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**Background:** The pollen dispersal by wind is a natural event of great biological significance and an etiological factor in the genesis of allergic respiratory diseases. This is the first such study carried out in the city of Toluca, Mexico.

**Objective:** To present the data of collected pollen from September 2004 to September 2005.

**Methods:** The pollen was collected, using a Hirst type 7-day recording volumetric Spore Trap. According to the British Aerobiology Federation, we decided to read 12 sweeps in 24 hours in a transverse to have the mean pollen count. Standard equipment used for aerobiological sampling worldwide was used. Statistical analysis is a descriptive study using the SPSS Software.

**Results:** We found 14,078.61 pollen grains, coming from 32 different pollinic types in the 12 Transverse traverses in the year analyzed. The 6 leading taxa, in order of abundance, were: Cupressaceae (49%), Oleaceae genus Fraxinus sp (17%), Betulaceae genus Alnus (14%), Pinaceae (11%), Gramineae (6%), Asteraceae or Compositae (3%). The most prevalent months regarding pollen counts were January and February 2005 in wich Cupressaceae and Oleaceae genus Fraxinus were accounted.

**Conclusions:** In aerobiological terms both Cupressaceae and Fraxinus seem to be a major risk for potential sensitized individuals due to its known allergenicity and its high atmospheric concentrations between late winter and early spring, followed by Alnus, Pinaceae, Gramineae, Asteraceae, Casuarinaceae, Schinus, Cheno/Amp and Moraceae. This is the first effort to create the Mexican Aerobiological Network (REMA), and further studies are needed to correlate clinical data.

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**221 Allergic Significance of Airborne Rhizopus Stolonifer (ehrenb.) Vuill, a Common Bread Mold**

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**Background:** Airborne fungi, a significant constituent of atmospheric bioaerosol, are well-known sources of allergens and can cause allergic rhinitis and bronchial asthma in sensitive subjects. Rhizopus stolonifer, the filamentous fungus is a widely distributed thread-like Mucoralean mold. Commonly found on bread surfaces, it takes food and nutrients from the bread and causes damage to the surface where it lives. Although a significant exposure risk is assumable in indoor environment, the role of this fungus in provoking allergic symptoms in pre-sensitized individuals, however, was poorly investigated. We conducted this study to monitor airborne R. stolonifer and to evaluate its potential as an aeroallergen causing nasobronchial allergy in sensitized individuals.

**Methods:** Seasonal periodicity of R. stolonifer was studied for 2 years (March, 2009-Feb.11) by Andersen air sampler. The relationships between meteorological parameters and airborne R. stolonifer concentration were explored by linear regression models. The allergic potential of R. stolonifer extract was studied on 389 respiratory allergic patients by performing skin prick tests (SPT) and measuring the allergen-specific IgE levels in SPT positive patient’s sera by Enzyme-linked Immunosorbent Assay. SDS-PAGE and immunoblotting with pooled patient sera were performed to identify its IgE-binding components.

**Results:** Airborne R. stolonifer concentration range was 4 to 47 CFU/m³ and reached the peak concentration in March. Relative humidity was found to be a significant predictor for occurrence of R. stolonifer in air. Positive skin reaction was observed in 105 patients (27%) including 10 (9.5%) showing markedly high (2+ to 3+) skin sensitization. Crude antigenic extract of R. stolonifer was resolved in 16 protein bands in the molecular weight range of 12 to 72 kDa on SDS-PAGE (12%) gel. Three IgE-binding protein bands (17, 21and 67.12 kDa) were detected by immunoblot analysis.

**Conclusions:** Exposures to R. stolonifer in environments where it naturally occurs may confer risk of IgE-mediated sensitization in sensitive individuals.
224 Risk Factors and Their Impact on Development and Severity of Allergic Diseases in the CIS-Region

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Background: This paper presents the results of influence of risk factors (RF) on development and severity of allergic diseases (ADs) in the CIS-region (CIS-R).

Methods: ISAAC and ARIA studies results, data on atop dermatitis, Republic Ministries of Health Statistical Reports as well as literature data has been analyzed.

