

intervention. Serum obtained prior to start and at the end of intervention were analysed using Luminex.

Six chemokines and nine ratios thereof were correlated to AD severity (sample size=24).

Results: After 4 months of dietary intervention the objective-SCORAD decreased within both groups (control; -6.79 ± 6.40 vs active; -9.13 ± 9.80 (mean \pm SD)). Irrespective of dietary intervention, changes in Th2 chemokines (CCL17, CCL20 and CCL22) as well as the Th1 chemokine (CXCL9) were detected. Chemokine CCL17 significantly correlated ($r = .4464$, $P < .001$) to objective-SCORAD obtained during the study. The synbiotic intervention resulted in a significantly ($P < .01$) higher CXCL9 as compared to control diet (control; 1.95 (1.77-2.43) vs active: 2.33 (1.99-2.89) (log10 median (range)) after 4 months of intervention. In addition, the Th2/Th1 chemokine ratios showed that CCL-17/CXCL9, CCL-22/CXCL9, CCL20/CXCL10 and CCL20/CXCL11 were reduced due to the synbiotic intervention.

Conclusions: In conclusion, these data contribute to immune biomarker profiling and the understanding of complexity in pathology of AD in infants early in life. Moreover, although the study is small and exploratory of nature, dietary intervention with scGOS/lcFOS and *B. breve* M16V in infants with AD suggest improvement of Th2/Th1 balances, skewing away from allergic phenotype.

0435 | Metal sequestering dermal cream exhibits beneficial effects in patients with dyshidrotic eczema associated with nickel induced allergic contact dermatitis—a pilot study

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Introduction: Dyshidrotic eczema is one of the most common skin conditions. Contact allergy is often associated with dyshidrotic eczema although the exact impact and the influence of contact allergens in different forms of dyshidrotic eczema remain unknown. Hypersensitization to nickel is one of the most common contact allergies associated with Pompholyx. The standard of care protocol is to use a medical treatment with topical corticosteroids and calcineurin inhibitors to treat the symptoms, together with occlusive barrier creams to avoid skin exposure to the allergens. After the symptoms have been cleared with the topical treatment, the recommendation is to use occlusive barrier creams to prevent recurrence of the symptoms.

Objectives: A new emollient with specific metal-scavenging agents and no occlusive ingredients has recently been developed and made

commercially available. The aim of this study was to evaluate the effect of such cream to provide relief for patients with dyshidrotic eczema associated with nickel allergy.

Results: Thirty-two subjects with dyshidrotic eczema and a positive patch test PPT (contact sensitized) reaction to nickel were selected. These were divided into two randomized groups, Group-A was given nickel-scavenging cream (Skintifique creamTM, Paris) after medical treatment, (n=9) and Group-B followed the standard protocol for pompholyx, (n=23). Hand eczema was scored according to the Dyshidrotic Eczema Area and Severity Index (DASI). DASI scores were evaluated at the beginning of the study (day-0), after the medical treatment (day-15) and two months after the end of medical treatment (day-75). Results show a significant difference in the efficacy of treatment between the two groups at day-75. A higher percentage of at least 75% reduction of initial DASI score (77.8%) and a higher percentage of total clearance (56%) in patients using nickel-scavenging non-occlusive moisturizing cream was observed as compared to standard-of-care occlusive creams (26.1% and 22%, respectively).

Conclusions: These results confirm the role of nickel in triggering or maintaining inflammatory reaction for patient suffering from dyshidrosis associated with nickel contact allergy. This study also suggests a potential new approach to address dyshidrosis and possibly related dermatosis with a metal-scavenging protective cream and a non-occlusive emollient

0436 | Optimized growth conditions for malassezia Spp. improves research on its role in atopic dermatitis

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Introduction: *Malassezia* spp. is a genus of lipophilic yeasts, comprising 14 species. It is the most common fungal genus of the healthy human skin microbiome but it is also attributed a pathogenic role in skin diseases such as atopic dermatitis (AD). AD is a frequent, recurrent eczematous skin disease that commonly associates with other atopic diseases such as hay fever, asthma and food allergies. To date, 14 immunogenic proteins of *Malassezia* spp. are characterized, that are predominantly produced by potentially pathogenic species, such as *M. sympodialis*. These proteins induce an IgE- or T cell-mediated immune response in humans that may contribute to skin inflammation in AD. Little is known on the exact pathogenic mechanisms, and if *Malassezia* species change protein production in the altered environment of human atopic skin. Cultivation of *Malassezia* spp. is a desirable tool to investigate these disease-contributing mechanisms. However, *Malassezia* is a fastidious fungus that barely grows on standard agars, what hampers research.