mix, cat and dog dander, among others. The tests were performed at the respiratory allergic disease center of Santa Maria Clinic in Santiago, Chile, between January 2010 and April 2011.

**Results:** Fifty-five patients were included, 18 (33%) males and 37 (67%) females, median age 6 years (range from 3 months to 62 years), with the following diagnosis: atopic dermatitis syndrome (60%), allergic rhinitis (58%), contact allergic dermatitis (16%), asthma (9%), recurrent bronchial obstructive syndrome (7%), allergic rhinoconjunctivitis (4%), chronic cough (4%), recurrent acute otitis media (2%) and recurrent laryngitis (2%). They underwent usual SPTs and APTs with multiple aeroallergens extracts. Of the 55 patients, 22 showed a positive SPT and 32 a positive APT; in 14 (25%) both, SPT and APT were positive. In 8 (15%) the SPT was positive and APT negative, while in 18 (33%) the SPT was negative, but the APT positive. Fifteen (27%) were negative to both tests.

**Conclusions:** Our results show that APT might be a useful diagnosis test in patients with allergic diseases and that its routine use can improve their diagnosis.

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**571 Clinical and Laboratory Studies of the Fate of Intranasal Allergen**

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**Background:** The nose is generally the first site of contact for inhaled particles including allergen, however the precise way in which allergen is handled by the nose is unknown.

**Objective:** This study aimed to describe the dispersal of Der p 1 allergen by measuring the recovery of allergen following nasal administration and to evaluate whether Der p 1 can be detected in nasal biopsies after natural exposure and nasal challenge.

**Methods:**

1) Der p 1 allergen was administered intranasal to 20 non-atopic healthy subjects and recovery of Der p 1 was measured in the nasal wash, nasal mucus and induced sputum up to 30 minutes after challenge.

2) In 8 subjects (5 atopics) Der p 1 was sprayed intranasal into one nostril and 30 minutes later a biopsy was taken, the contralateral served as a negative control. Immunohistological localisation of Der p 1, IgE positive cells, macrophages was undertaken. Eosinophils were shown by H-E staining.

**Results:**

1) Less than 25% of total allergen inserted into the nasal cavity was retrievable after aqueous or particulate allergen challenge. Most allergen was retrieved from the nasal mucus.

2) Under baseline conditions, in atotics and non-atotics, mild Der p 1 tissue staining in nasal epithelial tissue was observed. Following challenge epithelial Der p 1 staining increased both in atotics and non-atotics, while increased staining of lamina propria was found in atotics only. Also increased eosinophils, macrophages and IgE positive cells were observed in areas of higher concentrations of Der p 1 staining in the epithelium, mucous glands and lamina propria compared to the contralateral unchallenged nasal mucosa and also compared to the nonatotics.

**Conclusions:** Der p 1 allergen is detected in nasal tissue after natural exposure and independent of atopic status. After challenge the nose effectively retains allergen which is mucosally located. Furthermore in atotics allergen is bound to epithelial cells and rapidly transported to the subepithelial lamina propria where it can bind to IgE-bearing mast cells and recruit eosinophils and macrophages facilitating induction and persistence of inflammation.

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**572 Effect of Enzymatically Modified Isoquercitrin, a Flavonoid, on Symptoms of Japanese Cedar Pollinosis**

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**Background:** The prevalence of allergic diseases has increased all over the world during the last 2 decades. Dietary change is considered to be one of environmental factors that cause this increase and worsen allergic symptoms. If it is the case, an appropriate intake of foods and beverages with antiallergic activity is anticipated to prevent the onset of allergic diseases and ameliorate allergic symptoms. Flavonoids, ubiquitously present in vegetables, fruits or tea possess antiallergic and antioxidative effects, so that we examined the efficacy of a flavonoid on clinical symptoms of Japanese cedar pollinosis.

