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The World Congress of Pediatric Dermatology: Key Sessions and Takeaways

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The World Congress of Pediatric Dermatology, held in Buenos Aires, Argentina from April 8–11, 2025, offered a valuable opportunity to hear from experts and gain insights and perspectives on the field. Here are some key takeaways.

Atopic Dermatitis

Elaine Siegfried, based in Missouri, USA, shared some pearls on the workup and management of patients with atopic dermatitis. Based on her own experience, she provided a list of investigations that she considers at baseline for select patients. These include total IgE and eosinophil counts, albumin and protein (as markers of malnutrition), immunoglobulin levels (to screen for immunodeficiencies), anti-nuclear and anti-histone antibodies (as potential markers of predilection for anti-drug antibody formation), vitamin D levels, and a celiac screen. While not every patient requires this full panel, it provides a helpful checklist of tests to consider.

Carlston Flohr, from the United Kingdom, presented findings from the TREAT trial, which compared methotrexate 0.4 mg/kg/week to cyclosporine 4 mg/kg/day in 103 patients aged 2–16 years old with atopic dermatitis.[1] While cyclosporine demonstrated faster initial

	Hyper-IgE Syndrome[15]	Chronic Granulomatous Disease[16]	DIRA (*Deficiency of Interleukin (IL)1-RA*)[17]	DITRA (*Deficiency of IL36RA*)[18]
Gene	*STAT3, DOCK8, ZNF341, IL6ST, IL6R1*	*CYBB, NCF1/2/4, CYBA, CYBC1*	*IL1RN*	*IL36RN (PSORS14)*
Onset	Week 2	Week 4	Infancy	Infancy
Pustules	Localized	Localized	Disseminated	Disseminated
Symptoms	Abscess, Eczema	Lymphadenopathy, Hepatosplenomegaly	Fever, Arthropathy	Fever, Serositis

Table 1. Neonatal Pustular Eruptions; *courtesy of Cathryn Sibbald, MSc, MD, FRCPC, DABD.*

improvement than methotrexate at week 12, methotrexate showed superior efficacy by week 36. After stopping treatment, a higher proportion of patients who had received cyclosporine reported experiencing significant flaring compared to those treated with methotrexate (48% versus 35% by week 60). He reviewed his considerations for tapering off systemic treatments after disease control has been achieved and maintained. Key considerations include possible flaring of comorbidities that have been concurrently controlled by eczema treatments (e.g., asthma control with dupilumab), the importance of reinforcing diligent adherence to topical regimens when tapering systemic therapies, and the implementation of slow tapering either by dose or interval to allow early detection of disease worsening.

Immunodeficiencies

Peter Hoeger, from Germany, discussed immunodeficiencies that present in the neonatal period. He highlighted key differentiating factors in neonates with immunodeficiencies compared to those with atopic dermatitis, which includes erythroderma, pronounced lymphadenopathy, and severe infections. He also shared a helpful table outlining differentiating factors in pustular eruptions (**Table 1**).

He also referred to an interesting multicentre study demonstrating that certain features of eczema in infancy could help discriminate between atopic dermatitis and *DOCK8* or *STAT3* deficiencies.[2] These atypical presentations include rash onset in the neonatal period, and eczema localized to the retro-auricular, axillary, sacral, and genital areas. In the study, these features demonstrated high specificity, ranging between 73.4% and 94.1%, and positive descriptive values ranging between 55% and 93.1% in discriminating *DOCK8* and *STAT3* from atopic dermatitis. He concluded by encouraging us to use **online score calculators for hyper-IgE syndromes**.

Jennifer Huang, from Boston, discussed long-term effects of skin conditions in immunocompromised patients. She emphasized the dose-dependent risk for skin malignancies associated with voriconazole exposure in pediatric patients,[3] emphasizing that acute voriconazole-associated phototoxicity is a risk factor for voriconazole-related skin cancers later in life. As preventative measures, she recommended considering a switch to posaconazole for fungal prophylaxis when feasible, using sirolimus instead of systemic calcineurin inhibitor regimens, and finally incorporating adjunctive photoprotective agents such as nicotinamide, acitretin, and polypodium leucotomos.

