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ABSTRACT BOOK

13th Georg Rajka International Symposium on Atopic Dermatitis

Gdańsk, Poland

August 31–September 2, 2023

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Abstracts from 13th Georg Rajka International Symposium on Atopic Dermatitis

Gdańsk, Poland

August 31–September 2, 2023

Contents of this Abstract Book

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Welcome Address from ISAD 2023 General Chair

Dear Colleagues and Friends!

I am honored to welcome you to the 13th Georg Rajka Symposium in Gdańsk, (ISAD 2023). Our motto for the symposium will be 'Solidarity in atopic dermatitis'.

Professor Georg RAJKA organized the first international symposium on atopic dermatitis (AD) in Norway in 1979. Since Professor RAJKA's time, the AD Symposia have continued in Europe and further afield. After Seoul 2021 and Montréal 2022, and following the lessons of the Covid period, the International Society of Atopic Dermatitis (ISAD) has decided to hold annual symposia enhanced with hybrid sessions.

Combining the traditional spirit of RAJKA symposia with digital technology and a pinch of local flavor, our annual symposium gathers more and more people dedicated to Atopic Dermatitis. Health care providers, physicians, researchers and associations can meet in a friendly, creative, interdisciplinary, and international atmosphere. Our symposium provides the opportunity to connect with outstanding experts in Atopic Dermatitis, to start and foster high-level scientific collaboration, and to translate rapid therapy updates into everyday practice.

In 2023, Gdańsk will provide the location to exchange scientific and real-life experiences, address controversies, and access the newest knowledge in round table format or open communications sessions with top-class speakers. Inspired by the history of Gdańsk, known as 'the city of freedom and solidarity,' we have prepared a program using multispecialty approaches, shared initiatives and international cooperation. There will be a special emphasis on ways to alleviate the symptoms and burden of Atopic Dermatitis, remove gaps and fight the challenges of the disease. We will also discuss therapeutic breakthroughs in AD, as well as recent innovations.

We look forward to welcoming you to Gdańsk on August 31, 2023, for the 13th Georg RAJKA Symposium (ISAD 2023). Save the date and join us!

Prof. Magdalena TRZECIAK, MD PhD
ISAD 2023 General Chair
Medical University of Gdańsk, Gdańsk, Poland

ISAD: past, present, future

The International Society of Atopic Dermatitis (ISAD) has its roots in Oslo, Norway, where Georg Rajka, who wrote his Ph.D. Thesis on Prurigo Besnier/AD (1–3) launched the first international conference on atopic dermatitis in 1979. This is the reason why our annual meetings bear his name, Georg Rajka Symposia.

From its outset the AD community was dominated by immunology, allergology, pediatrics and of course dermatology, with a majority of pediatric dermatologists because of the prevalence of AD in infancy and childhood. After several international meetings in Norway, Europe and all around the world, the decision was made 33 years after the initial Oslo meeting to create ISAD with the main objective to organize future meetings and additionally to take care of all aspects of AD at a global level (have a look to our website for the history of the society and meetings).

The successful development of new systemic therapies in the 2010s showed that this decision was matching the coming of age of our subspecialty. The field changed very rapidly with (1) the recognition of the importance of the disease in adulthood, showing in adults a disease burden comparable to psoriasis; and (2) with an enlarged vision with AD as part of the allergic side (mostly TH2) of immune mediated inflammatory diseases.

The 2022 WHO initiative to integrate skin health as a whole, and not only restricted to dermatology applied to neglected tropical diseases with skin manifestations in low resource settings, is a milestone for the recognition of AD as a major threat to skin health. Our Society collaborates actively since 2019 with WHO with the objective of recognizing AD as one of the most common neglected disease in this new context (4). ISAD is happy to join the Global Health spirit that places a priority on improving health and achieving equity in health for all people worldwide at both an individual and public health level. Indeed, AD at the global level reflects extremely well health inequalities since only a minority of individuals living in high income countries have access to specialist doctors and expensive treatments. A recent ISAD-WHO article discusses how to implement the roadmap to improve capacity training and access to basic drugs and devices such as low cost emollients. An application will be filed for the inclusion of a basic emollient compounding on the 2025 essential medicines list of WHO (5).

ISAD supports also the One Health concept. One Health is a collaborative, multisectoral, and transdisciplinary approach. Its goal is to achieve optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment. Numerous examples show how changes in climate or living with farm animals or pet animals can influence allergies and AD (canine AD was discussed at a 2021 ISAD online symposium).

To reflect the rapid advances of our field and its global outlook our meetings have become annual and hybrid since 2021. The Gdansk 13th Rajka symposium, organized by Magdalena Trzeciak and her team, is logically held under the motto Solidarity embodied by Peace Nobel Prize winner Lech Walesa, and which is perfectly in line with the spirit of ISAD.

Welcome to Gdańsk and enjoy the meeting!

Alain Taïeb
President ISAD

1: Rajka G. Prurigo Besnier (atopic dermatitis) with special reference to the role of allergic factors. I. The influence of atopic hereditary factors. Acta Derm Venereol. 1960;40:285-306. PMID: 13739226.

2: Rajka G. Prurigo Besnier (atopic dermatitis) with special reference to the role of allergic factors. II. The evaluation of the results of skin reactions. Acta Derm Venereol. 1961;41:1-39. PMID: 13739227.

3: Rajka G. Prurigo Besnier (atopic dermatitis) with special reference to the role of allergic factors. III. The role of some factors in the course of the prurigo Besnier. Acta Derm Venereol. 1961;41:363-95. PMID: 14489986.

4: Schmid-Grendelmeier P et al. Position Statement on Atopic Dermatitis in Sub-Saharan Africa: current status and roadmap. J Eur Acad Dermatol Venereol. 2019 Nov;33(11):2019-2028. doi: 10.1111/jdv.15972. PMID: 31713914; PMCID: PMC6899619.

5: Schmid-Grendelmeier P et al. How to integrate atopic dermatitis in the management of skin neglected tropical diseases in Sub-Saharan Africa? J Eur Acad Dermatol Venereol. 2023 Apr 5. doi: 10.1111/jdv.19096. Epub ahead of print. PMID: 37016962.

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Thursday, August 31, 2023 — Solidarity Day

Time (UTC+1/CEST)	Program	Speaker	
	Welcome addresses		
13:00–13:20 UTC 12:00–12:20	Welcome to Gdańsk	*Magdalena TRZECIAK*	
	ISAD: past, present, future	*Alain TAÏEB*	
13:20–15:00 **UTC 12:20–14:00**	**Session 1** **Initiatives at the international level**	**Chairs** *Magdalena TRZECIAK, Roberto TAKAOKA*	
13:20	Keynote lecture: atopic dermatitis and teledermatology in Mali	*Ousmane FAYE*	IL1
13:40	Atopic dermatitis in China	*Lin MA*	IL2
13:52	Atopic dermatitis in Australia	*John SU*	IL3
14:04	Phenotypes and endotypes of atopic dermatitis in Chile	*Arturo BORZUTZKY*	IL4
14:16	Atopic dermatitis in Qatar	*Martin STEINHOFF*	IL5
14:28	Management of Atopic dermatitis in Madagascar	*Fahafahantsoa RAPELANORO RABENJA*	IL6
14:40	Atopic dermatitis in Poland	*Magdalena TRZECIAK*	IL7
14:50	Q&A		
15:00–16:30 **UTC 14:00–15:30**	**Session 2** **A multispecialty approach**	**Chairs** *Roman J. NOWICKI, Peter SCHMID-GRENDELMEIER*	
15:00	Keynote lecture: AD and food allergy	*George du TOIT*	IL8
15:20	Disease antagonisms in atopic dermatitis between comorbidity and co-protection – implications for therapy	*Johannes RING*	IL9
15:35	AD and asthma. T2 siblings?	*Maciej KUPCZYK*	IL10
15:50	Microbiota modulation for AD: benefits or hype?	*Hanna SZAJEWSKA*	IL11
16:00	Feeling well, being well – the brain-skin connection	*Wiesław CUBAŁA*	IL12
16:40	Q&A		
16:30–17:00 **UTC 15:30–16:00**	**Poster Session 1 – Visit Exhibits and Coffee Break**		
17:00–18:00 **UTC 16:00–17:00**	**Session 3 – Roundtable** **Accessibility to drugs in AD**	**Chairs** *José RUIZ-POSTIGO, Alain TAÏEB*	
	Summary of the ISAD-WHO pre-meeting		
19:00–20:00	**Opening Ceremony / Welcome reception: Artus Court**		

Friday, September 1, 2023 — On the way to freedom?

Time (UTC+1/CEST)	Program	Speaker	
08:30–10:00 UTC 07:30–09:00	**Session 4** **Mechanisms of Disease & Models**	**Chairs** *Kenji KABASHIMA, Martin STEINHOFF*	
08:30	Keynote lecture: reconsidering the farm effect in AD and allergy	*Erika JENSEN-JAROLIM*	IL13
08:50	Acute stress aggravates itch in experimental atopic dermatitis and drives changes in trigeminal ganglion neurons related to neuroinflammation	*Sang Eun LEE*	OL1
09:05	Filaggrin insufficiency affects long-distant communication mediated by keratinocyte-derived small extracellular vesicles and promotes allergic inflammation	*Danuta GUTOWSKA-OWSIAK*	OL2
09:20	The immune response of sensitzed AD patients to house dust mite comprises IL-17, capable of inducing a cytokine response from keratinocyes	*Lennart M. ROESNER*	OL3
09:35	Characterization of IL-13 producing cells in moderate to severe adult Atopic dermatitis patient's skin	*Gaurav ISOLA*	OL4
09:50	Q&A		
10:00–10:30 UTC 09:00–09:30	**Poster Session 2 – Visit Exhibits and Coffee Break**		
10:30–12:00 UTC 09:30–11:00	**Session 5** **Topical treatment and phototherapy: an endangered regimen?**	**Chairs** *Michael J. CORK, John C. SU*	
10:30	Keynote lecture: the evolution of topical treatment of atopic dermatitis	*Andreas WOLLENBERG*	IL14
10:50	Association of cumulative topical corticosteroid exposure with fractures among older adults: a case-control study	*Aaron M DRUCKER*	OL5
11:05	Association between the use of topical calcineurin inhibitors and the risk of cancer among patients with atopic dermatitis: A nationwide, population-based, retrospective cohort study	*Chia-Yu CHU*	OL6
11:20	Early relief of clinical symptoms and the improvement during the maintenance period of childhood atopic dermatitis: a multicenter clinical study of crisaborole ointment	*Shan WANG*	OL7
11:35	The effectiveness of antibacterial therapeutic clothing compared with to non-anti-bacterial therapeutic clothing in patients with moderate to severe atopic dermatitis: preliminary results from a pragmatic randomized controlled trial.	*Aviël RAGAMIN*	OL8
11:50	Q&A		
12:00–12:30 UTC 11:00–11:30	**Session 6** **Global Corporate Pharma perspectives**	**Chairs** *Ncoza DLOVA, Peter SCHMID-GRENDELMEIER*	
12:00–12:30 UTC 11:00–11:30	**Session 7** **Highlighting new drugs in real life**	**Chairs** *Ncoza DLOVA, Alan D. IRVINE*	
12:30	Real-world data of abrocitinib treatment in patients with atopic dermatitis: results from the BioDay registry	*Esmé KAMPHUIS*	OL11
12:40	Efficacy and safety of upadacitinib for atopic dermatitis in dupilumab non-responders: a multicenter retrospective study	*Jensen YEUNG*	OL12
12:50	Baricitinib as a useful treatment for mild-to-moderate atopic dermatitis: a real-world experience	*Narang HONG*	OL13
13:00–14:00 UTC 12:00–13:00	**Lunch and Visit Exhibits**		
14:00–15:30 UTC 13:00–14:30	**Session 8** **AD comorbidities: facts, fancy, fiction**	**Chairs** *Magdalena CZARNECKA-OPERACZ, Mette DELEURAN*	
14:00	AD comorbidities: the EBM of today	*Jiyoung AHN*	IL16
14:20	Coexistence of AD and alopecia areata. Impact on therapeutic decisions	*Lidia RUDNICKA*	IL17
14:35	Atopic dermatitis is associated with increased risk of onset of cardiovascular diseases: a retrospective analysis based on electronic records from the global collaborative network	*Henner ZIRPEL*	OL14
14:50	Impact of COVID-19 and COVID-19 vaccination on atopic dermatitis patients: lessons from the SECURE-AD Patient Survey	*Bouchra EZZAMOURI*	OL15
15:05	Atopic dermatitis as a risk factor for post-arthroplasty surgical site infections in older adults	*Yagmur HALEZEROGLU*	OL16
15:20	Q&A		
15:30–16:00 UTC 14:30–15:00	**Poster Session 3 – Visit Exhibits and Coffee Break**		
16:00–17:30 UTC 15:00–16:30	**Session 9 – Roundtable** **Systemic Strategies for children and adults**	**Chairs** *Amy S. PALLER, Thomas BIEBER*	
	Short-term or long-term treatment? When & how to start? Early systemic intervention in children?	*Michele RAMIEN, Carlo GELMETTI, Kenji KABASHIMA, Kyu Han KIM, John SU, Antonio TORRELO, Andreas WOLLENBERG*	

16:00–17:30 **UTC 15:00–16:30**	**Session 10** **Travel grants and ISAD fellowships**	**Chairs** *Johannes RING, Jacek SZEPIETOWSKI*	
17:30	Major adverse cardiovascular events in patients treated with oral Janus kinase inhibitors for atopic dermatitis: a systematic review and meta-analysis	*Catherine DROITCOURT*	OL17
17:45	The effect of single nucleotide polymorphism in COL23A1 gene on increased HSV-1 susceptibility of human macrophages	*Mikhail MAKMATOV-RYS*	OL18
18:00	Quality of life in patients with atopic dermatitis in Bamako.	*Lamissa CISSE*	OL19
18:15	The dynamics of skin microbiome during treatment in patients with atopic dermatitis	*Alpana MOHTA*	OL20
18:30	Q&A		
20:00–23:00	**Gala Dinner *(offsite): Teatr Szekspirowski (Gdańsk Shakespeare Theatre)***		

Saturday, September 2, 2023 — Breakthroughs and Challenges Day

Time (UTC+1/CEST)	Program	Speaker	
08:30–10:00 **UTC 07:30–09:00**	**Session 11** **Challenges in AD management**	**Chairs** *Małgorzata SOKOŁOWSKA-WOJDYŁO, Sébastien BARBAROT*	
8:30	Treatment of AD in pregnancy and lactation period	*Christian VESTERGAARD*	IL18
8:50	Safety of atopc dermatitis therapies in the context of cutaneous lymphomas' risk	*Małgorzata SOKOŁOWSKA-WOJDYŁO, Gdańsk*	IL19
9:05	The concept of disease modification in atopic dermatitis: scientific and regulatory challenges for drug discovery and development	*Thomas BIEBER*	OL21
9:20	Treatment response to continuous Dupilumab over time: a retrospective observational study of 123 adult atopic dermatitis patients with changes in blood biomarkers for more than 2 years	*Haruna MATSUDA-HIROSE*	OL22
9:35	Molecular profiling of allergen-antibody IgE and the efficacy of allergen immuno-therapy in a patient with atopic dermatitis and allergy to house dust mites.	*Martyna MIODOŃSKA*	OL23
9:50	Q&A		
10:00–10:30 **UTC 09:00–09:30**	**Poster Session 4 – Visit Exhibits and Coffee Break**		
10:30–12:00 **UTC 09:30–11:00**	**Session 12** **Breakthroughs in AD treatment 1**	**Chairs** *Adam REICH, Thomas WERFEL*	
10:30	Vaccination against allergies	*Martin BACHMANN*	IL20
10:50	The skin microbiome prior to the development of childhood atopic dermatitis	*Anne-Sofie HALLING*	OL24
11:05	Dupilumab provides sustained effectiveness in patient-reported outcomes and favorable safety in patients with moderate-to-severe atopic dermatitis: up to 5-year results from the daily practice Bioday Registry	*Junfen ZHANG*	OL25
11:20	Real-life case-series experience with tralokinumab in patients with severe atopic dermatitis	*Francesca CAROPPO*	OL26
11:35	In pursuit of meaningful change: enhancing interpretability of the Recap of atopic eczema (RECAP) instrument	*Arabella BAKER*	OL27
11:50	Q&A		
12:00–13:30 **UTC 11:00–12:30**	**Session 13** **Breakthroughs in AD treatment 2**	**Chairs** *Joanna NARBUTT, DirkJan HIJNEN*	
12:00	Internet data mining and AD	*Alexander ZINK*	IL21
12:20	A large language model artificial intelligence for patient queries in atopic dermatitis	*Pranvera SULEJMANI*	OL28
12:35	McGill Adult Atopic Dermatitis Digital Outcomes (MAADDO) Study: development and user testing of the EczemaQ mobile application	*Kaiyang LI*	OL29
12:50	Real-world experience on efficacy and safety of upadacitinib in patients with atopic dermaitits in Korea	*Jiyoung AHN*	OL30
13:05	The impact of baseline disease severity on short-term efficacy of abrocitinib and dupilumab in patients with atopic dermatitis: a post hoc analysis of the phase 3 JADE COMPARE trial	*Zakiya P. RICE*	OL31
13:20	Q&A		
13:30	**Closing Ceremony**		
	Closing remarks	*Magdalena TRZECIAK & Alain TAÏEB*	
	Next Rajka Symposium: Doha, Qatar	*Martin STEINHOFF*	

Scan the QRcode!
LAST PROGRAM UPDATE

INVITED LECTURE ABSTRACTS (IL)

IL.1
ATOPIC DERMATITIS AND TELEDERMATOLOGY IN MALI

Ousmane FAYE, Cheick Oumar BAGAYOKO & Teledermali team
Bamako Hospital of Dermatology, Faculty of Medicine and Odontostomatology, Bamako, Mali

In most sub-Saharan African countries, in particular in rural areas, patients have limited access to skin doctors. Given the low income of the population, long distance and lack of means of transportation between cities, referral to a dermatological clinic is challenging. As a rule, patients most often seek care from either front line health care providers, traditional healers, or street drug sellers. The ratio of dermatologists per population is very low (0,5 to 1 for 1 million inhabitants). To address this issue, a teledermatology pilot programme based on "store and forward" targeting primary health centres was set up in Mali. This study was aimed at investigating the feasibility and impact of the programme on the management of skin diseases. Health care providers from 10 primary centres were trained to manage common skin diseases, capture images of skin lesions, and use an e-platform to post all cases beyond their expertise for dermatologists who analyzed the pictures and sent them treatment recommendations. Before training, 40% (4/10) of health centres had never had internet access, and 35% of participants (7/20) had never used a computer. Overall, of the 180 patients visiting the health care center, 96% were properly managed over a one year period by trained health workers via the platform. The mean turn-around time to receive the expert's response was 32 hours (13 minutes to 20 days). Assessment of the log book of health centres revealed a decrease in the number of unclear diagnoses from 322 to 84 while the knowledge of trainees increased. Analysis of the spectrum of diseases diagnosed via the platform revealed a wide range of skin disorders, including skin infections, eczemas (including atopic dermatitis), auto-inflammatory disorders, autoimmune diseases, and blistering diseases. This finding was similar to that observed in the dermatological ward for the same period. At the interview, participants and patients were fully satisfied. A participant stated "I learned a lot to the extent that I feel like a community dermatologist". As a result of the success of the pilot phase, the programme was scaled up for the whole country. To date, 229 front line health care providers have been trained, making teledermatology available in 97 health centres. Teledermatology improves the management of skin diseases in primary health care centres. Our programme can be used as a model for improving the management of atopic dermatitis in Africa. In developing countries, internet and electricity accessibility, and the turnover of health care workers represent the main challenges when conducting a teledermatology programme.

IL.2
ATOPIC DERMATITIS IN CHINA

Lin MA
Department of Dermatology, Beijing Children's Hospital, Beijing, China

We present a concise overview of key points regarding the long-term management of atopic dermatitis (AD) in China. These points aim to provide valuable insights for dermatologists involved in the care of AD patients. Epidemiologic Statistics: Understand the prevalence and associated risk factors of AD in China. This knowledge will help in assessing the burden of the condition and tailoring management strategies accordingly. Skin Care System in China: Recognize the unique characteristics of the Chinese skin care system. Cultural practices and preferences influence treatment effectiveness, making it essential to consider these factors when devising individualized treatment plans. Clinical Characteristics of Children's AD: Familiarize yourself with the clinical characteristics of AD in children. This information is based on data collected from 2047 Children's AD at the outpatient department of Dermatology at Beijing Children's Hospital, providing valuable insights into the challenges faced in managing pediatric AD cases in China. Chinese Guideline and Treatment Algorithm: Follow the evidence-based Chinese guideline and treatment algorithm for AD. These recommendations offer standardized care and support optimal patient outcomes. The Importance of Treatment Patient Education (TPE): a. From the Perspective of Doctors: Address the inconsistency in assessing disease severity of AD. Consider adopting a more convenient and reliable severity evaluation method. Promote training programs for doctors to enhance their understanding of the concept of long-term management. This will improve patient care and outcomes. b. From the Perspective of Patients: First, improve TPE by emphasizing the concept of barrier repair, providing education on washing and moisturizing techniques, and second enhance patient compliance and increase the consultation rate by developing strategies that encourage adherence to treatment plans and foster patient engagement. By considering these key points, dermatologists can adopt a comprehensive approach to the long-term management of AD in China. Incorporating epidemiologic data, cultural considerations, clinical insights, treatment guidelines, and patient-centered perspectives will contribute to improved patient outcomes and quality of life.

IL.3
ATOPIC DERMATITIS IN AUSTRALIA

John C. SU
Department of Dermatology, Monash University, Eastern Health and Departments of Paediatrics & Population Health, MCRI, University of Melbourne, Melbourne, Australia

Of Australia's population of 25.7 million people, atopic dermatitis (AD) affects 16% (14–48%) over a lifetime, with a current prevalence of 6–8%.[1] Studies in children under 6 years of age estimate a lifetime prevalence of 28–36% and current prevalence of 17–27%, 15–25% for those aged 6–12 years. Of children aged 6–10 years, 12–19% were considered moderate-to-severe on SCORAD assessment. Although most Australians are Caucasian of British or European descent, waves of immigration have brought increasing ethnic diversity, notable subpopulations including those of Chinese (5.5%), Indian (3.1%), First Nations (2.9%) and African extract. Observed AD ethnic phenotypic distinctions, comorbidities, and longitudinal subclasses (of which five have been identified by risk factors, atopic associations, and outcomes) resemble those described in publications from other countries. One study has described disproportionate risk of AD for male offspring of East Asian parents with known maternal atopy; of these children, 80% developed AD, whereas recently immigrated East Asian parents themselves had fewer allergies. Challenges to accessing optimal AD care remain for several groups including rural communities, culturally and linguistically diverse Australians, refugees, the mentally ill, the incarcerated, and First Nations Peoples. The prevalence of AD in First Nations Peoples is around 19% (0.4–44%). Data for this subpopulation are inconsistent and limited, but increased AD severity, increased cutaneous infections, increased comorbidities, and increased distance to specialist care have been described; detailed AD characteristics have not yet been clarified. Despite Australia being considered a developed country, economic and

educational barriers remain such that supply of skin care products including emollients for some groups remain insufficient. Currently, government subsidies in Australia are available for increased quantities of topical steroids (TCS) where needed, topical pimecrolimus, phototherapy, dupilumab, and upadacitinib, the latter two having been assigned strict eligibility criteria for those with TCS-resistant AD. Topical tacrolimus and crisaborole and oral baricitinib are available, but without subsidy. There are about 600 Australian dermatologists nationwide, but these are concentrated in urban centres; access to dermatologists is therefore limited, particularly for rural Australians. Of remote and very remote Australians, 58% describe distance as a significant barrier to receiving specialist treatment. AD management is therefore mostly undertaken by general practitioners. Notwithstanding topical corticosteroidphobia, general practitioners rarely prescribe topical non-steroidal treatments, but of concern, they may more readily use oral corticosteroids. Nurse practitioner and pharmacist roles are increasing, but misinformation even among health professionals remains high. There is a significant shortage of mental health services. Australia has two main AD patient advocacy groups. Our Therapeutic Patient Education programs began in 2018 and recently have developed an on-line presence. Ongoing development of educational and health professional training incentives as well as better government policies to counter inequity in health care will hopefully facilitate and improve future AD care.

IL.4
PHENOTYPES AND ENDOTYPES OF ATOPIC DERMATITIS IN CHILE

Arturo BORZUTZKY

Department of Pediatric Infectious Diseases and Immunology, School of Medicine, Pontificia Universidad Católica de Chile

There continues to be little information on the characteristics of atopic dermatitis (AD) in Latin America, a region with a high prevalence and burden of this disease. Like many other Latin American countries, the Chilean population is admixed, with ancestral contributions mainly from Europe and Native America, and a minor African component. It is essential to gain a deeper understanding of the phenotypes and endotypes of AD in our country and region to advance the understanding of the epidemiology, diagnosis, and particularly prevention and treatment of this chronic skin disease. We have recently completed the DERMATYPES study, a cross-sectional study of children and adults with AD in Santiago, Chile, which involved deep phenotyping, evaluation of common FLG loss-of-function mutations, skin physiology assessments, determination of allergic sensitization profiles to food, aeroallergens, and auto allergens, study of the skin microbiome, and blood biomarkers, among other measurements. The results of this study have led to significant advances in understanding many of the complexities of AD in the Chilean population, including the characterization of the AD phenotype in Latino patients, determination of the prevalence of R501X and 2282del4 FLG mutations among Chileans, allergic sensitization patterns, and characteristics of the skin microbiome in our AD population. Deeper analyses are un’’’’derway to integrate these data through systems biology methods to identify specific endotypes, such as that of patients with an auto allergic AD phenotype. These findings may pave the way for a more personalized medicine approach for AD patients in our region.

IL.5
ATOPIC DERMATITIS IN QATAR

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Atopic dermatitis (AD) is one of the most common non-communicable chronic inflammatory skin diseases globally. Information about prevalence, incidence, comorbidities (atopic, non-atopic) in Middle east countries is compared to other areas sparse. Qatar belongs to the Asian continent, embedded in the region of the Middle east countries which all together make up approximately 460 Million inhabitants, thus more than Europe, for example. Qatar belongs to the Gulf region and has about 3 Mio. Citizens, the Qatari population being about 10%. The population has almost doubled in last 20 years being a substantial challenge to keep up health coverage for a rapidly growing population. Qatar belongs to the richest countries per GDP capita (220 Bio US$ per year), and has developed within 70 years to a highly privileged country with substantial progress in education, life expectancy and health. The health sector covers as per government and private sector all aspects of public health with coverage for everyone. For example, emergency and in-ward procedures are covered by the government for everyone. This is due to excellent governmental health coverage (family medicine, primary health care center with dermatologists, tertiary Dermatology department hospital with 70,000 patients/year, for citizens with all income ranges. AD is the number 1 diagnosis in the primary and tertiary dermatology departments in Qatar with about 7000 patients per year, around 5,000 in the tertiary department, among those, 50% are female, 50% male. Prevalence of AD is estimated to be 20% among children, 15% among adolescents and 5% among adults. The high prevalence and the fact that most patients are treated in the specialized and centralized centers allows intensified studies about genetics, epigenetics, pathophysiology, diagnostics and therapy of AD and its comorbidities. The wide distribution of substantial numbers of patients with various genetic backgrounds (Asian Arabic, central Asian, southeast Asian, African, Caucasian) allows substantial genetic and epigenetic studies at a large scale, in collaboration with Qatar Biobank which has fully sequenced around 20,000 citizens as of yet. The associated Translational Research Institute (TRI) along with the Dermatology Institute (DI) includes facilities for genomics, proteomics, metabolomics, fluocytometry and imaging, giving access to translational research and clinical studies/trials to improve stratified therapies for AD patients in the future. A major factor for the optimal treatment of patients with moderate-to-severe AD is the fact that targeted therapies (anti-IL4/13, anti-IL-13) as well as JAK-inhibitors are available as first-line therapies. Yet, phototherapy is a still highly used treatment option for patients with AD, including UVA1. In a retrospective study of AD patients with Asian-arabic background, which included mainly patients with severe eczema and severe itch we could show that Dupilumab led to a significant reduction in SCORAD and NRS11 itch score in around 82% of patients, indicating that anti-IL-4/13 therapy is a good treatment option in the Asian-arabic population. Most observed side effects were conjunctivitis (14%), head-and-neck dermatitis (9%), and neuropathy (2%). Conjunctivitis was decreased to 0% after treatment was started from beginning with artificial tears. In sum, AD is a very prevalent chronic inflammatory skin disease in the Gulf and Middle east countries. Because of rare inclusion into clinical trials the similarities and differences of AD syndrome with respect to genetics, epigenetic factors and lifestyle influences, phenotypes, endotypes, potential diagnostic characteristic differences, and optimal treatment algorithms are still poorly studied. Given that the population in the Middle East is about 460 Mio. inhabitants, thus larger than USA, Australia or Europe

for example; thus, intensified studies on all aspects of AD in this region will significantly contribute to better understanding and treating AD globally.

IL.6
MANAGEMENT OF ATOPIC DERMATITIS IN MADAGASCAR

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The prevalence of Atopic Dermatitis (AD) continues to increase in Madagascar. Among children under 15 years of age, it increased from 1.6 in 1999 to 5.6% in 2016. Physicians are faced with a double problem, that of the difficulty of management due to the lack of data on the population with phototype III to VI and that of the lack of financial means for the treatment of this chronic disease. The roadmap on AD in sub-Saharan Africa developed in Geneva in 2019 and the meeting of sub-Saharan African experts on AD in Antananarivo in June 2023 highlights these points and Madagascar does not escape the problem common to the entire Africa. To overcome these problems, we have responded to calls for projects to improve the care of our patients. We obtained funding through L'Oréal and ISAD to conduct a study on filaggrin deficiency in Malagasy atopic children and to study possible mutations in the SPINK5 and KL7K genes. It's an Interventional study with 2 arms, Malagasy patients with AD, and control arm without AD. Samples provided from biopsy and whole blood of participants. Immunohistochemistry analysis (Zurich) and DNA extraction (CICM) will be performed. The FLG gene in the genomic DNA will then be amplified by the polymerase chain reaction (PCR) (CICM). PCR and sequencing analysis for the R501X and 2282del4 mutations will be performed. For the SPINK5 gene, we detect all the SNPs including rs2303067 polymorphism and for the KLK7 gene, we search for CNVs while targeting mainly the AACC insertion. The result of the comparison of electrophoretic profiles of the control cases with those of the patients don't show the existence of mutations at the level of the studied gene. The amplification and sequencing of the fragment of exon 3 of the FLG gene could give complementary information to the results and to observe other sites of mutations. Genetic distances between sequences in this Malagasy study and the European sequences will be studied with the Whole Exome Sequencing (WES). The therapeutic responses in relation to the types of mutations found will be studied in the long term. In addition, a study on the treatment of moderate and severe AD in Malagasy patients with methotrexate has received funding from the Cure Within Reach (CWR) in the USA. With these approved studies by the Malagasy Ethics Committee, we work twice as hard as our colleagues in the north before starting our study, and we demonstrate the difficulty of conducting such studies in southern countries.

IL.7
ATOPIC DERMATITIS IN POLAND

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Based on the data reported to the National Health Fund register the prevalence of AD in Poland was estimated at 0.3% of the total population (1, 2). The highest prevalence 300/10,000 residents was observed in children up to 4 years of age, while in adults it ranges from 2.24% to 3.6% (1-3). According to the ECAP study findings, the overall prevalence of AD in Poland was determined to be 3.91% among all subjects, with a prevalence of 5.34% among 6-7-year-old children and 4.3% among 13-14- year-old adolescents. However, it is suggested that these epidemiological results are underestimated. Among adult patients with AD, 10% have mild disease, 64% suffer from moderate disease, and 26% present severe AD (1). The main clinical burden of diseases includes: pruritus (86.1%), skin dryness (77.2%), appearance (74.3%) (4). The comorbidities of AD require multi-specialty approach. The disease deeply impacts personal, social and economic part of life of polish patients. Dermatologists, being the key stakeholders in the treatment of AD, provide medical care to 60% of patients with AD, while 30% receive treatment from allergists and 10% from GPs. Among AD patients, females (55.2%) and urban residents (66.4%) tend to utilize healthcare services more frequently (2). In the last decade, the average number of consultations per person increased slightly, and the average number of hospitalizations decreased (2). Additionally, there is a huge need for therapeutic patient education. As many as 75% of AD patients and their caregivers express a need for TPE education (5). The treatment possibilities for AD in Poland include emollient therapy, topical corticosteroids and calcineurine inhibitors, phototherapy, and systemic treatment such as CyA, systemic corticosteroids (sGKS), MTX, AZA, and MMF (6,7). Besides sGKS among the latest only CyA is reimbursed and only for AD adults. 20% of severe adults AD patients are treated with CyA (1). According to the available data, despite clinical indications, 54% of patients did not undergo systemic cyclosporine therapy. The main reasons for this were patient refusal (66%) or contraindications (24%) related to the use of cyclosporine (1). Since 2021, access to biologics such as Dupilumab has been available in Poland in real life. Currently, Dupilumab is reimbursed for severe AD children since 6-year-olds, Upadacitinb for severe AD adolescent since 12-year-olds, and Baricitinib is available for severe AD adults. There are 33 dermatologic centers and 15 allergologic centers specifically dedicated to providing this innovative treatments in Poland. Regarding AD complexity and challenges associated with AD treatment, we try to implement a new multidisciplinary model of care, which we share with you during the lecture.

IL.8
ATOPIC DERMATITIS AND FOOD ALLERGY

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The association between eczema and allergic disease, particularly food allergy, has long been disputed. However, the past two decades have seen a significant body of evidence develop to support a bi-directional association i.e. early-onset eczema is the largest risk for the development of food allergy, and food reactions are a trigger of underlying eczema. This presentation will highlight recent advances in the field with practical advice that you may wish to include in your clinical practice.

IL.9
DISEASE ANTAGONISMS IN ATOPIC DERMATITIS (AD) BETWEEN COMORBIDITY AND CO-PROTECTION – IMPLICATIONS FOR THERAPY

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Comorbidity as common – more than coincidental - occurrence of different diseases in one patient is a well-known feature of atopy, with the familial occurrence of eczema, asthma and rhinoconjunctivitis on the basis of an epithelial barrier dysfunction together with immune deviation towards Th2 and IgE production. Sometimes it goes together with other allergic reactions as eg food anaphylaxis, urticaria or contact dermatitis, whereas drug allergy, insect venom anaphylaxis are seemingly not more common in AD. The phenomenon has to be differentiated from disease com-

plications like acute infections of viral (Herpes simplex, eczema herpeticum), bacterial (S. aureus) or fungal (Candida) origin. Less pronounced are associations to other skin diseases with autoimmune background like alopecia areata or vitiligo or diseases of the eyes. Rarer genodermatoses with immune dysfunction can go along with eczematous skin lesions similar to AD. Comorbidities often are only prominent in severe manifestations of AD or have influence on the severity of the comorbidity. Associations of AD to widespread diseases in the general population have only been studied recently in this milennium. Some authors found associations to metabolic syndrome, cardiovascular events, chronic kidney disease, others not. Neuro-psychiatric conditions have been observed for a long time, mostly in the sense of depression, anxiety or psychich stress, probably also due to the intense itch. A vicious cycle can develop by severe eczema leading to impaired quality of life and reactive depressive episodes further deteriorating the skin. Psycho-somatic and somato-psychic influences always should be regarded together; the term "mental health" is debatable to describe these phenomena. Attention-Deficit Hyperactivity Syndrome (ADHS) is associated with AD, probably due to sleep loss in early childhood because of eczema and itch, as longitudinal studies have shown. Also autism has been found to be weakly associated with AD. Life events have a marked influence on the development or exacerbatiion of AD. There are some diseases – most notably with Th1 prodominance – which seem to occur in a lower prevalence in AD than in the normal population, like diabetes type I, psoriasis, rheumatoid arthritis, melanocytic nevi or even some types of cancer. For this phenomenon we proposed the term "co-protection". While some forms of lymphoma, eg T cell lymphoma, seem to be more common in AD, others like acute leukemia, as well as organ tumours as pancreatic cancer or brain tumours like glioblastoma are observed with a lower incidence. Malignant melanoma also seems to be rarer in AD in some studies, as are the numbers of melanocytic nevi. It is too early to speculate about the mechanisms or possible implications of these phenomena for prognosis or clinical management. Knowledge about these phenomena of comorbidity and co-protection and relevant mechanisms should be enhanced. This will influence management of AD with selection of immunomodulatory treatments with targeted biologics against relevant inflammatory cytokines (IL-4, IL-13, IL-31, IL-5 etc) or small molecules like phosphodiesterase (PDE) or Januskinase (JAK) inhibitors, but also with regard to psychosomatic approaches and eczema school programs.

IL.10
AD AND ASTHMA – T2 SIBLINGS?

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Understanding the pathomechanisms underlying the development of the clinical picture of allergic diseases enables us to identify key targets for modern biological drugs. T2 inflammation represents the common feature for both asthma and atopic dermatitis (AD). The key cells that regulate this type of inflammation are T2 lymphocytes and ILC2 lymphoid cells. The cytokines of the T2 profile are interleukins 4, 5 and 13. Biomarkers enabling the identification of T2-mediated inflammation in asthma are eosinophils (in peripheral blood and induced sputum), expiratory nitric oxide (FeNO) and periostin. In bronchial asthma, interleukin 4 is responsible for the influx of cells, including eosinophils, to the site of the ongoing inflammatory process. Interleukin 13 promotes bronchial smooth muscle hypertrophy, promotes bronchoconstriction, stimulates goblet cells to excessive mucus production and is responsible for the phenomena of reconstruction (remodeling) of the bronchial walls. Interestingly, the latest studies have shown that it is IL-4 and IL-13, and not eosinophils, that are responsible for the remodeling and gradual impairment of the lung function in chronic asthma. What is important from the practical point of view, type T2 inflammation is described in the pathomechanisms of a number of disease entities that we encounter in our daily clinical practice, including atopic dermatitis, bronchial asthma, allergic rhinitis and conjunctivitis, chronic sinusitis with nasal polyps and eosinophilic esophagitis. These diseases often fit into the picture of the atopic march, i.e. they occur in a given patient in the following decades of life. They also often coexist with each other, and due to many troublesome clinical symptoms, they constitute a significant burden for the patient and the health care system. The common feature of pathomechanisms of the described diseases is the genetic background, damage to the epithelium and epithelial barrier, significant influence of environmental factors: allergens and environmental pollution, and the development of a vicious circle of inflammation causing tissue damage. Dupilumab is a recombinant human IgG4 monoclonal antibody that binds to the α subunit of the type I IL-4 receptor, which is also a component of the type II receptor for both IL-4 and IL-13. In practice, this antibody blocks both IL-4 (IL-4Rα/γc type I receptor) and IL-13 signaling via type II receptor (IL-4Rα/IL-13Rα). Dupilumab has been extensively studied and registered in the management of several T2 diseases including asthma and AD. In patients diagnosed with AD and concomitant asthma, dupilumab significantly improved not only the degree of AD control, but also reduced the severity of asthma symptoms, leading to spirometric improvement and reduction of FeNO concentration in the exhaled air. Similarly, in a cohort of patients with severe asthma and concomitant perennial allergic rhinitis (AR), administration of dupilumab led to improvement in asthma, but also control of AR symptoms and AR-related quality of life. In conclusion, inhibiting IL-4 and IL-13-dependent signaling pathways, multi-directionally blocks the inflammatory cascade, including the synthesis of other cytokines and mediators, cell influx, and the consequences of chronic ongoing processes in T2 inflammation.

IL.11
MICROBIOTA MODULATION FOR AD: BENEFITS OR HYPE?

