in IgG2a level. AEBSF could effectively reduce the proteolytic activity in BALF, IL-4 and IL-5 decreased significantly (P = 0.05) after AEBSF treatment while a significant (P = 0.05) increase was observed in IL-10 in BALF. Airway inflammation reduced significantly as revealed by lung histopathology, EPO activity and cysteiny1 leukotrienes in BALF after treatment. AEBSF also suppressed oxidative stress in terms of 8-isoprostanate in BALF. Among the treatment doses, 10 and 50 μg of AEBSF were most effective in reducing majority of the inflammatory parameters.

Conclusions: Prophylactic and therapeutic treatment of AEBSF attenuates the airway inflammation in mouse model of airway allergy and have potential for the treatment of inflammatory allergic diseases.

28 Potential Role of Scavenger Receptors in Human Mast Cell Cytokine Response to Oxidized Idl
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Background: Human atherosclerotic lesions contain mast cells and oxidatively modified low-density lipoprotein particles (oxLDL). Scavenger receptors are cell surface receptors that bind and internalize oxLDL, and they play an important role in macrophage foam cell development, a key event in the initiation and development of atherosclerotic lesions. The purpose of the study was to analyze expression of the most common scavenger receptors in mast cells, and determine whether oxLDL particles can induce them to secrete pro-inflammatory cytokines that are potentially capable of inducing and amplifying atherogenic processes.

Methods: Mast cells were differentiated from human cord blood-derived CD34+ progenitor cells in vitro (CBMC), and their expression of scavenger receptors was analyzed by conventional RT-PCR, flow cytometry and Western blot techniques. Fluorescently-labeled oxLDL was used to investigate LDL internalization by mast cells. Secretion of pro-inflammatory cytokines into the incubation medium and degranulation of the mast cells in response to oxLDL were assayed by ELISA and a colorimetric enzymatic test for beta-hexosaminidase, respectively.

Results: CBMC expressed mRNA and protein for LOX-1, SR-AI and CD68, but not for CD36, and the expression of LOX-1 and SR-AI was upregulated by incubation of the cells with oxLDL. CBMC internalized oxLDL more efficiently than native LDL, while simultaneous neutralization of CD68, SR-AI and LOX-1 with monoclonal antibodies resulted in reduced oxLDL uptake. Moreover, in response to oxLDL, CBMC showed increased release of β-hexosaminidase, and a dose-dependent secretion of the pro-inflammatory cytokines IL-6 and MCP-1.

Conclusion: Our results reveal that cultured human mast cells express scavenger receptors that are upregulated by oxLDL. In atherosclerotic lesions, oxLDL may activate MC to secrete pro-inflammatory cytokines, and so they cause mast cells to act as a cellular link between oxLDL and the inflammatory response in atherosclerosis.

29 Allergic Rhinitis to Ragweed Pollen
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Background: The prevalence of pollen allergy is estimated around 40% in general population. Ragweed (Ambrosia artemisiifolia) pollen represents a major source of allergen but was rare in Romania. The aim is to evaluate the symptoms and associated factors in patients with allergic rhinitis to ragweed pollen in the northwest region of Romania.

Methods: 74 patients (pts) (mean age 27.97 ± 13.85 years) with allergic rhinitis to ragweed pollen were included in the study. The patients were clinically evaluated regarding the severity of the symptoms on a scale from 0 to 3 and their duration. A total score over 6 indicates a moderate/severe form of rhinitis. We evaluated the association with other allergic manifestations (asthma and urticaria). All the patients had skin prick tests to inhalant allergens. The obtained data were statistically analyzed using Anova, Chi-square and Fischer tests, with a significance of P < 0.05.

Results: 50.94% of the pts were female. 58.1% of them presented mild allergic rhinitis, while 41.9% moderate severe forms. 27% of the pts were monosensitised to ragweed pollen and 73% of the pts were polysensitised. The patients monosensitised to ragweed had moderate/severe forms of rhinitis (14 vs 86%, P = 0.004) compared with polysensitised group. The symptoms score was higher in pts with monosensitisation compared with polysensitisation pts (7.05 vs 5.28, P = 0.02). In monosensitized group the ocular symptoms were more frequently present (65 vs 18%, P = 0.02) and were more severe (0.65 vs 0.33, P = 0.01). The number of pts with association of allergic rhinitis and asthma was higher in the polysensitised group compared to the monosensitised one (44.4 vs 11.1%, P = 0.029). The interval between the onset of the symptoms and diagnosis of rhinitis is higher in polysensitised pts and significantly increased in pts with asthma. There is no correlation between environment (rural–urban), age, sex, family and personal allergic history and the type of sensitisation and severity of the symptoms.

Conclusions: Ragweed produces intense allergen pollen and determines severe forms of allergic rhinitis and also the presence of ocular symptoms. Polysensitisation increases the risk of associated asthma and also increases the interval between the onset of the symptoms and diagnosis.

30 Ragweed Allergy – What Role Does It Play in Bavaria?
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Background: Ragweed (Ambrosia artemisiifolia), is increasingly spreading in Southern Germany and Central Europe. Little is yet known about the sensitization and allergy rates in Bavaria.

