

610 Immunoglobulin E to Allergen Components of House Dust Mite in Children with Allergic Disease

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RATIONALE: House-dust mites (HDM) are important sources of indoor allergens. Thirteen components have been identified from *Dermatophagoides pteronyssinus*(Der p). Our aim was to define the prevalence of IgE to components of Der p in Korea and investigate the clinical features of them in children with allergic disease.

METHODS: We performed a prospective evaluation of 80 HDM sensitized patients with history of allergic rhinitis (AR), atopic dermatitis (AD), asthma and urticaria (UC). Patients underwent ImmunoCAP for total IgE, Der p, Der f, Der p 1, Der p 2, and Der p 10.

RESULTS: Seventy nine patients had detectable serum IgE to Der p, 80 patients were sensitized to Der f, 66 patients were sensitized to Der p 1, 63 patients to Der p 2, and 7 patients were sensitized to Der p 10. Der p 1 specific IgE was significantly lower in the UC group compared with the AD and AR group. Total IgE was significantly higher in the Der p 10 sensitized group. Der p 10 serum IgE level was highly correlated with crab and shrimp specific IgE. There was a significant positive correlation between total IgE and specific IgE to Der p and its components and Der f.

CONCLUSIONS: Sensitization to HDM and its components in Korea is similar to previous studies from temperate climate. The determination of Der p 1, Der p 2, and Der p 10 specific IgE helps in obtaining additional information in regards to allergic disease.

611 Utility of Recombinant Allergens in the Diagnosis of Patients with Rhinoconjunctivitis and / or Asthma Sensitized to Pollens *Cupressus*, *Platanus*, *Olea* and *Phleum*

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RATIONALE: The study of recombinant allergens improves the diagnostic accuracy of allergic diseases. The aim was to compare the parameters of sensitization to *Cupressus*, *Platanus*, *Olea* and *Phleum*.

METHODS: A retrospective study where skin prick tests (SPT) and specific IgE (sIgE) to native (n) and recombinant of *Cupressus*, *Platanus*, *Olea* and *Phleum* were performed to 10 patients with symptoms of rhinoconjunctivitis and asthma from December to July.

RESULTS: SPT were positive for: *Cupressus* (9/10), *Platanus* (5/10), *Olea* (9/10), and *Phleum* (9/10). sIgEs were positive for *Cupressus* (n: 100%/rCup a1: 90%), *Platanus* (n: 60%/rPla a1:10%), *Olea* (n: 90%/rOle e1: 90%) and *Phleum* (n: 90%/rPh1 PhI: 80%; rPhI p5: 70%; rPhI p7: 20%; rPhI p12: 30%). No statistical differences were found among qualitative results of SPT and sIgE to *Cupressus*, *Platanus*, *Olea* and *Phleum* ($p > 0.05$). The correlation coefficients were: *Cupressus* [n/rCup a1, r: 0.87 (P<0.01)]; *Platanus* [n/rPla a1, r: 0.76 (p<0.05)]; *Olea* [n/rOle e1, r: 0.95 (P<0.01)]; *Phleum* [n/rPhI p1, r: 0.91 (P<0.01)]; *Phleum* [n/rPhI p5, r: 0.97 (P<0.01)]. No statistical differences were found between *Phleum*[(n/rPhI p7) and (n/rPhI p12)].

CONCLUSIONS: The results of SPT, sIgE native and recombinant major in patients with RC and/or Asthma, are effective in the diagnosis of sensitization to four pollens, preferably with the recombinant major of *Cupressus*, *Olea* y *Phleum*.

612 Factors Contributing to Poor Asthma Control in Children

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RATIONALE: Asthma is one of the most common chronic diseases in children. Control over the disease is the target, so we should seek to identify factors that negatively affect asthma control.

METHODS: Included subjects were asthmatics aged 5-14 years, scheduled to visit the asthma clinic during the period from April 2013 to June 2014, at King Abdulaziz Medical City, Jeddah, Saudi Arabia. Data were collected from 147 patients through chart review, and telephone interviews. Classification of asthma control was according to the GINA guidelines 2014. Children in each classified group were compared regarding BMIs, presence of allergic rhinitis, sinusitis, GERD, tobacco smoke exposure, medication compliance, technique using medications, and their geographical distribution.

RESULTS: Out of 209 eligible patients, 185 were recruited (38 did not respond to the telephone calls, 147 patients' data were finally analyzed). 24 children met the exclusion criteria. 57.1% were well controlled, 27.9% partially controlled and 15% poorly controlled. Using multivariate regression analysis, males were more likely to be partially controlled (OR=5.95, 95% CI= 1.69-20.87), & those living in northern Jeddah were more likely to be poorly controlled (OR= 23.59, 95% CI= 2.68,207.31). Assessing the impact of combined risk factors using chi-square test, subjects group with 3 or more risk factors present had higher prevalence of poor asthma control ($p=.022$).

CONCLUSIONS: Controlling asthma is challenging because of different contributing variables. The current study provides a highlight on asthma control and associated factors in western Saudi Arabia; however, a multicenter prospective study is required for further assessment of this important health problem.

613 Aerobiological Study in Lima (PERÚ)

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RATIONALE: Knowledge about seasonal and annual fluctuations in airborne pollen and fungal spores in any geographical area is essential for effective diagnosis and treatment of allergy diseases. Our objective was identify and register the most important aeroallergens in the atmosphere of Lima urban city.

METHODS: The pollen and fungal spores counts were made according to standardized technique with Burkard spore trap for 7 days and the analysis procedures recommended by the Spanish Aerobiology Network. The trap was installed on the roof of a building, which is 20m high, in the west-south of the Lima urban area. The sampling period was performed from February 2012 to March 2013.

RESULTS: The 3 most important fungal spores during all the periods of sampling, in order of abundance, were: *Cladosporium herbarum* (75.15%), *Nigrospora spp* (22.31%), *Alternaria alternata* (2.57%), with higher frequency in autumn and summer.

The greatest pollen counts were recorded in winter and summer. We found 10 leading taxa: *Poaceae* (22.6%), *Oleaceae* (20.9%), *Compositae* (*Artemisia spp*) (19.38%), *Urticaceae* (16.45%), *Betulaceae* (*Casuarina*) (9.03%), *Myrtaceae* (*Eucalyptus*) (7.21%), *Betulaceae* (*Alnus*) (2.19%), *Chenopodiaceae-Amaranthaceae* (1.88%), *Asteraceae* (*Ambrosia*) (0.15%), *Polygonaceae* (*Rumex spp*) (0.10%).

CONCLUSIONS: We report the first aerobiological study in Lima city performed with Burkard spore trap for 7-days technique. The west-south population of Lima urban city is exposed to several aeroallergens with predominance of fungal spores. The results of this study should be compared with data from the forthcoming years, to identify seasonal and annual fluctuations, and extend the traps to other locations.