Results: It has been established that in industrialized areas, ADs is 2 to 3 times higher than the incidence in rural areas. The highest incidence is noted in ecologically unfavorable regions of low mountains where suffering from ADs is more often met. In the medium mountains ADs appear with less intensity, in conditions of high mountains ADs are extremely rare. The maximum prevalence of ADs has been observed at the experience of working in hazardous conditions from 5 years and above. A high degree of contamination airpollutions (CO2, NO2, SO2 etc.) in the industrial cities correlated with the prevalence of respiratory allergies and other ADs were observed. Frequent cause and significant allergens, as identified in patients with different ADs in CIS-R were domestic, epidermal, pollen and fungous allergens. The main triggers which involved in the development or exacerbation of ADs in Azerbaijan, Armenia, Russia and Uzbekistan are: house dust mites, pollen of trees and plants, pet allergens. In Belarus, Kazakhstan, Turkemnistan, Ukrain, Moldova, the cause-important allergens are: pollen of trees, grasses and weeds. Among the most significant risk F for ADs should be noted: burdened by heredity (65.5–75.9%), high frequency of SARS in history (16.2–77%), passive smoking (43.1–62.5%), poor social conditions (10–42%) the presence of pets in the apartment (12.5–17%). Children (7–8 years) were more susceptible to environmental RF as compared with teens (13–14 years). In Tadjikistan and Turkemnistan, ADs were closely related with poor social conditions, low household income and large-family. Conclusions: Epidemiologic studies are of great theoretical and practical significance as they provide impartial evaluation and reliable data on ADs prevalence and the most important allergens. Climatic and geographical conditions of the environment and ecological situation in the region are significant RF, requiring consideration in determining the probability of a genetic predisposition to ADs.

225 Monitoring of Air-Pollutants Concentration in Children with Allergic Diseases

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Background: All over the world, increases the incidence of allergy, asthma and autoimmune diseases. Both young and elderly people are at risk. Therefore, on time diagnostics of these changes and the improvement of patient’s quality of life is the most important task for doctors worldwide.

Methods: Patients by random selection were interviewed and subsequently examined: 535 schoolchildren of Kutaisi, aged 7 to 14. Stepwise diagnostics of allergic factors included: 1. Questionnaire screening according to the international ISAAC questionnaire. 2. To identify the specific allergens in serum. 3. To define air pollutant concentration in the environment with the help of Burkard Trap (Burkhard Pollen Trap donated by the WAO).

Results: Investigation included questionnaire screening with the use of the international ISAAC questionnaire. The questionnaires for children aged 7 to 10 years were filled in by their parents; school children of 11 to 14 answered the questions themselves. Questionnaire screening allowed select the group of children with already diagnosed and with primarily diagnosed allergic diseases. From mentioned above 3 groups of children: I group 57 persons (10.7%) children with primarily diagnosed allergic diseases; II group-68 persons (12.7%) children with already diagnosed allergic diseases; III group-410 persons (77.6%) practically healthy children with no deviations according to ISAAC questionnaire. The next phase of the examination consisted of ImmunoCAP100 tests in II group 68 children with already diagnosed allergic diseases. There was determined the highest level of Phadiatop (inhaled environmental allergens) was positive in 35% of patient. We gave them the information and recommendation of air–pollens concentration according to Burkard Trap research. The use of allows accurately define the concentration of air pollutants in the environment including the pollen of trees, grass and weeds in particular geographical area in different seasons of the year.

Conclusions: Burkard Trap is committed to helping physicians identify the causative allergens in this complex mini environment, there are necessary condition for final verification of allergic diseases, which makes it possible to form successfully the basis of preventive therapy and appropriate undertake preventive measures.

226 Analysis of an After-Care Questionnaire in Allergic People to Dust Mites Using Anti-Dust Mites Bed Covers

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Background: The goal of the study was to assess in a declarative way, the symptoms felt by the patients and the impact of micro-woven cotton (MWC) and a non woven polyester polyamide (NWP) anti-dust mites bed covers on allergic volunteers to dust mites.

Methods: This study is a descriptive survey based on an after-care questionnaire handed out to a group of 419 volunteers allergic to dust mites. 109 questionnaires have been used. Regarding the allergy, we asked questions in order to assess the most annoying symptoms. The discomfort level felt was assessed using scores that ranged from 0 (no discomfort) to 10 (severe discomfort). Values, expressed as mean ± SEM, were compared using 2-way ANOVA.

Results: The discomfort level felt by the allergic volunteers to dust mites has significantly decreased after the anti-dust mite’s bed cover use (7.1 ± 0.2 versus 2.6 ± 0.2). After the anti-dust mites bed cover use, the discomfort level noticed decreased significantly and in a similar way no matter the age brackets. Thus, after the use of an anti-dust mites bed cover, it ranged between 2.1 and 2.3. The discomfort level felt after the anti-dust mites bed cover use was similar whatever the symptom. The reduction of the percentage of the discomfort level in volunteers having used MWC anti-dust mites bed covers was similar to the percentage of the volunteers having used NWP anti-dust mites bed covers (62.9 ± 3.1% vs. 60.7 ± 4.2%).