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The gut microbiota has gained significant attention in research and media due to its role in health and disease. Dysbiosis, characterized by imbalances in gut microbiota composition and function, is now recognized as a contributing factor in the development of both gastrointestinal and extraintestinal conditions, including atopic dermatitis (AD). Studies have revealed specific dysbiosis patterns in AD patients, such as an enrichment of Faecalibacterium prausnitzii, increased expression of genes linked to gut epithelial damage, and reduced levels of anti-inflammatory short-chain fatty acids (butyrate and propionate). Higher levels of inflammatory bacteria like Clostridium and Escherichia coli were found in the gut of atopic infants, while lower levels of beneficial bacteria like Akkermansia, Bacteroidetes, and Bifidobacterium were observed in AD patients. Furthermore, a higher abundance of butyrate-producing bacteria was associated with better outcomes in healthy infants or those with mild AD compared to those with severe AD. Given the growing understanding of the gut microbiota's impact on health, targeting it with biotics (probiotics, prebiotics, synbiotics, or postbiotics). In many countries, the biotic industry is big business, often with aggressive marketing causing uncertainty about whether or not to use biotics. If the answer is yes, which one, when and how should biotics be used? This presentation will aim to provide a concise overview of the current consensus definitions of various biotics and their mechanisms of action. It will also present the existing evidence

on the effects of different biotics in preventing and treating AD. Additionally, identified gaps in the current evidence will be discussed, along with recommendations for future research and clinical trials to address these gaps.

IL.12
FEELING WELL, BEING WELL – THE BRAIN-SKIN CONNECTION

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The brain-skin connection is a complex and intriguing area of research that explores the bidirectional relationship between emotional well-being and skin health. This review manuscript delves into the existing evidence supporting the notion that feeling well is closely intertwined with being well, with a specific focus on the influence of emotional and psychological factors on the skin. Numerous studies have demonstrated the impact of emotions, stress, and mental states on various skin conditions, including acne, psoriasis, eczema, and dermatitis. Stress, in particular, has been widely recognized as a major contributor to skin disorders. Psychological stress triggers a cascade of neuroendocrine and immune responses that can lead to increased inflammation, altered sebum production, and impaired skin barrier function, ultimately exacerbating or precipitating skin conditions. The brain-skin connection goes beyond the influence of negative emotions on skin health; positive emotional states and well-being can also contribute to healthier skin. Studies have shown that individuals experiencing positive emotions and a greater sense of well-being tend to have improved skin appearance, enhanced wound healing, and reduced inflammatory responses. Moreover, interventions targeting stress reduction and promoting positive emotions, such as mindfulness-based stress reduction and cognitive-behavioral therapy, have demonstrated beneficial effects on various skin conditions. The mechanisms underlying the brain-skin connection are multifaceted and involve intricate interactions between the nervous, endocrine, and immune systems. The skin has a rich supply of sensory nerves and is responsive to neuropeptides and neurotransmitters released by the brain. Stress-induced neuroendocrine changes, including increased cortisol levels, can directly affect skin cells, sebaceous glands, and immune responses in the skin, contributing to the development or exacerbation of skin disorders. Furthermore, emerging research suggests that the skin itself has the capacity to influence mental and emotional states. The skin, being the largest sensory organ, provides a rich source of feedback to the brain through sensory receptors and neural pathways. Recent findings indicate that skin signals can modulate mood, stress responses, and social interactions. For example, touch and social touch have been shown to activate brain regions associated with reward and affiliation, suggesting that positive social interactions mediated through the skin can enhance emotional well-being. Understanding the brain-skin connection has implications for both dermatology and mental health fields. Dermatologists can benefit from incorporating psychological interventions and stress management techniques as part of comprehensive treatment plans for skin conditions. Similarly, mental health professionals should be mindful of the potential impact of skin health on their patients' well-being and consider addressing skin concerns as part of their therapeutic approach. In conclusion, this review manuscript highlights the growing body of evidence supporting the intricate relationship between the brain and the skin. Feeling well and being well are interconnected, with emotional and psychological factors significantly influencing skin health and vice versa. Future research should continue to explore the underlying mechanisms of this connection and investigate innovative interventions that leverage the brain-skin axis for improved well-being and dermatological outcomes.

IL.13
RECONSIDERING THE FARM EFFECT IN AD AND ALLERGY

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The "farm effect" is among the strongest known natural protective factors against allergy, asthma and atopic dermatitis. It refers to spending time in pregnancy or childhood on a cattle farm, inhaling farm air and drinking unpasteurized cow's´milk. It is practically impossible to fulfill these requirements in our societies. Much focus has therefore been given on identifying farm factors that could be exploited for prophylaxis or therapy, such as specific microbiota. We identified a protein as an abundant and immunomodulatory compound in stable dust as well as in cows´milk, beta-Lactoglobulin (BLG). BLG is secreted from the cows via milk and urine, from where it is aerosolized until 300 m around a cattle stable (1). BLG is a lipocalin with a hydrophobic pocket filled with micronutrient ligands (Iron-siderophore complexes, retinoic acid, zinc) in its native form, while pasteurization leads to a loss of ligands. We have shown in several studies that only the filled holo-BLG has immunomodulatory potency. We created a holo-BLG lozenge effective in a series of molecular, cellular and preclinical mouse studies (2), as well as in clinical trials: *i*) In a double-blind placebo-controlled pilot trial with pollen allergic rhinitis patients ($n=25$; placebo $n=26$), supplementation with the holo-BLG lozenge reduced the combined symptom medication score (CSMS) by 40% (3); *ii*) In an allergen provocation chamber house dust mite allergic rhinitis patients ($n=32$) showed a 60% improvement of the total nasal symptom scores (TNSS) and 40% of the total symptom scores (TSS) as compared to the values before supplementation (4); *iii*) Most recently, we performed a challenge chamber study in cat allergic rhinitis patients ($n=35$), which are difficult to manage-patients (5). Supplementation rendered 50% reduction of the TSS and 50% of the TNSS. An outlook on presently ongoing studies on the use of the farm effect in form of the holo-BLG lozenge in atopic dermatitis will be given. Hence, the molecular mechanisms of the holo-BLG lozenge is targeting micronutrients in a receptor-mediated fashion to immune cells thereby restoring the micronutrients and reshaping immune balance. Each of the ligands tested exploits a different molecular mechanism, which we explored, showing that the complexation of them into BLG is crucial. Notably, the immunonutritional principle of holo-BLG is entirely allergen-independent. We conclude that holo-BLG facilitates the translation of the allergy protective effect of cows´ farms for patients´ allergy and atopy management.

IL.14
THE EVOLUTION OF TOPICAL TREATMENT OF ATOPIC DERMATITIS

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Topical therapy of atopic dermatitis (AD) is an ever-changing field, as well as an art. Many innovations and pseudo-innovations, trends in public knowledge, and public awareness of the risks and benefits of these drugs, together with an improved understanding of the immunologic mechanisms underlying AD contribute to the ongoing evolution. Most currently used treatment options for AD patients can be classified as targeting primarily either the skin barrier, the microbial colonisation or infection, or the underlying

inflammation of AD. Emollients working by their physical properties are used since many centuries, and remain the mainstay of basic therapy. Emollients plus have recently been defined as emollients containing additional active, non-medicated ingredients, such as bacterial lysates or plant extracts. One hundred years ago, topical anti-inflammatory therapy of AD consisted largely of the black and malodorous coal tar preparations that some senior colleagues are likely to recall from their clinical practice. The low acceptance of the various tar preparations by most patients has reduced the clinical use of tar products to a minimum. Anti-inflammatory treatment options for AD have been revolutionised during the twentieth century by the introduction of two new drug classes into clinical practice: Topical corticosteroids (TCS) and topical calcineurin inhibitors (TCIs). Differences in stability, formulation, penetration characteristics, efficacy, safety profile, licensing status and cost determine their different use in daily practice. In the 21st century, a number of new substance classes such as phosphodiesterase inhibitors, aryl hydrocarbon receptor agonists or janus kinase inhibitors (JAKi) have been developed for topical use. The clinical trial data is quite interesting and convincing, but clinical use is still limited due to cost and licensing issues in many parts of the world. In conclusion, the field of topical treatment products for AD is rapidly growing, and dermatologists around the world are awaiting the ability of these new products in their home countries.

IL.15
BEYOND THE ALLERGIC COMORBIDITIES OF ATOPIC DERMATITIS: WHAT DOES THE EVIDENCE SHOW?

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Atopic dermatitis (AD) is a common disease that is associated with allergic, non-allergic comorbidities. Patients with AD are at risk of developing allergic comorbidities, but less is known about the associations between atopic dermatitis and non-allergic comorbidities. We can find the current evidence about AD-associated comorbidities, beyond the traditional topic and allergic conditions. AD patients may have an increased risk of cardiovascular and metabolic disease, skin cancer, autoimmune disease, and neuropsychiatric disease. In Korea, we analyzed whether the risk of CVD is different between AD patients and healthy controls using Korean National Health Insurance Data. As a result, not only metabolic disease but also the CVD risk of AD patients was significantly higher than that of the control group. Patients with AD had a significantly higher risk of hyperlipidemia, hypertension, and type 2 diabetes. The causes of these associations are likely multifactorial and different from the geographical variant. We can explain with genetic predispositions, systemic inflammation, past medications, and lifestyle risk factor. Although the causative underlying mechanisms are poorly understood, physicians should be aware of the association of the burden of non-allergic comorbidities of AD.

IL.16
COEXISTENCE OF AD AND ALOPECIA AREATA. IMPACT ON THERAPEUTIC DECISIONS

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Abstract summary not available at the time of publishing

IL.17
TREATMENT OF ATOPIC DERMATITIS IN PREGNANCY AND LACTATION PERIOD

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Atopic dermatitis is not only a disease of childhood, but also a disease among adults. Among adults there will at some point be a desire to have children. For patients suffering from atopic dermatitis, both women and men, questions about the risk for the baby due to both disease itself and the treatments usually arises. It is important to inform young adults beforehand of the consequences of disease and treatment before family planning and there is an unmet need among this population for information. Treatment must also be adjusted for men and women, if possible, already preconceptionally, but also during pregnancy, and the period of lactation. As in all patients with atopic dermatitis, the use of moisturizer is basic therapy. When it comes to active drugs, there are no randomized controlled studies with pregnant women with atopic dermatitis and recommendations must rely on what is known from the use of these drugs in pregnant women in other diseases such as solid organ transplantation patients, patients with autoimmune disease or in cases series from patients with atopic dermatitis. Topical glucocorticoids and tacrolimus are safe treatments for pregnant women and the fetus, as is systemic treatment with glucocorticoids, cyclosporin A, and azathioprine. Methotrexate and mycophenolate mofetil should under no circumstances be used as te can cause serious birth defects. There is no data yet on biologics and JAKi's although more and more reports on the successful use of dupilumab during pregnancies have been published.

IL.18
SAFETY OF ATOPIC DERMATITIS THERAPIES IN THE CONTEXT OF CUTANEOUS LYMPHOMAS' RISK

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It was described before that severity of atopic dermatitis (AD) can be the main factor associated with increased risk of lymphoma, including cutaneous T-cell lymphomas (CTCL). The differential diagnosis of AD and CTCL, especially in case of erythroderma, can be a challenge as well. Modern AD therapies of the last decades as biologics and Janus kinase (JAK) inhibitors affecting the immune system have revealed a still not fully understood range of side effects. There is discussion concerning their CTCL risk development potential. The aim of the literature review was to determine the role of interleukins 4, 13, JAK, signal transducers and transcription activators (STATs) pathways in CTCL in terms of the safety of modern AD therapies because some of the above-mentioned drugs may have a direct impact on the progression of CTCL. That is why if we want to implement modern AD therapy in severe cases, especially with not typical clinical symptoms – we need to be oncologically vigilant.

IL.19
VACCINATION AGAINST ALLERGIES

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Abstract summary not available at the time of publishing

IL.20
INTERNET DATA MINING AND AD

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Internet data mining has become an invaluable tool in healthcare research, providing valuable insights into various medical conditions. This talk focuses on the application of internet data mining in the context of atopic dermatitis (AD), a common chronic inflammatory skin disease. The objective is to explore the potential of internet data mining in understanding the disease, its impact on patients, and the effectiveness of interventions. Drawing inspiration from recent studies which utilized internet data mining to investigate AD, the talk will delve into the methodology and findings of numerous studies which analyzed websearch data, online discussions, forums, and social media platforms to gather information on AD-related experiences, treatment preferences, and the impact of the disease on patients' lives. By employing advanced natural language processing techniques, relevant themes, sentiments, and trends within the collected data were identified. The findings of the presented data highlight several important aspects of AD management and patient perspectives. Internet data mining revealed common treatment preferences, alternative remedies, and experiences with various therapies. Furthermore, the impact of AD on mental health, social interactions, and daily life activities was also illuminated through the analysis of internet data. Implications of these findings for healthcare professionals, researchers, and policymakers are discussed. By utilizing internet data mining, healthcare providers can gain a comprehensive understanding of the patient experience, allowing for personalized and patient-centered care. Moreover, researchers can leverage these insights to identify knowledge gaps, inform future research directions, and develop targeted interventions. While internet data mining presents numerous opportunities, it also comes with challenges and limitations. Ethical considerations, data privacy, and the need for accurate data interpretation are crucial factors that need to be addressed. In conclusion, internet data mining holds immense potential in the field of AD research and patient care. By harnessing the vast amount of available online information, healthcare professionals and researchers can gain valuable insights into the disease, improve patient outcomes, and contribute to the development of effective interventions. Embracing this innovative approach can revolutionize the way we understand and manage atopic dermatitis from a patient perspective.

ORAL LECTURE ABSTRACTS (OL)

OL.1
CAV3.2 T-TYPE CALCIUM CHANNEL MEDIATES ACUTE ITCH AND CONTRIBUTES TO CHRONIC ITCH AND NEUROINFLAMMATION IN EXPERIMENTAL ATOPIC DERMATITIS

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Voltage-gated calcium channels, which mediate depolarization-induced calcium entry into neurons, regulate neuronal excitability. The Cav3.2 isoform of the T-type voltage-activated calcium channel is expressed in sensory neurons and is implicated in pain transmission. However, its role in acute and chronic itch remains unclear. Herein, we demonstrated that Cav3.2 is expressed by mechanosensory and peptidergic subsets of mouse dorsal root ganglion (DRG) neurons and colocalized with TRPV1 and receptors for type 2 cytokines. Cav3.2-positive neurons innervate human skin. A deficiency of Cav3.2 reduces histamine, IL-4/IL-13, and thymic stromal lymphopoietin-induced itch in mice. Cav3.2 channels were upregulated in the DRGs of a mouse model of atopic dermatitis (AD) and mediated neuronal excitability by regulating the action potential threshold and firing rate. Genetic knockout of Cav3.2 or T-type calcium channel blocker mibefradil treatment significantly reduced spontaneous and mechanically induced scratching behaviors and skin inflammation in an AD-like mouse model. Substance P and vasoactive intestinal polypeptide levels were increased in the trigeminal ganglia from AD-like mouse model, and genetic ablation or pharmacological inhibition of Cav3.2 reduced their gene expression. Our study identifies the role of Cav3.2 channel in both histaminergic and non-histaminergic itch pathways. Cav3.2 channel also contributes to AD-related chronic itch and neuroinflammation. Key words: Cav3.2, T-type voltage-activated calcium channel, itch, atopic dermatitis, substance P, vasoactive intestinal polypeptide, neuroinflammation.

OL.2
FILAGGRIN INSUFFICIENCY AFFECTS LONG-DISTANT COMMUNICATION MEDIATED BY KERATINOCYTE-DERIVED SMALL EXTRACELLULAR VESICLES AND PROMOTES ALLERGIC INFLAMMATION

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FLG loss-of-function mutations are the main inherited factor for atopic dermatitis (AD); FLG mutations are also linked to additional manifestations of the allergic march despite the absence of the protein in affected tissues, signifying the importance of filaggrin insufficiency for long-distance mechanisms in the disease. We aimed to understand if filaggrin insufficiency impacts the long-distance communication originating from keratinocytes, mediated by secreted small extracellular vesicles (sEVs), especially during antigen presentation. sEVs secreted by filaggrin knock down (shFLG) keratinocytes were isolated by serial ultracentrifugation and assessed for impact during antigen presentation by ELISpot and ELISA assays, lipid content was assessed by mass spectrometry. sEVs generated on the filaggrin insufficiency background were extensively remodeled in comparison to those secreted by normal cells, showing a reduction of permissive (stimulatory) and abundance of non-permissive (inhibitory) CD1a ligands contained within the sEV membranes, released by phospholipase A2. T cell activation resulting from the presentation demonstrated a shift towards type 2 responses. The aberrant sEV lipid composition reflected a generalized cellular lipid bias with downregulation of enzymes of lipid metabolic pathways, observed both in vitro, and in the skin of AD patients. sEVs produced on the filaggrin insufficiency background supply lipid ligands impeding homeostatic and protective CD1a-mediated type 1 responses and enhancing type 2 inflammation. This provides a basis for reduced tissue integrity and pathogen clearance and perpetuates inflammation in AD skin; broader consequences would include possible similar effects in other tissues to which keratinocyte-derived sEVs are transferred by systemic circulation.

OL.3
THE IMMUNE RESPONSE OF SENSITZED AD PATIENTS TO HOUSE DUST MITE COMPRISES IL-17, CAPABLE OF INDUCING A CYTOKINE RESPONSE FROM KERATINOCYES

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Introduction: Th17 cells have been described in atopic dermatitis (AD) skin and several disease endotypes have been defined according to IL-17 expression, among others, AD with sensitization to house dust mite (HDM). Biologics targeting the key players of type-2 inflammation have led to a significant bettering of symptoms in the majority of severely affected patients suffering from AD. Nevertheless, a subgroup of patients does not respond to these therapeutic approaches, and it is an ongoing discussion whether IL-17 may contribute to this phenomenon. - Objective: To assess the role of IL-17 in the interaction of allergen-stimulated T cells and keratinocytes. - Methods: PBMC derived from HDM-sensitized AD patients were stimulated with endotoxin-free HDM extract. Corresponding cell culture supernatants were subsequently applied to primary human keratinocytes in absence of presence of secukinumab. - Results: We confirm former reports showing that the immune response of sensitized AD patients to HDM extract contains significant amounts of IL-17 aside from type-2 cytokines. Transcriptomic analyses reveal that blocking of IL-17 can efficiently reduce the stimulation-induced changes in keratinocytes. Our model further demonstrates that gene expression of IL-20 and IL-24 is induced after incubation of keratinocytes with HDM-stimulated immune cell culture supernatants and that secukinumab counteracts this effect. We observed a likewise effect on SOCS3, a well known negative feedback-regulator of the STAT3/IL-17/IL-24 immune response. The immune response of AD patients to HDM comprises IL-17, that in turn induces pro-inflammatory cytokines from keratinocytes. Although biologics targeting IL-17 have not led to bettering of AD symptoms in recent clinical trials, targeting IL-17 may turn out to be beneficial in this subgroup of patients.

OL.4
CHARACTERIZATION OF IL-13 PRODUCING CELLS IN MODERATE TO SEVERE ADULT ATOPIC DERMATITIS PATIENT'S SKIN

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Atopic dermatitis (AD) is a chronic skin disorder that follows a relapsing-remitting course mediated by type 2-associated cytokines, of which IL-13 plays a central role. A recent study of patients treated with Dupilumab for 1 year showed high levels of this cytokine in clinically resolved skin. Thus, we hypothesize that atypical, skin-adapted IL-13+ Tissue resident memory (TRM) cells & functions may contribute to driving AD inflammation and disease relapse We sought to characterize the IL-13-producing effectors in the skin of AD patients, and their correlations with two clinician-reported outcomes (CROs) of disease (EASI, vIGA) Population: Adults (≥18 years old) with AD meeting Hanifin & Rajka criteria, moderate-severe disease as per IGA ≥3 and EASI ≥7.1. Patients at baseline (no systemic, 7d washout TCS); vs healthy subjects (HS). We collected lesional (L) and non-lesional (NL) skin from AD patients ($n=14$, $n=13$ & $n=2$; L, NL & HS skin). We used confocal microscopy, to detect protein by immunofluorescence and further immunophenotyped them using 12-Plex RNA fluorescent in-situ hybridization (FISH) We analyzed the RNA FISH data using UMAP, a dimensionality reduction algorithm and clustered cells expressing similar immunophenotype. Overall, we detected higher numbers of pathogenic T cells (CRTH2+) of CD4 and CD8 lineages in AD skin compared to HS. Importantly, we also detected larger clusters of IL-13+ cells in AD skin compared to healthy skin. On further characterizing these IL-13+ clusters, we found that AD skin had higher number of pathogenic TRM (CRTH2+ CD103+ CD69+) in epidermis compared to HS We report disease and skin layer specific patterns of IL-13 expression that are strongly correlated with CROs of AD. Pathogenic effector TRM cells may contribute to active disease in AD and specific cellular adaptation to the skin, remains to be fully defined.

OL.5
ASSOCIATION OF CUMULATIVE TOPICAL CORTICOSTEROID EXPOSURE WITH FRACTURES AMONG OLDER ADULTS: A CASE-CONTROL STUDY

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Topical corticosteroids (TCS) have been associated with increased fracture risk, but the relationship is controversial. To estimate the association of cumulative TCS exposure with subsequent fractures among older adults. Using health administrative data for Ontario, Canada, we identified all people aged ≥65 with any filled prescription for TCS between 2002–2021. We excluded people residing in long-term care, with renal failure, cancer or an organ transplant. Within the cohort of TCS users, we identified all cases of hip, vertebral, forearm or radius fracture and matched them with up to 5 controls on age, sex and year of cohort entry. We looked back from the index date (date of first fracture for cases and their matched controls) to cohort entry (first TCS prescription) to calculate cumulative TCS exposure (in grams, g). We used multivariable conditional logistic regression to estimate the association between cumulative TCS exposure and risk of fracture. We adjusted for important demographic and clinical variables, including cumulative oral corticosteroid use. From a cohort of 1,756,248 TCS users, we matched 145,343 people with fractures to 438,426 controls (mean (SD) age 79.7 (7.4) years, 69% female). Mean (SD) TCS exposure was 491 g (1,316) for cases and 482 g (1,292) for controls and the median TCS exposure was 150 g for both cases and controls. Adjusted for covariates, every increase of 100g TCS exposure was not associated with increased fracture risk (Odds Ratio 0.996, 95% Confidence Interval 0.995 to 0.997). In this case-control study among over 500,000 older TCS users in Ontario, increased cumulative TCS exposure was not associated with increased fracture risk.

OL.6
ASSOCIATION BETWEEN THE USE OF TOPICAL CALCINEURIN INHIBITORS AND THE RISK OF CANCER AMONG PATIENTS WITH ATOPIC DERMATITIS: A NATIONWIDE, POPULATION-BASED, RETROSPECTIVE COHORT STUDY

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The cancer risks associated with topical calcineurin inhibitors (TCIs) treatment in patients with atopic dermatitis (AD) remain controversial, and limited evidence exists regarding the cancer risks among patients with AD treated with TCIs in Asian populations. To identify the association between TCIs use and the risks of developing all cancers, lymphoma, skin cancers, and other cancers. Patients diagnosed at least twice with ICD-9 code 691 or at least one time with ICD-9 codes 691 or 692.9 within 1 year between January 1, 2003, and December 31, 2010, were included and followed until December 31, 2018 from Taiwan's National Health Insurance Research Database. Hazard ratios and 95% confidence intervals were estimated using the Cox proportional hazard ratio model. Patients using tacrolimus or pimecrolimus were compared with patients using topical corticosteroids (TCSs). The main outcomes were hazard ratios (HRs) of cancer diagnoses and associated outcomes obtained from the Taiwan Cancer Registry database. Propensity score matching was performed according to age, sex, index year, and Charlson Comorbidity Index using a ratio of 1:4. After propensity score matching, the final cohort included 195925 patients with AD, including 39185 who were initial TCIs users and 156740 who were TCSs users. Except leukemia, the HR and 95% CI showed no significant associations between TCIs use and the risk of developing all cancer, lymphoma, skin cancers, and other cancers. Sensitivity analysis also showed that the lag time HRs for every cancer subtype have similar results. Our study found no evidence to support an association between TCIs use and the risks of almost all cancers compared with TCSs use in patients with AD, but physicians should be aware of potentially higher risks of leukemia with TCIs use.

OL.7
EARLY RELIEF OF CLINICAL SYMPTOMS AND THE IMPROVEMENT DURING THE MAINTENANCE PERIOD OF CHILDHOOD ATOPIC DERMATITIS: A MULTICENTER CLINICAL STUDY OF CRISABOROLE OINTMENT

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Phosphodiesterase 4 (PDE4) inhibitor, 2% crisaborole ointment, is a new type of small molecule topical medication, which has been proved in China for mild to moderate atopic dermatitis(AD) above 2yrs. To observe the early efficacy and local tolerability of crisaborole in pediatric AD patients, and to compare the efficacy of two crisaborole regimen (Qod vs Biw)on AD flare. A multicenter, randomized, open label clinical trial was conducted,150 children with mild to moderate AD aged 2–18 years were enrolled and randomly divided into Qod group and Biw group. Both groups were treated with topical crisaborole for 2 or 4 weeks. The children would be enrolled into the remission stage if IGA score was ≤ 1, and treated with crisaborole with a frequency of Qod or Biw according to randomization. The recurrence rate was evaluated, as well as the improvement of the severity of skin lesions, itching, life quality, and adverse events during 12w follow-up. The early improvement of itch and skin lesions occurred on an average of 1.9 (1,3) and 2(1–4.11) days after application of crisaborole, respectively. At the end of treatment in the acute stage, 62.7% of the children achieved ISGA score 0/1. The recurrence rates of Qod and Biw group in remission stage were 43.2% and 30.8%, respectively, without statistically significant difference between the two groups. There was no statistically significant difference in recurrence time between the two groups. 37.7% children experienced discomfort at the medication site, mainly including pain (30.8%). Crisaborole ointment can relieve the clinical symptoms in children with AD in the early stage. The main adverse reactions are discomfort at the application site during early application. There is no significant difference in the impact of AD recurrence during the maintenance period.

OL.8

THE EFFECTIVENESS OF ANTIBACTERIAL THERAPEUTIC CLOTHING COMPARED WITH TO NON-ANTIBACTERIAL THERAPEUTIC CLOTHING IN PATIENTS WITH MODERATE TO SEVERE ATOPIC DERMATITIS: PRELIMINARY RESULTS FROM A PRAGMATIC RANDOMIZED CONTROLLED TRIAL

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The added value of an antibacterial agent to therapeutic clothing in AD is unknown. To evaluate the effectiveness and safety of antibacterial therapeutic clothing based on chitosan or silver as compared with non-antibacterial therapeutic clothing, a pragmatic, multicenter, randomized controlled double-blind trial (NCT04297215) was conducted in patients of all ages with moderate to severe (Eczema Area and Severity Index [EASI] ≥ 6) AD. Patients were randomized 1:1:1 to usual care plus non-antibacterial therapeutic clothing, antibacterial clothing based on chitosan or antibacterial clothing based on silver. The primary outcome was the between-groups difference in EASI over 52 weeks. Secondary outcomes included the Patient-reported outcomes, topical corticosteroid use, *S. aureus* skin colonization, and safety. Outcomes were assessed by means of (generalized) linear mixed model analyses. 159 patients were randomized (median age 8 (IQR: 3–24)). Geometric mean EASI scores at baseline, 1,3, 6 and 12 months were 15.7, 8.8, 7.9, 6.1, 4.1 in the non-antibacterial clothing group compared to 14.0, 7.6, 6.4, 5.9, 5.8 in the chitosan group and 13.7, 7.3, 6.4, 5.9, 5.8 in the silver group. Our model suggests a small but significant group-by-time interaction effect between the non-antibacterial and antibacterial based on silver group, in which the silver group performed slightly worse ($p = 0.035$). No significant differences between groups were found in patient-perceived eczema severity, quality of life, itch, topical corticosteroid use and *S. aureus* colonization. No severe adverse events or silver absorption were observed. These preliminary results show no differences between antibacterial clothing and non-antibacterial clothing with respect to signs, symptoms and quality of life.

OL.9

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Abstract summary not available at the time of publishing

OL.10

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OL.11

REAL-WORLD DATA OF ABROCITINIB TREATMENT IN PATIENTS WITH ATOPIC DERMATITIS: RESULTS FROM THE BIODAY REGISTRY

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Abrocitinib has proven to be an effective treatment for patients with atopic dermatitis (AD) in clinical trials. However, no daily practice studies are available. To evaluate the effectiveness and safety of abrocitinib in patients with AD, including those with previous inadequate response to dupilumab or upadacitinib, in daily practice. This multicenter prospective observational cohort study includes clinician- and patient reported outcomes on all AD patients treated with abrocitinib. Ninety patients were included: week 4 ($n = 80$), week 16 ($n = 47$), and week 28 ($n = 26$). Eczema Area and Severity Index (EASI)-50/75/90 was achieved by 68.0%, 46.7%, and 21.3% at week 4, respectively, and 79.2%, 54.2%, and 16.7% at week 28, respectively. At week 28, EASI ≤ 7 was achieved by 70.8%, EASI ≤ 4 by 54.2%, (almost) clear on the Investigator Global Assessment by 25.0%, Numeric Rating Scale-pruritus ≤ 4 by 66.7%, Patient-Oriented Eczema Measure ≤ 7 by 43.8%, Dermatology Life Quality Index ≤ 5 by 62.5%, and Patient Global Assessment of Disease rating of at least 'good' by 50.0%. Atopic Dermatitis Control Tool < 7 was achieved by 56.0% at week 16. In the Generalized Estimating Equations analysis, all outcomes until week 16 did not significantly differ when adjusted for an inadequate response to dupilumab ($n = 31$) or upadacitinib ($n = 18$) in the past. In total, 23 patients dropped out: due to ineffectiveness ($n = 10$), adverse events (AEs) ($n = 8$), both ($n = 2$), and other reasons ($n = 3$). Age, sex, drop-out due to ineffectiveness of dupilumab or upadacitinib, and drop-out due to AEs of dupilumab or upadacitinib were no predictors for drop-

outs of abrocitinib. Most frequently reported AE was acneiform eruption ($n=23$). Abrocitinib can be an effective treatment for patients with AD in daily practice, including those with previous inadequate response to dupilumab or upadacitinib.

OL.12
EFFICACY AND SAFETY OF UPADACITINIB FOR ATOPIC DERMATITIS IN DUPILUMAB NON-RESPONDERS: A MULTICENTER RETROSPECTIVE STUDY

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Upadacitinib, a selective Janus kinase (JAK) inhibitor, has demonstrated greater short-term efficacy than dupilumab when evaluating skin clearance and itch improvement. However, no real-world studies have evaluated the efficacy and safety of upadacitinib in patients with atopic dermatitis (AD) who have previously failed dupilumab. We aimed to assess the effectiveness and safety of upadacitinib in AD patients who previously failed dupilumab. We conducted a Canadian multicenter retrospective study of patients aged 18 years of age or older with moderate-to-severe AD treated with upadacitinib following discontinuation of dupilumab. Responders were patients who achieved 75% improvement in the Eczema Area and Severity Index (EASI 75) or Investigator Global Assessment of 0 (clear) or 1 (almost clear) (IGA 0/1) when EASI was not documented. Of the 39 patients who were dupilumab non-responders, 77% (30/39) responded to upadacitinib following 16 weeks of treatment. EASI 75 or IGA 0/1 were achieved by 75% (21/28) and 82% (9/11) of patients receiving upadacitinib 15 mg and 30 mg, respectively. EASI 100 or IGA 0 was achieved by 56.4% (22/39) of patients within our cohort. Adverse events (AE) were uncommon throughout the 16-week treatment interval, with 12 patients (30.7%) experiencing an AE while on upadacitinib. With the limited number of approved targeted systemic therapies for AD, there is an unmet need for effective and safe treatment options. Our study provides valuable insights into the real-world clinical management of AD suggesting that upadacitinib should be considered in patients with prior exposure to dupilumab. Although these findings may help improve dermatologist decision-making, prospective studies with larger sample sizes are required to draw definitive conclusion.

OL.13
BARICITINIB AS A USEFUL TREATMENT FOR MILD-TO-MODERATE ATOPIC DERMATITIS: A REAL-WORLD EXPERIENCE

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Baricitinib, an oral small molecule which selectively inhibits Janus Kinase 1/2, has been shown to be effective and safe for mild-to-moderate atopic dermatitis (AD) in clinical trials. To evaluate real-world data on efficacy and safety of 52-week baricitinib treatment in a single-center cohort of AD patients, especially focusing on patient reported outcomes. A retrospective chart review was conducted from May 2021 to April 2023. AD patients who were treated with baribitinib for at least 16 to 52 weeks were included. Primary outcomes were mean percentage change in patients' pruritus Numerical Rating Scale (pNRS) after 16 and 52 weeks of baricitinib therapy. Secondary outcomes were the proportion of patients achieving at least 50% and 75% improvement in Eczema area and severity Index (EASI) score from baseline (EASI-50 and EASI-75, respectively) after 16 and 52 weeks. 71 AD patients were included for analysis. Mean percentage change of pNRS were decreased in 42% and 53% after 16 and 52 weeks from baseline. After 16 weeks, EASI-50 and EASI-75 were 49.3% and 29.6%, respectively. After 52 weeks, EASI-50 and EASI-75 were 56.0% and 36.0%, respectively. The most common adverse effect was acne followed by herpes simplex infection. Mild-to-moderate AD patients classified according to EASI scores can have severe pruritus which can deteriorate quality of life. It is important to consider the physician's objective assessment as well as patients' subjective symptoms when evaluating the severity of AD and treatment outcome. Real-world data suggests baricitinib to be rapidly effective in relieving pruritus in mild-to-moderate AD patients as well as decreasing EASI scores. Acne and herpes simplex infection can occur, which can be managed in an out-patient dermatologic setting.

OL.14
ATOPIC DERMATITIS IS ASSOCIATED WITH INCREASED RISK OF ONSET OF CARDIOVASCULAR DISEASES: A RETROSPECTIVE ANALYSIS BASED ON ELECTRONIC RECORDS FROM THE GLOBAL COLLABORATIVE NETWORK

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Atopic dermatitis is associated with various diseases such as asthma, hay fever, allergic rhinitis, food allergies, anxiety, and depression, indicating that atopic dermatitis is not only a skin disease, but instead affects other organs as well. Chronic inflammation might contribute to inflammation in the cardiovascular system, reasoning reports on association with cardiovascular diseases, such as high blood pressure and heart diseases. However, detailed analyses of specific diagnoses and big sample size are scarce. Here, we present data from a retrospective analyses of electronic patient records obtained from the global collaborative network using the TriNetX platform. A total of 950185 atopic dermatitis patients were identified and propensity-score matched with a healthy control group for age, sex, race, ethnicity, as well as for the predisposing factors overweight, nicotine dependence and history, diabetes, and essential hypertension. A total of 55 cardiovascular diagnoses with a prevalence above 1% in both cohorts were identified. Kaplan-Meier analysis showed that association for risk of onset was significantly increased in 53 diagnoses in atopic dermatitis patients over a total of 20 years after diagnosis of disease. Only one diagnosis, nonrheumatic tricuspid insufficiency, was associated with significantly decreased risk of onset and one diagnosis, unspecified cardiac arrhythmia, was not significantly associated with risk of onset in patients.

OL.15
IMPACT OF COVID-19 AND COVID-19 VACCINATION ON ATOPIC DERMATITIS PATIENTS: LESSONS FROM THE SECURE-AD PATIENT SURVEY

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The SECURE-AD Patient Survey commenced in July 2020 to gather information about the experiences of atopic dermatitis (AD) patients during the COVID-19 pandemic. To characterize the impact of COVID-19 on atopic dermatitis (AD) patients, including their treatments and COVID-19 vaccination status. AD patients were invited to report how COVID-19 infections affected them, their symptoms, and their vaccination behaviour through the global SECURE-AD register platform. 975 AD patients (mean age 41.1 years, 4.1% <18 years, 68.6% female) from 39 countries with highly suspected or test-confirmed COVID-19 were included in the analysis. 33.0% had comorbid asthma, 2.1% diabetes and 3.6% reported a cardiovascular disease. The majority were of white ethnicity (71.9%). 91.1% were on topical treatments only. 4.9% received conventional systemic therapy, while 3.7% were on a biologic, and 0.3% on a JAK inhibitor. Only 8.9% of patients changed or stopped their systemic therapy because of a perceived risk a potential COVID-19 episode might pose. 73.6% of all participants experienced a worsening of their AD during the pandemic. 39.2% had either a strongly suspected or test-confirmed COVID infection episode and in 54.1% of those the disease flared. 9.8% attended Accident & Emergency Departments and 3.2% had to be admitted to hospital for their COVID episode. 2 patients were in intensive care, one person was ventilated, but there were not deaths. 625 (64.1%) disclosed their vaccination status, of whom 559 (57.3%) were vaccinated. Those who did not get vaccinated mainly did so because they were concerned that this might lead to a flare in their AD and because they worried about vaccine-related side effects (67.5% each). 27.3% thought the vaccine would not be effective and therefore avoided vaccination. The following vaccinations were administered: Pfizer-BioNTech 52.2%, AstraZeneca 26.3%, Moderna 20.3%, NovaVax 0.2%, and Janssen-Johnson&Johnson 0.2%, other 0.8%. Among vaccinated individuals, 74.7% experienced a flare after the initial vaccination, 76.8% after the booster. In 28.5% of patients the flare occurred within a week post vaccination and in 79.7% this flare lasted for longer than a month. The SECURE-AD Patient Survey provides insights into the experiences of AD patients during COVID-19 infections and their vaccination behaviour. Vaccine hesistancy was primarily related to patients' concerns about disease flares, rather than doubts about vaccine efficacy. Three quarters of vaccinated AD patients experienced a flare in their disease post vaccination. Hospitalisation was a rare event, and no deaths were reported.

OL.16
ATOPIC DERMATITIS AS A RISK FACTOR FOR POST-ARTHROPLASTY SURGICAL SITE INFECTIONS IN OLDER ADULTS

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As the number of total joint arthroplasties (TJA) performed steadily grows amidst an aging population, the global burden of post-TJA surgical site infections (SSI) continues to rise in parallel. Skin bacteria, including Staphylococcus (S.) aureus, are the leading causes of orthopedic SSIs. Patients with atopic dermatitis (AD) are more likely to be chronically colonized with bacteria like *S. aureus*. Determine the association between atopic dermatitis and post-TJA infection. A case-control study was performed utilizing the population-based UK Biobank cohort. The primary exposure, atopic dermatitis, was identified via linked primary health records and the outcome, post-TJA SSI was defined by OPCS-4 and ICD-10 codes. Cases were matched to control patients who underwent TJA but did not develop an SSI in a 1:4 ratio based on sex, age group, primary vs revision TJA, and joint (hip or knee). A logistic regression model was adjusted for the matching variables, BMI, smoking status, diabetes, and socioeconomic status measured by Townsend Deprivation Index. 1,995 patients (399 SSI cases, 1596 controls) with a mean age of 67.17 years were included in the models. Of 399 SSI cases, 274 were deep, 109 superficial, and 16 mixed SSIs. Prevalence of AD was higher in SSI cases compared to controls (8.0% vs 4.4%, $p=0.005$). Multivariate regression models showed an 80% increase in the odds of all SSIs for patients with AD (OR 1.80 95% Cl 1.15, 2.77). In the subgroup analyses, the association between

AD and superficial SSI (OR 2.21 95% Cl 1.00, 4.70) was stronger and more robust as compared to deep SSI (OR 1.70 95% Cl 0.98, 2.85). In a large, population-based longitudinal study, we found that an association exists between atopic dermatitis and post-TJA infections, especially superficial SSIs.

