subjects showed positive metacholine challenge, PD20 ranging from 20 to 600 mg.

The study was performed outside the pollen season, when all symptoms free.

All patients with allergic asthma showed a clinical and cytophilological reaction upon allergen specific challenge (30 min-early phase reaction), while neither clinical or cytophilological reaction were elicited in non-allergic asthmatic subjects and healthy volunteers upon ASCC.

The study confirm the usefulness of ASCC in allergic inflammation and supports its employment also in patients with single history of allergic asthma.

P3462

Studies of Serum sIL-1R, Eosinophil Level and Pulmonary Function in Allergic Asthma after Antigen Provocation

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We performed antigen inhalation provocation tests in 31 allergic asthma patients and 12 normal subjects, and detected pre-provocation and post-provocation pulmonary function, meanwhile determined serum soluble interleukin-1 receptor (sIL-1R), eosinophils (Eos), total serum IgE (TgIgE) and specific IgE (sIgE). The results: The post-provocation serum sIL-1R, Eos, TgIgE and sIgE of asthma patients were higher than those of normal subjects and before provocation (P < 0.01), while FEV1, FVC, sEos significantly decreased and Raw remarkably increased after provocation compared with those of normal subjects and before provocation (P < 0.01). Correlation analysis showed that sIL-1R, Eos were significantly negatively correlated to FEV1, sEos and remarkably positively correlated to Raw. The above results indicated that sIL-1R was one of the marker of T cell activation and Eos infiltration is the reason of the change in pulmonary function. sIL-1R level and Eos number were closely related to the degree of bronchial hypersensitivity in asthma patients, and they might be regarded as objective evidences in clinical diagnosis and treatment.

P2463

Aspecific Airway Hyperresponsiveness in Mono-Sensitive Sicilian Patients with Allergic Rhinitis Correlates with Serum IgE Levels and Blood Eosinophilia during and out Pollen Season


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Studies of Serum sIL-1R, Eosinophil Level and Pulmonary Function in Allergic Asthma after Antigen Provocation


Cattedra di Medicina Interna II, Universita' di Palermo, Italy

Allergic asthma has been said to be a risk factor for the development of asthma as suggested by its frequent association with airway hyperreactivity. However, little is known about the effect of natural specific allergens exposure on the bronchial reactivity of mono-sensitive patients with rhinitis in the Southern Mediterranean area, in relation to skin reactivity to allergens, serum IgE levels and blood eosinophils.

The significance of the association between allergic rhinitis, asthma and abnormal airway reactivity with regard to the physiogenesis of asthma is unclear. For this reason, we have studied aspecific bronchial hyperreactivity, in patients with seasonal allergic rhinitis, with reference to the responsible allergen. The aim of the study was to correlate the bronchial responsiveness to methacholine in subjects with allergic rhinitis during and out the pollen season with serum IgE and blood eosinophilic counts.

Fourty-six mono-sensitive patients with clinical diagnosis of allergic rhinitis and mono-positive skin prick test (SPT) to pollen allergens were enrolled in the study. Twenty patients suffered from seasonal rhinitis to Parietaria pollen, 15 patients to Grass/biene pollen and 14 patients to Olea pollen. In all patients lung function measurements (assessed as response to methacholine), serum IgE and eosinophil counts were measured during and out pollen season.

During pollen season 16 out 49 rhinitis patients demonstrated values of 0.2 mg/m for Parietaria pollen, above the asthmatic range whereas out pollen season only 8 patients were in the asthmatic range. By analysing the results with reference to the responsible allergen, during the pollen season 15 out 16 patients were Parietaria-sensitive and out pollen season 7 patients. Finally, in Parietaria-sensitive rhinitis bronchial responsiveness, both during and out pollen season, significantly correlated with serum IgE and with blood eosinophil counts.

Our results is consistent with the hypothesis that Parietaria is much important than Olea and Gramineae as a risk for developing nonspecific bronchial hyperreactivity. On the whole, present observations provide further evidence that there is an interrelationship of allergen kind, IgE, eosinophil and bronchial hypersensitivity suggesting that they may play a role in the development of bronchial asthma in rhinitis patients.

