



Inflammatory Diseases in Paediatric Dermatology

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IN AN INSIGHTFUL session from the European Association of Dermatology and Venereology (EADV) Congress 2024, experts in the field gathered to explore key dermatological conditions affecting children, focusing on psoriasis, atopic dermatitis, and acne.

PSORIASIS IN CHILDREN

In this year's EADV Congress, Marieke Seyger, Radboud University Medical Centre, Nijmegen, the Netherlands, opened a fascinating session on paediatric dermatology, drawing on several insightful topics including diagnosis, topical treatments, patients' and caregivers' preferences, biologics, and treatment algorithms. Seyger presented an interesting case study of a 6-year-old boy who exhibited 7 months of therapy-resistant psoriasis and had a family history of the condition; however, the exact type of psoriasis remained unclear, with differential diagnosis between annular pustular psoriasis and dermatomycosis.

After conducting a culture, *Trichophyton soedanense*, an anthropophilic fungus, was identified as the causative agent. The patient was treated with itraconazole, leading to significant improvement within 4 weeks. Seyger emphasised the important lesson that tinea incognita, a fungal skin infection, can mimic psoriasis, resulting in misdiagnosis. Notably, a psoriasis-like pattern occurs in approximately 7% of tinea incognita cases.¹ She also presented images illustrating the similarities between discoid eczema and psoriasis to further highlight the complexities of differential diagnosis.



Notably, a psoriasis-like pattern occurs in approximately 7% of tinea incognita cases



Citing a 2022 study,² Seyger outlined seven key diagnostic criteria for paediatric psoriasis, which include scaling and erythema at the hairline on the scalp, scaly erythema within the external auditory meatus, a persistent well-demarcated erythematous rash anywhere on the body, erythema in the umbilicus, scaly erythematous plaques on extensor surfaces (elbows and knees), a well-defined erythematous rash in the diaper area, and a family history of psoriasis.

When discussing treatment options for paediatric psoriasis, Seyger summarised commonly used therapies, including topical corticosteroids, vitamin D analogues (such as calcipotriol and calcitriol), and a combination of calcipotriol and betamethasone dipropionate. She also mentioned calcineurin inhibitors, particularly for facial and flexural psoriasis, and dithranol/anthralin.

Looking ahead, she highlighted promising new topical agents, including roflumilast (0.3% cream), a PDE-4 inhibitor that demonstrated a PASI75 response of 40% compared to 6% in the placebo group.³ Additionally, tapinarof, an AhR modulator, has been approved, showing a Physician's Global Assessment (PGA) response of 40% versus 6% for placebo.³

Seyger underscored that adherence to treatment is critical, especially in children,

in order to achieve optimal results. A Dutch study⁴ identified the main treatment goals among 222 patients with paediatric psoriasis, revealing that 37.4% sought complete clearance, while 22.1% aimed for a reduction in visible lesions. Other concerns included itch relief and the desire to lead a normal life.

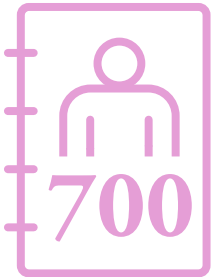
In response to these needs, the ChildCAPTURE Registry (Continuous Assessment Psoriasis Treatment Use Registry) was established to monitor major symptoms and concerns among patients, currently encompassing over 700 children aged over 18 years.

Seyger concluded her talk by listing several approved biologics for paediatric plaque psoriasis, including etanercept, adalimumab, ustekinumab, ixekizumab, and secukinumab. She also touched on ongoing Phase 3 clinical trials for paediatric plaque psoriasis featuring certolizumab, guselkumab, and risankizumab, among others.

ATOPIC DERMATITIS IN CHILDREN

Amy Paller, Northwestern University Feinberg School of Medicine, Chicago, USA, discussed the incidence of atopic dermatitis in children. She noted that topical calcineurin inhibitors have been available for over 20 years. Roflumilast, a 0.15% cream, was also recently approved by the FDA for paediatric atopic dermatitis in children over 6 years of age, showing promise for patient care. A formulation of roflumilast at 0.05% is also in development for children aged 2–5 years.

Paller highlighted other emerging treatments, including tapinarof, a 1% cream (aryl hydrocarbon receptor agonist) approved for ages 2–17 years, currently undergoing Phase 3 trials (ADORING 1 and 2).⁵ Dupilumab, a monoclonal antibody that blocks IL-4 and IL-13, was a focal point of her presentation. It is FDA-approved for children aged 6 months and older with moderate-to-severe atopic dermatitis. Citing a 2022 Phase 3 trial,⁶ Paller explained that she noted a significant improvement in patients receiving dupilumab compared to placebo at Week 16.



ChildCAPTURE Registry currently encompasses over 700 children aged over 18 years



Paller raised awareness of new and emerging biologics for atopic dermatitis, including IL-13 inhibitors tralokinumab and lebrikizumab, as well as IL-31R inhibitor nemolizumab, which is available in Japan for paediatric patients aged 6 years and older, and recently received FDA approval for prurigo nodularis. She also mentioned amiltemlimab, an OX40L inhibitor currently in trials for adolescents.

ACNE AND RELATED DISORDERS IN PRE-PUBERTAL CHILDREN

Finally, Peter Hoeger, Academic Teaching Hospital, Universities of Hamburg and Lübeck, Germany, addressed the topic of acne and related disorders in pre-pubertal children. He noted that the density of sebaceous glands is highest in neonates and infants, due to the relatively smaller skin surface area. Hoeger explained that sebaceous gland activity peaks during the neonatal period, a phenomenon often referred to as "mini puberty", driven by maternal androgens. From ages 1–8 years, gland activity typically diminishes.⁷

“The density of sebaceous glands is highest in neonates and infants, due to the relatively smaller skin surface area”

Hoeger examined the wide age range in which acne can manifest, starting with neonatal acne, which commonly appears between 2–6 weeks of age and is typically localised to the face, neck, and upper trunk. This condition is stimulated by maternal androgens. He then described infantile acne, which usually occurs between 1–12 months and is characterised by papules, pustules, and comedones, often found on the cheeks and chin. Hoeger emphasised the importance of avoiding creams, ointments, and oils for these early-stage manifestations, recommending topical acne therapies only in severe cases. Throughout his talk, he also touched on several other acneiform disorders, such as idiopathic facial aseptic granuloma.

CONCLUSION

In summary, the session provided valuable insights into the diagnosis and management of common dermatological conditions in children, emphasising the importance of accurate diagnosis and tailored treatment strategies. The discussions highlighted the need for ongoing research and awareness to address the unique challenges faced by children with psoriasis, atopic dermatitis, and acne, among other conditions.

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