OL.17
MAJOR ADVERSE CARDIOVASCULAR EVENTS IN PATIENTS TREATED WITH ORAL JANUS KINASE INHIBITORS FOR ATOPIC DERMATITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Treatment with Janus kinase (JAK) inhibitors has been linked to the occurrence of major adverse cardiovascular events (MACEs) in patients with rheumatoid arthritis (RA). However, RA is pro-atherogenic; in contrast, patients with atopic dermatitis (AD) do not usually have a high cardiovascular (CV) comorbidity burden. We systematically searched databases from their inception to September 2nd, 2022. Cohort studies, randomized clinical trials and pooled safety analyses providing CV safety data on patients aged 12 and over taking JAK inhibitors for AD were selected. We built a "controlled-period" cohort and an "all JAK inhibitors" cohort. Primary outcome was a composite of acute coronary syndrome (ACS), ischemic stroke, and CV death. The secondary MACE outcome encompassed ACS, stroke of any type, transient ischemic attack, and CV death. A fixed-effects meta-analysis using Peto's method was used to calculate the odds ratio (OR) for MACEs in the "controlled-period" cohort. Four primary outcomes events (3 with JAK inhibitors and 1 with placebo) and 5 secondary outcomes events (4 with JAK inhibitors and 1 with placebo)occurred among 9,309 patients in the "controlled-period" cohort. Eight primary outcomes events and 13 secondary outcomes events occurred among 9,118 patients in the "all JAK inhibitors" cohort. Our meta-analysis did not highlight any difference in the occurrence of primary MACEs between patients exposed to JAK inhibitors and patients exposed to comparators (OR, 1.35; 95% CI 0.15–12.21; I2, 12%). Our review highlighted rare cases of MACE among JAK inhibitors users for AD. The meta-analysis did not evidence an association between MACEs and treatment with JAK inhibitors. Real-life, AD-specific, population-level safety studies and long-term pooled safety data are needed.

OL.18
THE EFFECT OF SINGLE NUCLEOTIDE POLYMORPHISM IN COL23A1 GENE ON INCREASED HSV-1 SUSCEPTIBILITY OF HUMAN MACROPHAGES

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A subgroup of patients suffering from atopic dermatitis (AD) has a history of eczema herpeticum (EH), namely disseminated herpes simplex virus (HSV-1) infections. We recently identified a heterozygous single-nucleotide polymorphism (SNP), rs2973744, affecting the transmembrane collagen XXIII alpha 1 (COL23A1) to be associated with the risk of EH in AD patients. COL23A1 gene expression is a marker of macrophage M2 polarization, which play an important role in allergic inflammation. To investigate whether COL23A1 and the newly identified SNP affect HSV-1 infectibility of macrophages. Monocyte-derived M2 macrophages were generated from peripheral blood mononuclear cells of healthy subjects and EH patients. Macrophages were infected with GFP-expressing HSV-1 (MOI 6 and 12) and analyzed by FACS. M2 macrophages expressed significant amounts of COL23A1 on the cell surface. Macrophages, generated from rs2973744 SNP carriers, were more susceptible to HSV-1 than those from healthy subjects. M2 macrophages from healthy donors expressing high amounts of COL23A1 were less efficiently infected by HSV-1. Addition of the protease furin, which prevents the shedding of cell-surface protein COL23A1, as well as the addition of recombinant WT COL23A1 for one hour prior to infection significantly increased surface levels of COL23A1 and limited the HSV-1 susceptibility of cells from healthy donors or EH patients. In contrast, incubation with a recombinant control protein did not affect the HSV-1 susceptibility of the cells. This study suggests that the SNP rs2973744 leads to higher HSV-1 infectibility of macrophages and may contribute to an increased risk of EH in AD patients.

OL.19
QUALITY OF LIFE IN PATIENTS WITH ATOPIC DERMATITIS IN BAMAKO

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Atopic dermatitis is a chronic condition that evolves in flare-ups. Successive flare-ups and functional signs affect the patient's quality of life. Quality of life has been frequently assessed in western countries. The impact on quality of life may vary according to socio-cultural factors. The aim of this study was to describe the quality of life in cases of atopic dermatitis in Bamako. Describe the quality of life among AD patients Describe the socio-demographic features of AD patients. This was a one-year cross-sectional study at the dermatology hospital in Bamako. All cases of atopic dermatitis were included during the study period. The diagnosis of atopic dermatitis was based on the criteria of the UK Working Party. The DLQI form was used to assess quality of life in adults and the CDLQI to assess quality of life in children. The Hospital frequency was 0.33%. The average age of the cases was 8 years. The cases lived in the city. Students were the most represented. The elbow folds were affected in 60% of the cases. AD was severe in 67% of cases. Quality of life impairment was not related to severity ($p = 0.8$). Quality of life was severely affected in 16.41% (14/85). The quality of life was severely affected in 16.41% (14/85) of the cases. 67% (57/85) of the cases were affected by embarrassment and complexity, 23% (25/85) by choice of clothes, 9.41% (8/85) by work and studies, 28% by skin discomfort, 28.4% (24/85) by insomnia. Our cases were more affected by the display of lesions than by the functional signs of the disease. This explains the impact on the choice of clothing. The quality of life did not depend on the severity of the atopic dermatitis. This can be explained by socio-cultural factors determining the patient's feelings.

OL.20
THE DYNAMICS OF SKIN MICROBIOME DURING TREATMENT IN PATIENTS WITH ATOPIC DERMATITIS

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Atopic dermatitis (AD) is characterized by an altered skin microbiome with *S. aureus* being the dominant colonizer. Treatment for AD includes emollients, anti-inflammatory drugs, and antiseptics. The aim of this study is to investigate changes in the skin microbiome during treatment for AD. This was a case-control study to investigate the skin microbiomes of children with moderate-to-severe AD and healthy children. Patients with AD were randomly assigned to standard treatment with emollients and topical corticosteroids or standard treatment with the addition of dilute bleach baths (DBB) and were sampled at four visits over a three-month period. The severity of AD was measured at each visit, swabs were taken from four body sites, and the composition of the microbiome at those sites was assessed using 16S rRNA amplification. The study included 48 cases with AD and 16 healthy controls. The patients showed high relative abundances of *S. aureus*, which correlated with AD severity and reduced alpha diversity. As the disease severity improved with treatment, the abundance of *S. aureus* decreased gradually and became similar to that of the healthy controls. After the treatment, patients who received DBB had significantly lower *S. aureus* abundance than those who received only standard treatment. The skin microbiome of AD patients gradually normalizes during treatment. The addition of DBB to standard treatment significantly reduced *S. aureus* burden, indicating its use as a therapeutic option. Further double-blinded trials are necessary for a more in-depth study.

OL.21
THE CONCEPT OF DISEASE MODIFICATION IN ATOPIC DERMATITIS: SCIENTIFIC AND REGULATORY CHALLENGES FOR DRUG DISCOVERY AND DEVELOPMENT

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Recent advances in understanding the mechanisms underlying atopic dermatitis (AD) lead to significant efforts in drug discovery programs to reach increased therapeutic efficacy in this highly heterogeneous and pathophysiologically complex chronic inflammatory skin disorder. This progress now allows to envisage pushing the therapeutic boundaries beyond the simple symptomatic treatment of the exacerbations of AD and considering new therapeutic strategies aimed to allow a deep remission, i.e. disease modification. However, the concept of disease modification has not yet been considered for drug development in AD and its associated atopic comorbidities. Lessons learned from a thorough analysis of the scientific literature as well as the regulatory framework dealing with the concept of disease modification were used to develop a road map for drug development strategy aimed at disease modification in AD. To reach the goal of disease modification in AD and potentially in the atopic march,following key issues needs to be addressed: (*i*) a consensual definition of disease modification in AD and its comorbidities, (*ii*) the identification of potential windows of opportunity for therapeutic intervention, (*iii*) the definition of an AD disease activity index (ADDAI), (*iv*) the identification and validation of biomarkers for the patient stratification and as surrogates for successful intervention, (*v*) the definition of clinical endpoints, (*vi*) the design of appropriate studies to allow for the regulatory claim of disease modification. This work addresses the roadmap ultimately leading to Disease Modifying AD Drugs (DMADD) and potentially to Disease Modifying Atopic March Drugs (DMAMD). The extending pipeline of drugs in development provides the unique opportunity to elaborate the concept of disease modification in AD.

OL.22
TREATMENT RESPONSE TO CONTINUOUS DUPILUMAB OVER TIME: A RETROSPECTIVE OBSERVATIONAL STUDY OF 123 ADULT ATOPIC DERMATITIS PATIENTS WITH CHANGES IN BLOOD BIOMARKERS FOR MORE THAN 2 YEARS

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The treat-to-target (t2t) concept is being introduced in the treatment of atopic dermatitis, but the timing of therapeutic response may differ depending on the characteristics of the drug. Regarding dupilumab, there are slow-responders (SR) who show later achievement of sufficient response in spite of not-reaching the target by 16 weeks. On the other hand, there are also low-responders (LR) who do not respond to continued treatment. To clarify progressive effect of continued dupilumab for SR and LR by 16 weeks and to specify differentiating biomarkers for three groups. We evaluated the response to treatment over time with change in serumbiomarkers in 123 patients aged over 15 years old who had been continuously treated with dupilumab for at least 2 years. At 16 weeks after treatment,93 rapid-responder (RR) patients achieved EASI 75 and 30 did not. 16 SR achieved EASI 75 after 1 year, 6 SR achieved EASI 90, and 8 LR did not achieve EASI 75 after 1 year. LDH, TARC, and peripheral blood eosinophils were not significantly different among the three groups, but serum total IgE levels were significantly higher in LR than other groups at all time points (pre-treatment, 4 months, and 12 months). Particularly in the three vLR patients' serum, total IgE levels remained unchanged throughout the 2 years although in all other patients it decreased over time. The therapeutic effect of dupilumab is steady and progressive. Judgment of treatment failure at 16 weeks may be premature. When t2t is applied to atopic dermatitis management, an appropriate judgment considering the difference of medicine's characteristics should be set. Dupilumab is a drug that lowers IgE by blocking IL-4. IgE decreased in most cases, but not only in vLR. This suggests that the factor that prevents the decline of IgE may play a role in dupilumab resistance.

OL.23
MOLECULAR PROFILING OF ALLERGEN-ANTIBODY IGE AND THE EFFICACY OF ALLERGEN IMMUNOTHERAPY IN A PATIENT WITH ATOPIC DERMATITIS AND ALLERGY TO HOUSE DUST MITES

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Allergen immunotherapy (AIT) is an essential therapy in AR and sometimes in asthma, influencing the natural course of the disease and improving quality of life. However, this therapy has no clear recommendation for(AD). The aim of the study the evaluate the effect of AIT on house dust mites (HDM) in AD patients sensitized to HDM with different baseline molecular profiles of antigens. In this prospective, observational, randomized, double-blind, placebo-controlled study, 61 patients with moderate

to severe AD allergy symptoms and HDM allergy were included. They received 12 months of AIT with the use of HDM allergen or placebo. The authors adopted their AD improvement criterion after one year of AIT treatment as a reduction of all examined indicators by at least 50% from the baseline for BSA, and TMS, and EASI scores. It was assumed that a decrease of at least 50% of the baseline values of the analyzed parameters: EASI,% BSA and TMS during the year would confirm the effectiveness of desensitization influence of individual HDM molecules on the final AIT effect was analyzed too. Finally, from the 24 desensitized patients, 15 achieved the positive effect after HDM AIT. None of the patients who received a placebo had an improvement in AD of at least 50% after follow-up. Patients with polysensitization less frequently achieved the expected HDM-AIT effect than patients monosensitized to mites ($p < 0.05$). The presence of sensitization to rDer p 1 (Odds ratio= 4.35 95%CI: 4.01–4.56) and/or rDer p 2(OR=2,16 95%CI: 1.98–2.33) and/or rDer f 2 (OR=1.41, 95%CI: 1.55–1.78) molecules significantly increased the efficacy of AIT. HDM-AIT could be helpful for patients with moderate to severe AD and sensitized to HDM as an add-on therapy. The presence of various HDM molecules may affect the effectiveness of the expected AIT effect.

OL.24
THE SKIN MICROBIOME PRIOR TO THE DEVELOPMENT OF CHILDHOOD ATOPIC DERMATITIS

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Atopic dermatitis (AD) is associated with a reduced skin microbiome diversity and increased *S. aureus* colonization, but it is unknown whether these alterations in the skin microbiome exist prior to the development of AD. To examine the skin microbiome prior to the development of AD. In 300 term children from the Danish prospective birth cohort, BABY skin, tape strips were collected from the dorsal aspect of the hand at 0–3 days after birth and at 2 months of age. Tapes were analyzed for the skin microbiome (alpha diversity, beta diversity, and relative abundance of bacterial genera) and selected skin immune and barrier biomarkers. AD was diagnosed by a physician and the severity was assessed using the Eczema Area and Severity Index score. The association between the skin microbiome and the development of AD was examined. Adjustment was made for several environmental factors and selected skin immune and barrier biomarkers. A total of 34.6% (99/286) developed AD. There was no overall association between the skin microbiome at birth and 2 months of age and the development of AD during the first 2 years of life. In analyses restricted to children with parental atopy, a reduced alpha diversity at 2 months of age was associated with an increased risk of AD (crude hazard ratio [HR] 1.64, 95% confidence interval [CI] 1.08–2.05), $p = 0.02$) and the association remained significant after adjusting for environmental exposures and selected skin biomarkers (adjusted HR 1.67, 95% CI 1.05–2.63, $p = 0.03$). No correlation was observed between the alpha diversity at 2 months of age and the severity of AD among children with a parental atopy ($p = 0.7$). Our findings imply that the skin microbiome may play a role in the development of AD among children with atopic predisposition.

OL.25
DUPILUMAB PROVIDES SUSTAINED EFFECTIVENESS IN PATIENT-REPORTED OUTCOMES AND FAVORABLE SAFETY IN PATIENTS WITH MODERATE-TO-SEVERE ATOPIC DERMATITIS: UP TO 5-YEAR RESULTS FROM THE DAILY PRACTICE BIODAY REGISTRY

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Daily practice data on the long-term effectiveness of dupilumab in patients with atopic dermatitis (AD) remains limited, particularly those utilizing several patient-reported outcome measures (PROMs). To assess PROMs and safety profile for up to 5 years in AD patients of all ages treated with dupilumab in daily practice. Data were extracted from the prospective, multicenter BioDay registry (October 2017–2022) of patients of all ages with moderate-to-severe AD treated with dupilumab. Adverse events (AEs) and PROMs were evaluated. A total of 1223 patients, 1108 adult and 115 pediatric patients, were included (mean age 38.5 years, 56.8% males, 2281 patient-years (PY)).For adults at year 4 ($n = 121$), mean ± SD POEM, DLQI, NRS-Itch, NRS-pain, overall work impairment was 8.7 ± 6.2, 3.8 ± 4.1, 2.9 ± 2.2, 1.2 ± 1.9 and 15.4% ± 23.5, respectively, with 80.6% reporting 'good/very good/excellent' disease status. Taken together, 68.1% of adults at year 4 achieved ≥2 of the following cut-off scores: POEM≤7, DLQI≤5, and NRS-Itch≤4, with being males and clinical responders at week 4 more likely to achieve it using multivariate binary logistic regression model. For pediatric patients at year 2 ($n = 14$), mean ± SD POEM, DLQI, NRS-Itch, and NRS-pain was 9.5 ± 6.3, 4.4 ± 3.9, 3.0 ± 2.0, 0.8 ± 1.5,respectively, with 57.1% reporting 'good/very good/excellent' disease status. Concomitant systemic treatments were reported by 2.4–6.4% and 2.2–7.1% of adult and pediatric patients, respectively, after 1-year and 5-year of treatment. There were 1696 AEs being reported (74.4/100 PY) and 66.8% of patients reporting ≥ 1 AE. The most reported AE was conjunctivitis in 33.7% of patients; of those 69.2% had moderate-to-severe conjunctivitis. In addition to favorable safety, dupilumab provides a long-term efficacy in a range of PROMs in AD patients of all ages.

OL26
REAL-LIFE CASE-SERIES EXPERIENCE WITH TRALOKINUMAB IN PATIENTS WITH SEVERE ATOPIC DERMATITIS

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The immune response involved in Atopic dermatitis pathogenesis is mainly type-2 immunity-based, and IL-13 is believed to play a crucial role in this process. Tralokinumab is a monoclonal antibody that specifically binds IL-13 and recently has been approved

for the treatment of moderate-to-severe AD in adult patients who require systemic treatment in the EU. Currently, there are no available data about real-life efficacy and safety of tralokinumab in patients with moderate-to-severe atopic dermatitis eligible to systemic treatments. We present a case-series of 5 patients with moderate-to-severe atopic dermatitis receiving tralokinumab for 20 weeks, reporting data about efficacy and safety. In this case series 5 adult patients with severe atopic dermatitis treated with tralokinumab for 20 weeks were included. The patients were previously treated with cyclosporine and dupilumab, that which stopped after several months for the onset of severe conjunctivitis. Tralokinumab was administered as a subcutaneous injection at an initial dose of 600 mg (four 150 mg injections) followed by 300 mg (two 150 mg injections) administered every other week. Assessment of atopic dermatitis was made using EASI, VAS and SCORAD score. The impact on the quality of life was also investigated using DLQI score. After 20 weeks of treatment with tralokinumab, no adverse events were reported and a significant clinical improvement of eczema was observed (EASI-75 was achieved by all patients). A great clinical improvement of VAS, SCORAD and DLQI score was also observed. Tralokinumab resulted in an effective therapeutic chance to obtain an improvement of atopic dermatitis' symptoms in patients slightly responsive to other systemic treatments, showing a high safety profile.

OL.27
IN PURSUIT OF MEANINGFUL CHANGE: ENHANCING INTERPRETABILITY OF THE RECAP OF ATOPIC ECZEMA (RECAP) INSTRUMENT

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The Recap of atopic eczema (RECAP) is a seven-item patient-reported instrument, scored from 0–28, measuring eczema control over the last week. Initial testing of RECAP demonstrated good measurement properties, but the minimal important change has not previously been published. Determining the meaning of changes in RECAP scores over time is crucial as it helps to interpret the clinical significance associated with score fluctuations. To calculate the minimal important change of RECAP to aid interpretation of changes in scores. The minimal important change was assessed using a clinical trial dataset of 219 participants aged 14 and above with self-report of mild, moderate and severe eczema. To calculate the minimal important change, four anchor-based methods: within-patient score change, between-patient score change, sensitivity and specificity analysis and predictive modeling method were used. In addition, a distribution-based method using 0.5 SD of baseline RECAP scores was utilized. The Patient Global Assessment (PGA) was the primary anchor for the anchor-based methods, while the Patient Oriented Eczema Measure (POEM) was used as an exploratory anchor. Statistical analyses are currently underway and full results will be available by August 2023. Preliminary results show that using the PGA as an anchor, the anchor-based methods provided minimal important change score estimates ranging from 3.52 to 3.94 whereas the POEM anchor yielded a value of 2.33. The distribution-based method indicated a minimal important change score of 3.06. This study will contribute to establishing the interpretability of change scores of this new instrument, helping RECAP to be used in clinical trials for sample size calculations and also aiding the interpretation of trial results.

OL.28
A LARGE LANGUAGE MODEL ARTIFICIAL INTELLIGENCE FOR PATIENT QUERIES IN ATOPIC DERMATITIS

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Atopic Dermatitis (AD) is the most common chronic inflammatory skin condition with a staggering global burden of disease. Patients rely on physicians for guidance and often utilize electronic communications for medical inquiries. Though convenient, the number of messages physicians receive continues to rise.Large Language Models like Chat-Generative Pre-Trained Transformer (ChatGPT) have become a novel source of information for patients. ChatGPT serves as a conversational chatbot trained in a broad range of internet sources, with the ability to use reinforcement learning from human user feedback. To make an initial measurement of the quality and reliability of answers generated by artificial intelligence (AI)to frequently asked patient questions regarding AD. We submitted 99 common questions from AD patients to the most current available model, ChatGPT-4. The ChatGPT responses were independently evaluated by a group of 11 international dermatologist experts in therapeutic patient education. The overall quality of ChatGPT's responses was assessed using the Likert scale from one to ten, ten being best, and were flagged for harmful information. The graded responses were averaged and scores ranged from 8.18 to 10. Standard deviations ranged from 0 to 1.76. There was overwhelming reliability of the responses provided by ChatGPT. Importantly, most responses generated by the chatbot acknowledge that it is not a physician. No responses reviewed were flagged for dangerous information. Lower scores were reported for unsatisfactory answers or advice that veered from evidence-based medicine. ChatGPT-4 provided thorough, high-quality responses without special priming or additional information. Given the increasing demands on physicians, AI has potential to become a valuable resource for patients seeking information about conditions such as AD.

OL.29
MCGILL ADULT ATOPIC DERMATITIS DIGITAL OUTCOMES (MAADDO) STUDY: DEVELOPMENT AND USER TESTING OF THE ECZEMAQ MOBILE APPLICATION

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The challenge of atopic dermatitis (AD) management is compounded by the brevity of dermatology appointments and the complexity of information exchange. To improve healthcare

delivery, EczemaQ, a mobile health (mHealth) application, was co-developed by clinicians and patients. To integrate stakeholder feedback in the development and usability testing of EczemaQ. EczemaQ was designed based on patient-identified themes using a participatory research approach, followed by a mixed methods convergent study to optimize and validate this mHealth tool. EczemaQ presents evidence-based, interactive, and digestible educational content for daily self-care to facilitate AD self-management and encourages disease-tracking through photos, notes, clinic visit documentation, and a dynamic body map. Measured by the Technology Acceptance Model 2, user acceptance of EczemaQ was medium-high (mean ± SD), in the areas of perceived ease of use (3.70 ± 0.73), usefulness (3.73 ± 0.66), content satisfaction (3.83 ± 0.74), enjoyment (3.65 ± 0.75), satisfaction and tendency to recommend (3.92 ± 0.83), with an overall score of 3.92 ± 0.82 on 5-point Likert scales. Most participants showed relatively high Patient Activation Measure® levels for AD management. Semi-structured focus groups, iterating on ease of use, content delivery, app design/function, benefits, concerns, and technical issues, indicate that patients desire additional symptom management and self-monitoring functions, varying based on treatment and disease duration. The EczemaQ app is best received by newly diagnosed patients and may thus serve as a bridge between dermatology and primary care. The ongoing iterative development of EczemaQ will optimize this mHealth tool based on user needs, provide insights into patient activation and technology acceptance, and improve the quality of patient care.

OL.30
REAL-WORLD EXPERIENCE ON EFFICACY AND SAFETY OF UPADACITINIB IN PATIENTS WITH ATOPIC DERMAITITS IN KOREA

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Upadacitinib is an oral selective Janus kinase (JAK) 1 inhibitor that has demonstrated high efficacy and a favorable safety profile in clinical trials for atopic dermatitis (AD) patients. However, clinical trial settings may not always reflect real-world practice. This study aimed to assess real-world data on the efficacy and safety of upadacitinib treatment for AD patients. 110 AD patients treated with upadacitinib were analyzed retrospectively by medical records at the National Medical Center between October 2021 and December 2022. Patients who received upadacitinib treatment for at least 16 weeks were included. In moderate-to-severe AD group, efficacy was assessed based on the achievement of Eczema Area and Severity Index (EASI) 50, EASI 75, and EASI 90 at weeks 2 and 16 compared to baseline, whereas mild AD group was assessed by the reduction of patient-reported outcomes. Safety was evaluated by abnormal physical examinations or blood test alterations throughout the study period. The mean EASI score significantly decreased after 16 weeks of upadacitinib treatment. At week 2, 67%, 35%, and 6% of moderate-to-severe AD patients achieved EASI 50, EASI 75 and EASI 90 respectively. At week 16, 88%, 71%, and 31% of moderate-to-severe AD patients achieved EASI 50, EASI 75 and EASI 90 respectively. The mean average reduction of itch Numeric Rating Scale in mild AD patients was 3 points. The most common adverse event was acne in 42 patients (38%), followed by herpes simplex infection in 14 patients (13%). No significant adverse events occurred. Overall, upadacitinib was effective and safe for AD patients in a real-world clinical setting. However, acne occurred at a higher percentage than reported in clinical trials, and herpes simplex infections tended to appear repeatedly in susceptible patients.

OL.31
THE IMPACT OF BASELINE DISEASE SEVERITY ON SHORT-TERM EFFICACY OF ABROCITINIB AND DUPILUMAB IN PATIENTS WITH ATOPIC DERMATITIS: A POST HOC ANALYSIS OF THE PHASE 3 JADE COMPARE TRIAL

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Abrocitinib and dupilumab are efficacious in patients (pts) with moderate-to-severe atopic dermatitis (AD). To assess if baseline (BL) disease severity impacts abrocitinib and dupilumab efficacy in pts from the phase 3 JADE COMPARE trial. This post hoc analysis included pts receiving abrocitinib (200 mg/100 mg), dupilumab 300 mg, or placebo (pbo) combined with topical therapy in JADE COMPARE (NCT03720470). Pts with moderate and severe disease based on BL composite IGA/EASI scores (moderate: IGA 3 and EASI 16-25; severe: IGA 4 and EASI >25), or %BSA (moderate: 10-30%; severe: >30%) were assessed for IGA 0/1 and PP-NRS ≥4 response at week (wk) 16. Safety was also assessed. In pts with moderate disease, assessed by BL IGA/EASI or %BSA, abrocitinib (200 mg and 100 mg) and dupilumab provided comparable responses for IGA 0/1 and PP-NRS ≥4 at wk 16. In pts with severe disease, responses to abrocitinib increased in a dose-dependent manner and were greater than pbo at wk 16 for IGA 0/1 (BL IGA/EASI: 43% with abrocitinib 200 mg, 19% with 100 mg, vs 3% with pbo; BL %BSA: 48%, 32% vs 12%) and PP-NRS ≥4 (BL IGA/EASI: 74%, 45% vs 29%; BL %BSA: 63%, 44% vs 28%). Wk 16 IGA 0/1 and PP-NRS ≥4 responses with abrocitinib 200 mg were greater than dupilumab in pts with severe disease defined by BL IGA/EASI and comparable in those defined by BL %BSA. No unexpected safety signals were observed with either abrocitinib or dupilumab in pts with moderate or severe AD by BL IGA/EASI or %BSA. Abrocitinib improved itch and skin clearance in pts with moderate and severe AD defined by BL IGA/EASI or %BSA. Abrocitinib efficacy was dose-dependent in pts with severe AD; responses with abrocitinib 200 mg were greater than dupilumab in pts with severe AD as measured by BL IGA/EASI. Abrocitinib and dupilumab were well tolerated in pts with moderate and severe AD.

POSTER PRESENTATIONS

P1. A Multispecialty approach

P1.1
ASSOCIATION BETWEEN ATOPIC DERMATITIS AND EPILEPSY IN POLISH POPULATION

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Numerous studies have reported existing correlation between autoimmune disorders and epilepsy, with the potential clinical link between atopic dermatitis (AD) and epilepsy receiving significant amounts of scientific attention. Recently, dysregulated immune responses were implicated in the pathomechanism of epilepsy, meaning that co-occurrence of disorders such as atopic dermatitis could have an effect on clinical presentation of this patient cohort. The aim of the study was to determine the extent to which presence of atopic dermatitis is associated with epilepsy, and identify potential physiological consequences of such clinical picture. To explore this hypothesis a survey was performed among members of several epilepsy patient support groups. Respondents (age range 1–56 years) answered 24 questions.The following clinical aspects were investigated: self-reported features of epilepsy (type, severity, age at diagnosis), diagnosis of AD (severity, progression, patient experience) and pharmacological agents utilized in the course of treatment (anti-epileptic, dermatitis-oriented). Statistical analyses and data visualization were performed in GraphPad Prism Software. Our results have shown that 28% of epilepsy patients have AD. 50% of them reported AD as mild in severity. Lamotrygine intensified the severity of AD in 15.2% patients. 4,3% respondents with AD taking Levetiracetam had alleviated symptoms. It can be noticed that 27,1 % of epilepsy patients with undiagnosed AD have experienced at least one episode of very dry skin. Additionally, 67% patients with both diseases were diagnosed with AD first and then, mostly a few years later, with epilepsy. Our research findings allow us to assume that there is a possible association between AD and epilepsy.

P2. Accessibility to drugs in AD

P2.1
DRUG SURVIVAL ANALYSIS OF DUPILUMAB AND ASSOCIATED PREDICTORS IN PATIENTS WITH ATOPIC DERMATITIS IN SOUTH KOREA: 4 YEARS, SINGLE-CENTER, RETROSPECTIVE STUDY

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Dupilumab is a biologic medication that is used for the treatment of moderate-to-severe atopic dermatitis. Long-term data on dupilumab drug survival in patients with atopic dermatitis (AD) in South Korea are scarce. Furthermore, little is known about the factors associated with drug survival of dupilumab in AD. This study provides a comparative survival analysis between the two drugs (cyclosporine, and dupilumab) approved in South Korea for the treatment of AD, and identifies associated predictors. A single-center, retrospective study, was performed to assess drug survival analysis by comparing dupilumab and cyclosporine in 124 AD patients from March 2019 to March 2023. For each patient, data regarding age, sex, medical history, adverse events (AEs), and Eczema Area and Severity Index (EASI), IGA score, eosinophils counts were collected. Drug survival was analyzed by Kaplan-Meier survival curves and associated characteristics by using univariate and multivariate Cox regression analysis. A total of 124 adults and pediatric patients with AD (Mean age [SD], 26.0 [8.6] years; 73 [58.8%] were male) were included with 4 years-overall dupilumab drug survival of 87.9%. During the same period, the drug survival rate of cyclosporine was 22.8%, and there was a statistically significant difference between the two drugs (p-value <0.001). Characteristics associated with shorter drug survival were the lower EASI (hazard ratio [HR], 0.84; 95% CI, 0.75–0.94, p-value=0.003) and non-insurance payment (HR, 11.87; 95% CI, 3.28–42.99, p-value $=0.001$). This retrospective study demonstrated a good overall 4-year dupilumab drug survival (87.9%) in South Korea. These data provide more insight and new perspectives regarding dupilumab treatment in South Korea.

P2.2
IS THE TREATMENT OF ATOPIC DERMATITIS RELATED TO PURCHASING POWER? EVIDENCE FROM A DIRECT MEDICAL COST EVALUATION IN OUAGADOUGOU?

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Atopic dermatitis (AD) has significant psychosocial and financial impact on patients and their families. However, in Burkina Faso, patients have difficulty affording this full range of treatments, even those covered by insurance, as skin moisturizers, for example, are not reimbursed. This study addresses inequity in the treatment of AD by assessing the direct medical costs borne by patients. We used a study design using records of AD patients from 2019 to 2020 in a public and a private health facility in Ouagadougou to analyze direct medical costs incurred by patients. A total of 184 patient records were reviewed, 134 in the public facility and 50 in the private. The mean duration of an AD flare-up was 13.9 days. The mean number of AD flare-ups per year was five. The average cost of a consultation was US$4 at the public facility and US$21 at the private facility. Patients with insurance paid an average of 20% of this amount. The average annual direct medical cost of treatment with only drugs, when the patient had no insurance, was US$ 103 in the public health facility and US$ 268 in the private one. When the patient had insurance, this average annual direct medical cost did not vary in the public facility but changed to US$ 134 in the private facility. The average total annual cost of treating AD with both drugs and skin moisturizers in the absence of insurance was US$ 189 in the public health facility and US$ 603 in the private facility. In the presence of insurance, the cost was US$ 468 for patients in the private health facility. The average annual cost of skin moisturizers was US$ 87 in the public health facility and US$ 335 in the private facility. Health insurance did not reimburse skin moisturizers. The costs of AD treatment remain high even for insured patients. Access to treatment is dependent on the purchasing power of patients and this results in inequitable access to care.

P3. AD comorbidities

P3.1
ATOPIC DERMATITIS IN INDONESIAN CHILDREN: A CASE CONTROL STUDY

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Most of the studies on epidemiology of AD have been primarily done in individuals of European ancestry and Western societies. Recent findings have shown that Asian populations have a higher susceptibility to AD due to differences in molecular phenotypes. Whether this is the result of environmental conditions, cultural, socio-economical or genetic factors is not known. Conducting studies on prevalence, sociodemographic factors, and clinical characteristics of AD in non-White communities is essential for identifying the unique attributes observed in these specific populations and to guide treatment focused on specific population needs. Here, we present a cross-sectional study on AD in a pediatric population from Indonesia and compare the prevalence of main clinical and demographic variables. We aimed to assess the relationship between sociodemographic mic factors as well as clinical characteristics and their impact on the development and severity among Indonesian children with AD. This study was a cross-sectional design and was conducted in the Pediatric Dermatology Clinic of Dr. Hasan Sadikin General Hospital, located in Bandung, West Java, Indonesia. The study protocol and ethical approval were obtained from the Health Research Ethics Committee of Dr. Hasan Sadikin General Hospital Bandung and written informed consent was obtained from all the parents prior to their inclusion in the study. This study was conducted from April to December 2022 and involved a total of 218 children. The case group consisted of children diagnosed with AD, while the control group comprised children without AD. The age range for both groups was 4–18 years. Participants were selected using the consecutive sampling method. The Hanifin and Rajka criteria, evaluated by dermatologist, were utilized to establish the diagnosis of AD. Sociodemographic data were collected prior to physical examination. Additionally, clinical presentation and topographic distribution of lesions were assessed, and the disease severity was evaluated using Scoring Atopic Dermatitis (SCORAD) Index. Statistical analyses were conducted using IBM SPSS® Statistics version 28.0. Logistic regression analysis was conducted to estimate the odds ratios while adjusting for potential confounding factors, in order to assess the influences of these measures. In total, 111 cases and 107 controls were recruited. 55 AD patients (49.54%) were in the age group of 6–11 years, of which 59 (53.15%) were males and 52 (46.85%) were female's participants in this study. 47 individuals (42.3%) were categorized as having mild AD, 46 individuals (41.4%) were classified as having moderate AD, and 18 individuals (16.2%) were determined to have severe AD. 20 participants (18.01%) reported cultural habits of utilizing traditional medicine given by their parents. Several predictor variables were found to be significantly associated with the presence of AD. The results indicated that educational level of father (OR=2.86, 95%CI:2.078–3.954, $p < 0.001$), educational level of mother (OR=2.63, 95%CI:1.928–3.587, $p < 0.001$), family income (OR=3.22, 95%CI:2.119–4.920, $p < 0.001$) had strong positive association with the likelihood of developing AD. We observed "toilet seat dermatitis" in 29 (26.12%) AD patients. While this finding did not reach statistical significance, it remains an interesting finding within our study population. Possible determinants of disease development were educational level of mother and father, also family income. "Toilet seat dermatitis" does not serve as a predictor of severity within our AD population in children, as evidenced by our analysis. Despite the lack of statistical significance, it is important to acknowledge the presence of "toilet seat dermatitis" within our study population. Furthermore, conducting investigations and characterizing AD within Asian populations, with a specific emphasis on the Indonesian population in this study, has the potential to elucidate the distinct features observed within these particular groups.

P3.2
ALLERGIC CONTACT DERMATITIS IN PATIENTS WITH ATOPIC DERMATITIS

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Allergic contact dermatitis (ACD) is one of the most common skin diseases that might mimic and coexist with atopic dermatitis (AD). Cosmetics comprise common cause of ACD in the Polish population. Due to disrupted skin barrier, immunological abnormalities and altered skin microbiome patients with AD appear to have higher risk of developing ACD. ACD to cosmetics is particularly important in patients with AD, because of chronic exposure to substances contained in topical creams and self-care products. To characterize the profile of ACD to cosmetics in patients suffering from AD. To indicate the cosmetics of highest allergenic potential in patients with AD and search for new ones. The study group was composed of patients with ACD and coexisting AD ($n = 104$). Non-atopic patients with ACD were qualified to the control group ($n = 146$). Patch testing was used for diagnostics of ACD. Haptens were selected according to Polish Standard Series broaden particularly of potentially sensitizing haptens which are the ingredients of the emollients. The most common hapten in AD group was fragrance mix. The most common hapten in non-atopic ACD group was textile dye mix. 24% of patients with AD developed irritant reactions compared to 3% of non-atopic ACD Patch testing might contribute to improvement of topical treatment of AD and prevention of disease exacerbations.

P3.3
A CASE-CONTROL STUDY OF THE ASSESSMENT OF COVID-19 SEVERITY IN HOSPITALIZED CHILDREN WITH ATOPIC DERMATITIS

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It has been established that respiratory viruses tend to run a more serious course in patients who have concurrent respiratory illnesses. Nevertheless, reports regarding the association between atopic dermatitis and COVID-19 are still contrasting. This study aimed at evaluating the difference between COVID-19 severity in cases with and without the concurrent presence of atopic dermatitis (AD). In this study real-time polymerase chain reaction (RT-PCR) positive cases of COVID-19 aged ≤18 years were included. We divided the subjects into two groups, namely, group A (cases) and group B (controls). In group A, children with AD (diagnosed using the revised Hanifin and Rajka criteria). Group B consisted of age-and sex-matched patients infected with COVID-19 without AD. We compared the viral disease severity and correlated them with the SCORAD. There was a higher proportion of 'severe' illness cases in group A(17.2%) than group B (13.2%), however, the difference was statistically insignificant (p value = 0.06). Nevertheless, group A required a significantly longer duration and higher doses of medication for the management of COVID-19 than group B. In group A 48.3%

cases and in group B 18.9% cases required systemic corticosteroid therapy. Additionally, 20.7% cases in group A and 15.5% in group B needed to be salvaged with resuscitative measures as well. The mortality rates were comparable between the two groups (4.1% in group A and 3.5% in group B, p value = 0.07). The correlation between high SCORAD scores and severe COVID-19 illness was insignificant. The findings of this study suggest that atopic diathesis is not a conclusive risk factor for the acquisition of COVID-19 by a child. However, patients with AD tend to take a longer duration to recover from COVID-19 illness.

P3.4
IDENTIFICATION AND CHARACTERIZATION OF A NOVEL POSSIBLE GENETIC RISK FACTOR FOR ECZEMA HERPETICUM

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A subset of patients with atopic dermatitis (AD) is susceptible to eczema herpeticum (EH), a disseminated rash most commonly caused by herpes simplex virus type 1 (HSV-1). If left untreated, EH can develop into a potentially life-threatening systemic infection. Identification of genetic risk factors for EH will allow identification, education and early initiation of therapy in patients at risk. To identify and characterize potential genetic risk factors for EH. We performed whole exome sequencing in a cohort of 188 healthy controls, 117 AD patients with (ADEH+) and 117 without a history of EH (ADEH-). A heterozygous single nucleotide polymorphism (SNP) rs2973744 in the gene encoding collagen type XXIII alpha 1 (COL23A1) was significantly associated with the occurrence of EH in AD patients. To study the impact of COL23A1 on HSV-1 infection, we either overexpressed it, downregulated its expression by CRISPR/Cas9 or blocked its cleavage by inhibiting furin. COL23A1 is expressed on the cell surface and can be released into the extracellular space after proteolytic cleavage. Keratinocytes from an ADEH+ patient with the SNP expressed fewer COL23A1 RNA transcripts and were more susceptible to HSV-1. Overexpression of COL23A1 reduced HSV-1 gene expression in HaCaT cells and conditioned medium from COL23A1-overexpressing cells restricted HSV-1 infection of keratinocytes. Blocking cleavage and thereby the shedding of COL23A1 increased susceptibility to HSV-1, suggesting that the shed form of COL23A1 has a protective effect. We conclude that the SNP rs2973744 in COL23A1 predisposes AD patients to severe HSV-1 infections. Since our data show that soluble COL23A1 can limit HSV-1 infection of keratinocytes, we propose that the SNP may reduce the expression, processing, or function of COL23A1, thereby impairing its antiviral function.

P3.5
POLLEN-FOOD CROSS ALLERGY IN ATOPIC DERMATITIS PATIENTS

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Atopic dermatitis (AD) is a chronic, itchy dermatosis whose pathophysiology is based on the interaction of genetic, immunological, and environmental factors. Many AD patients present with polyvalent airborne allergy. Various researchers have observed that up to 70% of AD patients exhibit symptoms of pollen-food syndrome (PFS). Apart from the immediate IgE-mediated reactivity caused by the consumption of plant-derived food, exacerbations of eczema may be observed in some patients. 1 Determination of the dominant profile of PFS in AD patients. 2 Assessment of differences in the profile of pollen and food allergens in AD patients with and without PFS symptoms. The study was conducted on 58 AD patients (21 men and 37 women) aged 21–64 years.The patients were divided into 2 comparative groups: one with PFS (32 patients) and the other without PFS symptoms (26 patients). A subgroup of 9 patients who observed delayed exacerbation of eczema after eating certain foods was distinguished in the group of patients without PFS symptoms. We performed skin prick tests and in-vitro tests determining total and antigen-specific IgE level, as well as component (molecular Allergology) testing. The major allergen of timothy and the major allergen of birch were the main causes of pollen allergy in examined AD patients. The birch-apple cross-allergy profile was dominant in the AD patients with PFS. Itchy mouth was the most common symptom of the syndrome. Predominant allergy profile of AD patients with PFS symptoms included allergy to the major allergen of birch (Bet v 1), whereas the profile of the food-tolerant AD patients included allergy to the major allergen of mugwort (Art v 1). The AD patients usually presented PFS symptoms after the consumption of apples, hazelnuts, carrots, and stone fruits (peaches, apricots, plums).

