Results: A total of 25,809 questionnaires were applied at 274 schools. For current AD symptoms 18,095 questionnaires were analyzed and for severe current AD symptoms 19,173. Current AD symptoms mean global prevalence was 6.1% (95% CI, 5.7-6.4%). Mean prevalence and 95% CI per center: Monterey 4.2% (3.5-4.9%), Mexicali 6.3% (5.3-4.9%), Ciudad Victoria 2.3% (1.8-2.9%), Tijuana 4.9% (4.1-5.7%), North DF 8.5% (7.6-9.4%), Southeast DF 9.4% (8.0-10.7%), Toluca 5.4% (4.6-6.2%); Veracruz 5.3% (4.3-6.2%). Severe current AD symptoms mean global prevalence was 0.7% (95% CI, 0.6-0.9%). Mean prevalence and 95% CI per center: Monterey 0.6% (0.3-0.9%), Mexicali 0.8% (0.5-1.2%), Ciudad Victoria 0.3% (0.1-0.6%), Tijuana 0.9% (0.5-1.2%); North DF 1.1% (0.7-1.5%), DF Southeast 1% (0.5-1.4%), Toluca 0.3% (0.1-0.5%); Veracruz 0.7% (0.4-1.1%). Villahermosa 1.2% (0.8-1.7%). Identified risk factors for current AD symptoms: presence of allergic rhinitis symptoms OR 1.94 (95% CI, 1.53-2.14); P = 0.005); conjunctivitis symptoms OR 1.81 (95% CI, 1.53-2.14; P ≤ 0.005); accumulated asthma symptoms OR 1.51 (95% CI, 1.3-1.76; P ≤ 0.03). Identified risk factors for severe current AD symptoms: presence of conjunctivitis symptoms OR 2.20 (95% CI, 1.42-3.4; P ≤ 0.005); accumulated asthma symptoms OR 2.16 (95% CI, 1.38-3.39; P ≤ 0.005); use of acacetaminophen in the first year of life OR 1.80 (95% CI, 1.21-2.69; P ≤ 0.005).

Conclusions: Current AD symptoms prevalence was higher at north DF, followed by Toluca and southeast DF; current severe AD symptoms were higher at Villahermosa, followed by north DF and Tijuana. The presence of rhinoconjuntivitis and accumulated asthma symptoms doubles the risk for current AD and current severe symptoms in Mexican children and Acetaminophen use in the first year of life was associated with severe current AD symptoms.

47 Involvement of Human Histamine N-Methyltransferase Gene Polymorphisms in Susceptibility to Atopic Dermatitis in Korean Children

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Abstract: Histamine N-methyltransferase (HNMT) catalyzes one of 2 polyphosphamide pathways for histamine. Histamine is one of the mediators for pruritus of atopic dermatitis. The aim of this study was to evaluate the role of HNMT polymorphisms in children with atopic dermatitis.

Methods: We genotyped 763 children for allelic determinants at 4 polymorphic sites, which were −465T>C, −413C>T, 314C>T and 939A>G in the HNMT gene, and the functional effect of the 939A>G polymorphism was analyzed. The genotyping was screened using the TaqMan fluorogenic 5’ nuclease assay (ABI, Foster City, CA, USA).

Results: Among these 763 children, 520 had eczema and 542 had atopy. Distributions of the genotype and allele frequencies of HNMT 314C>T polymorphism were significantly associated with non-atopic eczema (P = 0.004) and those of HNMT 939A>G polymorphism were significantly associated with eczema in atopy groups (P = 0.048). However, those of HNMT 654T>C and 413C>T polymorphisms were not. In addition, subjects with the homozygous AA or heterozygous AG of the 939A>G polymorphism showed significantly higher IgE levels than those with the homozygous GG genotype (P = 0.009). In U937 cells, the variant genotype reporter construct showed significantly higher mRNA stability (P < 0.001) and HNMT enzyme activity (P < 0.001) than the common genotype.