**Methods:** We investigated the efficacy of enzymatically modified isoquercitrin (EMIQ), a quercetin glycoside, to relieve symptoms of Japanese Cedar pollinosis by 3 different clinical trials. In either trial patients were randomly assigned to the EMIQ group or the placebo group and took one capsule containing EMIQ plus corn starch or corn starch only twice a day. The efficacy was evaluated with the total symptom, medication or QOL score. Study 1 (reference 1) and 2 (reference 2); EMIQ (100 mg/day) versus placebo, for 8 weeks, started after (study 1) and before (study 2) the onset of pollen release, Study 3; EMIQ (200 mg/day) versus placebo, for 4 weeks, started after the onset of pollen release.

**Results:** In study 1 and 2, during the entire study period, ocular + medication score for the EMIQ group was significantly lower (P < 0.05) than that of the placebo group. When limited to the period, total symptom + medication score for the EMIQ group was significantly lower than that for the placebo group in all 3 studies.

**Conclusions:** These results indicate that intake of EMIQ, a quercetin glycoside proved to be effective for the relief of symptoms caused by Japanese cedar pollinosis.

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**573 Prevalence of Allergen Sensitization in Children with Atopy Susicion between Six Months and Five Years of Age**

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**Background:** Classically we have been taught that the skin prick test (SPT) must be performed over 4 years of age mainly because of the lack of sensibility the test has on younger children, now a days the utility of the SPT has on younger children with atopic history is controversial and it would help make an early diagnosis. The objective of this study is to describe the prevalence of allergen sensitization in children between 0 and 5 years of age that have atopic history. We also describe the sensitization percentages to the most relevant allergens according to age group.

**Methods:** SPT performed between January 2006 and July 2010 at the Respiratory and Allergy Department of Clínica Santa María to children with...
atopic story were analyzed. A standard base of 21 allergens from LETI laboratory was used.

Results: Seven hundred and fifty two children with SPT were studied; they were divided into 2 groups. Group A corresponding to children between 6 and 24 months of age, group B corresponding to children between 25 months and 5 years of age. In group A 76 SPT and group B 676 SPT were performed. The total number of SPT positive to 1 or more allergens was 46.4%. (Group A: 6.4%, Group B 40%). The most prevalent allergens according to age were: group A: grass 16%, egg 16%, cat dander 10% and house dust mite (Dermatophagoides pteronyssinus and farinae) 10%. Group B: grass 15%, house dust mite 13.6%, fungal allergens (Aspergillus an Alternaria) 11.4%, trees 9% and cat dander 6.6%.

Conclusions: A high sensitization percentage to grass and egg is seen under 24 months of age. Egg sensitization diminishes significantly over 2 years of age, on the other hand house dust mite and fungal sensitization increases with age which could be explained by a longer exposure time in genetically predisposed children. Forty-six percent of the children are sensitized to 1 or more allergens which make us question the classical indication that SPT will be done over 4 years of age. When high suspicion of atopic history, a SPT should be performed independently of patient age.

**Urticaria**

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**Hla and Chronic Urticaria with Positive Autologous Serum Skin Test among Brazilians**

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Background: Many autoimmune diseases are associated with certain alleles of the human leukocyte antigen (HLA) system, and recent studies have shown that, in many cases, chronic urticaria has autoimmune etiology. An association between class I and II alleles of the major histocompatibility complex (MHC) and idiopathic chronic urticaria (ICU) has previously been observed in different populations, but there are still no studies on Brazilian populations in this respect. The involvement of MHC classes I and II (loci A, B and DR) in Brazilian patients with ICU and a positive autologous serum skin test (ASSST) was investigated and compared with a healthy population group.