P3.6
PROFILE OF COMORBIDITIES ASSOCIATED WITH ATOPIC DERMATITIS AT THE DEPARTMENT OF DERMATOLOGY IN ANTANANARIVO MADAGASCAR

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Atopic dermatitis is a chronic, pruriginous inflammatory skin disease that develops in flare-ups. It is a global public health problem, and in Madagascar its prevalence is 5.6% in children and 0.5% in adults. Several comorbidities can be associated with atopic dermatitis. Our aim is to describe the profile of comorbidities associated with atopic dermatitis. We conducted a cross-sectional and analytical study during 5 years from January 2019 to March 2023 in child and adult atopic patients seen in the department of Dermatology Joseph Raseta Befelatanana Hospital, Antananarivo. All cases with incomplete and unusable records, as well as patients with other forms of pruritic dermatoses were excluded. Of the 6495 consultations, 93 cases of atopic dermatitis were observed with a prevalence of 1.43%, a female predominance with a sex ratio of 0.83, and an average age of 10 years. We objectified 13 comorbidities, dominated by personal atopy in 55.91% and by smoking in 55.91% of cases. These comorbidities impact the quality of life as well as the psychiatric state of the patients, and several factors (environmental, dietary, climatic) can favor the appearance of atopic dermatitis in our study. Atopic

dermatitis is a complex inflammatory disease of the skin. Our study confirms the presence of comorbidities during atopic dermatitis. Atopic dermatitis has consequences on quality of life and psychological state.

P3.7
CHARACTERISTICS OF ATOPIC DERMATITIS IN PATIENTS OVER 60 YEARS OF AGE – A PROSPECTIVE SINGLE CENTRE STUDY

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Atopic dermatitis (AD) is a chronic and recurrent skin disease, most commonly associated with elevated immunoglobulin E (IgE) levels and a history of atopy. In the majority of cases, AD appears before the age of five years, and prevalence data in children show a slight female predominance. However, there are limited data on the prevalence of allergies including atopic diseases in patients over 60 years old. The objective of this study was to describe the characteristics and potential clinical variations of AD in a prospective study of patients over 60 years of age and comparing them with young patients. The study group consisted of 144 subjects with a mean age of 66 years. The control group consisted of 92 young subjects with a mean age of 24 years. Patients were assessed according to the SCORAD scale. In addition, we measured total IgE and allergen-specific IgE (sIgE) levels using immune-enzymatic methods, skin prick-tests were performed. The mean serum total IgE concentration in older AD patients was statistically significantly lower than that in younger patients. The quality of life assessed in older AD patients according to the DLQI questionnaire was worse compared to the young group. The skin test results and sIgE determinations in older AD patients were similar to those in younger patients. Inadequate treatment was observed in more than 50% of older AD patients, and the use of medication was significantly less frequent than in younger patients, with the exception of topical steroid preparations. AD in patients over 60 years of age has comparable clinical presentation to younger patients. We observed poorer quality of life and frequently inadequate treatment of AD in older patients in comparison to younger patients.

P3.8
CARDIOVASCULAR DISEASE-SPECIFIC PROTEOMICS OF KOREAN PATIENTS WITH ATOPIC DERMATITIS REVEAL DISTINCT PROTEOMIC SIGNATURES

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Cardiovascular diseases (CVDs) have been found to be associated with atopic dermatitis (AD) in Korean patients. This study aimed to characterize the blood proteomic signature in Korean patients with moderate to severe AD, by focusing on proteins related to CVDs. A total of 78 patients with AD and healthy controls were enrolled. The patients were clinically assessed for eczema area and severity index (EASI) scores. Patient blood proteomics were collected using the Olink CVD II panel. The functions of the proteins were examined through gene ontology (GO) and pathway analyses. Protein expression levels were visualized on the heatmap. AD proteomics and control proteomics were compared using the principal component analysis (PCA). Correlation and multiple linear regression analyses were performed to examine correlations among protein expression levels and the association between the disease severity and the protein expressions, respectively. The unsupervised hierarchical clustering and subsequent analyses yielded 39 up regulated and 10 down regulated proteins. Ninety-two proteins, as well as 39 up regulated and 10 down regulated proteins, could distinguish AD patients from healthy subjects in the PCA and clustering analyses. Twenty-five upregulated proteins were highly correlative in the correlation analysis. Specific proteins were newly found to be up regulated in Korean patients with moderate to severe AD. A multiple linear regression model including CCL17 was highly correlated with the EASI score. The blood proteomics of Korean patients with moderate to severe AD were readily distinguished from those of the healthy volunteers with the CVD II panel. Some CVD-related proteins were newly found to be up regulated in Korean AD patients.

P3.9
SYSTEMIC LUPUS ERYTHEMATOSUS ACCOMPANIED WITH ATOPIC DERMATITIS: A CASE SERIES REPORT

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Systemic lupus erythematosus (SLE) and atopic dermatitis (AD) are both immune disorders that can lead to significant physical complications. There have been some reports about the coexistence or association of the two diseases. In cases of concurrence of SLE and AD, patients may require more comprehensive treatment strategies for proper control of both diseases' activities. Moreover, physical trauma such as excoriation can exacerbate or initiate cutaneous lupus erythematosus lesions, so called Koebner phenomenon. Herein, we report 19 patients with SLE accompanied with AD. They presented with eczematous lesions or lichenification in flexural areas with prominent itching. They all showed elevation of immunoglobulin E (IgE) level, thus satisfying the diagnostic criteria for AD. The mean level of IgE was 789.7 (ranged from 114 to 17,134) IU/ml. In addition, in their laboratory tests, ANA titer and Anti-dsDNA antibody were elevated. Also, they satisfied other diagnostic criteria for SLE, including acute or chronic cutaneous lupus erythematosus. Under the diagnosis of concurrent AD and SLE, they were successfully controlled for both cutaneous lupus erythematosus and chronic eczema with pruritus. If patients with SLE suffer from severe itching inconsistent with the activity of SLE, it can be helpful to measure IgE levels. Elevated IgE levels may suggest their underlying allergic disorders, particularly AD. It is critical to screen for other diagnostic criteria for AD in addition to measuring IgE levels. Understanding the coexistence of both conditions in a patient allows the physician to provide optimal treatment for the patient. Also, janus kinase (JAK) inhibitor can be considered in patients suffering from severe pruritus with elevated serum IgE levels. Herein, we report a case series of SLE patients with concurrent AD who show elevated IgE levels.

P3.10
ANXIETY AND DEPRESSION AMONG ADULT ATOPIC DERMATITIS PATIENTS ATTENDING THE REGIONAL DERMATOLOGY TRAINING CENTER IN NORTHERN TANZANIA 2023

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Individuals with Atopic Dermatitis are at a higher risk of developing and aggravating anxiety and depression both at an immunological, physiological, and aesthetic level. However, this relationship is unexplored in Sub-Saharan Africa, with no data in Tanzania. To determine the proportions and the associated factors of anxiety and depression among Adult Atopic Dermatitis patients attending the Regional Dermatology Training Center (RDTC). A hospital-based cross-sectional study conducted in the Regional dermatology training center (RDTC) from February 2023.Consented adults with Atopic Dermatitis using the Hanifin and Rajka criteria are enrolled, severity using the SCORAD.A short questionnaire including the Demographic data and two certified tools, PHQ 9 and GAD 7, to diagnose depression and anxiety, respectively. Those with anxiety or depression are verified and managed by a psychiatrist. The data is entered and analyzed using SPSS v22. So far, a total of 87 patients with AD have been investigated, 56% female and 44% Men, with a mean age of 44 years. The first analysis has shown a low GAD7 and PHQ-9 score in these patients, despite some having very severe AD with a SCORAD score of above 70 points. So far there are neither differences observed that are related to sex nor age of the patients. Further analyses to be completed July 2023. Preliminary data point out a lesser psychological burden of Atopic Dermatitis patients from this African setting compared to other published studies from other areas such as Europe and the United States. The more reasons therefore needed to be further investigated. Information from this study may shed more light on the need for a multidisciplinary approach to persons suffering from Atopic Dermatitis and trying to improve the missing knowledge gap of relationship between Atopic Dermatitis and Psychological disorders in our setting.

P3.11
SKIN RASH, ATOPIC DERMATITIS, DUHRING'S DISEASE AND CELIAC DISEASE: CAN THEY COEXIST?

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Celiac disease (CD) is an autoimmune disorders induced by gluten often with atypical clinical manifestations including skin changes. On the base questionnaire «The Impact of Celiac Disease on Your Life", University of Oxford (Health Economics Research Center) & Celiac UK we collected 796 completed questionnaires from patients with confirmed CD diagnosis. In this group was 37% children. Skin rash (SR) before CD diagnosis was reported in 302 subjects (37.94%), equally common in children and adults (37.75% and 38.05%, respectively, $p = 0.790$). The mean duration of this symptom before CD was 7.4 years, longer in adults than in children (9.3 and 3.96 years, respectively; $p < 0.001$). In the analysed group of patients with atopic dermatitis (AD), there were 16 (2.01%), of which 15 patients were among those with SR (4.97%). They were more often children than adults (8.11% and 3.14%, respectively). In the group with SR, the OD for AD incidence was 25.7 [95% CI: 3.4–195.6] ($p = 0.0017$). Of all the people analysed, 184 people (23.12%) reported SR after the introduction of the gluten free diet (GFD), which persisted for an average of 2.89 years, almost equally common in children and adults (2.83 and 2.92 years, respectively). In 12 out of 16 AD patients (75%), SR persisted despite the introduction of the GFD for an average of 4.41 years, with AD adults having significantly longer SR than children (7.87 and 2.43 years, respectively). Of all the respondents, 10 people (1.26%) had Duhring's disease. The mean duration of the SR before CD diagnosis was 10.76 years (children 4.2 years, adults 18.96 years) and after CD diagnosis and GFD introduction it was 6.17 years (children 1.39 years, adults 9.03 years). A significant proportion of celiac patients had a skin rash. CD patients who present skin rash have a high risk of AD.

P3.12
OCULAR COMORBIDITIES OF PATIENTS WITH ATOPIC DERMATITIS IN ADOLESCENT TO YOUNG ADULTS – A RETROSPECTIVE, SINGLE CENTER STUDY

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Although the pathogenesis of ocular comorbidities has not been fully elucidated yet, many ocular comorbidities of atopic dermatitis (AD) such as allergic conjunctivitis, cataract, glaucoma and periocular skin changes have been investigated worldwide. However, studies regarding the association of AD with other ocular comorbidities are still lacking. This study investigated the association between AD and ocular diseases including keratoconus, myopia, and astigmatism. We used the electronic medical records database of Soonchunhyang University Bucheon Hospital from 2013 to 2022 in this study. Epidemiologic analysis of 697 AD patients between ages 12 and 40 who have ocular comorbidities including myopia, astigmatism, allergic conjunctivitis, keratoconus, retinal detachment, glaucoma and cataract was performed. Allergic conjunctivitis (68.3%) was the most common ocular comorbidity, followed by dry eye syndrome, myopia, glaucoma, astigmatism and cataract. Multiple logistic regression analysis was performed to identify risk factors for developing ocular diseases such as the presence of eyelid eczema, localized severity of AD on eyelids, overall AD severity and serum IgE level. Severity of myopia and astigmatism was significantly associated with AD severity of eyelids (odds ratio [OR]: 23.69, 95% confidence interval [CI]: 2.73 – 205.41; OR: –0.65, 95% CI: –1.22 – –0.09, respectively). Severity of myopia was also associated with age of onset, history of systemic corticosteroids treatment, AD severity (Eczema Area and Severity Index). Allergic conjunctivitis was the most common ocular comorbidity in patients with AD in our clinic, consistent with previous investigations. Besides type 2 inflammation associated with AD itself, direct rubbing of eyelids due to atopic itch may induce other unknown ocular comorbidities such as myopia and astigmatism.

P3.13
RISK OF DEVELOPING HYPERTENSION IN ATOPIC DERMATITIS PATIENTS RECEIVING LONG-TERM AND LOW DOSE CYCLOSPORINE: A NATIONWIDE POPULATION-BASED COHORT STUDY

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Cyclosporine is a first-line immunosuppressive agent used to manage moderate to severe atopic dermatitis (AD). To date, the risk of developing hypertension associated with the long-term use of low-dose cyclosporine in AD patients has rarely been studied. To determine the cumulative dose-dependent effect of cyclosporine on the risk of developing hypertension in patients with AD A nationwide population-based retrospective cohort with 1,844,009 AD patients was built from the Korean National Health Insurance System (NHIS) database from 2005 to 2009. A Cox proportional-hazard regression analysis was performed according to patients' cyclosporine treatment history adjusted for potential confounders. Current use of cyclosporine was associated with an increased risk of developing hypertension (adjusted hazard ratio [aHR], 4.442 95% confidence interval [CI], 3.761–5.247). Among the current CS users, a higher cumulative dose of CS (≥39,725 mg) (aHR, 1.474; 95% CI, 1.032–2.106) or longer cumulative use of CS (≥182 days), was significantly associated with an increased risk of developing hypertension. The incidence of cyclosporine-associated hypertension is very low when using low-dose treatment regimens for AD. However, the current use of a high cumulative dose of cyclosporine for treating patients with AD increased the risk of developing hypertension. Precaution is needed when prescribing cyclosporine for the long-term treatment in AD.

P3.14
CLINICAL CHARACTERISTICS OF ADULT PATIENTS WITH SEVERE ATOPIC DERMATITIS IN MEXICO

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Patients with severe atopic dermatitis account for 10–18% of all patients with atopic dermatitis (AD). In the adult population, a prevalence of severe AD of up to 7.3% has been reported. To describe the clinical and demographic characteristics of adult patients with severe atopic dermatitis. Observational, descriptive, cross-sectional study. Forty patients >18 years with severe AD were included. Patient demographic and clinical data were recorded. Among adult patients with severe AD, 57% were female ($n=23$). The mean age was 42.8 years (± 19.3), with a maximum age of 90 years and a minimum of 18 years. By age group, 18–29 years predominated, followed by 50–59 years. Forty-five percent ($n=18$) of the patients had a family history related to atopy and 55% ($n=22$) had some other comorbidity associated with atopy with allergic rhinitis being the most frequent. The presence of allergies was also found in 55% ($n=22$) of the cases being more frequent due to aeroallergens. Psychiatric comorbidities were present in 52.5% ($n=21$) being depression the most frequent. The mean age of onset of AD by age group was predominantly in the range of 0–9 years (35%) and the mean time to diagnosis was 5.8 years. Among the clinical characteristics, eczematous lesions predominated in flexural areas and up to 27% presented erythroderma. The extrinsic subtype of AD was the most frequent 52% ($n=21$) and predominated in men. It was found that patients attended an average of 6.7 times a year for medical attention related to AD and only 5% required hospitalization. All patients had undergone at least 2 modalities of systemic therapy. Adult patients with severe AD require multidisciplinary management because of the multiple comorbidities they may present. Early onset of the disease, presence of allergies, elevated serum IgE levels are important features in these patients.

P3.15
SAFETY AND EFFICACY OF NEMOLIZUMAB FOR PRURITUS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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Pruritus significantly worsens quality of life by affecting sleep, self-image, and mood, and worsens dermatological conditions, particularly AD. Interleukin-31 (IL-31) has been implicated in the pathogenesis of pruritus, but the exact mechanism remains unknown. Nemolizumab is a novel treatment for severe pruritus that targets the IL-31 receptor; however, its safety and efficacy has not yet been determined. We performed a systematic review and meta-analysis to elucidate whether patients' pruritus is ameliorated with nemolizumab, and to determine its safety profile. Systematic searches were conducted in Ovid MEDLINE and EMBASE that included pruritus, nemolizumab, safety, and efficacy. Only RCTs and prospective studies were included and analyzed. The primary outcome assessed was reduction in pruritus, measured by various visual analogue scales including: PP-NRS, 5-D Itch scale, Shiratori Severity Score, amongst others. Secondary outcomes assessed included sleep disturbance, EASI, and other treatment emergent adverse events (TEAEs) such as upper respiratory tract AEs, gastrointestinal AEs, amongst others. Results indicate that nemolizumab has a significant effect on decreasing pruritus. The ratio of means was 2.14 [1.53, 3.01] in favor of nemolizumab. Preliminary results indicate significant improvements in sleep quality and EASI scores. The most common side effects noted include nasopharyngitis, gastrointestinal disturbances and headache. Severe AE's were very uncommon. Preliminary results show nemolizumab to be a very promising novel treatment for severe pruritus related to conditions such as AD. With significant efficacy and minimal adverse events, the only limiting factors are the lack of long term studies and the prohibitive cost of the treatment.

P3.16
DERMATITIS NEGLECTA WITH ATOPIC DERMATITIS - THE MENACE OF UNWASHED DERMATOSIS IN NEGLECTED CHILDREN!

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Dermatosis neglecta (DN), or unwashed dermatosis, is characterized by the accumulation of dirt, sweat, sebum, and keratotic debris secondary to a lack of cleanliness. We conducted an observational study on patients who presented to us with atopic dermatitis to identify the concurrent presence of DN. This study describes the clinical features and prevalence of DN in patients with AD. Study subjects included cases of AD (according to modified Hanifin and Rajka criteria) under 18 years. All eligible cases presenting to our out-patient department between May 2021 to May 2022 were serially recruited. The prevalence and clinical patterns of DN were noted in the study subjects. For the confirmation of diagnosis, 70% isopropyl alcohol swab or soap-water swab test was performed. Fifty-six cases of DN with AD were

observed. The prevalence of DN in AD cases was 12.8%,which was significantly higher than the overall prevalence of DN at the same center (2.6%)(*p*-value-0.01). The most common patterns were peri-oral, peri-ocular, and flexural DN, followed by peri-areolar and generalized. In 38.7% of cases, there was a history of the application of alternative herbal medication for alleviating the symptoms of AD prior to the development of DN, while at least 33.1% of cases had resorted to bathing ≤2 times a week and 4 had an underlying neurological deficit with restricted mobility. Steroid phobia was present in 21.6%. Three cases were opium addicts and 2 had major depressive disorder. We experienced that DN is a significant comorbidity associated with AD which often goes unnoticed.Each patient and caregiver must be provided with comprehensive and integrated care to overcome the virtual bridge between established therapies for AD and cases with a strong fear of western medicine.

P4. Breakthroughs in AD treatment

P4.1
EFFICACY AND SAFETY OF DUPILUMAB IN PATIENTS WITH SEVERE CHRONIC HAND ECZEMA WITH INADEQUATE RESPONSE OR INTOLERANCE TO ALITRETINOIN: A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED PHASE IIB PROOF-OF-CONCEPT STUDY

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Alitretinoin is the only systemic treatment approved for all subtypes of severe chronic hand eczema (CHE), but alitretinoin is effective in hyperkeratotic HE and less effective in vesicular HE. Dupilumab has shown promising results in observational studies for several subtypes of HE. To evaluate the efficacy and safety of dupilumab in patients with severe CHE with an inadequate response/intolerance to alitretinoin, or when alitretinoin is medically inadvisable. In this 16-weeks, randomized, double-blind, placebo-controlled, proof-of-concept phase IIb trial, patients with severe CHE were randomized 2:1 to dupilumab 300mg or placebo subcutaneously every two weeks. In total, 20 patients received dupilumab and 9 placebo. At week 16, 95.0% achieved Hand Eczema Severity Index (HECSI)-75 in the dupilumab group and 33.3% in the placebo group. The least square (LS) mean percentage change in HECSI from baseline to week 16 was –88.1 [95% confidence interval (CI), –109.6;–68.1] in the dupilumab group and –10.8 [–43.7;22.1] in the placebo group. Response on the Physician Global Assessment was achieved by 70.0% in the dupilumab group and 33.3% in the placebo group. Dupilumab showed greater LSmean percentage change from baseline to week 16 in weekly average peak pruritus Numeric Rating Scale than placebo (–66.5 [95% CI,–88.6; –44.5] versus –25.3 [95% CI, –60.1;9.4]). The proportion of patients achieving the minimally important change of ≥22 on the Quality of Life in Hand Eczema Questionnaire was 70.6% in the dupilumab group and 33.3% in the placebo group. Adverse events were similar between both groups and were mostly mild. Dupilumab was efficacious and well tolerated. Larger studies of longer duration are needed to provide more evidence on the efficacy of dupilumab in CHE. Moreover, larger studies could also enable comparisons between CHE subtypes.

P4.2
UPADACITINIB TREATMENT IN A REAL-WORLD DIFFICULT-TO-TREAT ATOPIC DERMATITIS PATIENT COHORT

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Upadacitinib was the first JAK-1 selective inhibitor registered for the treatment of moderate-to-severe atopic dermatitis (AD). Although efficacy and safety have been shown in clinical trials, real-world data on the use of upadacitinib is limited. To provide real world evidence on the use of upadacitinib treatment in moderate-to-severe atopic dermatitis. In this prospective observational single-center study, all AD patients treated with upadacitinib treatment in the context of standard care were included between August 2021 to September 2022. Clinical outcome measures and adverse events (AE) were analyzed. Forty-eight patients were included. Thirty-four (71%) patients were still using upadacitinib treatment at last follow up (median duration 46.5 weeks). Fourteen (29%) patients discontinued treatment due to ineffectiveness or AE. Upadacitinib treatment led to a significant decrease of disease severity during a median follow-up of 37.5 weeks. Median IGA at baseline decreased from 3 (IQR 2–3) to 1.5 (IQR 1–2) at last review. Median NRS itch 7d decreased from 7 (IQR 5–8) at baseline to 2.25 (IQR 0.25–6.5) at last review. Three patients discontinued treatment due to AE. Forty-eight AEs were reported, including acne-like eruptions (25%), nausea (13%), and respiratory tract infections (10%). In this real-world cohort, we confirmed that upadacitinib is an effective treatment in a subset of difficult-to-treat AD patients that have failed several previous systemic immunosuppressive and biologic treatments. Overall, AE are mostly well tolerated and not a reason to discontinue treatment for most patients.

P4.3
EFFECTS OF ORAL ADMINISTRATION OF LACTIPLANTIBACILLUS PLANTARUM APSULLOC 331261 ISOLATED FROM GREEN TEA ON ATOPIC DERMATITIS-LIKE SKIN LESION MOUSE MODELS

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Probiotics are known to improve atopic dermatitis (AD) by inhibiting T helper 2 (Th2)-related reactions, restoring the Th2/T helper1 (Th1) cytokine ratio. The most popular probiotic is Lactiplantibacillus plantarum (L. plantarum), which is widely used in the food and pharmaceutical industries. This study aimed to investigate the effects of L. plantarum APsulloc 331261 (GTB1) isolated from green tea on the AD-like skin lesion mouse models. The effectiveness of oral GTB1 administration in improving AD was evaluated by visual evaluation, comparison of the lymph node sizes and spleen weights, histological evaluation, RT-qPCR, ELISA, and IHC analysis in the mouse model. GTB1 improved AD symptoms, reduced epidermal thickness and mast cell numbers, decreased lymph node size and the spleen weight, increased filaggrin and loricrin protein levels, downregulated Th2

expression, and upregulated Th1 expression in a colony-forming unit-dependent manner. Oral administration of GTB1 isolated from green tea (Camellia sinensis) improved the AD symptoms, reduced hypersensitivity reaction, and increased the skin barrier function. Finally, it is involved in AD improvement by restoring the Th2/Th1 cytokine balance.

P4.4
DESCRIPTION OF SUPER-RESPONDERS TO TRALOKINUMAB TREATMENT IN ATOPIC DERMATITIS: A MULTICENTER STUDY

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Tralokinumab is a monoclonal antibody directed against IL-13 used in the treatment of mild-severe atopic dermatitis (AD). In clinical trials, tralokinumab proved to be effective in monotherapy, combined with topical corticoids and in patients who did not respond to ciclosporin. These studies show a significant reduction of clinical severity scores at week 16 of treatment. However, there is a subgroup of patients super-responders who reach these primary end-points earlier than this 16-week objective. Describe the population of AD patientes in our area treated with tralokinumab. Describe the subpopulation of super-responders to tralokinumab. We included all AD patients treated with tralokinumab with follow-up at Rey Juan Carlos Hospital (Móstoles, Madrid) and Infanta Elena Hospital (Valdemoro, Madrid). From their clinical records, we collected retrospectively demographic data and EASI previous to initiation of tralokinumab, at week 16 and week 24 of treatment. In the subgroup of patients of recent initiaton, a prospective monitoring was carried out. EASI pre-initiation, at week 4, week 8 and week 12 of treatment was registered. We considered \'super-responder\' those patients who reached EASI 75 at week 4 and/or EASI 90 at week 8. We recluted 17 patients. 82.4% were male and 86.7% were white. The median age was 44.2 years (range 19–87). The median duration of the disease was 13.6 years. 17.6% suffered from asthma, 58.8% were hypersensitive to pneumoallergens and 28,6% had positive patch tests to contact allergens. 55.6% were super-responders to tralokinumab. 1) Tralokinumab is effective in real world patients 2) There is a cluster of super-responder patients who reach clinical effectiveness in the first weeks of treatment. Their features are yet to be described as this could be an asset for tralokinumab prescribtion in this cluster.

P4.5
PROGRESSIVE AND SUSTAINED DISEASE CONTROL IN PATIENTS WITH ATOPIC DERMATITIS (AD) AGED 12–17 YEARS TREATED WITH TRALOKINUMAB FOR 52 WEEKS

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The ECZTRA 6 trial showed that tralokinumab 300mg provided progressive and sustained efficacy in adolescent patients with moderate-to-severe AD, and was well tolerated with a reassuring long-term safety profile over 52 weeks. To evaluate EASI response and PROs in adolescents from ECZTRA 6 treated with tralokinumab 300mg for the full 52-week treatment period. Patients were randomized to tralokinumab 300mg Q2W ($n=97$) or placebo ($n=94$) for 16 weeks. At Week 16, patients initiated on tralokinumab and achieving primary endpoints (IGA 0/1 and/or EASI-75) without rescue were re-randomized to tralokinumab 300mg Q2/4W monotherapy for 36 additional weeks; other patients were switched to open-label tralokinumab 300mg Q2W plus optional topical corticosteroids. Post-hoc analyses were conducted by pooling Week 16–52 data for all patients initially randomized to tralokinumab 300mg Q2W. Greater proportions of tralokinumab- vs placebo-treated patients achieved primary endpoints at Week 16; progressive improvement was seen through Week 52. In addition, pruritus NRS score was improved for a greater proportion of tralokinumab- vs placebo-treated patients from baseline to Week 16, with further improvement up to Week 52. Progressive improvements over time were also observed for proportions of patients with reductions of pruritus NRS ≥4, POEM ≥4, and CDLQI ≥6, from baseline. The safety profile was consistent with prolonged treatment following Week 16. At Week 16, tralokinumab 300mg Q2W improved EASI and PROs in adolescents with AD, with progressive and sustained improvement seen up to Week 52.

P4.6
TEMPORAL RESPONSE PATTERNS OF ABROCITINIB AND DUPILUMAB IN PATIENTS WITH MODERATE-TO-SEVERE ATOPIC DERMATITIS: A POST HOC ANALYSIS OF THE JADE DARE TRIAL

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Abrocitinib was associated with more rapid reductions in itch and skin lesions than dupilumab in the phase 3 JADE DARE (NCT04345367) trial. Toward the end of treatment, mean efficacy with dupilumab approached that of abrocitinib for certain outcomes. To assess temporal efficacy patterns with abrocitinib and dupilumab in patients with moderate-to-severe AD. In JADE DARE ($N=727$), adult patients were randomized to receive abrocitinib (200 mg daily) or dupilumab (SC 300 mg every 2 weeks) and topical corticosteroids for 26 weeks. This post hoc analysis assessed the proportions of patients who achieved improvements of EASI-75, EASI-90, and PP-NRS4 at each visit, but not before (termed "new responders"), and the proportions of patients who did not achieve these endpoints at any visit ("never-responders"). The proportions of new EASI-75 or EASI-90 responders were higher with abrocitinib vs dupilumab at weeks 2 (EASI-75: 29% [106/361] vs 21% [77/362]; EASI-90: 12% [42/361] vs 7% [26/362]) and 4 (42% [103/248] vs 24% [68/287]; 22% [70/312] vs 11% [36/338]), and were comparable between the 2 groups at week 26 (15% [5/33] vs 16% [11/67]; 13% [12/89] vs 15% [23/150]). The proportions of new responders for PP-NRS4 were higher with abrocitinib vs dupilumab at week 2 (48% [172/357] vs 26% [93/364]) and were comparable between the 2 groups at weeks 4 (25% [46/184] vs 25% [67/270]) and 26 (10% [7/67] vs 9% [8/89]). The proportions of never-responders were lower with abrocitinib vs dupilumab (EASI-75: 12% [42/362] vs 16% [60/365]; EASI-90: 25% [91/362] vs 36% [131/365]; PP-NRS4: 18% [63/357] vs 23%

[82/364]). Early in the treatment, there were more new efficacy responders with abrocitinib than with dupilumab. Over 26 weeks of treatment, there were fewer never-responders with abrocitinib than with dupilumab.

P4.7
EARLY TREATMENT EXPECTATIONS WITH ABROCITINIB MONOTHERAPY: WEEK 4 SAFETY AND EFFICACY

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EuroGuiDerm guidelines on atopic dermatitis (AD) position Janus kinase (JAK) inhibitors as fast-acting treatment. In clinical trials, abrocitinib, an oral, once-daily, JAK 1-selective inhibitor, showed notable improvements in AD signs and symptoms within 4 weeks of treatment. Blood monitoring is recommended at week 4 due to a transient nadir in platelet count at this timepoint; values return towards baseline levels at week 12. To assess safety and the full range of skin lesion improvements after 4 weeks of abrocitinib monotherapy in patients with moderate-to-severe AD. This post hoc analysis included data from patients who received abrocitinib (200 mg or 100 mg) or placebo in the phase 3 JADE MONO-1 (NCT03349060) and MONO-2 (NCT03575871) trials. We assessed week 4 distribution of improvement % in Eczema Area and Severity Index (EASI), as well as adverse events (AEs). The data pool included 778 patients (200 mg, 309; 100 mg, 314; placebo, 155). At week 4, the improvement % in EASI skewed toward higher values with abrocitinib 200 mg (median [IQR], 75% [54–90%]) than with 100 mg (58% [32–77%]) or placebo (22% [0–51%]). An improvement level of ≥50%/≥75% (EASI-50/75) was attained by 76%/46% (200 mg), 56%/25% (100 mg), and 26%/8% (placebo) of patients. Up to week 4, the most frequent AEs were nausea (15% [200 mg]; 8% [100 mg]; 2% [placebo]), nasopharyngitis (4%; 6%; 5%), and AD (2%; 4%; 12%); 3 mild thrombocytopenia events occurred (200-mg group only). After 4 weeks of abrocitinib monotherapy, a substantial proportion of patients with moderate-to-severe AD achieved clinically relevant improvements in skin lesions. Nausea was the most common dosage-related AE and no moderate or severe thrombocytopenia occurred. These data suggest a high probability of early treatment success and safety with abrocitinib.

P4.8
DUPILUMAB IMPROVES SKIN LIPID COMPOSITION IN ATOPIC DERMATITIS IRRESPECTIVE OF PATIENT FILAGGRIN MUTATION STATUS

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Mutations in the filaggrin gene (Flg) are associated with more severe atopic dermatitis (AD). We explored if dupilumab treatment improves skin barrier function in patients with Flg mutations. Transepidermal water loss (TEWL) and skin tape strip (STS) samples were collected from AD lesions ($n=26$) and healthy controls ($n=26$) (age: 12–63 years) over a 16-week course of dupilumab treatment. Flg mutations were evaluated in 20 consented AD patients. Quantitative N(C18)S-Ceramide analysis of STS samples collected at days 1, 15, 29, 56, 85 and wk16 was performed in 26 AD subjects by liquid chromatography tandem mass spectrometry. The mean TEWL area under the curve up to ten strips (AUC10) in AD lesions in subjects with Flg mutations ($n=8/20$) was significantly higher at baseline than in AD subjects without mutations (898 vs 592 g/m^2/h, $p=0.00067$). Dupilumab treatment significantly reduced TEWL AUC10 as early as wk2 with a progressive decrease through wk16 to levels comparable to healthy skin. TEWL AUC10 reductions were similar from wk2 to wk16 in patients with and without Flg mutations. AD lesions had increased levels of N(C18)S-ceramides at baseline; but no differences were noted in subjects with and without Flg mutations (3164 vs 2897 pmol/mg protein, respectively; $p=0.81$). Dupilumab treatment decreased STS content of N(C18)S-ceramides similarly in subjects with and without Flg mutations to 1184 and 1674 pmol/mg protein, respectively ($p=0.499$). Dupilumab treatment normalizes lipid composition in AD patients irrespective of Flg mutation status, with similar improvement observed in the content of N(C18)S-ceramides in subjects with and without Flg mutations.

P4.9
ASSESSMENT OF UPADACITINIB'S IMPACT ON IMMUNE PARAMETERS IN A COHORT OF ATOPIC DERMATITIS PATIENTS OVER SIX MONTHS

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The JAK1 inhibitor, approved for treating inadequately managed moderate to severe atopic dermatitis, acts as a selective immunosuppressor. Despite reports of lymphopenia and neutropenia necessitating regular monitoring during treatment, no reduction in immunoglobulin counts has been noted. This underscores the need to understand its effects on innate and adaptive immunity components comprehensively. The study aimed to investigate the potential influence of upadacitinib on immune markers, including IgG, IgA, IgM, lymphocyte, neutrophil, and monocyte counts, in a cohort of atopic dermatitis patients. We identified 16 patients from our clinic database who underwent blood collection at least thrice over six months. Data on IgG, IgA, IgM, lymphocyte, neutrophil, and monocyte counts were collected at baseline and periodically. The non-parametric Skillings-Mack test was employed to evaluate any statistically significant changes in immune parameters during treatment without making assumptions about data distribution. The initial and subsequent points of the analysis showed that all parameters were maintained inside the reference values during the six months of investigation. The Skillings-Mack test indicated no statistically significant alterations in the six immune parameters ($p>0.05$ for all) over six months of upadacitinib treatment. Our findings suggest that this JAK1 inhibitor does not significantly influence IgG, IgA, IgM, lymphocyte, neutrophil, and monocyte

counts in a selected group of atopic dermatitis patients over six months. These results emphasize the need for further trials to validate the effects of this JAK1 inhibitor on innate and adaptive immunity components, aiming to elucidate its selective immunosuppression characteristics.

P4.10
ITCH AND SLEEP IMPROVEMENTS IN A POOLED ANALYSIS OF NEUROKININ-1 RECEPTOR ANTAGONIST TRADIPITANT IN ATOPIC DERMATITIS

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VP-VLY-686-2102 (Study 2102) and VP-VLY-686-3101 (EPIONE) were randomized, double-blind, placebo-controlled studies with tradipitant in adults with chronic pruritus associated with atopic dermatitis (AD). To examine the safety and efficacy of tradipitant, a neurokinin-1 receptor antagonist, in adults with atopic dermatitis (AD) with significant itch. Eligibility criteria required self-reported itch intensities of ≥ 7 on the Worst Itch Numeric Rating Scale (WI-NRS, EPIONE) or ≥ 70 on a 100-point Visual Analog Scale (VAS, Study 2102), and randomized treatment lasted 8 weeks. In Study 2102, tradipitant-treated individuals showed a significant reduction in worst itch on the VAS. EPIONE did not meet its primary endpoint of reduction in pruritus; however, an antipruritic effect was observed in patients with mild lesions. A statistical plan was then put in place to pool EPIONE and Study 2102 data ($n=489$). In the pooled analysis, significant improvement in diary WI-NRS was seen by Week 2 for tradipitant (–1.55) vs. placebo (–1.04, $p=0.0025$) and the proportion of responders with a ≥ 4-point reduction in diary WI-NRS was higher at Week 2 for tradipitant (12.6%) vs. placebo (2.5%, $p<0.000015$). Significant improvement in the Daily Diary Sleep Scale (DDSS) was seen by Week 2 for tradipitant (–1.55) vs. placebo (–0.94, $p=0.0007$) and the proportion of responders with a ≥ 4-point reduction in the DDSS at Week 2 was higher for tradipitant (12.6%) vs. placebo (4.5%; $p=0.0012$). Tradipitant may represent an oral systemic option for AD patients with a well-tolerated safety profile and improvement in itch and sleep during AD flares.

P5. Challenges in AD management

P5.1
PROPHYLACTIC USE OF DIQUAFOSOL EYE DROPS FOR DUPILUMAB-ASSOCIATED CONJUNCTIVITIS IN PATIENTS WITH SEVERE ATOPIC DERMATITIS: AN OPEN-LABEL PROSPECTIVE STUDY

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Dupilumab, a monoclonal antibody that blocks IL-4 receptor alpha, is effective and safe for the treatment of severe atopic dermatitis (AD). Conjunctivitis is one of the most frequently reported adverse events associated with the use of dupilumab. Although the mechanism of conjunctivitis remains unclear, a recent study has suggested that dupilumab may decrease goblet cell (GC) density and mucin production, leading to conjunctivitis. To investigate the effect of diquafosol, a topical mucin secretagogue, in the prevention of dupilumab-associated conjunctivitis in patients with severe AD. Patients with AD who were treated with dupilumab were randomly assigned to either the control or diquafosol groups. For patients in the diquafosol group, one drop of diquafosol was administered to both eyes 2–6 times per day during the first 3 months after the initiation of dupilumab. The incidence of conjunctivitis was investigated in both groups after 6 months of dupilumab treatment. The incidence of conjunctivitis was significantly lower in the diquafosol group than in the control group (7.5% versus 17.8%, respectively; $p=0.019$). The severity of conjunctivitis was mostly mild to moderate in both groups. Only one patient in the control group developed severe conjunctivitis and had to discontinue dupilumab treatment. Prophylactic use of diquafosol eye drops can reduce the incidence of dupilumab-associated conjunctivitis in patients with severe AD, suggesting that the use of diquafosol eye drops may be a useful preventive strategy for managing this adverse event.

P5.2
MYCOSIS FUNGOIDES FOUND IN PATIENTS WITH ATOPIC DERMATITIS REFRACTORY TO DUPILUMAB; NEWLY DEFINED "ECZEMATOUS MYCOSIS FUNGOIDES"

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While recent emerging treatments for severe atopic dermatitis (AD) have shown promise, lack of efficacy still exists for some patients. In patients with poor treatment response, other diagnosis such as cutaneous T-cell lymphoma must be considered. To investigate the clinical and pathological features, treatments' responses and prognosis of patients with presumed AD who showed lack of efficacy to dupilumab who were finally diagnosed with mycosis fungoides (MF). We reviewed the medical records of 371 patients treated with dupilumab for severe AD. Insufficient response was defined as patients who failed to achieve eczema area severity index (EASI)-50 at 16 weeks or EASI-75 at 52 weeks. These patients underwent additional evaluation such as hematoxylin and eosin staining, immunohistochemistry and T-cell receptor gene rearrangement analysis to differentiate MF and were diagnosed based on the 2018 World Health Organization/European Organization for Research and Treatment guideline. Of the 371 patients treated with dupilumab, 35 with inadequate responses underwent further evaluation for MF. Finally, 21 were diagnosed with MF, exhibiting eczematous lesions, pruritus, and elevated immunoglobulin E and total eosinophil count. Conventional MF treatment improved severity of skin lesions and subjective symptoms. We suggest the possible existence of a type of MF, previously was not recognized by clinicians, that clinically resembles severe AD but has different treatment response and prognosis. We propose adoption of the term «eczematous MF» as a new disease classification for this entity to facilitate early diagnosis and appropriate treatment.

