltered' score on the GAIS. Furthermore, all participants experienced erythema as an after effect, and 31.9% of the participants had oedematous erythema.

Dr Oku concluded that PSAL therapy was a highly effective and well-tolerated treatment for the removal of excessive facial pigmentation in patients with benign pigmentary disorders.

1. Oku K, et al. Long-term safety and efficacy of picosecond alexandrite laser for benign pigmentary disorders. Late-breaker Session 3, WCD 2023, 3–8 July, Singapore, Singapore.

Gentamicin improves symptoms in paediatric Nagashima-type palmoplantar keratosis

A randomised-controlled trial evaluating a topical gentamicin ointment as a therapy for children with Nagashima-type palmoplantar keratosis (NPPK) showed that the agent was well tolerated. Moreover,

the efficacy data were promising, indicating that this may be an interesting therapeutic option for this patient population.

"Topical vitamin D3, topical keratolytic agents, and topical retinoids are usually unsatisfactory symptomatic therapies for patients with NPPK," explained Dr Shan Wang (National Center for Children's Health, China). The current trial assessed a topical gentamicin ointment as therapy for NPPK [1]. "NPPK is often caused by a nonsense mutation of *SERPINB7*, and this agent has displayed to suppress the founder nonsense mutation of *SERPINB7* in vitro," clarified Dr Wang [1,2]. The study included 10 children with NPPK and the experimental therapy was applied to one hand, whereas the other hand was treated with an emollient.

After 3 months of therapy, the hand that was treated with gentamicin showed significant improvements in terms of hyperkeratosis, erythema, maceration, and desquamation compared with the hand that was treated with an emollient ($P < 0.05$). Dr Wang pointed out that these effects were already present after 1 month of therapy. In contrast, no significant differences were found regarding hyperhidrosis and odour between the 2 treatment conditions. Finally, no adverse events were reported.

The efficacy and safety of a topical gentamicin ointment in children with NPPK were encouraging in the current study. "This agent is a promising therapeutic choice in children with NPPK," concluded Dr Wang.

1. Wang S, et al. The application of topical gentamicin ointment in treatment of Nagashima-type palmoplantar keratosis in children with nonsense mutation. Late-breaker Session 5, WCD 2023, 3–8 July, Singapore, Singapore.
2. Ohguchi Y, et al. *J Invest Dermatol*. 2018;138(4):836–843.

Oleogel-S10 shows long-term efficacy and safety in dystrophic epidermolysis bullosa

Oleogel-S10 displayed long-term efficacy with regard to wound healing in patients with dystrophic epidermolysis bullosa (DEB). Furthermore, 24-month follow-up data demonstrated that this topical therapy was well tolerated in this population.

"DEB is characterised by varying degrees of skin fragility and impaired wound healing," outlined Prof. Dedee Murrell (University of New South Wales, Australia) [1,2]. "The majority of patients and caretakers think that 'accelerated wound healing' should be a top priority in the development of future

treatment options [3]. Since we know that abnormal wound healing is a driver for systemic disease, therapies addressing this issue should be a key priority indeed,” Prof. Murrell stated.

The phase 3 EASE study ([NCT03068780](https://clinicaltrials.gov/ct2/show/study/NCT03068780)) randomised 252 participants from 49 study sites in 26 countries with epidermolysis bullosa 1:1 to standard-of-care plus Oleogel-S10, a drug that is designed to target wound healing, or to standard-of-care alone; participants with DEB comprised most of the study population (n=195). Previous results already showed that the experimental arm outperformed the control arm in terms of the primary endpoint, which was the proportion of patients with complete closure of the target wound within 45 days (41.3% vs 28.9%; 95% CI 1.01–2.05; P=0.013) [4]. In total, 205 participants entered the open-label part of the EASE trial. Prof. Murrell presented the safety and efficacy results of this sub-population of participants after 24 months of follow-up [1].

Improvements in Body Surface Area Percentage (BSAP) and EB Disease Activity and Scarring Index (EBDASI) were maintained up to month 24 of follow-up in patients with DEB. Adverse events (AEs) of any grade were reported in 77.1% of the participants and 24.4% of the participants experienced serious AEs. Wound complication (41%), anaemia (18%), wound infection (10.2%), pyrexia (9.8%), and oesophageal stenosis (9.3%) were the most common AEs. AEs led to study withdrawal for 7.8% of the participants.

Prof. Murrell concluded that the 24-month data on Oleogel-S10 showed sustained efficacy and an acceptable safety profile of this agent in patients with DEB.

1. Murrell DF, et al. Long-term safety and efficacy of Oleogel-S10 in dystrophic epidermolysis bullosa: Sub-analysis from the 24-month open-label EASE study. Late-breaker Session 5, WCD 2023, 3–8 July, Singapore, Singapore.
2. [Bruckner AL, et al. Orphanet Journal of Rare Diseases. 2020;15\(1\):1.](#)
3. [Has C, et al. Br J Dermatol. 2020;183\(4\):614--627.](#)
4. [Kern JS, et al. Br J Dermatol. 2023;188\(1\):12–21.](#)