John McGrath, from the United Kingdom, delivered a plenary session on genetic disorders. He reviewed a case involving an adolescent of Taiwanese background who presented with progressive hyperpigmentation. Laboratory findings revealed very low serum B12 levels and elevated levels of plasma homocysteine.[4] Genetic testing revealed a homozygous pathogenic mutation in the *ABCD4* gene, resulting in skin hyperpigmentation in this patient and, in other cases, an increased risk of neurologic findings including transient ischemic attacks. Treatment with 3 mg of systemic vitamin B12

daily led to reversal of the hyperpigmentation and is expected to prevent possible neurologic sequelae.[4] He highlighted the growing number of genetic mutations being associated with genodermatoses, using hyper-IgE syndrome (HIES) as a key example. In addition to the *STAT3* mutation, other genes associated with autosomal dominant HIES include *ERBB21P*, and *CARD11*. Conversely, mutations associated with autosomal recessive HIES now include *DOCK8*, *ZNF341*, *PGM3*, *IL6R* and *IL6ST*. Treatment options include intravenous immunoglobin (IVIG), omalizumab, dupilumab, N-acytelgalatosamine, with bone marrow transplant demonstrating disease altering advantages.[5]

He also discussed inflammatory linear verrucous epidermal nevi (ILVEN), highlighting a published case series in which genetic testing confirmed mosaic pathogenic mutations, allowing successful targeted treatments.[6] These treatments included ustekinumab for patients with *CARD14* mutations, topical statin and cholesterol formulations for those with *PMVK* and *NSDHL* mutations, and a Janus kinase (JAK) inhibitor for *ABCA12*-related cases.

Pierre Vabres, from France, presented on disorders of hyperpigmentation that warrant careful attention. He pointed out that in patients with Café au lait macules, "looking" for nevus anemicus can serve as another marker indicative of possible neurofibromatosis. He emphasized that these lesions are often located on the head and neck region and may be overlooked by primary care physicians.

Aarti Nanda, from Kuwait, provided an update on primary immunodeficiencies–now referred to as inborn errors of immunity. She highlighted a 2024 updated review that includes 555 distinct conditions associated with 504 gene defects.[7]

Rare Dermatoses in Pediatrics

Elena pope delivered an engaging review of some notable tumours in pediatric patients. For patients presenting with dermatofibroma sarcoma protuberans, she emphasized the importance of wide-margin excisions. Citing a large pediatric cohort from China, she noted that 14 of 49 patients with dermatofibrosarcoma protuberans experienced recurrence within a follow up of 12–161 months (median 60 months), all of whom had initially undergone marginal excisions.[8]

She also presented a case of a patient with xeroderma pigmentosa (XP) and discussed the use of cemipilimab, a PD-1 inhibitor, as a treatment strategy to improve survival in this population.[9] In addition, Jennifer Huang highlighted a study in which 18 patients with XP (aged 17±5 years) received daily supplementation with 960 mg of polypodium leucotomos and 10 mg of vitamin D, and were advised to apply sunscreen with a minimum SPF of 50 each day.[10] After 12 months, 61.1% of patients had not developed new lesions, suggesting potential benefit from this regimen without reported adverse effects.

Marc Koh provided an update on pediatric mycosis fungoides (MF) and introduced the new consensus recommendations for its diagnosis, staging, and treatment soon to be published in the *British Journal of Dermatology*. He reviewed key points, emphasizing that progression to advanced MF is rare in pediatric cases. For staging, he recommended ultrasound of peripheral lymph nodes, abdomen, and chest X-ray in early-stage MF, instead of CT/PET-CT. Lymphadenopathy should be observed for 3–4 weeks, with use of antibiotics if infection is suspected. If the lymphadenopathy has not resolved, a biopsy should be considered. Finally, flow cytometry should be included in the initial workup.