P5.3
IS ELEVATED SERUM IMMUNOGLOBULIN E (IGE) LEVEL A MARKER OF TREATMENT FAILURE OF JAK INHIBITORS IN ATOPIC DERMATITIS?: A CASE REPORT

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Recently, new biologics and oral drugs were approved for the treatment of atopic dermatitis (AD). Janus kinase (JAK) inhibitors can be an effective treatment modality for AD. However, few patients who use JAK inhibitors have limited treatment efficacy in clinical practice. There have been previous efforts to find a biomarker that reflects the therapeutic effects of JAK inhibitor treatment. A 16-year-old girl with a 14-year history of AD presented with severe itching erythematous scaly plaques with lichenification and excoriation over the whole body; the initial evaluation revealed an Eczema Area and Severity Index (EASI) score of 27.7 and a serum IgE level of 588.0 IU/ml. She was treated with oral cyclosporine (100–200mg/day), topical corticosteroids, and topical calcineurin inhibitors for a year. After having limited improvement, she started on upadacitinib 15mg/day, with an EASI score of 37.9 at the initiation of the drug. After 16 weeks, the EASI score decreased to 24.5 (35.4%); however, the skin lesions showed insufficient improvement thereafter, and the serum IgE level gradually increased from 3,163 IU/ml to 47,218 IU/ml over 10 months. She changed to dupilumab. After the 5th injection of dupilumab, the patient showed significant clinical improvement, with marked decrease in serum IgE level (16,763 IU/ml). We retrospectively evaluated other patients treated with JAK inhibitors and found that patients who responded to treatment did not show a significant elevation in serum IgE level. Although it is difficult to identify whether serum IgE levels were related to JAK inhibitor treatment, significant elevation of serum IgE level may implicate JAK inhibitor failure in AD treatment. Further studies are needed to find background factors to predict treatment response to JAK inhibitors and a serum IgE level as a marker of the therapeutic effects.

P5.4
RESULT OF TREATMENT PATIENTS WITH ATOPIC DERMATITIS – INEFFECTIVENESS DUPILUMAB CASE SERIES

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Dupilumab is an effective disease-modifying drug for patients with moderate to severe atopic dermatitis. It's a monoclonal antibody against the alpha subunit for the interleukin 4 receptor. So far, its effectiveness and safety have been confirmed in phase 3 clinical trials such as SOLO 1 and 2. We are still collecting experience on the effectiveness and side effects after the drug has been released to the public. We retrospectively evaluated medical records from March 2022 to May 2023 performed in patients treated with dupilumab for atopic dermatitis in the Department of Dermatology, Venereology and Allergology in Gdańsk. Forty-two patients were treated with dupilumab from atopic dermatitis in the Department of Dermatology from March 2022 to May 2023. They received dupilumab with standard dosing. Eight patients haven't achieved a primary or secondary adequate response to treatment or had side effects that prevented the continuation of treatment. Before treatment, the average EASI was 28.36 points. At the end of treatment, the average EASI remained at a similar level. Although Dupilumab is effective in clinical trials and daily clinical practice, it is not 100% effective. As a result, some patients may not respond to the effects of this medicine. Atopic dermatitis is a heterogeneous disease. The causes of the disease include genetic disorders, immunological abnormalities, abnormal epidermal barrier, disturbed microbiome, and environmental factors. The Th2-mediated response is the overriding immune disorder in the case of AD, but another correlation of inflammatory cytokines may also occur, and the dominant advantage will be the Th17, Th1 or Th22 response. As of today, we aren't able to easily identify patients who will respond to treatment and who will not. We face the challenge of moving towards personalized medicine.

P5.5
ACCELERATED CLINICAL IMPROVEMENT OF ATOPIC DERMATITIS UNDER UPATACITINIB CLOSELY ASSOCIATED WITH SERUM BIOMARKERS DECREASE

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Atopic dermatitis(AD), an intensely pruritic skin disease presents in many patients especially the ones with the extrinsic allergic sub type with elevated IgE and eosinophils serum levels that correlated to both disease activity and severity. Between treatment options we considered of interest to follow the clinical effectiveness along with any corresponding improvement of laboratory findings in a patient suffering from severe and refractory AD treated with upatacitinib. A 65 years old Caucasian woman with severe (EASI 28, SCORAD 65, BSA 30% and DLQI 18), chronic recurrent AD accompanied by itching and seasonal rhinoconjunctivitis had also notably elevated serum biomarkers (IgE, CPR, eosinophils). In first and sixth successive month under continuous upatacitinib treatment clinical improvement was followed by notable laboratory examinations recession. Patient continues treatment 6 months later and is under two months follow-up. In our patient, rapid clinical effectiveness followed by laboratory examinations improvement was repeatedly noticed, under upatacitinib treatment. A possible explanation probably includes the strong inhibition of JAK-1, which subsequently leads to decreased production of pro-inflammatory cytokines(IL-6, IL-15, IFN-a, IFN-γ) that are seriously involved in the pathophysiology mechanism of AD. Also, upatacitinib seems to interfere in serum IgE reducing the allergic burden of the disease, as well as it works reducing the eosinophils that are also more pronounced in patients with extrinsic AD type. Finally it also seems to reduce also the inflammation expressed by CRP biomarkers. The aforementioned biological effect of upatacitinib may provide a reasonable explanation for the rapid clinical improvement followed by the striking reduction in inflammatory serum biomarkers.

P5.6
ADDITIONAL COSTS RELATED TO ORAL JANUS KINASE INHIBITOR USE IN ATOPIC DERMATITIS

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Patients with moderate-to-severe severe atopic dermatitis (AD) who have not responded to ≥1 systemic immunosuppressant, or for whom these treatments are unsuitable, are eligible for biologics or oral Janus kinase inhibitors (JAKis) in the United Kingdom (UK). Oral JAKis have promising short-term efficacy, but their safety profile remains a concern. This analysis estimated costs related to treatment of adverse events (AEs) and monitoring costs in the AD population receiving oral JAKis in the UK. We conducted a systematic literature review and meta-analyses (M-A) on 17 preselected AEs based on randomized controlled trials of oral JAKis. For each AE, an M-A was run to estimate the incidence rate (IR). Costs for treating AEs in the UK were obtained from National Institute for Health and Care Excellence health technology appraisals (NICE) and adjusted to 2022 with

inflation rates. The cost per 100 patient-years (PY) of treatment for each AE was estimated as a product of the IR and the cost of treating that AE. Monitoring costs (driven by healthcare professional visits) were based on company submissions to NICE for the appraisal of baricitinib (TA681). The cost associated with treating AEs in the AD population receiving oral JAKis in the UK was estimated as £273 (95% CI: £236–325) per PY of treatment. The most costly AEs were serious adverse events, acne, and nausea, with mean costs of £109, £37, and £35 per PY, respectively. The total costs associated with AEs and monitoring were estimated as £1407 per PY. In addition to the drug cost itself, the safety profile of oral JAKis is associated with non-negligible costs related to AE management. These findings highlight the importance of considering the economic impact of AEs when assessing the cost-effectiveness of oral JAK is as a treatment option for AD patients in the UK.

P5.7
INCREMENTAL RISK OF ADVERSE EVENTS WITH ORAL JANUS KINASE INHIBITOR USE IN ATOPIC DERMATITIS AND OTHER INDICATIONS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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The number of treatment opportunities for patients with moderate-severe atopic dermatitis (AD) is increasing, however with varying treatment safety profiles. The safety profile of oral JAKis remains a concern because of their ubiquitous mechanism of action inhibiting many cytokines. Safety warnings for these products have combined data across indications, making it difficult to assess risk for specific populations. We aimed to estimate the incremental risk of pre-specified adverse events (AEs) per patient-year (PY) of oral JAKi compared with standard of care (SoC), incl. topical corticosteroids, biologic agents, and other treatments, among those with AD or with other diagnoses. A systematic literature review was conducted on 17 preselected AEs based on randomized controlled trials of oral JAKis. Meta-analyses (MA) estimated the incidence rate difference (IRD) for each AE between oral JAKis and SoC, both in AD and non-AD populations. Number needed to harm (NNH) was calculated as the inverse of the IRD for each AE. We identified 82 studies, including 19 in AD population, for use in the MA. In the AD population, the estimated NNH in PY for acne was 5, indicating 1 additional acne event for every 5 patients treated with oral JAKis vs SoC per year. Moreover, the NNH was 33 for herpes zoster, 62 for anemia, 94 for serious adverse events (SAEs), and 452 for malignancies. In the non-AD population, the NNH was 52 for HZ, 56 for hyperlipidemia, 58 for SAEs, 113 for anemia, 153 for acne, and 254 for malignancies. The MA identified an increased risk with oral JAKis compared with SoC for multiple AEs, spanning from less to more severe AE, including malignancies in both AD and non-AD populations. As safety risks are observed in both the AD and non-AD populations, the use of oral JAKis should be carefully considered.

P5.8
AWARENESS OF PRIMARY CARE PROVIDERS ABOUT MEDICAL AND MENTAL HEALTH COMORBIDITIES, AS WELL AS THE NEW ADVANCED THERAPIES FOR ATOPIC DERMATITIS. A CROSS SECTIONAL SURVEY FROM ONTARIO, CANADA

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Atopic dermatitis (AD) is a chronic inflammatory skin disease associated with a variety of health conditions such as asthma, allergic rhinitis, and depression. Newly approved therapies for moderate to severe AD have been shown to significantly improve outcome and quality of life in patients with AD. The goal of this study is to assess primary care providers' awareness of the associated medical and mental health comorbidities of AD, and to assess their awareness of systemic as well as novel therapies for moderate to severe AD. A questionnaire comprising 7 demographic questions (e.g. age) and 22 questions regarding awareness of AD treatment options (e.g. dupilumab) and conditions associated with AD (e.g. asthma) was administered to 140 physicians. Questionnaires were administered anonymously between March to October of 2022. 79 physicians (56%) completed the questionnaire. Asthma was the only associated condition inquired about by the majority (73%) of physicians. Otherwise, 18 (23%), 34 (43%), 50 (63%), and 27 (34%) of physicians were aware of allergic rhinitis, depression, conventional systemic, and novel therapies for AD, respectively. Younger age, academic and/or affiliated physicians were more likely to be aware of medical and mental health comorbidities and the novel treatments for AD ($p < 0.05\%$). Gender of physician was not a contributing factor to knowledge of symptoms, comorbidities, or treatments for AD. The results of this survey suggest a possible gap in education about AD amongst a portion of family physicians. Measures to increase awareness in family physicians of these components of AD diagnosis and management are essential in improving the quality of life for patients with AD.

P5.9
PREVALENCE OF CREATINE PHOSPHOKINASE ELEVATION IN PATIENTS RECEIVING IMMUNOMODULATORY THERAPIES FOR ATOPIC DERMATITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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While IL-4/13 inhibitors are a common treatment for moderate to severe AD, JAK-1 inhibitors (JAK-1i's) have now become indicated as well. However, JAK-1i's may elevate CPK and consequently increase the risk of rhabdomyolysis or renal dysfunction. We performed a systematic review and meta-analysis to elucidate whether patients with AD incur an increased prevalence of CPK elevation when taking immunomodulatory therapies. Systematic searches were conducted in Ovid Medline and Embase that included AD, CPK and immunomodulatory therapies. Only RCTs and prospective studies were included and analyzed. The primary outcome was the prevalence of CPK elevation in AD patients receiving control or at least one of the following therapies: tralokinumab, dupilumab, abrocitinib, or upadacitinib. Secondary outcomes assessed include EASI scores, clinically significant rhabdomyolysis, and other treatment emergent adverse events (AEs) such as musculoskeletal and connective tissue AEs, and renal AEs, among others. Preliminary results indicate that JAK-1i's show a significant increase in CPK. JAK-1i's had an odds ratio of 1.49 when compared to IL-4/13 inhibitors. In terms of secondary outcomes, upadacitinib led to a significant increase in musculoskeletal AEs, such as lower back pain, which may indicate clinically significant rhabdomyolysis. Common side effects included herpes simplex and zoster infections, urinary symptoms, nasopharyngitis, and gastrointestinal disturbances. The preliminary

results show JAK-1i's are associated with significant CPK elevation when compared to IL-4/13 inhibitors. Further research should be conducted to confirm whether the increase in CPK leads to clinically significant outcomes. IL-4/13 inhibitors are efficacious with tempered adverse events and may be favored, particularly within the highest risk groups.

P5.10
THE SKIN I'M IN: ASSOCIATIONS OF TOPICAL CORTICOSTEROID PHOBIA IN CANADIAN ADULTS

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Atopic dermatitis (AD) is a chronic inflammatory disease characterized by intense itch and an increased risk for adverse mental health outcomes. First line treatment for AD is topical corticosteroids (TCS), but many patients experience topical corticosteroid phobia (TCP) resulting in treatment non-adherence. Thus, we hypothesized an association between TCP, greater disease severity, and poor mental health outcomes. The purpose of this study was to explore factors associated with TCP to better address treatment experiences and impact on quality of life. An internet-based survey was distributed to adults in Canada through networks of dermatologists and two patient advocacy organizations (November 2021). Of 118 respondents, 86 met UK Working Party criteria and were included in our analysis. Statistics were performed using SPSS; correlations were tested with likelihood ratio chi-square tests. 75 respondents identified as female (87%), and 16 identified as a race other than white (19%). 48% were less than 40 years old. 49% reported TCP, with 44% believing TCS damaged skin. Mean Patient Oriented Eczema Measure (POEM) and Dermatology Life Quality Index (DLQI) were 14.7 and 11.4, respectively. TCP trended towards an association with DLQI $\geq$ 11 ($p=0.084$) but was not associated with race, gender, or age. Dissatisfaction with care was associated with age > 49 years (OR 3.84, $p=0.018$) but not with adult-onset disease and was less common with POEM $\geq$ 17 (OR 0.35, $p=0.043$). No association was found between the impact of AD on mental health and TCP. This survey sought to dress an updated portrait of adults with AD across Canada. While half of respondents reported concerns about TCS, no one factor was identified that was significantly associated with these fears. The size of the study limits our ability to find less powerful associations that could drive TCP.

P5.11
POSSIBLE EFFECTS OF ORAL JANUS KINASE INHIBITORS FOR DUPILUMAB FACIAL REDNESS

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Dupilumab facial redness (DFR) has been reported to occur in 4% to 40% of atopic dermatitis (AD) patients on dupilumab treatment. DFR is sometimes resistant to several treatments and can result in discontinuation of dupilumab in about 10% of patients. Although underlying pathogenesis is still unclear, some reports indicate the involvement of an imbalance of type 1, type 2, and type 17 inflammation and a proliferation of Malassezia and Demodex mite. We experienced two cases whose DFR was improved by oral Janus kinase (JAK) inhibitors. Case reports: First case is a 49-year-old male, who had had DFR for two years during treatment with dupilumab. We diagnosed his DFR as erythematotelangiectatic rosacea by skin biopsy, but oral doxycycline and tacrolimus ointment were ineffective. Although his serum anti-Malassezia IgE level was elevated, topical ketoconazole did not work. One month after we switched from dupilumab to upadacitinib, DFR was improved. However, upadacitinib could not be continued in second month due to severe acne and was changed back to dupilumab. His AD has flared up and DFR has got worse slightly in one month after changing to dupilumab. Second case is a 47-year-old female, who had annular erythematous patches on her perioral skin and ears which had started after two-year use of dupilumab. Her DFR was diagnosed as discoid lupus erythematosus (DLE) with Demodex by skin biopsy. Hydroxychloroquine was started but ineffective. Two-month discontinuing dupilumab improved DLE a little and restarting dupilumab for a flare of AD worsened DLE again. We changed from dupilumab to baricitinib, which has brought her an improvement not only of AD but also DLE in one month and a continuous good control of both now.

P5.12
CONTACT HAPTENS IN EMOLLIENT PRODUCTS – AN ANALYSIS OF THE POLISH MARKET

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Emollient therapy is the key for treatment of atopic dermatitis. On the other hand, authors suggest coincidence between emollients used by the patients and induced contact dermatitis. In this study we investigated products available on the Polish market in case of composed haptens. We have collected 531 products, which contain the word "emollient" from 4 biggest web pharmacies in Poland. The presence of any preservatives, fragrances, dyes or lanolin were checked according to the International Nomenclature of Cosmetics Ingredients using Cosmetic Ingredients database, compared with Polish baseline series of patch tests and searched as prohibited and limited according to the European Commission. The emollient products were divided into groups. On the base of the Polish baseline series any of the products were containing dyes and the products devoid of preservatives were 91,7% and fragrances 87%. Fully dye-free were 94,4%, preservatives-free - 44% and fragrance-free - only 11,5%. The 90,6% of all the products did not contain lanolin at all. Entirely hapten-free products were only 6,8%. Using the European Commission's restrictions list, we have found 88 prohibited and 199 limited products. Basing on the results of preservatives the most appearing were Sodium Benzoate 22%, Phenoxyethanol 21% and Potassium Sorbate 16%, more specifically from haptens listed in Polish baseline series: Metylparaben 27%, Propylparaben 17%, Ethylparaben 15% and DMDM Hydantoin 14%. In the fragrances the most common were Parfum 13%, Citric Acid 13%, Potassium Sorbate 6% and Propylene Glycol 5%. In the fragrances specifically from Polish baseline series there were Limonene 22%, Linalool 21%, Citronellol 11%, Geraniol 10%. The majority of products were free from lanolin and dyes, but the amounts of products containing sensitizing fragrances and preservatives were warning.

P5.13
ASSESSING DISEASE CONTROL IN PATIENTS WITH ATOPIC DERMATITIS BY USING THE ATOPIC DERMATITIS CONTROL TOOL (ADCT) IN DAILY PRACTICE

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Assessing atopic dermatitis (AD) disease control can benefit for both patients and physicians in daily practice. The Atopic Dermatitis Control Tool (ADCT) is one of the recommended instruments to assess disease control in adult AD patients. To evaluate disease control using ADCT and associated patient-reported outcomes in AD patients. A cross-sectional questionnaire-based study at two tertiary referral centers for AD. The survey was sent to 2066 patients with previously diagnosed AD between May 2019 and May 2021. AD disease control was assessed by the ADCT, with a score ≥7 corresponding to uncontrolled AD. Disease severity, quality of life (QoL) and 7 days average itch were measured using Patient-Oriented Eczema Measure (POEM), Dermatology Life Quality Index (DLQI), and Numeric Rating Scale (NRS), respectively. Associations between disease control and patient-reported outcomes were explored using binary logistic regression in different models. In total 479 of 812 patients (59.0%) reported their AD was 'in control', and more males (54.5%) reported 'in control' AD than females (45.5%). Compared with AD patients reporting 'in control', more patients reporting 'not in control' were treated with topical anti-inflammatory (30.3% vs. 53.7%), and fewer patients received systemic therapy (63.5% vs. 43.0%). Higher POEM scores, more impairment in QoL, and higher NRS-7 days average itch were associated with 'not in control' AD in a multivariate logistic regression model (adjusted OR: 1.25 (1.16, 1.34) – 1.87 (1.55, 2.25)). In our study, 59% of the patients perceived their AD as 'in control'. Being 'not in control' was associated with more severe AD, more impairment in QoL and higher itch scores. Future longitudinal studies with repeated measurements of disease control using ADCT could capture long-term control in patients with AD in daily practice.

P5.14
VALIDITY, RELIABILITY, RESPONSIVENESS, AND INTERPRETABILITY OF THE RECAP OF ATOPIC ECZEMA (RECAP) QUESTIONNAIRE

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Despite its potential utility, the Recap of atopic eczema (RACAP) lacks evidence of its interpretability. To investigate the validity, reliability, responsiveness, and interpretability of the Dutch RECAP in adults with atopic dermatitis (AD). We conducted a prospective study in a Dutch tertiary hospital where adults with atopic dermatitis, regardless of disease severity and treatment, were recruited between June 2021 and December 2022. Patients completed the RECAP questionnaire, reference instruments, and anchor questions at three time points: baseline, after 1–3 days and 4–12 weeks. Hypotheses-testing was used to investigate single-score validity and responsiveness. Reliability was reported with standard error of measurement (SEMagreement) and intraclass correlation coefficient (ICCagreement). Bands for eczema control were proposed. Smallest detectable change (SDC) and minimally important change (MIC) scores were also determined. In total 200 participants were included (57.5% male, mean age 38.5 years). Of the a priori hypotheses, 82% (single-score validity) and 59% (responsiveness) were confirmed. The SEMagreement was 1.17 points, and the ICCagreement was 0.988. The final banding was: 0–1 (completely controlled); 2–5 (mostly controlled); 6–11 (moderately controlled); 12–19 (a little controlled); 20–28 (not at all controlled). Moreover, a single cut-off point of ≥6 points was determined to identify patients whose AD is 'not under control'. The SDC was 3.2 points, and the MIC was 3.9 points. The RECAP has good single-score validity and reliability, with an improvement of ≥4 points indicating a clinically important change. Given its endorsement by the Harmonising Outcome Measures for Eczema (HOME) initiatives, the results of this study support the integration of RECAP into both routine clinical practice and research settings.

P5.15
TREATMENT PATTERNS OF ATOPIC DERMATITIS MEDICATION IN CHILDREN UNDER 2 YEARS OF AGE IN ANTANANARIVO, MADAGASCAR

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Atopic dermatitis (AD) often requires combination treatment regimens. A broader therapeutic landscape for atopic dermatitis has emerged in recent years. The literature on treatment patterns, particularly in children with black skin under 2 years of age, is sparse. To characterize the prescription patterns of atopic dermatitis medication in Malagasy children under 2 years of age. Dispensed prescriptions for Malagasy children under 2 years of age with atopic dermatitis were analyzed (from June 2018 to December 2021). There were 273 pediatric patients with AD. 35% of visits were to pediatricians and 29% to dermatologists, whereas, dermatologists managed more AD visits than pediatricians. Of these patients, 87.1% received topical corticosteroids. 14.4% received potent topical corticosteroids and 12.3% received systemic corticosteroids. Hydrocortisone was the most common topical corticosteroid prescribed by paediatrician. 3% received topical calcineurin inhibitors and 9.6% had topical antibiotics. Second generation antihistamines were prescribed in 31.7% of patients and emollient in 77.7% of patients. Dermatologists prescribed topical corticosteroids more frequently than pediatricians and general practitioners (10%, 4.6% and 3.2%, respectively). Methotrexate is the only systemic immunosuppressant available in Madagascar, prescribed by dermatologists for 1% of pediatric patients. Topical corticosteroids were the most commonly prescribed topical medications for AD. They remain also the most accessible and affordable treatment for patients in low-income country where advanced therapies such as biotherapy is still a dream.

P5.16
AWARENESS, ATTITUDE AND QUALITY OF LIFE AMONG PRIMARY CAREGIVERS OF CHILDREN WITH ATOPIC DERMATITIS ATTENDING THE REGIONAL DERMATOLOGY TRAINING CENTER IN NORTHERN TANZANIA IN 2023

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Despite long term treatment, relapses are common and pose a burden not only to the ill child but also to the caregivers. The emotional, physical and social functioning of the parents is affected, yet ignored, due to the child's illness. Furthermore, the parents' or

caregiver's awareness and attitude towards the child's disease play a key role in successfully controlling the child's disease. To assess the level of awareness, attitude and quality of life of primary caregivers of children with atopic dermatitis attending the Regional Dermatology Training center. A hospital-based cross-sectional study conducted at the Regional Dermatology Training Center. Primary caregivers of children with Atopic Dermatitis who give consent are enrolled. Confirmatory diagnosis is made using the Hanifin and Rajka and severity is assessed using the SCORAD index. A questionnaire with sociodemographic characteristics, two short questionnaires to determine level of awareness and attitude and a tool to determine the Quality of life known as the Dermatitis family Impact are used. Data is analyzed using SPSS. 163 primary caregivers of children with AD have been investigated so far. 76% of them are female. Mean age of primary caregivers is 38 years. 25% had normal quality of life, 60% had low impairment, 15% had moderate impairment and none had high impairment of quality of life. 63% of the participants had good level of awareness regarding Atopic dermatitis and 49% had moderate attitude regarding their child's disease, 31% had good attitude and 20% had poor attitude. Quality of life of caregivers and families is a helpful guide for appropriately managing atopic dermatitis in children. Furthermore, more attention should be paid on correcting any misunderstandings about atopic dermatitis so as to reduce unnecessary fear or stress for parents and to improve treatment compliance.

P5.17
PHARMACISTS' KNOWLEDGE AND PRACTICES ABOUT USE OF TOPICAL STEROIDS IN CHILDREN WITH ATOPIC DERMATITIS

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Topical steroids (TS) are the standard of care in pediatric atopic dermatitis. Pharmacists are at the forefront of care in delivering drugs, their TS' knowledge and practices have high impact in the management of children with atopic dermatitis. To assess pharmacists' knowledge and practices about use of TS in children with atopic dermatitis. A questionnaire survey was completed by community pharmacists working in 70 pharmacies in Antananarivo, Madagascar (from June to December 2022). Among 125 pharmacy staff that were sent the questionnaire, 118 (94.4%) replies were received. Among 118 responders, 47 were pharmacists, 65 were pharmacy technicians and 6 were students in pharmacy. Overall, 79 were male (67%). Regarding knowledge in the efficacy of TS in atopic dermatitis, 89.8% answered that topical steroids are indicated in moderate and severe outbreaks of atopic dermatitis. Concerning data on the safety of TS, 43.2% considered that they should be totally avoided on children' face, and 69.8% answered that their benefits outweigh their risks. Regarding knowledge about the application of TS for each outbreak of atopic dermatitis, 25.4% and 69.4% considered that they should be applied for <5 days and between 5–10 days, respectively, Regarding pharmacists' practices in delivering physicians' prescriptions, 14.4% stated that they occasionally or often adjusted the prescription by decreasing the duration of TS. For practices in primary counseling in children with AD, 76.3% advise tapering use of TS, and 71.9% often or systematically informed parents of the potential side-effects of topical steroids in children. 3.3% advised regular use of emollients to prevent atopic dermatitis flare-up. Pharmacy staff had moderate knowledge and practices concerning the use of TS in atopic dermatitis, needing more continued education.

P5.18
LIMITED HEALTH LITERACY AND ITS ASSOCIATED HEALTH OUTCOMES AMONG ADULTS WITH AT LEAST TWO ATOPIC DISEASES

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Health literacy is essential for patients with multiple atopic diseases to improve their health, given the complexity of their disease and treatments. To estimate the proportion of adults with multiple atopic diseases (at least two of atopic dermatitis (AD), asthma, allergic rhinitis, and food allergy) in the Dutch general population, and to evaluate the prevalence of limited health literacy, and its associated socioeconomic status (SES), lifestyle factors, and health-related quality of life (HR-QoL) in this group. This cross-sectional study was conducted within the Lifelines Cohort Study via sending the AD questionnaire to adults ($n = 135\,950$) in 2020. Data on asthma, allergic rhinitis, lifestyle factors, HR-QoL, and SES were extracted from baseline assessment between 2006 and 2013. Functional, communicative, and critical health literacy was measured by validated items from Chew and the Dutch Functional Communicative and Critical Health Literacy questionnaires between 2012 and 2016. Food allergy was measured by the Food Allergy Questionnaire between 2014 and 2016. In total, 11.8% of the overall study population reported ever having multiple atopic diseases; of those 23.6% reported having limited functional health literacy, with a higher prevalence among those with a low SES. Limited functional health literacy showed positive associations with smoking, obesity, chronic stress, a low diet quality, and decreased HR-QoL among subjects with multiple atopic diseases. We identified a health literacy deficit, and its association with a low SES and poor health outcomes among patients with multiple atopic diseases. Further research is warranted to utilize a more extensive assessment to measure health literacy and include more health outcomes, such as treatment adherence and disease control.

P5.19
COMPARISON OF CHATGPT AND DERMATOLOGY RESIDENT PERFORMANCE IN DERMATOLOGY CASE DIAGNOSIS

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Artificial intelligence has been widely used in various fields, including healthcare. However, there is limited research on the comparison between the performance of AI and healthcare professionals. This study aimed to compare the performance of ChatGPT, an AI language model, and dermatology students in diagnosing dermatology cases. The main aim of this study was to compare the performance of ChatGPT and dermatology students in diagnosing dermatology cases. The secondary objective was to evaluate the acceptability of ChatGPT's explanations for its diagnoses. In this study, 80 dermatology cases were presented to both ChatGPT and a group of dermatology students. The diagnostic accuracy and acceptability of explanations were evaluated and compared between the two groups. The results showed that ChatGPT had a diagnostic accuracy of 72.5% while the average diagnostic accuracy of the dermatology students was 85%. The acceptability of ChatGPT's explanations was significantly lower than that of the dermatology students. The results of this study showed that the diagnostic accuracy of ChatGPT was lower than that of dermatology students. However, ChatGPT's performance was still considered acceptable, and further improvement in its performance can be expected in the future.

P5.20
EVALUATION OF CHATGPT'S ABILITY IN BASIC DERMATOLOGY: A COMPARATIVE STUDY WITH FINAL-YEAR MEDICAL STUDENTS

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The use of artificial intelligence (AI) in nursing education is a topic of increasing importance, especially with the release of AI chatbots like ChatGPT. The study aimed to compare the knowledge and performance of ChatGPT with that of final-year undergraduate MBBS students, with a focus on evaluating ChatGPT's ability to answer dermatology questions, its correct answer rate based on the level of knowledge required, and the acceptability of its explanations as reflecting current perspectives in dermatology. A dermatology examination was administered to ChatGPT and final-year medical students, with the results of ChatGPT compared to those of the students. The study was a descriptive study with 47 undergraduate students and one AI platform included as examinees. Descriptive statistics were used to analyze the scores, and comparative analysis was performed using DBSTAT version 5.0. ChatGPT correctly answered 38 out of 50 items (76%), which was on par with the average score of the 47 undergraduate dermatology students (77.2%). The chi-square test showed no significant relationship between the level of knowledge required and ChatGPT's correct answer rate ($p=0.56$). However, the relationship between the correctness of the answer and the acceptability of ChatGPT's explanations was significant ($p<0.05$). This study highlights the potential of AI chatbots like ChatGPT as virtual tutors for medical education. However, further research is needed to determine the accuracy and dependability of AI-generated information in the field of medicine.

P8. Mechanisms of disease and models

P8.1
EXPLORING THE ROLE OF LEPTIN IN ATOPIC DERMATITIS: INSIGHTS FROM A STUDY OF SCHOOL-CHILDREN IN WESTERN INDIA

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Atopic dermatitis (AD) and obesity are becoming increasingly prevalent in school-aged children, particularly in Western India. AD is a chronic, recurring inflammatory skin disorder that causes itching. The relationship between AD and leptin, a hormone secreted by fat cells, is not well understood. The aim of this study was to investigate the relationship between AD, obesity, and leptin in Western India. The study recruited 3,000 elementary school children, of which 387 were identified as having AD using the ISAAC questionnaire survey. 108 children with AD between the ages of 6 and 12 years completed SCORAD (Scoring of Severity of AD), skin prick tests, blood tests for total IgE, eosinophil counts, eosinophil cationic protein (ECP), and lipid profiles. Serum leptin levels were also measured. The study found that the serum leptin levels were significantly higher in non-atopic AD children compared to atopic AD children (p value-0.03). Additionally, children with mild-to-moderate AD had higher leptin levels than those with severe AD (p value-0.01). There was a marginal inverse correlation between the SCORAD index and the serum leptin concentration in the total AD group (p value-0.04). The results suggest that leptin may not be associated with IgE-mediated inflammation in AD, but may be related to the non-atopic form of the disease and mild-to-moderate severity. The findings also suggest that there may be a difference in leptin levels between non-atopic AD and atopic AD children. Further research is needed to fully understand the relationship between AD, obesity, and leptin in Western India.

P8.2
PERIOSTIN AND INTERLEUKIN-13: INDEPENDENT ASSOCIATIONS WITH ATOPIC DERMATITIS

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Periostin, a member of the fasciclin family of extracellular matrix (ECM) proteins, is involved in ECM remodeling, post-injury tissue repair, and response to mechanical stress. Multiple research studies have demonstrated the role of periostin in various conditions, including allergic inflammation, cancer, fibro-proliferative disorders, myocardial infarction, and wound healing. Periostin and IL-13 have been known to play a complex role in the pathogenesis of atopic dermatitis. The aim of this study was to investigate the levels of periostin and IL-13 in the sera of patients with adult onset atopic dermatitis (AD) and healthy controls, and to determine their relationship to the pathogenesis of adult onset AD. The study recruited 100 patients with adult onset AD and 50 healthy normal controls. Serum levels of periostin and IL-13 were measured and compared between the two groups. The study found that periostin levels were significantly lower in the CSU group than in healthy controls (p value-0.001). Additionally, periostin levels were lower in patients with severe AD compared to those with mild AD (p value-0.02). However, IL-13 levels were significantly higher in patients with AD than in healthy controls (p value-0.03). The results suggest that periostin and IL-13 may be independently related to the pathogenesis of AD. The findings imply that periostin may have a suppressive effect on the development of AD and IL-13 may have a promoting effect on the development of AD. Further research is needed to fully understand the relationship between periostin and IL-13 in AD.

P8.3
UBIQUITIN PROTEASOME SYSTEM (UPS) MEDIATED DEGRADATION OF PROFILAGGRIN AND ALTERNATION OF DEGRON ROUTE, UBIQUITIN CONJUGATING AMINO ACIDS AND STABILITY OF PATHOGENIC FLG MUTANT PROTEIN

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Loss of function mutations of the profilaggrin gene (FLG) is the major cause of atopic dermatitis (AD). In the healthy skin, FLG contributes hydroscopic amino acids (aa) & their derivatives via specific enzymatic degradation. Since ubiquitin (ub)-proteasome system (UPS) regulates the protein turnover of the cells and FLG sequence harbour aa capable of ub conjugation, degradation via UPS could curb FLG availability for normal function. We aimed to assess FLG as a substrate of UPS-mediated degradation, identify degron motifs & aa residues capable of conjugating ub and assess stability of mutant protein. Keratinocytes were treated with deubiquitinase and proteasome inhibitor (PR-619 and MG132) and the effects were assessed

by Western blot. Degron motifs, Ub conjugating aa, and the stability of wt and mutated proteins were analyzed in silico with DEGRONOPEDIA. Inhibition of deubiquitinase resulted in the appearance of higher molecular weight filaggrin bands >250kDa and ca.200kDa and disappearance of filaggrin bands at 130 and 15kDa. Inhibition of the proteasome also leads to accumulation of the higher molecular weight filaggrin band >250 kDa and accumulation of bands ca.200 and 100 kDa after 16h of treatment. Sequence analysis identified 18 degrons in FLG, with uneven spread of canonical (lysine) and non-canonical (threonine & serine) ub conjugating residues. UPS is involved in filaggrin turnover in keratinocytes and FLG mutations alter the degradation route, ub conjugating aa and predicted stability of mutant proteins.

P8.4
THE ALLEVIATION OF PARTICULATE MATTER-EXACERBATED ATOPIC DERMATITIS VIA EXOSOMES DERIVED FROM ADIPOSE TISSUE-SOURCED MESEN-CHYMAL STEM CELLS

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Recent studies have demonstrated that particulate matter (PM) can exacerbate atopic dermatitis (AD) by inducing an inflammatory response. Exosomes are nano-sized extracellular vesicles that can be delivered to target cells for intercellular communication. In particular, mesenchymal stem cell-derived exosomes have a skin barrier recovery and immunomodulatory function. Our study aimed to investigate the therapeutic effect of adipose tissue-derived mesenchymal stem cell-derived (ASC)-exosomes in PM-induced AD. An AD-like in vitro model was established by treating HaCaT, HDF, and HMC-1 cells with polyinosinic:polycytidylic acid (Poly I:C) recombinant human interleukin 1 alpha (IL-1α). The effects of PM and ASC-exosomes on the expression levels of proinflammatory cytokines and skin barrier markers were assessed using quantitative real-time polymerase chain reaction, western blotting, and immunofluorescence. PM increased proinflammatory cytokines (IL-6, IL-1β, and IL-1α) and decreased expression of the anti-inflammatory cytokine IL-10, while the mRNA expression of skin barrier markers (filaggrin and loricrin) decreased. However, when the cells were treated with ASC-exosomes, the PM-induced effects on proinflammatory cytokines and skin barrier markers reversed. Our results confirmed that PM-induced inflammation and skin barrier damage were alleviated by ASC-exosomes in our AD-like in vitro model. In other words, it suggests that ASC-exosome provides potential as a therapeutic agent for PM-exacerbated AD.

P8.5
ENTEROTOXIN GENE CLUSTER AND SELX ARE ASSOCIATED WITH ATOPIC DERMATITIS SEVERITY-A CROSS-SECTIONAL MOLECULAR STUDY OF STAPHYLOCOCCUS AUREUS SUPERANTIGENS

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Selected Staphylococcus aureus superantigens (SAgs) have been reported to aggravate atopic dermatitis (AD). However, comprehensive analyses of these molecules in multiple microniches are lacking. To determine the expression of classic and recently discovered SAgs in *S. aureus* isolates from the lesional skin, nonlesional skin and anterior nares of adult patients with AD and to analyze their impact on the course of atopic dermatitis in adults. Adult patients with active AD diagnosed based on the Hanifin and Rajka criteria were involved. Multiplex-PCR was performed to identify genes encoding (1) selX (core genome); (2) seg, selI, selM, selN, selO, selU (enterotoxin gene cluster, EGC); and (3) sea, seb, sec, sed, see, tstH (classic SAgs encoded on other mobile genetic elements). The results were correlated to clinical parameters of the study group. Fifty patients were enrolled. EGC and selx significantly dominated over classic SAgs in all microniches. The number of SAg-encoding genes correlated between the anterior nares and nonlesional skin, and between the nonlesional and lesional skin. On lesional skin, the total number of SAgs correlated with disease severity (total and objective SCORAD, intensity, erythema, edema/papulation, lichenification and dryness). Linear regression revealed that AD severity was predicted only by selx and EGC. EGC and selX are associated with AD severity, while classic SAgs show limited expression and clinical significance. This possibly reflects the evolution of *S. aureus* which continuously adapts to the microenvironment of AD. Anterior nares and nonlesional skin could be reservoirs of SAg-positive *S. aureus*. Restoring the physiological microbiome could reduce the SAg burden and alleviate syndromes of atopic dermatitis.

P8.6
CLINICAL SIGNIFICANCE OF CIRCULATING HEAT SHOCK PROTEINS IN PATIENTS WITH ATOPIC DERMATITIS

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While the primary events and key drivers of atopic dermatitis (AD) are topics of ongoing debate, cutaneous inflammation due to inappropriate IgE (auto)antibody-related immune reactions is frequently considered. Heat shock proteins (Hsps), including Hsp90 and Hsp70, are intra- and extracellular molecular chaperones implicated in cellular homeostasis and immune processes and are induced by cell stress such as inflammation. We aimed to investigate the role of circulating Hsp90 and Hsp70 in patients with AD. Serum samples derived from AD patients and age- and gender-matched healthy controls were screened for presence of circulating Hsp90/70 or anti-Hsp90/70 IgE by enzyme-linked immunosorbent assays (ELISA). Correlation analysis between the severity of AD assessed by Scoring Atopic Dermatitis (SCORAD) and circulating Hsp90/70 or anti-Hsp90/70 IgE were performed. We observed that serum levels of Hsp90 were significantly elevated in AD patients when compared to healthy controls and positively correlated with the disease's activity (SCORAD). In addition, circulating levels of anti-Hsp90 IgE autoantibodies were significantly elevated in AD patients when compared to healthy controls. In contrast, levels of Hsp70 and anti-Hsp70 IgE were similar between both groups. Our results suggest that extracellular Hsp90 or anti-Hsp90 IgE autoantibodies deserve attention in the study of the mechanisms that promote the development or maintenance of AD, as well as provide potential novel disease biomarkers.