Methods: DNA was extracted from the blood of 42 patients with ICU (28 women; mean age ± SD: 44 ± 12 years; range: 19 to 88 years) and MHC classes I and II alleles were determined using the polymerase chain reaction (PCR) and a laboratory test for oligonucleotide hybridization using a single- filament probe. The frequencies of these alleles in patients with chronic urticaria were compared with the frequencies in 1000 genetically unrelated voluntary blood donors from the same region of Brazil. The diagnosis of idiopathic chronic urticaria was based on the patients’ clinical histories and routine laboratory tests. Only the patients with positive ASSSTs were selected. The allele distribution results from the patient and control groups were analyzed using odds ratios and 95% confidence intervals.

Results: No statistically significant differences were found between the ASST-positive patients with chronic urticaria and the control group, in relation to the MHC classes I and II alleles studied.

Conclusions: We found that in this population group, there was no specific association between the HLA alleles studied (HLA-A, HLA-B and DRB1) and ASST-positive chronic urticaria. We believe that further population

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**Photoaging Attenuates Skin Test Response to Histamine More Than Natural Aging**

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Background: Clinical experience suggests that skin test reactivity is often decreased in photo-exposed skin versus sun-protected skin in older individuals. The current study was designed to address whether photoaging or natural aging of skin causes a greater diminution in skin test response.

Methods: Prick-puncture skin tests to histamine were performed on sun-exposed and sun-protected areas in younger (n = 61, age 20–50) and older (n = 63, age 60–87) adult volunteers who were recruited for skin prick testing because of suspect allergic rhinitis and/or allergic asthma. The skin was scored for photoaging by physical examination and coloration was measured by a colorimeter.

Results: There was no observed difference in wheal and flare response to histamine when patients were stratified by age alone. However, photoaging was significantly correlated with decreased skin reactivity to histamine on the upper back (a sun-exposed area) as compared to the lower back (a sun-protected area). In patients with the most severely sun-damaged skin, there was a trend toward decreased skin reactivity in all areas.

Conclusions: Skin test reactivity to histamine is negatively correlated to the degree of photoaging and is independent of patients’ chronological age. This result has clinical implications for patients with significant photoaging, suggesting that care should be taken to perform skin testing on anatomic sites in sun-protected areas. In patients with severe photoaging, allergen-specific IgE testing should be considered to avoid possible false-negative interpretation of skin-prick testing.

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**Prevalence Allergic Diseases and Allergic Sensitization among Urban Office Workers as Compared with a Forest Service Workers**

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Background: Asthma, allergic rhinitis (AR), and atopic dermatitis (AD) are the most prevalent allergic diseases and number of studies has shown an increase in prevalence of both all over the world in recent years. Although little about the prevalence of asthma, AR, and AD in Korean adults. And the incident sensitization to common allergens in subjects with incident sensitization to an occupational allergen has not been described. Our aim was to determine the prevalence of living and working place in adults. And also, determines the sensitization to common allergens in subjects with incident sensitization to a work-related allergen.

Methods: We performed questionnaire survey and allergy skin prick test with 27 common inhalant allergens among 294 subjects (response rate, 94.9%, n = 279) age 19 to 54 years in Seoul and forest service workers. One hundred thirty four subjects were forest service workers and 145 subjects were urban of people. A history of asthma was noted in 3.8% and a history of AR was noted 7.6 years. There were 141 man and 138 women. A history of asthma was noted in 3.8% and a history of AR was noted 16% and a history of AD was noted 21.3%. The each group of forest service workers.

Results: The mean age was 33.7 ± 7.6 years. There were 141 man and 138 women. A history of asthma was noted in 3.8% and a history of AR was noted 16% and a history of AD was noted 21.3%. The each group of forest service workers.

Conclusions: A high sensitization percentage to grass and egg is seen under 24 months of age. Egg sensitization diminishes significantly over 2 years of age, on the other hand house dust mite and fungal sensitization increases with age which could be explained by a longer exposure time in genetically predisposed children. Forty-six percent of the children are sensitized to 1 or more allergens which make us question the classical indication that SPT will be done over 4 years of age. When high suspicion of atopic history, a SPT should be performed independently of patient age.