Shared Decision-Making

Kelly Cordoro, from San Francisco, outlined an approach to shared decision-making in pediatrics, noting its complexity because of the limited autonomy of the patient (being a minor), and the involvement of multiple stakeholders beyond the dyad between patient and clinician. She broke the process down into simple steps:

1. Share relevant information about the condition and treatment options in a clear and understandable manner (organize information, avoid jargon, assess understanding)
2. Solicit and understand the patient's and family's perspectives, preferences, and priorities (understand beliefs, concerns, and assumptions that may influence decisions)
3. Invite the patient and family in the shared decision-making conversation
4. Follow up frequently

She highlighted that there is no universal agreement on the age at which minors should be deemed competent to make health care decisions, as maturity is variable among patients of the same age. A helpful review article outlines that age, context, and development all play roles in decision-making competence.[11] Key capacities that should be demonstrated for decision-making include the ability to communicate a choice, demonstrate understanding, reason through options and appreciate the implications. In general, many adolescents achieve this capacity at the age of 12 years. It is also important to start encouraging autonomy in our adolescent patients at their appointments, such as addressing them directly throughout the visit, while involving accompanying caregivers as needed.

Genetic Syndromes

Jemima Mellerio, from the United Kingdom, delivered a plenary session on recent developments in genetics. She discussed a recent retrospective international multicentre study, published in the *British Journal of Dermatology*, that examined the use of biologics in patients with congenital ichthyoses, supplemented with reports from the literature.[12] The study included 98 patients receiving biologics targeting interleukin (IL)-17, IL-12/23, IL4 and, in a few cases, tumor necrosis factor (TNF)-alpha inhibitors. Among the findings, patients with Netherton's syndrome responded best to IL-12/23 blockade, followed by IL-4R blockade, whereas those with congenital ichthyosiform erythroderma responded best to IL-4R blockade, followed by IL-12/23 blockade.

She also reviewed earlier mouse data on the proposed mechanism of losartan in targeting fibrosis for epidermolysis bullosa, before presenting the results from a new study on its use in pediatric epidermolysis bullosa.[13,14] The study enrolled 27 children aged 2–16 years who received losartan starting at 0.4 mg/kg/day titrated over 16 weeks to a target dose of 1.4 mg/kg/day. This dose was continued for 24 weeks, followed by a 3-month follow-up after discontinuation. After 9 months, most patients showed improvements in disease activity, function, and patient reported outcomes, with no adverse cardiac or blood pressure indices.[14]

Conclusion

The conference was a resounding success, and the next congress, set to take place in Austria in four years, promises another exciting round of outstanding sessions!