P8.7
GUT MICROBIAL DYSBIOSIS IS ASSOCIATED WITH INTESTINAL BARRIER DAMAGE AND IGE-MEDIATED FOOD ALLERGY IN ADULT PATIENTS WITH ATOPIC DERMATITIS

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Gut microbial dysbiosis is associated with altered expression of bacterial metabolites and impaired intestinal barrier function. Atopic dermatitis (AD) frequently coexists with IgE-mediated food allergy related to intestinal barrier damage. The latter could be aggravated by pathogenic microbiome. To determine the gut microbiota composition and biomarkers of gut barrier damage in adult patients with AD and to correlate these findings to the presence of IgE-mediated food allergy and clinical parameters of the study group. Adult patients with active AD were involved. Disease severity was determined using EASI score. Itch severity was assessed with a 12-item pruritus severity score. The presence of specific IgE (sIgE) against food allergens was detected by immunoblotting. Gut microbiome was evaluated using 16S rRNA sequencing. Serum concentrations of short-chain fatty acids (SCFA) and biomarkers reflecting gut barrier damage were determined using GC-MS method and a combination of ELISA and Luminex assays, respectively. Fifty patients were enrolled. Alpha-diversity of the gut microbiota was significantly lower in mild than in moderate-to-severe AD and in patients with food allergy. AD severity correlated negatively with mean values of SCFA and positively with indoxyl. The presence of food allergy was associated with higher severity of AD and itch (EASI, 12-item pruritus severity score). In patients with food allergy, mean values of SCFA and IL-22 were lower, and levels of LBP and IL-10 were higher than in patients without food allergy. The results suggest that gut microbial dysbiosis is associated with intestinal barrier damage and increased risk of food allergy which translates to increased severity of AD. This could point to a possible role of dietary interventions in alleviating the symptoms of AD.

P8.8
CLINICAL IMPLICATION OF SERUM ADIPONECTIN LEVELS IN ADULT PATIENTS WITH ATOPIC DERMATITIS

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Atopic dermatitis (AD) is characterized by chronic, relapsing, pruritic inflammatory skin disease. Adiponectin has been reported to have anti-inflammatory effects not only on metabolic disorders but also on various inflammatory disorders. The study aimed to validate adiponectin as a potential biomarker for AD disease severity and treatment response. Seventy-five patients with AD and 28 healthy volunteers were enrolled in the study. Patient information, including Eczema Area and Severity Index (EASI) scores and pruritus numeric rating scales (NRSs), were collected. An enzyme linked immunosorbent assay (ELISA) was conducted to measure levels of serum adiponectin. Additionally, sera of patients treated with dupilumab were collected and measured at 16 and 52 weeks from baseline. Serum adiponectin levels were significantly lower in moderate and severe AD patients than in the control and mild AD patients. Serum adiponectin level was negatively correlated with the EASI score and pruritus NRS. However, no significant changes were observed according to biologic treatment for AD. Low serum adiponectin levels are associated with moderate to severe AD, suggesting a potential role for adiponectin as a biomarker for severity assessment of AD.

P8.9
SERUM LEVEL OF MALASSEZIA SPECIFIC IGE ANTIBODY AS A MARKER FOR SEVERITY OF HEAD AND NECK DERMATITIS IN KOREAN ATOPIC DERMATITIS PATIENTS

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Head and neck dermatitis (HND) is a clinical subtype of atopic dermatitis (AD), which mainly affects head and neck area. Sensitization to Malassezia species is thought to be importantly implicated in HND pathogenesis. A number of previous studies reported elevation of serum Malassezia specific IgE antibody (MSIA) level in HND, but the study conducted in Korean patients is lacking. This study aimed to evaluate the validity of serum level of MSIA as a surrogate marker for severity of HND in Korean AD patients. Fourth three patients with data of serum MSIA level and clinical photo of head and neck or whole body were retrospectively included. Serum level of house dust mite (HDM) specific antibodies (Dermatophagoides pteronyssinus and Dermatophagoides farinae, D1 and D2 respectively) and total IgE antibody level were also evaluated. Clinical severity of HND and global AD was measured with EASI score. Significant positive correlation between serum MSIA level and HND severity score was detected (r = 0.462, $p = .002$), but not in global EASI score ($p = .081$). Serum level of both HDM specific antibodies did not showed correlation with neither HND severity score (D1, $p = .152$; D2, $p = .268$), nor global EASI score (D1, $p = .163$; D2, $p = .127$). Total IgE level was significantly correlated with both HND severity score (r=0.583, $p < .001$) and global EASI score (r=547, $p = .001$). Serum level of MSIA can be used as a marker for severity of HND in Korean AD patients.

P8.10
DUPILUMAB TREATMENT NORMALIZES INTRAEPIDERMAL NERVE FIBER DENSITY IN PATIENTS WITH MODERATE-TO-SEVERE ATOPIC DERMATITIS AND IMPROVES PATIENT-REPORTED OUTCOMES

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Chronic pruritus is characteristic of atopic dermatitis (AD), contributing to patients' poor quality of life (QoL). Neuroanatomy and neuroarchitecture alterations associated with pruritus secondary

to AD are not fully understood. To explore the role of dupilumab treatment on epidermal neuroanatomy by quantifying intraepidermal nerve fiber density (IENFD) and assess pruritus-related QoL. DIFFERENSTAD (NCT04823130) was an open-label, exploratory study. Patients ≥ 18 years with moderate-to-severe AD, pruritus lasting > 6 weeks, and Worst Itch NRS ≥ 4 received dupilumab 300 mg every 2 weeks for 16 weeks. Skin biopsies were obtained from patients' lesional skin at baseline (BL) and at Week 17 (end of treatment, EoT) and from matched healthy controls. IENFD was defined as number of nerve fibers crossing the basement membrane per millimeter. Patient-Reported Outcomes Measurement Information System (PROMIS) was used for itch and QoL impact assessment. 31 patients and 10 controls were enrolled. IENFD in patients with AD significantly increased from BL to EoT (mean [SE]: 7.7 [1.3] at BL vs 12.1 [2.0] at EoT; $p = 0.0017$), to levels comparable with controls (mean [SE]: 12.4 [2.3]; P for controls vs EoT in patients with AD = 0.9374). Mean (SE) PROMIS total score for itch: severity items (range 4–50) was 40.1 (1.4) at BL and 15.1 (1.5) at EoT for patients with AD ($p < 0.0001$). PROMIS mood and sleep item scores (felt miserable, sad, restless, difficulty falling asleep) were significantly reduced at EoT from BL (all $p < 0.0001$). Safety was consistent with the known safety profile for dupilumab. Dupilumab treatment significantly increased IENFD to levels comparable with controls, suggesting restored neuroanatomy in patients with moderate-to-severe AD. Dupilumab significantly improved patient symptoms and QoL.

P8.11
ALTERATIONS OF THE CD200/CD200R IMMUNOMODULATORY PATHWAY IN SKIN AND BLOOD FROM PATIENTS WITH ATOPIC DERMATITIS

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Atopic dermatitis (AD) is an inflammatory skin disease characterized by exaggerated immune responses against foreign and autoallergens. The CD200/CD200R signaling pathway has emerged as a potent regulator of skin immune responses and tolerance. Its activation leads to immunosuppression and decreased mast cell mediator release, making this pathway an attractive therapeutic target in AD. We aimed to characterize the expression and localization of CD200 and CD200R in skin biopsies and blood immune cells and the serum levels of soluble CD200 (sCD200) in AD patients vs. healthy controls (HC). Ten AD and ten HC adults were recruited. CD200 expression in lesional and non-lesional skin biopsies was evaluated by immunohistochemistry. Flow cytometry was used to analyze CD200 and CD200R expression in circulating immune cells. Serum concentrations of sCD200 were measured by ELISA. Increased CD200 staining was observed in AD lesional skin compared to non-lesional skin ($p < 0.05$). CD200+ mast cell counts were higher in AD lesional skin vs. non-lesional skin and HC ($p < 0.05$). No significant differences were found between groups regarding CD200R skin staining, and CD200 and CD200R expression in blood CD4+ T cells, CD8+ T cells, and B cells. However, CD200R expression in myeloid dendritic cells was decreased ($p = 0.046$), while CD200R+ plasmacytoid dendritic cells were increased ($p = 0.04$) in AD vs. HC. AD patients exhibited significantly lower levels of sCD200 compared to HC ($p = 0.04$). This study demonstrates abnormal expression of CD200/CD200R in skin and blood immune cells, as well as decreased serum sCD200 in AD patients, suggesting that dysregulation of the CD200/CD200R immunomodulatory pathway may play a role in the pathogenesis of AD. These results support the hypothesis of CD200 and its receptor CD200R as novel therapeutic targets for immune modulation in AD.

P8.12
SEARCHING FOR NEW CANDIDATE GENES ASSOCIATED WITH ATOPIC DERMATITIS IN ETHIOPIANS

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Atopic dermatitis (AD) is one of the most common chronic inflammatory skin disorders, affecting up to 20% of children and 3–10% of adults. AD is a complex disease with genetic and environmental factors contributing to the disease. Loss-of-function (LoF) mutations in the FLG gene increase susceptibility to AD in Europeans. In Ethiopians where the incidence of AD is high no FLG mutations are detected. To search for candidate genes in African ancestry populations using multigenerational AD families and case-control cohorts. We collected DNA samples from AD cases and controls ($n = 374$), and five families ($n = 51$). All subjects were collected in Gondar. Whole genome sequencing (WGS) was applied to six individuals from one family. The impact of variants is evaluated using SIFT, Polyphen2, CADD and GERP++. The relevant variants found were genotyped in the case-control cohorts. WGS of the AD family revealed two rare variants in the FLG2 and NOD2 genes in all the affected individuals ($n = 5$). The variants are predicted to be damaging with high CADD scores. Other variants in FLG2 have been previously associated with AD in African American individuals (1). NOD2 is a cytosolic receptor involved in bacterial recognition and transduces signals leading to activation of innate immune pathways. NOD2 is associated with susceptibility to Crohn disease. The family studied do not have any history of Crohn disease. Previous studies suggested a role of NOD2 in AD (2) We found rare variants in the FLG2 and NOD2 genes in all affected individuals in one Ethiopian AD family. Genotyping in our Ethiopian case-control cohort shows significant association to the FLG2 variant and to previously AD associated NOD2 variants. Further genetic and functional validation are needed to confirm our results. 1. Margolis et al, J Allergy Clin Immunol(2014) 2. Weidinger et al, Clin Exp Allergy(2005)

P8.13
HEAD AND NECK DERMATITIS IS EXACERBATED BY MALASSEZIA FURFUR COLONIZATION, SKIN BARRIER DISRUPTION, AND IMMUNE DYSREGULATION

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Head and neck dermatitis (HND) is a refractory phenotype of atopic dermatitis (AD) and can be a therapeutic challenge due

to lack of responsiveness to conventional treatments. Previous studies have suggested that the microbiome and fungiome may play a role in inducing HND, but the underlying pathogenic mechanisms remain unknown. This study aimed to determine the link between HND and fungiome and to examine the contribution of Malassezia furfur. Total 312 patients diagnosed with AD were enrolled. Human keratinocytes and dermal endothelial cells were cultured with M. furfur and treated with Th2 cytokines. The downstream effects of various cytokines were investigated by real-time quantitative PCR. To identify the association between changes in lipid composition and M. furfur sensitization status, D-square tape stripping was performed. Lipid composition was evaluated by using liquid chromatography coupled with tandem mass spectrometry. Increased sensitization to M. furfur was observed in patients with HND. Additionally, sensitization to M. furfur was associated with increased disease severity in these patients. IL-4 treated human keratinocytes cultured with M. furfur produced significantly more inflammatory cytokines. M. furfur co-cultured dermal endothelial cells exhibited significantly elevated inflammatory cytokines. Lipid analysis revealed decreased levels of esterified omega-hydroxyacyl-sphingosine, indicating skin barrier dysfunction in HND. Finally, M. furfur growth was inhibited by the addition of these ceramides to culture media. Under decreased levels of ceramide in AD patients with HND, M. furfur would proliferate, which may enhance pro-inflammatory cytokine levels, angiogenesis, and tissue remodeling. Thus, it plays a central role in the pathogenesis of HND in AD.

P8.14
IDENTIFICATION OF THE IMPACT OF AIR POLLUTANT-INDUCED EPIGENETIC CHANGES ON THE DEVELOPMENT AND EXACERBATION OF ATOPIC DERMATITIS

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Atopic dermatitis (AD) is a chronic inflammatory skin disorder that can be exacerbated by particulate matter (PM). Skin barrier defects and impairments, such as filaggrin (FLG) abnormalities, are thought to be the main causes of AD. Although there is considerable evidence for genetic factors that contribute to AD, it is difficult to attribute the development of AD solely to genetics. We hypothesize that PM may cause epigenetic changes in AD, influencing FLG expression and hence aggravating symptoms. This study aimed to examine whether PM could contribute to AD pathogenesis through an epigenetic mechanism, specifically acetylation, using human epidermal keratinocytes. In addition, we aimed to investigate the epigenetic impact of PM on skin barriers such as FLG and explore novel therapeutic strategies for skin diseases potentially caused by epigenetic mechanisms. The expression levels of histone deacetylase (HDAC)1/2 and FLG were assessed using quantitative real-time PCR, Western blot analysis, and immunofluorescence under AD-like conditions, with or without exposure to PM. Additionally, changes in these molecules were observed when co-treated with the HDAC inhibitor trichostatin A (TSA) in the experimental conditions. A significant decrease in HDAC1 levels was only observed in the IL-4/13+PM condition when co-treated with TSA. HDAC2 mRNA and protein levels changed in both PM and IL-4/13 conditions, with the most substantial reduction occurring when IL-4/13+PM was co-treated with TSA. FLG expression decreased the most in the IL-4/13+PM condition, while TSA treatment increased its expression. Our findings imply that PM can induce epigenetic alterations in HDAC1/2 and FLG levels in AD. TSA treatment alleviates these effects on FLG expression, indicating its potential as a novel therapeutic tool for AD.

P8.15
MICROBIOME ANALYSIS OF BACTERIA AND FUNGI IN HEAD AND NECK DERMATITIS IN ATOPIC DERMATITIS PATIENTS TREATED WITH DUPILUMAB

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Atopic dermatitis (AD) is a chronic skin condition that causes severe itching and reduces quality of life. Dupilumab, a biologic drug that inhibits the interleukin 4 receptor α, is approved for AD treatment but has been associated with head and neck dermatitis (HND). This study aimed to investigate the underlying pathophysiology of HND induced by dupilumab. Skin microbiome, transcriptome, and blood samples were analyzed in four groups: AD patients who received dupilumab with or without HND, AD with HND patients who did not receive dupilumab, and normal healthy controls. In the bacterial analysis, the genus Cutibacterium was the most dominant bacterial group across all groups except the dupilumab with HND (D-HND) group. However, the genus Staphylococcus was the most dominant bacteria in the D-HND group and showed a significant increase in the D-HND group compared to the other groups. In the fungal analysis, the genus Malasseziales was the dominant fungus on the face across all three groups studied except the D-HND group, in which the genus Malassezia was the most dominant fungus. Furthermore, specific Malassezia species had the highest proportion in the D-HND group compared to the other groups. Transcriptomic analysis of skin tissue showed higher expression levels of Th2-related gene markers in the D-HND group. In conclusion, our study provides insights into the microbiome and immune status of patients with AD who develop HND while receiving dupilumab treatment. Our findings suggest that the genus Staphylococcus may play a role in the pathogenesis of HND induced by dupilumab. Additionally, our results indicate that the dysbiosis of skin microbiome and the upregulation of Th2-related gene markers may contribute to the development of HND in these patients. Further studies are needed to confirm these findings and to explore potential therapeutic interventions.

P8.16
EXPLORING THE ROLE OF THE ADO GENE IN ATOPIC DERMATITIS

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Atopic dermatitis (AD) is a chronic inflammatory skin disorder influenced by genetic and environmental factors. The main gene is FLG, loss-of-function mutations are found in the European population, but those explain only a modest portion of AD cases. Recently, Chromosome conformation capture (Capture Hi-C) in differentiating keratinocytes identified the targets of many variants associated with AD (Sahlen et al. J. Allergy Clin Immunol, 2020), among them the 2-amino ethanethiol dioxygenase (ADO) gene. To explore the role of ADO in the development of AD. Genotyping of patients to identify the carriers of the risk and non-

risk alleles of ADO. Expression analysis by Immunostainings on patient's skin biopsies. Zebrafish as a model organism to explore the ado gene function. We identified patients carrying the risk genotype CC and CT. Our analysis by immunostainings revealed that in lesional skin the carriers of the risk variants have higher expression of ADO compared to patients carrying the non-risk genotype. In the zebrafish models, we overexpressed and knocked out (CRISPR/Cas9) ado. We observed impaired skin biogenesis alterations in the embryos' tails at 72 hours post-fertilization. We outcrossed the injected zebrafish with the transgenic lines Tg (mpx: GFP), where neutrophils are expressed, and observed an increase in the number of cells in the phenotypic embryos' tails. Our findings suggest the involvement of the ADO gene in skin homeostasis, providing insights into the potential role of ADO in AD pathogenesis.

P8.17
THE T CELL RESPONSE TO STAPHYLOCOCCAL SERINE-PROTEASE LIKE PROTEIN IN ATOPIC DERMATITIS PATIENTS

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Staphylococcus aureus is the main colonizer of the lesional skin of atopic dermatitis (AD) patients. Colonization is connected to flares and associated with disease severity. Staphylococcal serine-protease like proteins (Spls) are a family of secreted virulence factors and have been shown to elicit a dominant type-2 T cell response in airway allergy. To characterize the specific T cell response to SplB in patients suffering from AD. PBMCs from AD patients were stimulated in vitro with recombinant SplB. CD4+ T cells that recognized SplB were identified by upregulation of CD154 and further characterized by expression of different chemokine receptors (CCR4, CCR6, CCR10 and CXCR3). In silico prediction algorithms were applied to predict putative immunodominant 9-mer and 15-mer epitopes within the SplB protein primary structure. Best candidates were synthesized and applied in re-stimulation of expanded SplB-specific T cell lines in vitro. Peptides which led to a strong response were chosen for generation of HLA class II tetramers to stain, sort and analyze SplB-specific T cells regarding their cytokine secretion capacity. Patients with AD showed higher levels of serum IgE to Spl proteins compared to healthy donors, particularly pronounced for SplB. Stimulation of PBMCs with SplB led to a significant upregulation of CD154 on CD4+ T cells. These SplB-responding T cells were phenotypically heterogeneous, but mostly Th2 cells. Applying MHC-tetramers we describe HLA-DRB1*15:01 and HLA-DRB1*11:01 restricted epitopes of SplB inducing a strong response in sensitized AD patients. A subgroup of AD patients shows an adaptive T cell response to *S. aureus* SplB. In this study we show that SplB evokes predominantly a type-2 immune response in AD and identify immunodominant T cell epitopes.

P8.18
INCREASED EXPRESSION OF LIPOCALIN CORRELATES WITH DISEASE ACTIVITY OF SCALP DERMATITIS IN PATIENTS WITH ATOPIC DERMATITIS

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Lipocalin-2 (LCN2) is an antimicrobial peptide secreted by activated keratinocytes, mast cells, and granulocytes. The increased serum concentration of LCN has been reported in numerous inflammatory skin diseases including psoriasis, alopecia areata, and atopic dermatitis (AD). However, the expression level of LCN2 in scalp skin in patients with AD has not been determined yet. The aim of this study is to determine the expression levels of LCN2 in the lesional scalp skin in AD patients in comparison with non-lesional scalp skin in AD patients and healthy controls. The study comprised 26 patients with AD and 18 healthy controls. The scalp skin samples were collected by minimally invasive skin tape stripping method. From each skin site, 5 consecutive tape strips were collected and analyzed. The expression of LCN2 in the scalp was determined by enzyme-linked immunosorbent assay. The expression levels of LCN2 were correlated with clinical characteristics and clinical severity of AD. Expression levels of LCN2 were increased in AD lesional scalp skin when compared with non-lesional scalp skin and healthy controls, respectively. Levels of expression of LCN2 in the scalp were positively correlated with eczema area severity index and severity of scalp dermatitis in patients with AD. This finding implies that LCN2 may play a role in the pathogenesis or progression of scalp dermatitis in patients with AD. It suggests that LCN2 could serve as a potential biomarker for the disease activity of scalp dermatitis in patients with AD.

P8.19
EFFECT OF PSYCHOSOCIAL STRESS IN PATIENTS WITH ATOPIC DERMATITIS: RELEVANCE FOR SOMATOSENSORY PROFILE AND SMALL NERVE FIBERS IN CHRONIC LESIONS

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Symptomatology of atopic dermatitis (AD), such as chronic itch and pain, can be exacerbated by stress (a state of sensing actual or potential threats in the environment). However, the influence of acute stress on small fibers sensory is not clear. To determine the effect of acute stress on the somatosensory profile in patients with AD. A Quantitative Sensory Test (QST) was performed before and after an acute stress stimulus (Montreal Imaging Stress Task, MIST) in adult patients with AD and healthy controls (HC). Clinical data, the severity of AD, descriptors of itch and pain, and results from psychological questionnaires were analyzed. Saliva and skin samples were obtained to study levels of cortisol and intraepidermal nerve fiber density (IENFD), respectively. The mean age was 27.8 ± 7.7 years in the HC group (n=21, 57.1% females) and 26.7 ± 7.2 years in AD (n=18; 66.6% females). The AD group had higher levels of itch but also pain (p-value <0.001). Psychological questionnaires showed higher scores for anxiety, depression, and stress perception in AD patients (p-value <0.05). Chronic AD lesions were thicker (p-value <0.0001) and had a decrease in IENFD (p-value <0.05). The basal sensory profile of AD patients showed alterations in the detection of thermal stimuli. After the stress, we observed a general reduction in sensitivity only in HC, with no major changes in chronic lesions. Interestingly, 50% of AD patients scratched their skin during the MIST and the number of bouts was higher than in HC (p-value <0.05). The cortisol profile changed during the visit (time effect p-value <0.01) with a rise only in HC (p-value <0.05). The results showed sensory alterations in chronic lesions and a functional maladaptation to acute stress in AD, suggesting an altered stress response or differential functioning of small fibers potentially related to the reduction in IENFD.

P8.20
THE ASSOCIATION BETWEEN INTERLEUKIN 35 GENE SINGLE NUCLEOTIDE POLYMORPHISMS AND ATOPIC DERMATITIS IN THE POLISH POPULATION

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Interleukin 35 (IL-35) is an anti-inflammatory, heterodimeric cytokine belonging to the IL-12 family, encoded by two separate genes, IL-12A and EBI3. So far, the relationship between the single-nucleotide polymorphisms (SNPs) of IL-35 genes and the pathogenesis of some autoimmune and allergic diseases has been confirmed. Regarding AD, data is limited. We aimed to investigate whether SNPs of IL-12A and EBI3 genes encoding IL-35 subunits are associated with the development and the clinical course of AD in the Polish population. Blood samples were collected from 197 AD patients and 178 healthy controls (HC). Significant differences in genotype distribution of IL-12A rs568408 (GG, GA, AA) between AD and HC were found ($p = 0.00006$). The genotype GA showed a significantly reduced frequency in AD patients compared to H (57.4% vs. 71.9%; $p = 0.003$) and was associated with decreased odds of AD (OR=0.53; 95%Cl: 0.34–0.81; $p = 0.003$). Regarding the AA genotype, its frequency was higher in AD patients than in HC (8.63% vs. 0.0%; $p = 0.00006$) and it was significantly associated with increased odds of AD (OR=34.61; 95%Cl: 2.06–579.97; $p = 0.01$). Moreover, there was a significant relationship between IL-12A rs568408 polymorphism and the serum total IgE levels ($p = 0.01$). The AA genotype was significantly more frequent in AD patients with normal total IgE levels (≤ 100 kU/l) compared with the group of patients with elevated total IgE levels (>100 kU/l) (OR=2.82; 95%Cl: 0.97–8.16; $p = 0.048$). No association between IL-12A rs568408 polymorphism and pruritus ($p = 0.4$), the average SCORAD score ($p = 0.6$), the onset age of the disease ($p = 0.45$) nor concomitant asthma ($p = 0.43$) were found. It seems that the AA genotype of IL-12A rs568408 may be a potential candidate biomarker for the development of AD with normal serum total IgE levels, but further studies are needed to verify this assumption.

P8.21
ITCH IN ATOPIC DERMATITIS IS ALSO INDUCED BY SKIN MOBILITY BY VOLUNTARY MOVEMENT: LESSONS FROM A PATIENT WITH AMYOTROPHIC LATERAL SCLEROSIS

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Atopic dermatitis has alloknesis, which means that various stimuli to the skin induce itch. Causes are often mild tactile stimuli or heat. We considered that skin mobility due to joint movements might also induce itch based on our experience with the following case. Here shows the retrospective follows up the natural clinical course of a 50-year-old woman with amyotrophic lateral sclerosis (ALS) accompanied by with atopic dermatitis. She had been treated with topical corticosteroids since around age 20, had moderate disease with intense itching. In the late 40s, skin flexion surfaces on the trunk and extremities showed moderate to severe lichenoid dermatitis. One year before her first visit to our dermatology department, she developed ALS. Her motor coordination and voluntary movements were impaired at her first visit, while her cutaneous sensation was normal. According to the ALS progression, the patient spontaneously no longer required treatment, and, to our surprise, her itching disappeared. The distribution of atopic dermatitis lesions are characterized by their localization on the flexural surfaces of joints. Therefore, we assumed that the flexion of the skin mobility due to voluntary movements was primarily responsible for this.

P8.22
INVESTIGATING THE IMPACT OF LACTOBACILLUS PENTOSUS ON ALLERGEN-SENSITIZED ATOPIC DERMATITIS IN CHILDREN

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A disruption in the balance of the gut's microbial community could be linked to AD. Having a lower variety of microorganisms in the gut during the first month of life has been connected to a higher likelihood of developing AD later on. Studies have suggested that probiotics may help to alleviate the immune imbalance caused by an imbalance of gut bacteria in atopic dermatitis (AD). The present study aimed to evaluate the clinical and immunological effects of Lactobacillus pentosus in children with mild to moderate atopic dermatitis (AD). In this study we recruited 82 children aged 2–13 years with AD were randomly assigned to receive either L. pentosus (group A) or a placebo (group B), daily, for 12 weeks. The clinical severity of AD and transepidermal water loss was evaluated, as well as blood eosinophil counts, serum total immunoglobulin E (IgE), and cytokine levels. The diversity and composition of the gut microbiome were also analyzed. Results: We observed that the clinical severity of AD decreased significantly over time in group A than in group B. Additionally, there were significant reductions in the serum IgE level and blood eosinophil count in group A (compared to group B). the mean subjective scores of SCORAD indices after intervention for the probiotics group were significantly lower than those for the placebo group in IgE sensitized AD ($p = 0.01$). However, no significant differences in cytokine levels, microbial diversity, or the relative abundance of the gut microbiota were noted in either group at week 12 compared with the corresponding baseline values. The study found that L. pentosus may have a beneficial role as a supplementary agent in pediatric AD, and improve symptoms in allergen-sensitized cases.

P8.23
RAPID AND SUSTAINED IMPROVEMENT IN SLEEP QUALITY, ANXIETY, AND DEPRESSION IN ADULTS WITH MODERATE-TO-SEVERE ATOPIC DERMATITIS WITH DUPILUMAB TREATMENT

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Background: Moderate-to-severe Atopic Dermatitis (AD) in adults can lead to sleep disturbance, depression and anxiety. Objective: To investigate the effect of dupilumab for up to 24 weeks on disease burden. Methods: DUPISTAD was a 24-week, randomized, double-blind, placebo-controlled phase 4 study. Patients received dupilumab 300 mg every 2 weeks (q2w) to Week 24 (dupilumab–dupilumab, $n = 127$), or placebo to Week 12 then dupilumab 300 mg q2w to Week 24 (PBO–dupilumab,

$n=61$). Topical corticosteroids were permitted. Mean changes from baseline to Week 24 (W24) for Patient-Reported Outcome Measures Information System (PROMIS) Sleep T-score, Epworth Sleepiness Scale (ESS), Wake After Sleep Onset (WASO) weekly average, and the Hospital Anxiety and Depression Scale (HADS) were assessed. Results: At baseline, mean values for the dupilumab-dupilumab and PBO-dupilumab groups were 60.9 and 61.7 for PROMIS T score, 10.9 and 10.5 for ESS, 72.3 and 74.6 for WASO, 8.3 and 9.5 for HADS anxiety, and 7.1 and 6.4 for HADS depression, respectively. At W24, both the dupilumab–dupilumab and PBO–dupilumab groups showed improvement illustrated by mean changes from baseline in PROMIS T score (−12.5 and −11.7, respectively), ESS (−4.6 and −3.7), WASO (–11.9 and –16.6) and HADS anxiety (−3.8 and −4.4) and depression (−4.4 and −3.4) scores. From W12 to W24, the PBO–dupilumab group showed rapid and marked improvements in PROMIS T-score (−3.8), ESS (−1.9), WASO (–10.1) and HADS anxiety (−1.6) and depression (−0.9). The safety profile of dupilumab was consistent with the known safety profile. Conclusions: Dupilumab provided rapid improvement in patient-reported outcomes in patients who switched to dupilumab from PBO at W12 and sustained improvement in sleep quality, anxiety and depression in patients treated with dupilumab for 24 weeks.

P8.24
A RANDOMIZED CONTROLLED STUDY USING ORAL DICLOXACILLIN + MOMETASONE FUROATE 0.1% VS. MOMETASONE FUROATE 0.1% IN ADULTS WITH ATOPIC DERMATITIS

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Lesional skin of atopic dermatitis (AD) patients is often colonized by Staphylococcus aureus and correlates with the severity of AD. However, it is unknown whether specific knock-out of *S. aureus* through systemic antibiotics leads to a faster reduction in AD severity. The objective of this study was to investigate whether specific knock-out of *S. aureus* can lead to a faster reduction in AD severity during a randomized controlled trial (RCT) of oral dicloxacillin or placebo in concert with mometasone furoate 0.1% creme to treat an AD flare. In this RCT study (H-21079287, EudraCT-nr 2021-006883-25, NCT05578482) we treated 40 adults with AD, diagnosed according to the Hanifin & Rajka criteria. Patients were randomized to oral dicloxacillin or placebo + mometasone furoate 0.1% creme and attended a clinical visit at baseline and day 2, 3, 4 and 5 during treatment. At each visit, AD severity was assessed using the Eczema Area and Severity Index (EASI) and the Target Lesion Severity Score (TLSS), and skin swabs were collected from the most severe AD lesions at baseline. Preliminary results of 37 adult AD patients (mean age 26.5 years (standard deviation [SD] 7.6), 73.0% females) showed a mean EASI score of 16.2 (SD 8.6), a TLSS of 7.8 (SD 1.9) and a peak pruritus the last 24 hours of 6.9 (1.9) at baseline. A total of 78% was colonized with *S. aureus* prior to treatment. Data collection is finished in June 2023, and results on whether specific knock-out of *S. aureus* can lead to a faster reduction in AD severity during treatment with oral dicloxacillin or placebo + mometasone furoate 0.1% creme will be ready for presentation at the ISAD conference August 31st. This RCT will provide insight into whether specific knock-out of *S. aureus* through oral antibiotics can lead to a faster reduction in AD severity.

P8.25
THE PERTURBED SCALP SKIN MICROBIOME IN PATIENTS WITH ATOPIC DERMATITIS

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Scalp dermatitis is a common manifestation observed in patients with atopic dermatitis (AD). The skin microbiome, comprising the diverse community of microorganisms residing on the skin, plays a crucial role in maintaining skin homeostasis. Perturbations in the skin microbiota have been associated with various skin conditions, including AD. This study aimed to identify the distinct microbiota associated with scalp dermatitis in patients with AD. Using scalp swab samples from 15 patients with AD and 15 healthy controls, this study characterized the scalp microbiota in patients with AD via V3–V4 regions of the 16S rRNA gene sequencing for bacterial identification. Among bacterial genera, Staphylococcus was more abundant in the lesional and non-lesional skins of AD than in healthy controls, whereas Cutibacterium was the most abundant in the healthy controls. The lesional scalp skin of AD showed a significantly decreased abundance of Cutibacterium than the non-lesional scalp skin of AD and healthy controls, respectively. Understanding the relationship between the skin microbiome and scalp dermatitis in AD patients is crucial for developing effective therapeutic strategies targeting the scalp microbiota to manage symptoms of AD effectively. Further research is required to elucidate the specific mechanisms underlying these associations and to highlight the potential role of specific microbiota in development of scalp dermatitis in AD.

P8.26
THE EFFICACY OF AN EMOLLIENT/ MOISTURIZER IN RESTORING HYDRATION, SKIN PH AND TRANS EPIDERMAL WATER LOSS (TEWL) IN PATIENTS WITH ATOPIC DERMATITIS

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Studies of skin biophysical properties in AD patients reveal decreased hydration, increased skin pH and transepidermal water loss (TEWL). Moisturizers are not readily tested in AD patients in African environments. To compare the recovery of skin hydration, skin pH and normalization of TEWL in African patients with AD using two recommended moisturizers. One hundred and fifty patients with AD in two tertiary hospitals in Lagos, Nigeria following ethical approval were prospectively reviewed from June to December 2022. This was a blinded study. Base-line hydration, Skin-pH and TEWL were measured. Study participants were evaluated at 6 weeks and at 3 months. Skin measurements were done on the chin and forearm using the Courage + Khazaka Electronic GmbH® system. EASI score was calculated at baseline and 3 months. In 140 participants who completed the study, there were more females (62.9:37.1. The mean age was 24.5+19.8 years. At baseline, the skin of the chin was more hydrated than the forearm with mean values of 56.7+18.5: 40.0+ 20.7, pH was higher on the chin with 6.5+2.1: 5.5+ 0.4 and TEWL was more on the chin than the forearm with 32.4 [24.5 – 52.2]: 18.8 [13.7 – 34.8]. There was improved hydration in the skin of test moisturizer compared with control after

6 weeks and at 3 months. The skin pH was significantly reduced in test product ($p = 0.042$), and there was reduced TEWL in test product compared to control at 6 weeks and 3 months though not statistically significant. The skin pH reduced significantly ($p < 0.001$) with the use of daily moisturizers. EASI score significantly ($p < 0.001$) improved from baseline with no patient having severe disease at 3 months. Daily moisturizing improves the skin pH and skin hydration of atopic dermatitis patients living in Africa. This translates to reduced disease severity. TEWL is higher in the humid conditions of Lagos.

P8.27
HEALTH LITERACY IN PATIENTS WITH ATOPIC DERMATITIS: A CROSS-SECTIONAL STUDY IN A TERTIARY REFERRAL CENTRE

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Health literacy (HL) is defined as the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. Patients with limited HL are less likely to manage chronic diseases appropriately. To assess the prevalence of limited HL, and its association with patient-reported disease severity, disease control, Health-Related Quality of Life (HR-QoL), and treatment in patients with atopic dermatitis (AD). A cross-sectional questionnaire-based study was performed at a tertiary referral center for AD. Adult patients visiting the outpatient clinic between 2019 and 2021 were identified from medical records. Perception based HL was assessed by the European Health Literacy Survey Questionnaire 16 (HLS-EU-Q16) including questions related to health care, disease prevention, and health promotion. Performance based HL was assessed by the Newest Vital Sign (NVS) assessing reading and numeracy skills. Overall, 322 patients were included, mean age 43.6 years. In total, 61.6% had moderate to very severe AD (Patient Oriented Eczema Measure), 40.2% reported a moderate to very large effect on HR-QoL (Dermatology Life Quality Index), 38.5% perceived their AD as not adequately controlled (Atopic Dermatitis Control Tool), and 62.5% was treated systemically. Based on the HLS-EU-Q16, 32.4% had limited HL (8.4% inadequate [score 0–8], 24.0% problematic [score 9–12]) which was associated with impairment in HR-QoL. According to the NVS, 20.3% had inadequate HL (score 0–3) which was associated with older age. Limited HL is prevalent in patients with AD and associated with impaired quality of life and older age. Further research should evaluate the influence of inadequate HL on health outcomes and focus on strategies to improve organizational HL to eventually improve patient-centered care.

P9. Other

P9.1
A MULTIPLEX IMMUNOASSAY FOR SIMULTANEOUS DETECTION OF ANTIMICROBIAL PEPTIDE IN THE STRATUM CORNEUM OF ATOPIC DERMATITIS SKIN

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Heterogeneity in atopic dermatitis (AD) results in the diverse endotype repertoire, such as Th1, Th2, Th17, and Th22 cells, that depends on the patient's age, disease stage, and ethnicity. These AD endotypes can affect the protein expression in keratinocytes like antimicrobial peptides, which we suggest, can be a potential biomarker to predict the treatment outcome. Here, we developed a multiplex immunoassay of six antimicrobial peptides (Human Beta Defensin-2, Human Beta Defensin-3, Ribonuclease 7, Dermcidin, S100A7, and Heterodimer S100A8/S100A9) and one housekeeping protein GAPDH for quantification of antimicrobial peptide concentration in the skin of AD patients. We used a non-invasive tape stripping method to collect the antimicrobial peptides from the stratum corneum of lesional and non-lesional skin of AD patients as well as healthy individual skin. We found that the multiplex immunoassay was able to detect antimicrobial peptides and was also comparable with the commercial ELISA. Increased expression of antimicrobial peptides could be seen in all AD patients, especially in lesional skin, compared to healthy individuals, depending on the current treatment. The observed variations of antimicrobial peptide concentration suggest varying contributions from the underlying immune subsets. In this way, our multiplex immunoassay provides a useful method for simultaneous detection of antimicrobial peptides in the skin.

P9.2
DUPILUMAB PROVIDES RAPID IMPROVEMENTS IN SIGNS, SYMPTOMS, AND QUALITY OF LIFE AFTER THE FIRST DOSE

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While atopic dermatitis (AD) is a chronic disease requiring long-term management, rapid control of symptoms is important, particularly for patients experiencing acute flares. To report efficacy 2 weeks after the first dose of dupilumab in adults with moderate-to-severe AD enrolled in LIBERTY AD CHRONOS. LIBERTY AD CHRONOS (NCT02260986) was a randomized, double-blinded phase 3 trial of adults with moderate-to-severe AD. Patients were treated with dupilumab 300 mg every week (qw; $n = 319$), every two weeks (q2w; $n = 106$), or placebo qw $n = 315$) and concomitant topical corticosteroids (TCS) with or without topical calcineurin inhibitors. Here, we evaluated Week 2 responses to dupilumab 300 mg q2w + TCS and placebo + TCS following a single 600 mg dose at Week 0. The multiple imputation statistical method was used for binary endpoints and the last observation carried forward method was used for continuous variable results. By Week 2, 41.5% of patients treated with dupilumab 300 mg q2w + TCS achieved 50% improvement from baseline in Eczema Area and Severity Index (EASI-50) compared with 28.6% of patients treated with placebo + TCS ($p = 0.0129$). EASI-75 was achieved by 19.8% of dupilumab-treated patients vs 8.6% in the placebo group ($p = 0.0013$). Least squares mean change (SE) from baseline to Week 2 in weekly average Peak Pruritus Numerical Rating Scale score also significantly improved with dupilumab 300 mg q2w + TCS vs placebo + TCS (−2.04 [0.160] vs −1.41 [0.096]; $p = 0.0007$). Significantly more patients treated with dupilumab 300 mg q2w achieved ≥4-point reduction in Dermatology Life Quality Index vs patients treated with placebo (68.9% [73/106] vs 52.7% [166/315]; $p = 0.0033$) by Week 2. Dupilumab provided rapid and significant improvement in signs,

symptoms, and quality of life in adults with moderate-to-severe AD after the first dose.

P9.3
VALIDITY AND RELIABILITY OF ITCH INTENSITY SCALES FOR CHRONIC PRURITUS IN ATOPIC DERMATITIS AND CHRONIC URTICARIA

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Chronic pruritus is a common symptom in many dermatological diseases and especially in atopic dermatitis (AD) and chronic urticaria (CU). Because of the high prevalence and substantial impact on their quality of life, a valid and reliable measurement of pruritus intensity is required for the accurate control of the symptoms. We investigated the validity and reliability of visual analog scale (VAS), numeric rating scale (NRS), verbal rating scale (VRS), and multidimensional questionnaires such as the Itch Severity Scale (ISS), and their correlation with itch-related quality of life (ItchyQoL) in patient with AD and CU. A total of 158 patients (76 AD and 82 CU) recorded their pruritus intensity on VAS, NRS, VRS, and ISS. Retest reliability was analyzed in a second assessment 3 hours after the initial assessment. All participants answered ItchyQoL. In AD patients, a strong correlation between VAS, NRS, and VRS was found. ISS showed a significantly higher retest reliability and stronger correlation with ItchyQoL compared with VAS, NRS, and VRS. The concurrent validity and correlation with ItchyQoL were not statistically different between the subgroups considering demographic and pruritus characteristics. This tendency was also observed in CU patients. Both AD and CU, ISS showed good retest reliability and the highest correlation with ItchyQoL compared with three unidimensional scales. However, it is too time consuming for routine clinical use. Therefore, it is necessary to develop less time-consuming alternative itch measurements that reflect the patients' QoL very well.