P2464

Contribution of Separate House Dust Mite Avoidance Measures in Improving Perressponsiveness suggesting that they may play a role in the development of bronchial asthma. However, avoidance measures are expensive and often require substantial effort from either patients or relatives. It is therefore important to evaluate whether it is necessary to reduce HDM to both mites, bed dust and clothing or to concentrate in one or two of these sites for the treatment of adult asthmatics.

Methods: In a double-blind placebo controlled intervention trial, the effect of different avoidance measures was assessed. After a baseline period of 4 weeks, 133 HDM-allergic patients with asthma (FEV1 pred: 86%, PC20:0.72 mg hist./m!) were randomly allocated to an active and placebo sanitation group. The active sanitation consisted of treating floor covering with Acrostat® and encasing mattress and bedding with HDM-impermeable covers (Intervet® Bedding Systems). The placebo sanitation consisted of treatment of the covering with water and the use of mattress covers, which were permeable to the house dust mite. At the start of the baseline and 8 weeks after the intervention separate dust samples were taken from the mattress, livingroom and bedroom floor with a vacuum cleaner (Phillips TC36, 1400 W). FEV1 and PC20 (bronchial hyperresponsiveness). By means of a pooled analysis and multiple linear regression (adjusted for age, gender and smoking) it was assessed which of the changes in Der p I of three sampling sites contributed most to the changes in FEV1 and PC20.

Results: The changes in Der pI I achieved at the mattress (ng/g) and the bedroom floor (ng/m²) contributed most to the changes of PEV1 in these adult asthmatics. Changes in Der pI concentration of the livingroom did not contribute to the changes in FEV1. There was no significant relation of the changes in Der pI at any of the three sites with changes in PC20.

Conclusion: Because reductions in Der pI at the bedroom floor and the mattresses had a positive effect on FEV1, avoidance measures at these sites are recommended in adult asthmatics. Reductions in Der pI at the livingroom floor had no influence on the FEV1, probably due to the fact that adults are less exposed to Der pI of the livingroom covered with children. It is therefore questionable whether avoidance measurements of the livingroom floor should be recommended to HDM-allergic adults.

Costs and effort will be saved in this way.

P2465

The Microfungus Trichoderma Viride Possesses in Low Concentrations Histamine Releasing Activity and Potentiates Human Basophil Release


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In the last years, there have been several reports of dampness and associated mould growth in buildings damaged by water. Cases of sick building syndrome including respiratory symptoms have been reported from persons exposed to indoor air in these buildings. Heavy growth of Trichoderma viride (TV) are often found in the building materials. Microorganisms may contribute to the symptoms by initiating mediator release and inflammatory reactions leading to mucosal damage. The capability of TV to trigger or potentiate histamine release (HR) from mast cells in the airways epithelium was therefore examined in cells obtained by bronchoalveolar lavage (BAL) and compared with the action on basophils from peripheral blood. An equal HR was obtained in BAL-cells and basophils since TV in the range of 0.1 to 0.2 mg/ml induced HR from 3 to 20%. The HR was not IgE-mediated, verified by unchanged basophil response when IgE were removed from the cell-surface. However, in very low concentrations the fungus was able to potentiate HR from BAL-cells. A four-fold increase in IgE-mediated HR caused by anti-IgE antibody was thus obtained by 0.1 ng/ml TV. This is in contrast to the high concentrations (10⁻⁴ ng/ml TV) needed to enhance basophil HR. These findings indicate that the mucosal mast cells are very sensitive to the fungus and inflation of TV in sick buildings may therefore be harmful especially in atopic subjects.

Clinical and experimental aspects

P2466

Nitric Oxide: A Role in Maintenance of Systemic and Pulmonary Vascular Tone in Man


Department of Clinical Pharmacology, Ninewells Hospital and Medical School, University of Dundee, Scotland

The aim of his study was to examine whether the vasodilator nitric oxide (NO) has its employment also in patients with single history of allergic asthma.

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