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References

1. Flohr C, Rosala-Hallas A, Jones AP, Beattie P, Baron S, Browne F, et al. Efficacy and safety of ciclosporin versus methotrexate in the treatment of severe atopic dermatitis in children and young people (TREAT): a multicentre parallel group assessor-blinded clinical trial. Br J Dermatol. 2024 Jan 23;190(2):e13. doi: 10.1093/bjd/ljad442.] [published correction appears in Br J Dermatol. 2024 Jun 20;191(1):e1. doi: 10.1093/bjd/ljae157.] Br J Dermatol. 2023;189(6):674-684. doi:10.1093/bjd/ljad281
2. Kasap N, Kara A, Celik V, Bilgic Eltan S, Akay Haci I, Kose H, et al. Atypical localization of eczema discriminates DOCK8 or STAT3 deficiencies from atopic dermatitis. J Clin Immunol. 2023;43(8):1882-1890. doi:10.1007/s10875-023-01554-z
3. Huang JT, Coughlin CC, Hawryluk EB, Hook K, Humphrey SR, Kruse L, et al. Risk factors and outcomes of nonmelanoma skin cancer in children and young adults. J Pediatr. 2019;211:152-158. doi:10.1016/j.jpeds.2019.04.017
4. Takeichi T, Hsu CK, Yang HS, Chen HY, Wong TW, Tsai WL, et al. Progressive hyperpigmentation in a Taiwanese child due to an inborn error of vitamin B12 metabolism (cblJ). Br J Dermatol. 2015;172(4):1111-1115. doi:10.1111/bjd.13413
5. Gracci S, Novelli T, D'Elios S, Bernardini R, Peroni D. Hyper IgE syndromes. Curr Pediatr Rev. 2024;20(3):253-264. doi:10.2174/1573396320666230912103124
6. Atzmony L, Ugwu N, Hamilton C, Paller AS, Zech L, Antaya RJ, et al. Inflammatory linear verrucous epidermal nevus (ILVEN) encompasses a spectrum of inflammatory mosaic disorders. Pediatr Dermatol. 2022;39(6):903-907. doi:10.1111/pde.15094
7. IJspeert H, Edwards ESJ, O'Hehir RE, Dalm V, van Zelm MC. Update on inborn errors of immunity. J Allergy Clin Immunol. 2025;155(3):740-751. doi:10.1016/j.jaci.2024.12.1075
8. Zhang Z, Lu Y, Shi C, Chen M, He X, Zhang H. Pediatric dermatofibrosarcoma protuberans: a clinicopathologic and genetic analysis of 66 cases in the largest institution in Southwest China. Front Oncol. 2023;13:1017154. doi:10.3389/fonc.2023.1017154
9. Fernandez ER, Tamura D, Khan SG, Momen S, Fassihi H, Sarkany R, et al. Retrospective study of efficacy and adverse events of immune checkpoint inhibitors in 22 xeroderma pigmentosum patients with metastatic or unresectable cancers. Front Oncol. 2023;13:1282823. doi:10.3389/fonc.2023.1282823
10. El Mansouri M, Essaddouki S, Mouradi M, Oukerroum A, El Fatoiki FZ, Truchuela MT, et al. Evaluation of the effectiveness and safety of combined oral and topical photoprotection with a standardized extract of Polypodium leucotomos (Fernblock(R)) in a Moroccan population with xeroderma pigmentosum. Photodermatol Photoimmunol Photomed. 2023;39(6):607-612. doi:10.1111/phpp.12904
11. Grootens-Wiegers P, Hein IM, van den Broek JM, de Vries MC. Medical decision-making in children and adolescents: developmental and neuroscientific aspects. BMC Pediatr. 2017;17(1):120. doi:10.1186/s12887-017-0869-x
12. Mazereeuw-Hautier J, Granier Tournier C, Hernandez-Martin A, Milesi S, Texier H, Severino-Freire M, et al. Biologics in congenital ichthyosis: are they effective? Br J Dermatol. 2025;192(2):327-334. doi:10.1093/bjd/ljae420
13. Nystrom A, Thriene K, Mittapalli V, Kern JS, Kiritsi D, Dengjel J, et al. Losartan ameliorates dystrophic epidermolysis bullosa and uncovers new disease mechanisms. EMBO Mol Med. 2015;7(9):1211-1228. doi:10.15252/emmm.201505061
14. Kiritsi D, Schauer F, Gewert S, Reineker K, Reimer-Taschenbrecker A, Schwieger-Briel A, et al. Safety and tolerability of losartan to treat recessive dystrophic epidermolysis bullosa in children (REFLECT): an open-label, single-arm, phase 1/2 trial. EClinicalMedicine. 2024;77:102900. doi:10.1016/j.eclinm.2024.102900
15. Olaiwan A, Chandesris MO, Fraitag S, Lortholary O, Hermine O, Fischer A, et al. Cutaneous findings in sporadic and familial autosomal dominant hyper-IgE syndrome: a retrospective, single-center study of 21 patients diagnosed using molecular analysis. J Am Acad Dermatol. 2011;65(6):1167-1172. doi:10.1016/j.jaad.2010.09.714
16. Agarwal S. Chronic granulomatous disease. J Clin Diagn Res. 2015;9(5):SD01-SD2. doi:10.7860/JCDR/2015/12139.5945
17. Stenerson M, Dufendach K, Aksentijevich I, Brady J, Austin J, Reed AM. The first reported case of compound heterozygous IL1RN mutations causing deficiency of the interleukin-1 receptor antagonist. Arthritis Rheum. 2011;63(12):4018-4022. doi:10.1002/art.30565
18. Ellingford JM, Black GC, Clayton TH, Judge M, Griffiths CE, Warren RB. A novel mutation in IL36RN underpins childhood pustular dermatosis. J Eur Acad Dermatol Venereol. 2016;30(2):302-305. doi:10.1111/jdv.13034