P9.4
WHAT SCORES CORRESPOND TO PATIENT SATISFACTION? TREATMENT SATISFACTION SCORE STRATA FOR CLINICIAN- AND PATIENT-REPORTED OUTCOME MEASURES IN ATOPIC DERMATITIS

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There is limited research identifying clinical outcome measure score strata in atopic dermatitis (AD) based on patient (pt) satisfaction. To determine score strata for clinician- and pt-reported outcome measures used in AD based on pt-assessed treatment satisfaction. Data were pooled from three phase 3 trials in moderate-to-severe AD (Measure Up 1: NCT03569293; Measure Up 2: NCT03607422; AD Up: NCT03568318). Outcome measures were Eczema Area and Severity Index (EASI), Worst Pruritus Numeric Rating Scale (WP-NRS), Dermatology Life Quality Index (DLQI), Patient-Oriented Eczema Measure (POEM), Skin Pain NRS, and Sleep NRS. Scores were mapped by equipercentile linking to four treatment satisfaction levels: extremely satisfied (ES), very satisfied (VS), somewhat satisfied (SS) and not satisfied (NS). Agreement between score strata and satisfaction levels was assessed by the weighted Kappa (κ) statistic. Baseline mean scores reflected severe disease (EASI 29.5; POEM 21.4), large impact on quality of life (DLQI 16.7),and the upper range of moderate symptom severity (WP-NRS 7.2; Skin Pain NRS 6.4). Score strata for ES aligned with minimal symptom severity/burden: EASI 0–1, WP-NRS 0–1, DLQI 0–1, POEM 0–3, Skin Pain NRS 0, and Sleep NRS 0. Strata for VS corresponded with mild severity/burden: EASI 2–8, WP-NRS 2–3, DLQI 2–5, POEM 4–10, Skin Pain NRS 1–2, and Sleep NRS 1–2. Strata for SS and NS aligned with moderate and severe severity/burden, respectively (eg, EASI 9–16 and 17–72; WP-NRS 4–5 and 6–10). Agreement between AD severity and pt satisfaction levels was moderate (κ = 0.48–0.57). The highest levels of pt satisfaction aligned with minimal symptom severity/burden scores. Degree of satisfaction is an important consideration in AD and can inform treatment discussions with pts.

P9.5
DRUG SURVIVAL ANALYSIS OF DUPILUMAB IN MODERATE TO SEVERE ATOPIC DERMATITIS PATIENTS: A RETROSPECTIVE STUDY

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Dupilumab is a human monoclonal antibody that inhibits signaling of both IL-4 and IL-13, key inflammatory cytokines in the pathogenesis of atopic dermatitis (AD). It is proven to be effective and safe for long-term treatment of AD, but several patients discontinue with various reasons. We investigated the drug survival of dupilumab, reasons of discontinuation, and compared clinical characteristics between dupilumab withdrawing patients and continuing patients. This retrospective analysis included moderate to severe AD patients treated with dupilumab from March 2019 to April 2023. Patients demographics, laboratory findings, EASI and multiple reasons for each withdrawing patient were collected. Total of 102 patients was included in the study. Among them, 23 patients (22.5%) had discontinued dupilumab after a mean time of 30.7 weeks. Significantly in 23 withdrawing patients, female rate (56.5% vs 20.2%) was higher, total IgE level (1871.15 vs 5163.11, IU/mL) was lower and disease onset (13.04 vs 16.30, years) was earlier than 79 continuing patients. There was no significant difference in baseline EASI. Reasons for withdrawing dupilumab were primary inefficacy ($n=10$), follow up loss ($n=6$), adverse effect such as conjunctivitis or head and neck flare ($n=5$), cost burden ($n=4$), pregnancy ($n=2$) and clinical remission ($n=1$). Few of them changed to other systemic treatments such as cyclosporine ($n=4$), baricitinib ($n=5$) and received improvement on itching and adverse effects. Female, low total IgE level, and younger disease onset age are at higher risk of discontinuing dupilumab in AD patients for various reasons. Common reasons for withdrawing dupilumab is due to ineffectiveness and adverse effects.

P9.6

DIOSMETIN INCREASES ENDOGENOUS ACTIVE GLUCOCORTICOID BY ACTIVATING LOCAL 11B-HYDROXYSTEROID DEHYDROGENASE TYPE 1 AND SUPPRESSES SKIN INFLAMMATION IN A MURINE MODEL OF ATOPIC DERMATITIS

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Glucocorticoids (GCs) are secreted de novo by peripheral tissues as well as the hypothalamic–pituitary–adrenal axis. Exogenous GCs have been used as a potent anti-inflammatory drug for chronic inflammatory diseases, including atopic dermatitis (AD). Skin expresses 11β-hydroxysteroid dehydrogenase type 1 (11β-HSD1), which converts inactive GC to an active form. Our previous study proposed that 11β-HSD1 is a major factor affecting AD pathophysiology via suppression of atopic inflammation due to the modulation of active GC in the skin. We evaluate the effect of diosmetin as a 11β-HSD1 activator through in vitro and in vivo experiments. in vitro and in vivo (oxazolone treated atopic dermatitis murine model)experiments In cultured human keratinocytes, 11β-HSD1 and cortisol in the media and mRNA of 11β-HSD1 were elevated by diosmetin treatment, similar to cortisol treatment and ultraviolet B irradiation. In contrast, diosmetin did not increase the mRNA level of 11β-HSD1 in keratinocytes transfected by 11β-HSD1 siRNA. In in vivo experiment using an AD murine model developed by oxazolone treatment, diosmetin- or steroid-applied mice showed lower levels of basal transepidermal water loss, eczema area and severity index (EASI) score and higher stratum corneum (SC) hydration. They also showed increased levels of corticosterone in the SC and 11β-HSD1 in the serum and epidermis. Additionally, the levels of IgE and TNFα in the serum and mRNA of TSLP, 1L-1β, IL-4, and IL-13 in the epidermis were decreased by diosmetin as well as topical steroids. Diosmetin increases endogenous active GC by activating 11β-HSD1 locally, which might be a new topical agent to alleviate inflammatory skin conditions such as AD.

P9.7

MATCHING-ADJUSTED INDIRECT COMPARISON OF THE EFFICACY OF TRALOKINUMAB AND DUPILUMAB IN THE TREATMENT OF MODERATE-TO-SEVERE ATOPIC DERMATITIS BEYOND WEEK 16

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Tralokinumab and dupilumab are both licensed for the treatment of moderate-to-severe AD. However, to date no head-to-head studies or indirect comparisons of their efficacy beyond week 16 have been conducted. To conduct a matching-adjusted indirect comparison (MAIC) comparing the efficacy of tralokinumab and dupilumab beyond week 16, both used in combination with topical corticosteroids. An unanchored MAIC was conducted using individual patient data (IPD) from the ECZTRA 3 tralokinumab trial and aggregate data from the LIBERTY AD CHRONOS dupilumab trial. IPD were selected by applying the inclusion criteria from the LIBERTY AD CHRONOS trial, then weighted to match summary baseline characteristics – age, sex, race, BMI, disease duration, EASI, DLQI, IGA and SCORAD– of patients treated with dupilumab. Tralokinumab efficacy outcomes at week 32 were compared with dupilumab data at week 32 (EASI and IGA only) and week 52. Baseline characteristics of the matched tralokinumab arm were well balanced with the dupilumab arm. Tralokinumab and dupilumab showed comparable efficacy across all endpoints. The matched proportions of patients achieving IGA 0/1 were larger for tralokinumab patients at week 32 (49.9%) compared with dupilumab patients at week 32 (39.3%) and week 52 (36.0%). The matched differences in IGA 0/1 at weeks 32 and 52 were 10.6% (95% CI: −2.9%, 24.0%; $p=0.12$) and 13.9% (95% CI: 0.6%, 27.3%; $p=0.04$), respectively. For EASI 75, the proportion of responders was equivalent for tralokinumab and dupilumab (both 71.9%) at week 32 (difference 0%; 95% CI: −12.2%, 12.3%; $p=1.00$). The proportion of EASI 75 responders was numerically lower for dupilumab (65.2%) at week 52 compared with tralokinumab at week 32, giving a difference of 6.8% (95% CI: −5.9%, 19.5%; $p=0.3$). These results confirm broadly similar efficacy for tralokinumab and dupilumab beyond week 16.

P9.8

THE ATOPIC DERMATITIS CONTROL TOOL TO MEASURE LONG-TERM CONTROL OF ATOPIC DERMATITIS IN KOREAN PATIENTS UNDERGOING DUPILUMAB TREATMENT: A RETROSPECTIVE SINGLE-CENTRE ANALYSIS OVER 3 YEARS

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Atopic dermatitis (AD) is a chronic disease that not only affects skin lesions but also imposes a burden on patients, impacting their mental health and overall quality of life. The Atopic Dermatitis Control Tool (ADCT) is recommended as an assessment tool for evaluating the long-term management of AD. However, there have been limited studies reporting on the comparative usefulness of the ADCT in real-world clinical practice when compared to other existing AD evaluation tools. In this study, we investigated the long-term changes in the ADCT and examined its correlations with other evaluation tools in patients with AD who were treated with dupilumab. A retrospective study was conducted on 89 outpatients with AD who were treated with dupilumab at Chosun University Hospital from April 2020 to March 2023. Patients underwent assessments using the ADCT and other evaluation tools before initiating treatment and at 1, 2, and 3 years after treatment initiation. Data were collected from 89 patients, with a mean age of 28.7 years (ranging from 12 to 65 years), and 68 (76.4%) of the patients were men. Forty-five patients were followed up for 1 year, 27 patients for 2 years, and 17 patients for 3 years. The mean total ADCT score significantly decreased at year 1 compared to baseline (37.4% reduction, $p<0.001$) and further decreased at year 2 and 3 (71.9% and 78.0% reduction, respectively, $p<0.001$). This study also demonstrated significant correlations between the ADCT score and the Eczema Area and Severity Index (EASI) (Pearson r: 0.501, $p<0.001$), the Dermatology Life Quality Index (DLQI) (Pearson r: 0.625, $p<0.001$), and the Patient-Oriented Eczema Measure (POEM) (Pearson r: 0.782, $p<0.001$), respectively. Our findings showed that the ADCT can be a reliable tool for assessing AD long-term control in real-world settings.

P9.9

ALLERGIC CONTACT DERMATITIS IN PATIENTS WITH ATOPIC DERMATITIS

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Both atopic dermatitis (AD) and allergic contact dermatitis (ACD) may affect quality of life, social relations, choice of occupation, hobbies and sports activities. Contact allergy is described as a significant problem in patients with AD and should be considered in refractory cases. It occurs more often in people with AD with eczema of the hands, feet and face, therefore, especially in this group of patients, it is suggested to perform patch tests. Dermatitis in children was so far considered to have an endogenous etiology and the following were distinguished: atopic dermatitis and seborrheic dermatitis. ACD in children was considered rare. This theory was supported by a less developed immune system and less frequent exposure to allergens/contact haptens. In a 2017 review, the incidence of contact allergy to one reagent in patch testing in AD patients was 41.7% compared to 46.6% without AD. In Simonsen's publication in JADV from 2018, as many as 30% of children with AD had positive results of patch tests with one hapten. In a Danish study from 2016, at least one positive patch test was found in 46% of children with AD and in 47% without AD. Allergies to fragrances, lanolin, metals, dyes, adhesives and potassium dichromate were more common in patients with AD, and allergic reactions to budesonide and thiuram were less frequent. Based on the literature published so far, the incidence of contact allergy is similar in people with and without AD. However AD seems to be a risk factor of sensitization to allergens and/or haptens, especially for cosmetic ingredients, metals, textiles dyes, medical equipment and airborne allergens. When qualifying patients for patch tests, it is worth emphasizing that they can cause allergy, irritation, exacerbation of dermatitis at the site of patch testing and in places of previous skin lesions, as well as hyper- and hypopigmentation.

P9.10
THE MENTAL HEALTH BURDEN OF ATOPIC DERMATITIS FROM AN INTERNATIONAL SURVEY OF PATIENTS

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Atopic dermatitis (AD) is an inflammatory skin condition affecting approximately 223 million individuals worldwide. Research suggests that AD negatively affects quality of life and health outcomes, resulting in significant unmet mental health needs, particularly depression and anxiety. We aimed to assess the magnitude of AD-related mental health burdens, such as anxiety and depression, on a large sample of AD patients across 8 countries and the contribution of these burdens to detriments in health-related quality of life. An anonymous online survey was administered for adults and caregivers of children with AD in 8 countries: Australia, Canada, Denmark, France, Germany, Italy, United Kingdom, and the United States. The EQ-5D-5L questionnaire and the Atopic Dermatitis Control Tool (ADCT) were used to assess anxiety, depression, and AD symptom control. Anxiety and depression are key contributors to health-related quality of life detriments for adult patients with AD in the 8 countries surveyed and have a relative weight of 23% in predicting overall EQ-5D utility scores. By country, anxiety and depression had the highest relative weight in predicting EQ-5D utility in Australia (31%) and lowest in Germany (12%). Severity is significantly positively correlated with anxiety and depression level (Spearman's rho = 0.35, $p < 001$) and symptom control is significantly negatively correlated with anxiety and depression level ($r = -0.48$, $p < .001$). Mental health is a significant component of health-related quality of life impact for adult AD patients across all countries surveyed. Health care professionals who serve AD patients – particularly patients with severe AD – may improve overall outcomes and reduce mental health impacts by incorporating mental health screenings into clinical practice and providing services to those in need of support.

P9.11
DEMOGRAPHIC ENCODED PHENOTYPES IN ATOPIC DERMATITIS AND RELATED QOL-CROSS SECTIONAL RESULTS FROM THE PRORAD-STUDY IN 1011 PATIENTS

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Atopic dermatitis (AD) imposes a significant burden on patients' quality of life (QoL). Even though AD has a high global prevalence and new treatment options are emerging, little is known about whether and how patient characteristics, such as sex, age, and education, are associated with AD severity and QoL. The aim of our study was to investigate the correlation of different patient-related factors with objectively assessed AD severity and patient-reported outcomes. The Prospective longitudinal study for the investigation of the Remission phase in patients with Atopic Dermatitis and other allergy-associated diseases, like asthma, food allergies and allergic rhinitis (ProRaD) follows AD patients from Germany and Switzerland. We included 1011 AD patients enrolled from February 2016 to November 2021. The objectively assessed AD severity based on SCORAD, EASI and BSA was significantly higher in male than in female patients. In contrast, QoL relative to AD severity was significantly lower in female than in male patients, especially in elderly women. Itch seemed particularly burdensome for elderly patients, both women and men. Lower educational levels were associated with more severe AD as well as itch and more severely affected sleep and QoL. Interestingly, within the groups of mildly and moderately affected AD patients, QoL and work productivity were lower for patients with visible lesions. Our analysis of the ProRaD study contributes to a better understanding of how patient-related factors can influence disease severity and QoL in AD patients. The relation between objectively assessed AD severity and subjectively experienced disease burden depends on an interplay of multiple factors that can be unique in every patient. This highlights the importance of individualized treatment strategies to get the most out of the expanding therapeutic landscape.

P9.12
ANTIBACTERIAL PHOTODYNAMIC INACTIVATION AS A TOOL TO COMBAT STAPHYLOCOCCUS AUREUS RELEASED FROM INFECTED HUMAN KERATINOCYTES – A SIMPLIFIED IN VITRO ATOPIC DERMATITIS MODEL

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Staphylococcus aureus is responsible for about 80% of all skin infections. Filaggrin (FLG) gene mutation correlates with

increased colonization of *S. aureus* in patients with atopic dermatitis. *S. aureus* invades keratinocytes, which is a defense mechanism against antibiotic pressure. If this exposure is reduced, bacteria begin to replicate, leading to recurrent infections. Antimicrobial photodynamic inactivation (aPDI) may be a potential tool to combat recurrent infections. aPDI is based on the excitation of photosensitizer (PS) at the proper wavelength, generating reactive oxygen species that cause the death of microbes. The aim was to optimize the model of recurrent infection of HaCaT by *S. aureus* and to evaluate the effectiveness of aPDI on released bacteria. *S. aureus* USA300 was used and immortalized human keratinocytes (HaCaT) were selected. The model was optimized for duration, antibiotic exposure and FLG status. aPDI was applied with gallium metalloporphyrin (GaCHP) as PS, excited with visible light (λmax = 522 nm). Intracellular *S. aureus*, under 24-hour pressure of antibiotics, was released from the host cells, then released bacteria were treated with aPDI, and bacterial survival (CFU/ml) was determined. *S. aureus* persisted inside for up to 5 days. The bacteria reduced host survival by 50%. However, despite the presence of intracellular bacteria, HaCaT cells were still able to plateau under the influence of antibiotics. Removal of antibiotics resulted in lysis of the host cells and recurrence of bacterial infection. aPDI (10 μM GaCHP, 1.5 J/cm2) effectively reduces the survival of bacteria released from the co-culture by 3.4 log10 CFU/ml. A model of recurrent HaCaT infections by *S. aureus* has been characterized. Removal of antibiotic pressure resulted in release of *S. aureus* from co-cultures, but aPDI successfully eliminated these infections.

P9.13
IMPROVEMENT OF ATOPIC DERMATITIS AMONG POLISH AD PATIENTS TREATED WITH MONO- AND COMPLEMENTARY EMOLLIENT PLUS THERAPY

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AD occurs in 20% of children and 5% of adults It significantly decreases quality of life The basic treatment are the emollients Efficacy of treatment with Vitresocilla filiformis emollient plus in AD patients in mono and adjuvant therapy 660 AD patients were recruited to the study; 329 AD children and 331 AD adults from Poland. A survey questionnaire was used to assessed the patients at the baseline visit and then after 4 weeks of emollient plus therapy used in monotherapy and as complementary therapy with topical anti/ inflammatory drugs (topical corticosteroids-TCS, topical calcineurin inhibitors- TCI) at a follow-up visit. The severity of the disease, pruritus, skin dryness, sleep disorders as well as the impact on daily life were assessed In order to determine the differences between the groups, a non-parametric test for two dependent samples was used - the Wilcoxon labeled rank test A statistically significant improvement in the severity of the disease, skin dryness and inflammation was noted after 4 weeks of using emollient plus in monotherapy and complementary therapy ($p < 0.005$) In the group of AD patients treated with emollient plus with TCS and TCI, 82% of respondents reported a reduction in the severity of AD, 86% of the study group improved skin dryness, 69% reduced inflammation. These patients reported improvements in itching (86%), sleep quality (70%) and daily living comfort (82%) In the group of AD patients treated with emollient plus alone, 81% improved the severity of the disease, 86% experienced reduction of skin dryness and 67% reduced inflammation. Among this group, 86% suffered from itching less, 65% slept better, and 81% improved the comfort of everyday life Adverse events were reported by less than 3% of the patients studied Emollient plus are effective and well tolerated in the treatment of AD in monotherapy and complementary therapy.

P9.14
12 MONTHS PREVALENCE OF ATOPIC DERMATITIS IN RESOURCE RICH COUNTRIES: A SYSTEMATIC REVIEW AND META ANALYSIS

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There is a lack of robust prevalence estimates of atopic dermatitis (AD) globally and trends over time due to wide variation of populations and age groups studied, different study methodologies and case definitions used. We sought to characterize 12-month AD prevalence across the life span and change over time in resource-rich countries focusing on population-based studies and using a standardized case definition. In addition, we explored variations in prevalence based on age, gender, period, study design, region, and AD case definition. This systematic review was conducted according to PRISMA guidelines. Medline (Ovid), Embase, WOS core collection, Cinahl, and Popline were searched for studies published since inception through August 15, 2016. Studies were synthesized using random effects meta-analysis. Sources of heterogeneity were investigated using subgroup analyses and meta-regression. From 12,530 records identified, 45 studies (conducted between 1992–2013) met the inclusion criteria. Meta-analysis identified overall 12-month period pooled prevalence of AD across all included studies of 9.2% (95% CI 8.4–10.1%). The prevalence was significantly higher among 0–5-year-old children (16.2%; 95%CI 14.2–18.7%) than in older age groups. Although there was a transient decrease of reported AD prevalence in the period 2001–2010, no convincing time trend was disclosed across the three decades. Nevertheless, we saw a drop in the prevalence among 13–18-year-olds as well as some increase among people aged 19 years and older over time. Studies using a random sampling strategy yielded lower prevalence estimates than studies relying on other sampling methods. Our results confirm that, in affluent countries nearly one-tenth of the general population suffers from AD annually and suggest that the prevalence has not increased over time.

P10. Systemic strategies for children & adults

P10.1
SUBLINGUAL IMMUNOTHERAPY WITH DERMATOPHAGOIDES PTERONYSSINUS (HOUSE DUST MITE) EXTRACT FOR ATOPIC DERMATITIS: A PLACEBO-CONTROLLED TRIAL

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Background: The most prevalent allergen causing asthma, urticaria, and allergic rhinitis is the house dust mite (HDM). Patients with atopic dermatitis (AD) are also frequently sensitized to HDM. To manage HDM-induced allergies, treatment usually involves avoidance of the allergen and symptom-based phar-

macological intervention until the symptoms subside. Allergen immunotherapy is an effective, precision medicine for AD. This study aims to evaluate the efficacy of sublingual immunotherapy (SLIT) using Dermatophagoides pteronyssinus extract in patients with atopic dermatitis sensitized to HDM. Hundred patients with AD having SCORing Atopic Dermatitis (SCORAD) score ≥15 and positive skin test result and/or IgE to D pteronyssinus were enrolled in a randomized, double-blind, placebo-controlled trial. Patients were stratified by age (<12 and ≥12 years) and received either HDM SLIT or placebo for 18 months. The primary outcome was a ≥15-point decrease in SCORAD score, and secondary outcomes were decreases in other scores. Background therapy was maintained. Seventy-three patients completed the study (35 HDM SLIT, 31 placebo). After 18 months, 71.8% and 59.2% of patients in the HDM SLIT group and placebo group, respectively, showed a ≥15-point decrease in SCORAD score (relative risk, 1.41; 95% CI, 0.91–1.88). Significant improvements were observed in SCORAD, objective SCORAD, Eczema Area and Severity Index, visual analog scale for symptoms, and pruritus scale scores, as well as the Investigator's Global Assessment 0/1 and Dermatology Life Quality Index in the HDM SLIT group compared to placebo. This trial provides evidence that HDM SLIT may be an effective add-on treatment for atopic dermatitis in patients sensitized to HDM.

P10.2
THE USE OF METHOTREXATE IN ATOPIC DERMATITIS IN PEDIATRIC POPULATION-PRELIMINARY DATA FROM SYSTEMIC TREATMENT EFFICACY IN ATOPIC DERMATITIS IN YOUNG CHILDREN AND ADOLESCENTS (STEADY)

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Atopic dermatitis (AD) is a chronic and recurrent skin disorder with no curative treatment currently available. Although in the majority of cases AD begins in early childhood, no treatment is approved for patients younger than 6 y.o. not responding to topical treatment. There is therefore a clear and compelling unmet need to assess the efficacy and safety of systemic treatment of moderate-to-severe AD in the pediatric age groups. The study is conducted in the Department of Dermatology of the Medical University in Lodz within the STEADY project. The aim of this trial is to assess efficacy, safety and tolerability of methotrexate (MTX) in children and adolescents (2–18 y.o.) with moderate-to-severe AD. Children above 2 years old with moderate-to-severe AD measured by EASI>16, BSA>10 and SCORAD>25 who are eligible for systemic therapy were participating in this study. Methotrexate is given in a dose of 0.3mg/kg, once a week. The control point was after 16 weeks of treatment. 43 patients (mean age 8 y.o.; 22 girls, 21 boys) have been recruited, of whom 31 have completed the 16th week of observation. 4 patients were excluded from the study. On the basis of the collected data, we have noted an improvement in the clinical condition assessed with the SCORAD scale by an average of 52%. 86,7% of patients achieved EASI50, 66,7% EASI 75 and 33,3% EASI 90. The area of affected skin (BSA) decreased by an average of 63% in randomized population. The most common adverse events reported on follow-up visits were infections of upper respiratory tract (39%) and nausea (20%). The preliminary results of the present clinical trial show good clinical effectiveness and safety profile of MTX and we do hope that in future they will enable to create treatment algorithms for children with moderate-to-severe AD. The study is sponsored by the Medical Research Agency (ABM) grant No 519/5-064-01/519-01-002-08.

P10.3
EFFECTIVENESS OF ABROCITINIB TREATMENT IN PATIENTS WITH DIFFICULT-TO-TREAT ATOPIC DERMATITIS: DAILY PRACTICE DATA

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Abrocitinib is a JAK-1 selective inhibitor registered for the treatment of moderate-to-severe atopic dermatitis (AD). Although efficacy and safety have been shown in phase 3 clinical trials, data on real-life patients with a treatment history of targeted-therapies are scarce. To evaluate the effectiveness and safety of abrocitinib treatment in patients with difficult-to-treat AD in daily practice. In this prospective observational single-center study, all AD patients who started abrocitinib treatment in the context of standard care between April 2021 until December 2022 were included. Effectiveness was assessed using clinician- and patient-reported outcome measures. Adverse events were evaluated. Forty-one patients were included. Abrocitinib treatment resulted in a significant decrease of disease severity during a median follow-up period of 25 weeks (IQR 16–34). Median EASI score at baseline decreased from 14.7 (IQR 10.4–25.4) to 4.0 (IQR 1.6–11.4) at last review ($p < 0.001$). Median NRS itch decreased from 7.0 (IQR 5–8) to 3.0 (IQR 1–2) at last review ($p < 0.001$). A total of 30 patients (73.2%) had failed on previous targeted-therapies due to ineffectiveness, including JAK-inhibitors ($n = 14$, 34%) and biologics ($n = 16$, 39%). The most frequently reported AEs included gastrointestinal symptoms (27.6%), acne (20.7%) and respiratory-tract infections (17.2%). Sixteen (39%) patients discontinued abrocitinib treatment due to ineffectiveness, AEs or both (41.2%, 41.2% and 11.8%, respectively) Abrocitinib can be an effective treatment for patients with moderate to severe AD in daily practice, including non-responders on other targeted therapies.

P10.4
POLYARTHRALGIA AND SERUM SICKNESS FOLLOWING DUPILUMAB TREATMENT IN A PATIENT WITH ATOPIC DERMATITIS: A CASE REPORT

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Atopic dermatitis (AD) is a skin condition caused by a combination of genetic predisposition and environmental factors that interact with a weakened skin barrier and an immune system dysfunction associated with type 2 inflammation. Dupilumab is a monoclonal antibody that specifically binds to the IL-4 receptor subunit α (IL-4Rα), inhibiting IL-4 and IL-13 signaling and blocking the downstream Th2 pathway, which is responsible for the production of cytokines associated with type 2 inflammation. Since 2019, few cases of dupilumab-associated arthropathy have been reported but the pathophysiology and clinical course are not well established. We herein report a rare case of polyarthralgia and serum sickness in a patient with AD one month after starting dupilumab. n/a (case report) n/a (case report) n/a (case report) A 42-year old female with a history of atopic dermatitis presented with generalized arthralgia, fever, chills, and headache

after receiving a second injection of dupilumab. She reported experiencing generalized joint pain in her shoulders, wrists, fingers, knees, and soles. Laboratory tests revealed an elevation in erythrocyte sedimentation rate (ESR) and eosinophil count, while other rheumatologic tests were all negative. The patient had no history of rheumatic disease or autoimmune disorders. After receiving ibuprofen treatment for two weeks, the joint pain was completely resolved without discontinuing dupilumab.

P10.5
LONG-TERM EFFICACY AND SAFETY OF DUPILUMAB IN REAL CLINICAL PRACTICE: SINGLE CENTER STUDY

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Dupilumab is an effective biological drug for patients with moderate-to-severe atopic dermatitis (AD). Since its approval, the use of dupilumab has been growing exponentially worldwide. However, there is still a lack of long-term real-world studies examining the effectiveness and safety of the drug. This single-center retrospective study aimed to evaluate long-term efficacy and safety of dupilumab in patients with moderate-to-severe AD. Clinical and demographic data of adult patients with AD treated with dupilumab were collected from April 2019 to December 2022. Disease severity was evaluated through the Eczema Area and Severity Index (EASI) at baseline and at weeks 16, 40 and 64. A total of 81 patients were included in the study. Most of the patients showed head and neck involvement at baseline(98.8%), with 42 patients (51.9%) presenting head and neck involvement covering more than 25% of body region area in EASI score. Over the course of 64 weeks, a significant improvement in the therapeutic efficacy of the treatment was observed by a marked decrease in the mean EASI score from 28.5 to 3.1. Conjunctivitis was investigated to be the most frequent adverse event (11.1%), followed by herpes simplex infection (3.7%), head and neck dermatitis (2.5%), and injection site reaction (2.5%). One patient discontinued the injection due to severe injection site reaction and dizziness, and continued treatment with cyclosporine. In the correlation analysis, high incidence of head and neck involvement at baseline showed a statistically significant association with adverse events ($p = 0.047$). The present study confirms that the real-world effectiveness of dupilumab is comparable to that of the previous clinical trials, providing further support for the use of this drug for treating moderate-to-severe AD.

P10.6
LONG-TERM SAFETY DATA FOR DUPILUMAB IN A 5-YEAR OPEN-LABEL EXTENSION STUDY OF ADULTS WITH MODERATE-TO-SEVERE ATOPIC DERMATITIS

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Atopic dermatitis (AD) is a chronic inflammatory skin disease requiring long-term management. To assess the long-term safety of dupilumab in adult patients with AD up to 5 years, end of open-label extension. The LIBERTY AD OLE study (NCT01949311) enrolled adults with moderate-to-severe AD up to 5 years who had participated in any dupilumab parent study. During the OLE, patients were treated with 300 mg dupilumab weekly (qw). 226 patients transitioned to 300 mg every 2 weeks to align with approved dosage. Concomitant topical treatments were permitted. Data shown are for the overall study population (N = 2,677). 2,207/362/334 patients completed up to 52/172/260 weeks of treatment. Just over half of withdrawals (51.3%) were due to dupilumab approval/commercialization. The exposure-adjusted incidence rate of patients with ≥ 1 treatment-emergent adverse event (TEAE) was lower in this 5-year OLE vs the 300 mg qw + topical corticosteroid arm of the 52-week CHRONOS trial (NCT02260986; 166.0 vs 322.4 number of patients/100 patient-years). Over this 5-year OLE, 10.6% of patients had serious TEAEs; 10.0%, severe TEAEs; 1.2%, serious TEAEs related to study drug; and 3.8%, TEAEs resulting in permanent drug discontinuation. The most common TEAEs were nasopharyngitis (28.9%) and conjunctivitis (20.0%, including allergic/bacterial/viral conjunctivitis, and atopic keratoconjunctivitis). For 95.0% of patients with conjunctivitis TEAEs, event severity was assessed as mild/moderate; 87.7% of conjunctivitis events were recovered/resolved, and 0.5% of patients overall discontinued treatment due to conjunctivitis TEAEs. The safety profile observed in this OLE trial up to 5 years is acceptable and consistent with the known safety profile of dupilumab observed in placebo-controlled studies.

P10.7
EVALUATION OF THE EFFECTIVENESS AND SAFETY OF THE TREATMENT WITH DUPILUMAB IN ADULT PATIENTS WITH SEVERE ATOPIC DERMATITIS IN THE B.124 PROGRAM – THE FIRST REAL WORLD EVIDENCE FROM ONE POLISH CENTRE

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Dupilumab is a fully human monoclonal antibody against the interleukin 4 (IL-4) alpha receptor, which inhibits IL-4/IL-13 signaling, registered for treatment of moderete to severe atopic dermatitis (AD). To assess the effectiveness and safety of the treatment with dupilumab in patients with AD enrolled in the B.124 program at Dermoklinika Medical Center in Lodz. There were 44 patients (>=18 years of age) enrolled in the study. All patients met the criteria for disease severity (EASI ≥ 20 and BSA ≥ 10%) and prior cyclosporine (CsA) treatment. Treatment efficacy was assessed by EASI, BSA, SCORAD, VAS pruritus, and DLQI at weeks 0, 16, 28, 40, and 52. The safety of the treatment was assessed by analyzing the adverse events. There were 44 patients enrolled in the study: 24 women (55%) and 20 men (45%), the average age: 31 +/- 12.41. The severity of skin lesions on the screening visit was: SCORAD 68 +/- 12.92; EASI 31 +/- 12.92; 44 +/- 21.39; DLQI 17 +/- 6.02 and VAS pruritus 6.9 +/- 1.96. 44 patients had a follow-up visit at week 16; 31 – 28; 18 – 40 and 5 – 52. Treatment tolerance was satisfactory. As for adverse events, 15 patients (34%) reported bilateral conjunctivitis – 8 patients – severe conjunctivitis and required the drug switch to JAK inhibitor. 12 patients (27%) developed paroxysmal erythema. 9 patients (20%) had had the drug switched to JAK inhibitor – due to: bilateral conjunctivitis (7 patients; 15.9%); failure to improve EASI and BSA >=50% (2 patients; 0,4%); conjunctivitis and

unsatisfactory improvement of skin lesions (2 patients; 0,4%). Based on our study dupilumab is an effective and safe method for the treatment of severe AD in adult patients. In our group, as well as in literature, the most common adverse event was bilateral conjunctivitis. During the treatment with dupilumab, the cooperation of the dermatologist and the ophthalmologist is highly recommended.

P10.8
EFFICACY AND SAFETY OF DUPILUMAB TREATMENT UP TO 1 YEAR IN INFANTS AND PRESCHOOL CHILDREN WITH MODERATE-TO-SEVERE ATOPIC DERMATITIS

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Continuous use of systemic corticosteroids is not recommended by treatment guidelines and systemic immunosuppressants, while used in clinical practice, are not supported by data from rigorous clinical trials in pediatric patients with atopic dermatitis (AD). Dupilumab has been approved recently for patients aged 6 months to 5 years with inadequately controlled moderate-to-severe AD in the US and severe AD in the EU. To report dupilumab efficacy and safety in children aged from 6 months to 5 years with moderate-to-severe AD treated up to 1 year. Children aged from 6 months to 5 years with moderate-to-severe AD who had participated in the 16-week, double-blind, phase 3 LIBERTY AD PRESCHOOL trial (NCT03346434, part B; parent study) were enrolled into an open-label extension (OLE) study (NCT02612454). Patients received subcutaneous dupilumab every 4 weeks: 200 mg for children weighing 5 to < 15 kg (n = 39); 300 mg for 15 to < 30 kg (n = 103). Topical AD treatments were allowed. Relative to parent study baseline, mean (SE) percentage changes in EASI score were −52.7 (5.5) and −56.6 (3.4) at OLE baseline, −81.0 (3.3) and −82.6 (1.8) at Week 16, and −87.6 (3.7) and −86.2 (2.6) at Week 52 in the 200 mg and 300 mg dupilumab groups, respectively. Mean (SE) percent changes from baseline of parent study in SCORAD were −42.3 (4.6) and −39.0 (2.9) at OLE baseline; −66.8 (3.9) and −65.4 (2.0) at Week 16 and −74.0 (4.8) and −68.7 (3.4) at Week 52 in the 200 mg and 300 mg dupilumab groups, respectively. Overall safety of dupilumab treatment for up to 1 year was consistent with the known dupilumab safety profile. Dupilumab treatment for 1 year provides sustained improvement in AD signs and symptoms with an acceptable safety profile in patients aged from 6 months to 5 years with moderate-to-severe AD.

P10.9
EVOLUTION OF EASI RESPONSE WITH LEBRIKIZUMAB IN PATIENTS WITH MODERATE-TO-SEVERE ATOPIC DERMATITIS: POOLED RESULTS FROM TWO PHASE 3 TRIALS (ADVOCATE1 AND ADVOCATE2) AT WEEK 16

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Lebrikizumab (LEB) is a high-affinity monoclonal antibody targeting interleukin-13 for the treatment of moderate-to-severe atopic dermatitis (AD). Phase III ADvocate1 (NCT04146363) and ADvocate2 (NCT04178967) trials evaluated the efficacy and safety of LEB monotherapy in moderate-to-severe AD. To evaluate the evolution of Eczema Area and Severity Index (EASI) responses up to week 16 using pooled data from ADvocate1 and ADvocate2. Eligible moderate-to-severe AD patients (adults and adolescents [12-17 years, weighing ≥ 40 kg]) were randomized 2:1 to LEB 250 mg or placebo every 2 weeks for 16 weeks (induction period). EASI percentage improvement categories from baseline to week 16 are: EASI<50, EASI ≥50 to <75, EASI ≥75 to <90 and EASI ≥90. Analyses were performed in the modified Intention-To-Treat population (mITT). Patients who received rescue medication or discontinued treatment due to lack of efficacy were considered as non-responders. Missing data were handled through Markov chain Monte Carlo multiple imputation (MCMC-MI). Over 16 weeks (the induction phase), patients treated with LEB showed a positive EASI response evolution (29.2% EASI<50, 15.3% EASI ≥50 to <75, 20.9% EASI ≥75 to <90 and 34.5% EASI ≥90) compared to those in the PBO arm (67.0% EASI<50, 15.8% EASI ≥50 to <75, 8.0% EASI ≥75 to <90 and 9.2% EASI ≥90). Data from the pooled analysis of two Phase 3 trials showed that 70.7% of patients treated with LEB 250 mg every 2 weeks in monotherapy for the first 16 weeks achieved EASI≥50 and more than one third of patients achieved EASI≥90.

P10.10
DUPILUMAB TREATMENT IN PATIENTS WITH ATOPIC HAND AND FOOT DERMATITIS: RESULTS FROM A PHASE 3, RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED TRIAL

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Atopic dermatitis (AD) of the hands and/or feet is often chronic, difficult to treat, and substantially impacts patient quality of life.

To report the effect of dupilumab treatment on signs, symptoms, and quality of life in patients with atopic hand and foot dermatitis using dedicated clinical and patient reported instruments. The phase 3, randomized, double-blind LIBERTY-AD-HAFT (NCT04417894) trial enrolled patients ≥12 years with moderate-to-severe (Investigator's Global Assessment [IGA] 3/4) atopic hand and foot dermatitis. Patients were randomized to dupilumab monotherapy 300 mg q2w in adults; 200/300 mg every 2 weeks in adolescents, or placebo for 16 weeks. The primary endpoint was hand and foot IGA 0/1 score at Week 16. Safety/tolerability was assessed. The 133 patients enrolled were randomized to dupilumab ($n=67$) or placebo ($n=66$). Significantly more patients in the dupilumab vs placebo group achieved hand and foot IGA 0/1 (40.3% vs 16.7%; $p=0.003$; primary endpoint) and ≥4-point improvement in the hand and foot Peak Pruritus Numerical Rating Scale (NRS; 52.2% vs 13.6%; $p<0.0001$; a key secondary endpoint). At Week 16, treatment with dupilumab also significantly improved NRS scores for pain (LS mean [SE] –4.7 [0.4] vs –1.9 [0.4]; $p<0.0001$) and sleep quality (LS mean [SE] 0.9 [0.3] vs 0 [0.3]; $p=0.0115$). Treatment-emergent adverse events (TEAEs) were reported in 44 (65.7%) patients in the dupilumab group and 49 (74.2%) patients in the placebo group. The most common TEAEs (≥10%) were nasopharyngitis (16% vs 11%) and dermatitis atopic (5% vs 18%). Dupilumab significantly improved signs and symptoms in patients with moderate-to-severe atopic hand and foot dermatitis and had an acceptable safety profile.

