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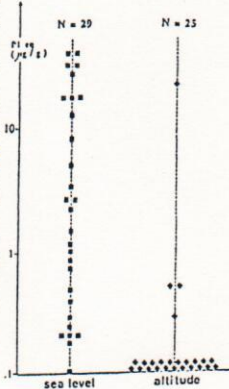
105 DERMATOPHAGOIDES PTERONYSSINUS - AN IMPORTANT ALLERGEN SOURCE IN GUATEMALA. V.Chur,M.D.*; S.Lau,M.D.** and U.Wahn,M.D.**. Guatemala City, Guatemala* and Berlin,West Germany**.

Little is known about environmental allergens in Central America and their biological importance. In order to evaluate the distribution of house dust mites and the prevalence of mite allergy among asthmatic children, 50 consecutive patients from Guatemala City attending an asthma clinic were studied. From all patient's houses, dust samples were collected, and concentrations of the major allergens of *Dermatophagoides pteronyssinus* (D.pt.), Der pI and *Dermatophagoides farinae* (D.f.), Der fI, were determined by a sandwich type ELISA using non-crossreacting monoclonal antibodies. Allergen specific skin reactivity to mites was determined by skin indices calculated from the ratio of mean wheal diameters induced by a standardized skin puncture test with partially purified D.pt. and D.f. extracts and histamine. In addition mite specific serum IgE concentrations were determined by RAST. In 45/50 dust samples we found very high concentrations of Der pI (10.000-170.000 ng/g dust). In contrast, Der fI concentrations in all samples were lower than 8.000 ng/g dust. Out of the 45 patients with high Der pI exposure, 28 (62%), had positive skin tests (skin index > 0,5), and 30 (67%) had high serum concentrations of mite specific IgE antibodies (\geq RAST Class II). From our data we conclude, that in Guatemala, D.pt. is an important indoor allergen source, contributing significantly to hypersensitivity reactions and facilitating allergic airways disease in childhood.

106 MITES ALLERGEN CONTENT AT SEA LEVEL AND AT HIGH ALTITUDE. E. Haddi, M.D., A. N'Guyen, M.S., M. Toumi, M.D., X. van der Brempt, M.D., D. Charpin, M.D., D. Vervloet, M.D. Hôpital Sainte-Marguerite, Marseille, France.

A previous comparative study (Chest 1988;93:758-61) showed that asthma and perennial rhinitis prevalence was lower at high altitude (Briançon, France) than at sea level (Marseille, France). A possible explanation for this difference could be a lower exposure to house dust mites in altitude. In this study, we compared mite allergen content in samples of dust from mattresses of asymptomatic subjects living in Marseille (n=29) or Briançon (n=25). The antigens Der pI and Der fI were assayed using monoclonal antibodies (gift from M. CHAPMAN and T. PLATTS-MILLS) and expressed in terms of Der pI equivalents (PI eq).

At sea level, PI eq ranged from 0.1 to 38 $\mu\text{g/g}$ dust (mean 8.5; S.D. 12). At high altitude, 21/25 samples contained no detectable allergens (PI eq < 0.1 $\mu\text{g/g}$), three contained less than 0.5 $\mu\text{g/g}$ and only one contained 20 $\mu\text{g/g}$ dust. Thus, mite allergen content is much lower in dust samples from subjects living at high altitude. This can account for the lower prevalence of asthma and perennial rhinitis in these subjects. Besides, high mite allergen content can be measured in dust from mattresses of asymptomatic subjects.



107 RESPIRATORY ALLERGY AND AERO ALLERGENS IN SAUDI ARABIA. Abdulrahman Al-Frayh, MD, S. M. Hasnain, PhD, and Harb A. Harfi, MD, Riyadh, Saudi Arabia.

In order to investigate the prevalence of allergic respiratory diseases in Saudi Arabia, an epidemiologic and aerobiologic multicenters study was conducted in three major geographical areas. Survey questionnaires were obtained on 2566 school age children for analysis. Children with recurrent wheezing ranged from 6.5% to 15.9% in the different areas, with an average of 11.43%. In comparison, children with symptoms suggestive of allergic rhinitis varied from 12% to 25% of the total group with an average of 18% for the whole country. The frequency of asthma among parents followed the same pattern as in children.

Aerobiologic studies using Burkard 7 days spore trap, and house dust analysis coupled with skin testing, were used to study the environmental allergens. A variety of fungus spores and pollens have been identified. Cockroach allergens were found in 70% and rodents urine allergens in 14% of 180 house dust samples tested. 65% of the patients tested reacted at least to one out of 32 panel allergens used for screening. A study is underway to identify the major local allergens components and their relationship to patients symptomatology.

Our study indicates high prevalence of respiratory allergic diseases especially in the young population.

108 EARLY AEROALLERGEN EXPOSURE IN CHILDREN AND THE DEVELOPMENT OF ATOPIC ASTHMA - A RETROSPECTIVE STUDY.

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Previous studies have indicated that month of birth is important in determining which particular allergies are manifested by atopic individuals. The homes of 67 atopic asthmatic children have been retrospectively studied to estimate the concentrations of inhaled aeroallergens to which the children were exposed during their first few months of life. Low (2l/min) and high (85l/min) volume sampling methods were investigated. Low volume sampling proved most appropriate as no greater concentrations of allergens (range = 0 - 190 ng/m³) were found using the high volume sampler and also 2l/min is equivalent to the minute tidal volume of a small baby. Results show a strong association (p<0.001) between the presence or absence of the house dust mite allergen Der pI in the air and skin test reactivity, with a similar association (p<0.01) for cat allergen Fel d1. Individual RAST values also correlate with the concentrations of these allergens in the air (R=0.7, p<0.01). Repeated sampling in these houses showed the results to be reproducible. These findings suggest that manipulation of the environment to reduce exposure to allergens in the first 3 months of life may reduce the risk of development of allergy and subsequent asthma.

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