Conclusions: Polymorphisms in the HNMT gene appear to confer susceptibility to atopic dermatitis in Korean children.
decreased. Skin dryness and itch scores were reduced in most volunteers. After washed with soap and rinsed in UPSW for 2 weeks, severe dermatitis of NC/Tnd mice were reduced as well as TEWL. On the other hand, dermatitis in NC/Tnd mice rinsed in tap water became worse. Plasma total IgE was increased in mice that were immunized with metallic soap.

**Conclusions:** UPSW protected skins from residue of metallic soap. Metallic soap has antigenic activity and increased plasma IgE levels. Clinical symptoms and the skin barrier function were improved by the use of soap with UPSW. UPSW is beneficial for the skin of patients with atopic dermatitis.

## CHILDHOOD ASTHMA AND ALLERGIES

### 50
**The Allergic March Resolved at Allergen Component Level**

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**Background:** The allergic march is well known at the level of pattern of sensitisation, but there is no information of its evolution in term of sensitisation to single allergenic molecules. We investigated the evolution of the IgE repertoire by means of a microarray allergen assay.

**Methods:** Serum samples from allergic patients of a wide age range were analyzed by a microarray chip, which allow to identify in a single assay the presence of specific IgE towards 103 allergenic molecules. Total IgE were also evaluated as an internal control. Patients were stratified in 6 groups according to their age (0–2; 3–5; 6–9; 10–13; 14–17 and >17 years).

**Results:** Samples from 609 patients were analysed. The behaviour of total IgE according to age strictly paralleled that of the sum of specific IgE. Food-related components were the more frequently recognized in the first ages, whereas specific IgE to plant allergens appeared later. Nonetheless, mite-specific IgE were the most represented in all age classes. Specific IgE against cross-reacting allergens were virtually absent in the first years and tended to appear after the age of 6.

**Conclusions:** The molecular pattern of allergen recognition according to age well reflects the clinical characteristics of the allergic march.

### 51
**Prevalence of Wheezing and Risk Factors Associated to Wheezing in Infants in the First Year of Life, Cuibá, MT, Brazil**

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**Background:** The purpose of this study was to evaluate the prevalence of wheezing and risk factors related to wheezing in infants (12–15 month-old) in the city of Cuiabá, Mato Grosso State, Brazil.

**Methods:** Cross-sectional study by applying a standardized written questionnaire from “Estudio Internacional de sibilancia en lactentes” (EISL) phase III. Parents and/or guardians of infants were interviewed at a primary health care clinic or at home from August 2009 to November 2010. Signed written informed consent was obtained from parents and/or guardians of all subjects. Factors associated to wheezing were studied using bivariate and multivariate analysis (SPSS v.18.0) and expressed as odds ratio (OR) and confidence interval 95% (95% CI).

**Results:** One thousand sixty parents were interviewed (N = 1060), 27.7% (N = 294) infants had at least one wheezing episode in their first year of life, with onset at 5.8 ± 3.0 months (mean ± standard deviation), and 45.9% (N = 135) had had 3 or more episodes (recurrent wheezing). The use of inhaled β2-agonists, oral corticosteroids or leukotriene receptor antagonist, nocturnal symptoms, respiratory distress, hospitalization and medical diagnosis of asthma were significantly more frequent in the group with recurrent wheezing (P < 0.05). Independent risk factors associated with wheezing in the first year of life were: history of previous pneumonia (OR = 10.80; 95% CI, 4.52-25.77); to have more than 6 upper respiratory infections (URI) (OR = 2.95; 95% CI, 2.11-4.14); asthma in sibling (OR = 2.13; 95% CI, 1.18-3.87); asthma in father (OR = 1.98; 95% CI, 1.22-3.23); asthma in mother (OR = 1.62; 95% CI, 1.07-2.43); exposure to paracetamol in the first year of life for URI (OR = 2.13; 95% CI, 1.54-2.95); exposure to moderate air pollution from traffic (OR = 1.59; 95% CI, 1.08-2.33); and a first URI before of third month of age (OR = 1.50; 95% CI, 1.04-2.17).

**Conclusions:** The prevalence of wheezing episodes among one-year-old infants living in Cuiabá was high and early in life. Risk factors for wheezing are similar to risk factors for asthma. Exposure to paracetamol was associated with wheezing but more researches are required to clarify this potential association.