P10.11
LONG-TERM DUPILUMAB TREATMENT IS NOT ASSOCIATED WITH AN INCREASED OVERALL RISK OF INFECTIONS IN PATIENTS AGED 6 MONTHS TO 5 YEARS WITH MODERATE-TO-SEVERE ATOPIC DERMATITIS IN AN OPEN-LABEL EXTENSION STUDY

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Patients with atopic dermatitis (AD) are at increased risk of systemic and cutaneous infections. To investigate the impact of dupilumab treatment on infections in children aged 6 months to 5 years enrolled in the LIBERTY AD PED open-label extension (OLE; NCT02612454) and LIBERTY AD PRESCHOOL trial (part B; NCT03346434). The ongoing phase 3 OLE enrolled patients aged 6 months to 17 years with moderate-to-severe AD who received weight-based dupilumab every 4 weeks (200 mg: 5 to < 15 kg; 300 mg: 15 to < 30 kg) or every 2 weeks (200 mg: 30 to < 60 kg). This interim analysis (cutoff date March 10, 2022) includes exposure-adjusted incidence rates (EAIR; patients with ≥ 1 event / 100 patient-years [nP/100PY]) of cutaneous and non-cutaneous infection adverse events for 180 patients aged 6 months to 5 years enrolled in the OLE. Rates were calculated for MedDRA System Organ Class Infections and infestations (SOC I & I), non-herpetic skin infections adjudicated from the SOC I & I, and High Level Term herpes viral infections. Infection data from dupilumab- and placebo-treated children aged 6 months to 5 years in the 16-week PRESCHOOL trial are included for comparison. In the 180 patients, median treatment exposure was 52.0 weeks. EAIRs were lower in OLE vs 16-week trial dupilumab + topical corticosteroids (TCS) and placebo + TCS patients for treatment-emergent infections (101.0 vs 185.2 and 245.7 nP/100PY), non-herpetic skin infections (22.7 vs 42.7 and 92.7 nP/100PY), and herpes viral infections (7.3 vs 20.0 and 17.1 nP/100PY). No infections led to treatment discontinuation in the OLE or 16-week trial. The overall safety profile in patients aged 6 months to 5 years was consistent with the known safety profile of dupilumab. Longer dupilumab treatment exposure does not increase risk of infection in children aged 6 months to 5 years with moderate-to-severe AD in this data set.

P10.12
LONG-TERM EFFICACY OF TRALOKINUMAB IN ADOLESCENTS WITH MODERATE-TO-SEVERE ATOPIC DERMATITIS

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Tralokinumab is a monoclonal antibody that specifically neutralizes IL-13. ECZTRA 6 (NCT03526861) was a Phase 3, randomized, placebo-controlled trial of tralokinumab that demonstrated efficacy and safety up to 52 wks in pts aged 12–17 yrs with inadequately controlled moderate-to-severe AD. Pts completing the parent trial ECZTRA 6 at sites participating in the open-label extension trial ECZTEND (NCT03587805) were eligible to enter this trial. To evaluate the efficacy of long-term tralokinumab treatment in a subgroup of adolescents who were enrolled in ECZTEND at least 56 wks prior to the data cutoff (April 30, 2022). Pts were treated with subcutaneous tralokinumab 300mg Q2W, with optional TCS, in ECZTEND. Endpoints at Wk 56 included proportion of pts achieving at least 75% or 90% improvement in Eczema Area and Severity Index (EASI) relative to parent trial baseline (EASI-75 or EASI-90), EASI ≤7, Worst Weekly Pruritus NRS ≤4, and Children's Dermatology Life Quality Index (CDLQI) ≤6. Sensitivity analyses were performed using a modified non-responder imputation (mNRI) with discontinuation due to AEs or lack of efficacy imputed as non-responders and last observation carried forward for other missing data. 127 adolescents treated with tralokinumab for up to 2 yrs, ≤52 wks in parent trial and ≤56 wks in ECZTEND, were included in the efficacy analysis. At Wk 56 in ECZTEND, EASI-75 was observed in 84.4% and EASI-90 in 69.7% (mNRI: 82.8% and 66.4%). Proportions of pts achieving EASI ≤7 (no to mild disease) were 82.6% (mNRI: 81.0%), Itch NRS ≤4 (no to mild itch) 64.2% (mNRI 62.9%), and CDLQI ≤6 (no to small effect) 81.6% (mNRI: 77.6%). The safety profile remained consistent with that of ECZTRA 6. Treatment with tralokinumab for up to 2 yrs provided long-term disease control in adolescents with moderate-to-severe AD.

P10.13
MULTISTRAIN SYNBIOTIC AND VITAMIN D3 SUPPLEMENTS FOR THE TREATMENT OF ATOPIC DERMATITIS IN INFANTS UNDER ONE YEAR OF AGE: A RANDOMIZED, DOUBLE-BLIND CLINICAL TRIAL

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Atopic dermatitis (AD) is a common skin disease that frequently affects infants and is characterized by chronic and recurrent symptoms. This study aimed to evaluate the effect of multistrain synbiotic and vitamin D3 supplements on the severity of AD among infants under 1 year of age. A randomized, double-blind clinical trial was conducted involving 70 infants diagnosed with AD. The subjects were randomly assigned to three groups: the synbiotic group, the vitamin D3 group, and the control group. The synbiotic group was given a daily dose of five drops of synbiotic in addition to routine treatment, while the vitamin D3 group received 1000 IU of vitamin D3 daily along with routine treatment. The severity of AD was evaluated using SCORing Atopic Dermatitis (SCORAD) at baseline and two months' follow-up. The mean age of the subjects was 5.71 ± 3.4 months with 42 males and 28 females. The mean SCORAD scores were significantly reduced in both the synbiotic ($p < .001$) and vitamin D3 ($p = .001$) groups as compared to the control group after two months. The results of this study suggest that multistrain synbiotic and vitamin D3 supplements may be an effective complementary treatment in reducing the severity of AD in infants, when administered in addition to routine treatments.

P10.14
VARIATION IN HEMATOLOGICAL PARAMETERS ASSOCIATED WITH JANUS KINASES 1 AND 2 INHIBITION IN TWO PATIENTS

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Baricitinib, Janus kinase (JAK) 1/2 inhibitor, can significantly improve the signs and symptoms of moderate to severe atopic dermatitis (AD) patients. However, concerns about its hematological safety are still being raised. We aimed to analyze the baricitinib's hematological safety through two patients of baricitinib-induced anemia. We retrospectively reviewed the medical records and photographs at a single tertiary center. One patient is a 46-year-old woman who had a history of AD being diagnosed at a local clinic and was refractory to conventional treatment. The other patient is a 57-year-old man with severe urticarial dermatitis showed ineffectiveness and side effects of conventional treatments. Their hematologic parameters and clinical course were analyzed retrospectively. The 46-year-old woman administered baricitinib for sixteen weeks. Although her skin symptoms were improved, hemoglobin (Hb) level decreased from 11.6 g/dL to 7.8 g/dL. Four weeks after stopping baricitinib and administration of iron and multivitamin supplements, Hb level recovered to 11.2 g/dL. Similarly, the other 57-year-old man's Hb level also decreased from 11.0 g/dL to 7.5 g/dL after 16 weeks of baricitinib taking. He started taking folate and multivitamin supplements for anemia with baricitinib suspension. Two weeks later, Hb level increased to 10.5 g/dL. Baricitinib is known to affect Hb levels and other hematological parameters by inhibiting the action of erythrocyte production, which is promoted by JAK2 signaling. When treating patients with AD using baricitinib, a periodic CBC is required to confirm the occurrence of hematological abnormalities.

P10.15
REAL-WORLD CLINICAL TREATMENT OUTCOMES IN CHILDREN < 12 YEARS OF AGE WITH MODERATE-TO-SEVERE AD: INTERIM RESULTS FROM PEDISTAD REGISTRY

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Introduction: Effective treatments for children with atopic dermatitis (AD) are limited. Immunosuppressants, e.g. methotrexate (MTX) and cyclosporine (CsA), are commonly used off label, and dupilumab improved AD severity in phase 3 studies. Further data on these treatments in real-word settings are needed. Methods: PEDISTAD (NCT03687359) is an ongoing study in patients aged < 12 years with moderate-to-severe AD. Effects of dupilumab, MTX and CsA on Eczema Area and Severity Index (EASI) total score and % affected body surface area (BSA) were assessed. Results: 129 patients received dupilumab (median treatment observation period: 17.0 months; 3-year discontinuation rate: 10.1%), 70 CsA (12.2 months; 40.0%), and 77 MTX (21.3 months; 22.1%). At first treatment, prevalence of atopic comorbidities was high (dupilumab: 79.8%; CsA: 72.9%; MTX: 58.4%), including food allergies (48.8%; 35.7%; 31.2%), allergic rhinitis (44.2%; 40.0%; 33.8%), and asthma (34.9%; 27.1%; 28.6%). Proportion of patients with clear/mild AD (EASI < 7 [range 0–72]) increased for dupilumab (treatment start: 27.0%; last observation: 78.8%), CsA (18.8%; 54.6%), and MTX (13.3%; 58.7%). Mean (± SE) EASI scores improved with dupilumab (treatment start: 18.4 ± 1.3; last observation: 5.0 ± 0.7), CsA (16.9 ± 1.4; 10.0 ± 1.4), and MTX (16.6 ± 1.3; 8.4 ± 1.1). Mean (± SE) BSA affected decreased for dupilumab (37.5 ± 2.2; 15.6 ± 2.3), CsA (36.9 ± 2.8; 24.0 ± 2.8), and MTX (34.3 ± 2.3; 20.3 ± 2.5). Exposure-adjusted AE/serious AE rate per 100 patient-years was 29.2/1.5 for dupilumab; 43.5/0.9 for CsA; and 30.7/0.6 for MTX. Conclusion: Atopic comorbidities were high in this cohort of patients. Dupilumab treatment led to numerically greater improvement in disease severity and was also associated with lower treatment discontinuation and fewer AEs compared with MTX and CsA.

P10.16
REAL-WORLD EFFECTIVENESS OF DUPILUMAB IN ATOPIC DERMATITIS – A TARGETED LITERATURE REVIEW AND META-ANALYSIS

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Dupilumab has shown significant treatment benefits in clinical trials in patients with atopic dermatitis (AD). While real-world studies on dupilumab are being published, there is a lack of summary estimates. This targeted literature review provides a comprehensive synthesis of the effectiveness of dupilumab in patients with moderate-to-severe AD in the real-world setting. PubMed and Embase were searched for observational and real-world studies of dupilumab in patients with AD (aged 6 years and above) published from April 1, 2017 until November 18, 2021. Data were summarised descriptively. Meta-regression analysis was conducted to estimate the real-world effectiveness of dupilumab based on the Eczema Area and Severity Index (EASI) score, controlling for age, gender, region, and disease severity. A total of 151 studies were included ($n=49$, case series/reports; $n=10$, registries; $n=92$, other longitudinal studies), which provided 10,187 patients including 3,621 patients with EASI data for meta-regression analysis. The mean (SD) age of all patients was 40.9 (10.6) years, 86.6% were adults, and 58.5% were males. Dupilumab treatment was associated with a significant reduction from baseline in the EASI score as early as week 4 (48.5% reduction) and beyond 26 weeks (90.1% reduction) in patients with moderate-to-severe AD. Mean EASI score (95%CI) was 29.3 (26.9;31.7) at baseline, 15.1 (12.8;17.5) at week 4 and 2.9 (0.9;4.8) beyond 26 weeks. Proportions of patients achieving 50%, 75%, and 90% reductions in the EASI score were 62.9%, 29.2%, and 11.2%, respectively, within 4 weeks, and 89.8%, 77.8%, and 56.4%, respectively, beyond 26 weeks. Based on these data, dupilumab demonstrated a rapid and sustained improvement in the area affected and clinical signs (measured by EASI total score) in patients with AD in the real world.

P10.17
CLINICAL RESPONSE OF LEBRIKIZUMAB BY DISEASE DURATION: RESULTS FROM TWO PHASE 3 MONOTHERAPY STUDIES

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Lebrikizumab (LEB) has demonstrated efficacy and safety in moderate-to-severe atopic dermatitis (AD) as monotherapy (ADvocate1 [NCT04146363] and ADvocate2 [NCT04178967]) and in combination with topical corticosteroids (ADhere [NCT04250337]) phase 3 trials. To assess the clinical response of LEB as monotherapy over 16 weeks (W) in adults/adolescents with moderate-to-severe AD according to AD duration since onset (ADvocate1 and ADvocate2). Eligible moderate-to-severe AD patients (adults/adolescents [≥12 years, weighting ≥40 kg]) were randomized 2:1 to LEB 250 mg or placebo (PBO) every 2W(Q2W). Clinical response was defined as the proportion of patients achieving a 75% reduction in Eczema Area and Severity Index (EASI75), Investigator's Global Assessment (IGA)0/1 with ≥2-point improvement from baseline and Pruritus Numeric Rating Scale ≥4-point decrease from baseline (NRS≥4). Disease AD duration since AD onset (in years, quartiles [Q]1 <10; Q2 10–20; Q3 20–29, Q4 29–81) was evaluated. Markov-Chain-Montecarlo Multiple Imputation was performed. At W16, the proportion of patients achieving EASI75, IGA0/1 and NRS≥4 was higher in LEB vs PBO independently of AD duration since AD onset (LEB/PBO, EASI75: Q1 51.7%/21.0%, Q2 60.5%/20.9%, Q3 56.7%/16.3%, Q4 52.7%/10.5%; IGA0/1: Q1 35.4%/11.9%, Q2 43.8%/15.9%, Q3 38.8%/10.8%, Q4 34.4%/7.8% and NRS≥4: Q1 44.4%/18.2%, Q2 42.4%/10.3%, Q3 44.2%/12.6%, Q4 40.9%/8.7%). LEB 250mg Q2W as monotherapy demonstrated clinical efficacy in adults and adolescents with moderate-to-severe AD regardless of their disease duration.

P10.18
EFFECT OF UPADACITINIB ON INTENSITY OF SCORAD ITEMS AND IMPACTS TO ITCH AND SLEEP: ANALYSIS FROM THE MEASURE UP 1 AND MEASURE UP 2 STUDIES

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The SCORing Atopic Dermatitis (SCORAD) measure is a validated assessment tool for atopic dermatitis (AD) that evaluates the extent and intensity of 6 clinical signs (erythema; edema/papulation; oozing/crusting; excoriation; lichenification; dryness) as well as itch and sleep. We compared the effects of upadacitinib 15 mg (UPA 15) or 30 mg (UPA 30) vs placebo (PBO) on the resolution of the clinical signs assessed by the SCORAD and evaluated how resolution impacted itch and sleep across 16 weeks. Patients in Measure Up 1 and Measure Up 2 were randomized to UPA 15, UPA 30, or PBO orally once daily, receiving additive-free bland emollient twice daily for at least 7 days before baseline. Clinical sign intensity (none, mild, moderate, or severe), itch, and sleep were assessed by the SCORAD. Rates of clinical sign resolution (intensity rating of "none") were compared by treatment groups using the Mantel-Haenszel test at week 16. No/minimal itch (SCORAD Itch ≤1) and sleeplessness (SCORAD Sleep ≤1) were also evaluated by resolution status. Non-responder imputation was used. The integrated analysis included 1679 patients (PBO, 558; UPA 15, 557; UPA 30, 564). Resolution rates of each clinical

sign were greater for UPA 15/UPA 30 vs PBO ($p < 0.0001$) at 16 weeks. No/minimal itch and sleeplessness rates were greater ($p < 0.0001$) for those with resolved vs unresolved erythema (no/minimal itch: 75.5% vs 31.0% | no/minimal sleeplessness: 86.6% vs 49.8%), edema (68.4% vs 26.7% | 80.9% vs 46.1%), oozing/crusting (56.2% vs 16.1% | 73.5% vs 30.9%), excoriations (66.5% vs 19.5% | 80.2% vs 38.7%), lichenification (67.9% vs 28.7% | 79.4% vs 48.1%), and dryness (68.0% vs 29.6% | 81.9% vs 48.0%). Resolution rates of clinical signs on the SCORAD were greater with UPA treatment, which also corresponded to no/minimal itch and sleeplessness.

P10.19
PEDIATRIC ATOPIC DERMATITIS PATIENTS' EXPERIENCES WITH DUPILUMAB INJECTIONS

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Atopic dermatitis (AD) is the most common chronic inflammatory skin disease affecting approximately 20% of children in The Netherlands. Dupilumab, a biologic designed to be administered monthly or biweekly at home by children or their parents via an auto-injector or prefilled syringe, was recently approved for children with AD aged 6 months and older. The safety and effectiveness of dupilumab is well documented, however little is known about the treatment experiences. Our aim is to gain insights in pediatric experiences with dupilumab injections, and to provide an overview of reasons why patients would discontinue treatment. A qualitative study was conducted among 17 pediatric AD patients aged 7 to 16 who have been under treatment with dupilumab. All patients underwent individual interviews. All interviews were audiotaped and analyzed by two researchers. A topic guide was used to structure the individual interviews, which were transcribed verbatim. Peer review was used during the entire process. The main themes which were reported by the children were 'benefits of using dupilumab', 'drawbacks of using dupilumab' and 'reasons to continue or discontinue treatment with dupilumab'. In most cases the effectiveness of dupilumab outweighs the pain and fear of the subcutaneous injection. However, in some cases it does not and may lead to anxiety and medical trauma in the child. Further analysis of the data will shed light on the relevant emotional and cognitive processes, and may help improve the procedural comfort care surrounding pediatric dupilumab treatment.

P10.20
PRESCRIBING PRACTICES OF CANADIAN CLINICIANS FOR THE TREATMENT OF MODERATE-TO-SEVERE ATOPIC DERMATITIS (AD) IN THE PEDIATRIC POPULATION (<12 YEARS OLD)

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Atopic dermatitis (AD) is a chronic inflammatory skin disease that is estimated to affect greater than 15% of children in Canada. Despite the existence of comprehensive treatment guidelines for pediatric AD, the true prescribing preferences and practices of Canadian clinicians in this population have yet to be reported. To elucidate the real-world prescribing practices of Canadian clinicians for the treatment of moderate-to-severe pediatric (<12 years old) AD. An expert panel of 5 Canadian clinicians with expertise managing pediatric patients with AD developed a 22-question survey to better understand the prescribing practices of dermatologists, pediatric dermatologists, and pediatricians caring for pediatric patients with moderate-to-severe AD. The survey was emailed to clinicians across Canada, and 15/21 respondents completed the anonymous online survey. Biologic agents were the preferred option among systemic therapies used to treat this age group as first-line therapy for AD upon failure of topicals (80% of respondents). Among clinical concerns associated with various agent classes, safety concerns were lowest with biologics (13%), followed by phototherapy (40%), prednisone/prednisolone (80%), Janus kinase (JAK) inhibitors (87%). All respondents indicated that pediatric patients are currently being undertreated. Undertreatment was attributed to family hesitancy regarding topical corticosteroids (93%) and inaccessibility of on-label, effective, and safe therapeutic options (93%). Findings from this Canadian survey describe the disconnect between AD severity and actual treatment, ideal and current prescribing practices, and concerns of the expert provider population regarding safety of available and accessible options.

P10.21
USEFULNESS OF THE GERMAN S2K GUIDELINE'S CHECKLIST CRITERIA FOR SYSTEMIC THERAPY IN PATIENTS WITH ATOPIC DERMATITIS FOR ROUTINE CARE

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Despite the approval of new agents for systemic treatment of atopic dermatitis (AD), half of the eligible patients with AD in Germany have been reported to be dissatisfied with their current treatment. This condition reflects an urgent need for a more differentiated evaluation of the AD patient's criteria for systemic treatment. To provide a practice-oriented tool for the indication of systemic therapy in AD. A checklist for the indication of systemic therapy AD was drafted by dermatological experts in Germany in 2020. This checklist (for adults) combines three domains: A) Relevant objective signs - physician's global assessment ≥3 (0–5), EASI >15, SCORAD >40, objective SCORAD >20, treatment refractory body surface area affected >10%, treatment-refractory eczema in sensitive/visible areas, relapses >10/year under current treatment; B) Relevant subjective burden – DLQI >10, pruritus >6 (0–10), relevant sleep disturbance at night due to eczema/pruritus; C) Lack of treatment response – no satisfactory response to topical or phototherapy, no expectation of success with topical measures alone, patient has already received one indicated systemic therapy without success. For the indication of systemic treatment one criterion of each domain must be fulfilled. This checklist has been implemented into the German S2k guideline for systemic therapy and extended for adolescents and children. Its usefulness for routine care of adults with AD was investigated in a multicenter study (1). The German S2k guideline's checklist represents a disease-specific tool for shared decision making on systemic treatment of AD in routine care. (1) Heratizadeh A et al. Identification of candidates for systemic therapy in adult patients with atopic dermatitis in Germany: a multicenter survey. EADV Congress, Milan, 2022.

P10.22
PARENTAL PREFERENCES REGARDING THE NOVEL SYSTEMIC TREATMENT FOR ATOPIC DERMATITIS IN CHILDREN

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Atopic dermatitis (AD) is a common, chronic, recurrent dermatosis. Presently, an increasing number of novel therapies are being made available to patients. The purpose of this study was to determine which characteristics of biological drugs and inhibitors of Janus kinases (JAKi) are preferred by parents of pediatric patients diagnosed with AD and which are not acceptable to them. In this cross-sectional study, we used Google® Forms to design and generate the anonymous questionnaire that was distributed to AD Facebook support groups. We enrolled 221 AD patients' parents. The majority of parents (73.76%, $n=163$) preferred the once-daily tablet over the once-every-two-week injection (26.24%, $n=58$). Older parents ($p=0.04255$), parents of older children ($p=0.0109$), and parents of children with a higher severity assessed by Patient-Oriented SCORing Atopic Dermatitis (PO-SCORAD) ($p=0.00593$) were more likely to accept the drug in injection form. The majority of parents (81.45%, $n=180$) selected safer medications over more effective ones (18.55%). Parents of children who had received more treatment options in the past ($p=0.00111$) and those less satisfied with the already used treatment ($p=0.02665$) were more likely to prioritize efficacy over safety. Up to 91.14% of respondents (n = 202) preferred drugs administered less frequently but with a prolonged duration of action. Parents who were motivated to continue treatment were more indifferent to whether the medication was administered at home or in a medical facility (p = 0.48596). The findings of our study indicate that parents of pediatric patients diagnosed with AD exhibit a preference for specific attributes concerning novel therapies. Understanding them may be helpful in advancing AD management towards a truly individualized approach.

P10.23
THE EXPERIENCES FROM EVERYDAY LIFE TREATMENT OF AD WITH DUPILUMAB – SHORT TIME OBSERVATION

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Dupilumab is a monoclonal antibody against the interleukin 4 receptor alpha subunit approved in the EU for the treatment of moderate to severe atopic dermatitis. The effectiveness and safety of Dupilumab have been confirmed in numerous clinical trials. Evidence from the real world continues to be collected. Objective: to evaluate the effectiveness and safety of Dupilumab in everyday practice. Adults patients with severe AD from the Department of Dermatology, Venereology and Allergology in Gdańsk were treated with Dupilumab in standard doses. The mean age of the patients was 29.9 years. The most common comorbidities were allergic diseases (70%). Psychiatric disorders coexisted in 20% and cardiovascular disorders in 10% of the study group. The SCORAD score decreased from an average of 53.88 points at the beginning of the observation period to 36.23 points after 2 weeks and to 21.7 points after 18 weeks. After 4 weeks, 50.0% of patients achieved SCORAD 50/EASI 50. EASI 75 was achieved after 16 weeks. The mean NRS pruritus score at baseline was 6.7 points, 4.67 points at week 2, and 2.0 points at week 18. 80% of patients treated with dupilumab reported a reduction in the severity of their pruritus and 90% of them reported an improvement in their sleep disorder after the first injection of the drug. Conjunctivitis was observed in 3 patients. However, this did not result in treatment discontinuation during this early treatment period. The efficacy and safety of treatment with dupilumab in adult patients with AD in a real-world setting was consistent with results observed in previous clinical trials.

P11. Therapeutic Patient Education

P11.1
A NEW PARADIGM FOR CONDUCTING EFFICIENT, ONLINE ECZEMA TRIALS – THE RAPID ECZEMA TRIALS PROJECT

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Clinical trials are the best way of comparing different treatments, but they can be time consuming and expensive, and do not always answer questions that are important to patients. The Rapid Eczema Trials project provides an innovative way of delivering clinical trials quickly, efficiently and to a high standard. To combine the benefits of citizen science with efficient clinical trial designs to deliver multiple trials about eczema management (non-drug trials). Establish Eczema Research Community of people interested in answering questions about the management of eczema through online clinical trials (www.RapidEczemaTrials.org). Working with researchers and clinicians, this community of citizen scientists will prioritize research questions, design trials and promote the project amongst their wider networks to address questions of importance to them. This 5-year project will deliver multiple eczema trials; conducted according to a master protocol, database, and analysis plan to ensure efficiency whilst maintaining quality standards. The Rapid Eczema Trials project started in Sept 2022. In the first 3 months, over 100 people joined the project (68% female, 66% White). Using survey responses from the community ($n=120$), the Prioritization Co-production group ($n=12$ people with eczema) prioritized two questions for further development: 1) How often should people with eczema bathe/shower?; 2) Are non-biological washing powders better than biological washing powders for washing clothes? These two research questions are being developed into online clinical trials. By sharing our protocols, database and analysis plans, we hope to encourage others to design rapid and efficient eczema trials.

P11.2
IMPLEMENTING THE ECZEMA CARE ONLINE BEHAVIOURAL INTERVENTION – KEY FEATURES AND COST-EFFECTIVENESS

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Eczema Care Online is a web-based self-management tool designed to help people with eczema. The website (www.EczemaCareOnline.org.uk) has been shown in two RCTs to improve eczema symptoms and is ready for adoption. We sought to understand the implementation pathway for Eczema

Care Online and to evaluate its impact on costs for healthcare providers. We mapped the key features of Eczema Care Online to the NICE Evidence Standards Framework using mixed methods to define the key features of the website and to evaluate the views of key stakeholders. Health economic data was collected through an in-trial evaluation using medical notes review to collect health resource use data. Cost-utility analysis and cost-effectiveness analyses were conducted. Key features of the website that were valued by stakeholders were that it is: evidence informed, co-produced, comprehensive, independent, accessible, free and proven to improve eczema. The intervention was shown to be low cost and highly cost-effective compared to usual care (being lower cost and more effective in most scenarios). The cost-effectiveness analysis based on a treatment success of at least 2-points improvement on the Patient Oriented Eczema Scale had an adjusted incremental cost saving of –£20.35 (95%CI –£55.41 to £14.70) with an incremental improved success of 10.3% (95%CI 2.3% to 18.1%). Eczema Care Online is clinically and cost-effective and is ready for adoption in a variety of healthcare settings.

P11.3
SOAPS AND CLEANSERS AND THEIR ASSOCIATION WITH ATOPIC DERMATITIS SEVERITY IN ADOLESCENTS AND ADULTS IN SOUTHWEST NIGERIA

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Atopic dermatitis (AD) is a common condition seen in dermatology clinics in Nigeria. The use of alkaline soaps and antiseptic soaps for skin care is prevalent in Nigeria, but their use is known to cause skin irritation and further disruption of the skin pH and microbiome of individuals with AD, potentially exacerbating symptoms. However, there is a lack of documentation on this issue in Nigerians and Africans. This study aimed to investigate the types of soap or cleanser used by patients with AD at the Lagos State University Teaching Hospital (LASUTH) Dermatology clinic and determine if there is an association between the type of soap/cleanser used and AD severity. A retrospective, hospital-based cross-sectional study was conducted on the pre-treatment skin cleansing practices of AD patients seen at the LASUTH Dermatology clinic from 2020 to 2022. Data on age, sex, soap or cleanser used, clinical severity (SCORAD), and patient distress at presentation were collected from clinic registers. The data were de-identified and analyzed using Microsoft Excel and SPSS 24. During the study period, 212 newly diagnosed patients with AD were included. The mean age was 30.4 ± 13.9 years, and 62.7% were female. At least 88% of patients used highly alkaline soaps (pH 9–11), while 61.4% used antiseptic soaps. Patients who used antiseptic soaps had higher levels of patient distress and SCORAD scores ($p < 0.05$). The majority of AD patients in this study reported using highly alkaline soaps, and the use of antiseptic soaps was associated with increased severity of AD. These findings underscore the importance of appropriate skin cleansers in AD treatment. AD patient education in Nigeria and other countries where alkaline and antiseptic soaps are common should discourage their use and promote the use of pH-balanced cleansers.

P11.4
IMPLEMENTATION AND EVALUATION OF A PATIENT ACTION PLAN FOR ADULT PATIENTS WITH ATOPIC DERMATITIS

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Management and treatment of atopic dermatitis (AD) are complex and therefore bear the risk of therapeutic failure. Individualized patient action plans for patients have been shown to improve AD management, eczema monitoring and therapy adherence.Little is known about the use of patient action plans in the adult setting. This project aimed at implementing a patient action plan to improve eczema management and evaluating its effects on disease severity and patient-related outcomes. This quality improvement project had a pre- post-test design and evaluated AD severity and patient-related outcomes after implementing a patient action plan. A convenience sample of 20 adult patients with AD were included. Socio-demographic, diagnostic and clinical variables were collected from the electronic health records. Trained staff assessed AD severity (SCORAD) and person-centered dermatology self-care index (PeDeSi-G) pre as well as one month post intervention. Patients completed dermatology life quality index(DLQI) and patient benefit index (PBI). For comparison of SCORAD, DLQI, PeDeSi-G,paired t-test was applied. PBI was presented using descriptive statistics. Upon intervention, a significant decrease of disease severity ($p < .0001$), in parallel with a significant increase of DLQI ($p < .001$) and PeDeSi-G ($p < .0001$) was observed. A PBI ≥ 1 was reached in 95% of participants (mean 2.73; SD 0.9). Our findings confirm the importance of providing a patient action plan for adult patients with AD. The patient action plan is an additional tool by which disease severity can be decreased and quality of life and self-management are increased.In the future, the long-term clinical effects of providing a patient action plan to patients with AD should be determined

P11.5
THE EXPRESSION OF IL-19 AND IL-37 IN THE SKIN OF ATOPIC DERMATITIS PATIENTS

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Atopic dermatitis (AD) is one of the most common skin conditions. Due to its chronic and recurrent character, it constitutes a global public health risk. The pathogenesis of AD is determined by epidermal barrier impairment and genetic and immunological aberrances. There is growing interest in the role of specific interleukins in the pathogenesis of AD. IL-19 is an emerging cytokine, considered to promote the production of interleukins released by Th2 lymphocytes under the influence of IL-17. On the contrary, IL-37 displays an immunosuppressive activity in AD. The aim of the study is to establish the relative gene expression of IL-19 and IL-37 in lesional and non-lesional AD patient skin in comparison to healthy individuals and search for its correlation with AD onset, symptoms, severity and comorbidities. Patients with AD ($n = 10$) and healthy individuals ($n = 10$) were included in the pilot group. Total RNA was isolated from skin tape strip samples and relative gene expression levels of IL-19 and IL-37 were determined by quantitative real-time PCR. While the expression of IL-19 tends to be up-regulated, the expression of IL-37 tends to be down-regulated in both AD affected and unaffected skin samples when compared to healthy individuals. In addition, the expression of IL-19 in perilesional skin samples was negatively associated with the severity of the disease as assessed by SCORAD ($r = -0{,}745$, $p = 0{,}028$). Both IL-37 and IL-19 may play an important role in the pathogenesis of AD, however further studies are needed to establish their role in AD.

P12. Topical treatment and phototherapy

P12.1
DOES SEROTONIN GIVE HAPPINESS TO THE SKIN? PRELIMINARY STUDY IN ATOPIC DERMATITIS PATIENTS

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Phototherapy with UVR (280/290–400 nm) is widely used in dermatological therapy. However, there are still controversies about its long-term use, especially in terms of skin aging and carcinogenesis. Therefore, it is necessary to search for new, safer methods to avoid these side effects. Blue light therapy (400nm–500nm) is a promising method and according to our knowledge it is starting to be more widely used in treatment of inflammatory chronic diseases such as psoriasis or atopic dermatitis (AD) and in chronic pruritus. The aim of this study was to assess the impact of blue light therapy on AD activity and serum level of selected proteins such as serotonin, quinolinic acid, kynurenic acid,tryptophan, kynurenine in AD patients. Clinical effectiveness was assessed by SCORAD, EASI, DLQI and VAS. Study participants ($n = 20$) were exposed to blue light generated by LED lamps using PHLECS Full body Blue 3 times a week. The total number of exposures included 10 consecutive irradiations, each session lasted 30 minutes (front and back side of the body, each 15 min). In all the subjects blood samples were analyzed before and 24 hours after the final irradiation. After 10 sessions of blue light irradiation there was a statistically significant increase in serotonin levels and a statistically significant improvement in quality of life as examined by the DLQI scale and improvement in EASI; SCORAD, VAS. We did not find any significant changes in other analyzed proteins levels under blue light irradiations ($p < 0.05$ for all comparisons). Based on our preliminary results we may assume that blue light appears to be a promising and safe method to treat atopic dermatitis and has the ability to enhance serotonin serum level which might lead to improvement of patients' mood. However, further studies and observations are needed to determine the long-term effects of blue light.

P12.2
STAPHYLOCOCCUS AUREUS FROM ATOPIC DERMATITIS PATIENTS: SIMILAR OR DIFFERENT?: CHARACTERIZATION OF GENETIC STRUCTURE AND SUSCEPTIBILITY TO KILLING BY LIGHT-ACTIVATED COMPOUND

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The massive colonization of atopic skin by Staphylococcus aureus is a very big problem for patients with atopic dermatitis (AD). To control the colonization of atopic skin by *S. aureus*, antibiotics are used, but it should be remembered that frequent use of such drugs leads to the selection of antibiotic-resistant strains. The aim of the proposed work was examination of *S. aureus* isolated from patients with AD in terms of genetic structure, drug resistance and virulence factors produced. In addition, we tested the susceptibility of the study population to the effects of the photodynamic method in vitro and in vivo. Using spa typing, we characterized the genetic structure of the study population ($n = 139$ isolates) of *S. aureus* and checked the resistance profile to selected antibiotics. We also identified the presence of virulence factors important for *S. aureus* pathogenesis (e.g., staphylococcal enterotoxins, toxic shock syndrome toxin, pvl). We checked the functionality of the detected genes by quantifying the proteins produced (western blot technique). Next, using a photodynamic method, we treated bacteria with a low-molecular-weight compound - rose bengal and light (530 nm) to generate reactive oxygen species and achieve a bactericidal effect. We found that the genetic structure of the bacterial population studied was diverse, and the most frequently detected genes encoding virulence factors were staphylococcal enterotoxin A and C. Despite the observed diversity, all atopic isolates were highly sensitive to the photodynamic method in vitro, regardless of the represented drug resistance profile or the produced virulence factors. This observation was also verified in a mouse model of infected skin. The photodynamic method is a potentially good therapeutic option for AD patients with bacterial superinfections, mainly caused by *S. aureus*.

P12.3
FOLLICULAR ECZEMA ASSOCIATED WITH TRADITIONAL THERAPY IN A MALAGASY CHILD

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Atopic dermatitis is a chronic pruritic inflammatory skin disorder that can affect a child of all ethnic and racial populations. Follicular atopic dermatitis or follicular eczema is most commonly seen in children of African American, Black African, Hispanic and Asian ancestry. Herein, we report a case of a follicular eczema as secondary to traditional therapy in a Malagasy child. Observation: A 8-year-old Malagasy girl came to a dermatological consultation for an itchy lesion over the chest, back and extremities. The parents complained about a cyclical course with exacerbation during the winter since she was 1-year old. The initial lesion started 4 months before the consultation and was described as typical eczematoid lesions. A traditional treatment after self-medication was reported with application of braised leaf of local plant on the lesions which had secondary aspects of follicular papules. Examination found a generalized xerosis associated with multiple skin-colored follicular papules focused around the hair follicle realizing patches over the chest, abdomen, back, knee extension face. Skin biopsy revealed spongiotic dermatitis in and around the hair follicle. The diagnosis of follicular eczema was retained which was responsive to midpotent topical corticosteroid and emollient. Discussion: Follicular atopic dermatitis is characterized clinically by pruritic follicular accentuation, usually over the chest, back, abdomen, and flanks associated with spongiosis in and around the hair follicle on the biopsy. It should be misdiagnosed with follicular keratosis, follicular mucinosis, infundibulofollicutis, lichen spinulosus and phrynoderma. Conclusion: Our case illustrates the possibility of the irritant role of traditional topical treatments that may be a cause of follicular eczema in dark skin types.

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P13.1
ASSESSMENT OF THE EFFECTS OF A COLLOIDAL OATMEAL-BASED ECZEMA CREAM ON SKIN MICROBIOME AND BARRIER FUNCTION IN MILD TO MODERATE ATOPIC DERMATITIS: A RANDOMIZED CLINICAL TRIAL

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The itchy, dry and inflamed skin in atopic dermatitis is often characterized by dysbiotic microbiota, with a reduction in resident flora like coagulase-negative staphylococcus epidermidis (S. epidermidis), and an increase in *S. aureus*. The aim of this clinical research was to investigate the effects of a topical eczema cream containing 1% colloidal oat on the skin microbiome and skin barrier properties of individuals with mild to moderate eczema. Seventy-eight patients were randomly paired to receive either 1% colloidal oat eczema cream or a typical, unscented daily moisturizer. After a 14-day treatment phase, there was a 7-day recovery period. Skin microbiome and skin barrier properties were assessed at baseline, day 14 and day 21. Changes in skin barrier, atopic dermatitis severity index, eczema area severity index, prevalence of Staphylococcus species and microbiome diversity at lesion sites were assessed. On day 14, the 1% colloidal oat eczema cream significantly decreased mean scores for atopic dermatitis severity index and eczema area severity index by 55% and 59%, respectively. Treatment with 1% colloidal oat eczema cream was associated with trends towards decreased prevalence of Staphylococcus species and increased microbiome diversity at lesion sites, in contrast to treatment with the conventional moisturizer. The standard moisturizer increased hydration, but the 1% colloidal oat eczema cream significantly improved skin pH, skin barrier function and skin hydration from baseline to day 14. This study demonstrates thaDE BRUIN-WELLER, Marjoleiner functions and microbiota. The use of 1% colloidal oat eczema cream improves skin barrier deficiencies and enhances microbial composition, making it a promising treatment option for individuals with atopic dermatitis.

P13.2
SEVERE ATOPIC DERMATITIS TREATED WITH WET WRAPPING: A CASE REPORTED TO THE DERMATOLOGY HOSPITAL IN BAMAKO MALI

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Atopic dermatitis is a frequent and predominant chronic inflammatory dermatosis in infants and children. Local corticosteroid therapy under a wet wrapping seems to be an interesting alternative for its management. - Observation: History of the disease. Our experience was performed on a five-month-old boy with a history of allergic rhinitis ; asthma and familial eczema. He was received in consultation for attacks of eczema evolving since the first weeks of life. The current episode dates back two months. He was treated with topical corticosteroids ; anti-h1 and emollient without improvement. - Physical examination: Ery'thematous plaques surmounted by itchy and oozing vesicles associated with pustules and crusts in places. Diffuse cutaneous xerosis over the entire integument; more accentuated on the face (sparing the nose); thunk and limbs. Review of other devices ; Featureless, The SCORAD was at 59.8 Paraclinical examination: Complete blood count: normal, Hepatic check: normal, Kidney checkup: normal, HTLV1 serology: negative. Treatment: the wet wrapping was effective in this case. Evolution under treatment: Skin lesions and pruritus improved after one week, The SCORAD: J7 = 19.5 ; 1 MONTH = 8.8 ; 3 MONTH = 0.5. - Discussion: In recent years wet wrapping treatment has been considered as a safe and effective technique for severe infantile dermatitis. Furthermore, it protects the skin against scratching and reduces pruritus by vasoconstriction secondary to cooling of the skin due to evaporation of moisture. It represents a therapeutic alternative in underdeveloped countries with limited resources. - Conclusion: The wet wrapping is effective in flesh-colored patients and should be used whenever possible in all cases of atopic dermatitis that do not respond to regular treatment.

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