Methods: In 2008 to 2010 patients from a Bavarian university allergy unit were enrolled into the study. The patient’s history was recorded by a standardised questionnaire concerning allergies. Sensitization rates were measured by skin prick test (SPT) for seasonal aeroallergens including ragweed. Patients sensitized to ragweed were further characterized by measuring specific serum immunoglobulin E (IgE) for ragweed specific allergens (by ImmunocAP and ELISA). To determine the clinical relevance challenge tests (nasal/conjunctival) with ragweed were performed.

Results: 1022 patients were enrolled in the study (665 female, 357 male). 289 patients were sensitized to ragweed (SPT positive). In ragweed sensitized patients the sensitization rate to mugwort was 61.8% whilst in patients not sensitized to ragweed it was 7.4%. The sensitization to birch was 78.1% resp. 36.4%. In 120 ragweed sensitized patients challenge tests with ragweed extract were performed (nasal n = 110; conjunctival n = 60) with positive results in 29 (26%) resp. 12 (20%) patients. In 232 ragweed sensitized patients specific IgE to nArt v 1 was observed significantly more frequently than to nAmb a 1.

Conclusions: The results of this 3-year study show that in a Bavarian allergy unit sensitization to ragweed is frequent. Often ragweed-sensitized patients have sensitivities to multiple seasonal aeroallergens. There is a coexistence of ragweed and mugwort specific allergens. One fourth of the challenged
patients that are sensitized to ragweed show clinical allergy symptoms. With sufficient ambient allergen exposure, a prolonged allergy season can be expected for this at-risk population.

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31 Nasal Nitric Oxide and Nasal Polyposis as Determinants of Asthma Control

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Background: The relationship between asthma control, its comorbidities and noninvasive markers of airway inflammation has been investigated with controversial results. The aim of this study was to analyze the relationship between level of asthma control (evaluated by ACT and ACQ questionnaires), its main comorbidities (rhinitis, chronic rhinosinusitis - CRS, obesity), exhaled nitric oxide (FENO) and nasal nitric oxide (nNO).

Methods: Forty-one consecutive asthmatic patients (mean age: 50 years, range: 21–80; 21 females; 2 smokers) were enrolled into the study. All patients were evaluated for the diagnosis of rhinitis, CRS (with or without nasal polyps) and obesity (by measuring the BMI). All patients underwent skin prick tests for a panel of common inhalant allergens, spirometry, FENO and nNO, and completed ACT and ACQ questionnaires. An univariate analysis was performed to identify determinants of asthma control (defined by means of ACT and ACQ values).

Results: Twenty-seven (65.9%) patients had ACQ values indicating asthma control (ACQ ≤1), while, according to ACT, only 14.6% of patients were completely controlled (ACT = 25), 48.8% partially controlled (20 ≤ ACT < 25) and 36.6% uncontrolled (ACT < 20). ACT and ACQ values were negatively correlated with nNO levels (R² = -0.175 and R² = 0.013 respectively). The univariate analysis showed that the only significant determinants of lack of asthma control were nNO and the diagnosis of CRS with nasal polyps (P = 0.020 and 0.018 respectively).

Conclusions: Nasal nitric oxide was the only biomarker, amongst those evaluated, which was correlated to asthma control. This finding suggests that nNO may reflect particular aspects of airway inflammation which may be more strictly correlated with asthma underlying the importance of CRS with nasal polyps in loosing asthma control.

32 Peak Nasal Inspiratory Flow Levels in Children With Allergic Rhinitis and Their Health Related Quality of Life (HRQL)

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Background: Allergic rhinitis impairs the quality of life of children. There is paucity of data with regards to clinical profile and health related quality of life (HRQL) of children with allergic rhinitis in India and hence we studied the clinical profile and measured Peak nasal inspiratory flow (PNIF) of children with allergic rhinitis in an urban population, and assessed their Quality of life.

Methods: Children with moderate to severe persistent allergic rhinitis, diagnosed as per Allergic Rhinitis and Impact on Asthma (ARIA) guidelines, in the age group of 6 to 18 years were included in this study. The quality of life questionnaire, pediatric and adolescent by Juniper et al was used. PNIF was measured by using ‘in-Check’ peak nasal inspiratory flow meter.

Results: Of the 100 children studied, 70 (70%) were in the age group of 6 to 11 years and 30/100 (30%) were between 12 and 18 years of age. An equal distribution of sex was observed in 6 to 11 year age group, and in the 12 to 18 year age group there was a male preponderance (1.9:1). Majority (87%) of children in our study had Moderate Allergic rhinitis and 13% had severe Allergic rhinitis. Bronchial asthma, a commonly reported entity in Allergic rhinitis was seen in 19% of the cases. 66% of children in our study had PNIF values of the fifth to 95th percentile where as 24% were in the third to fifth percentile and 10% had their PNIF values less than third percentile. PNIF showed a linear correlation with severity of allergic rhinitis. HRQL assessment showed that children in the 6 to 11 year group had derangement in the activity and physical symptoms domain while children in the 12 to 18 year group had predominantly involvement of emotional and practical problem domains. Quality of life score worsened with decrease in PNIF.

Conclusions: PNIF is very useful tool to quantify the nasal obstruction in Allergic Rhinitis. PNIF is easy to administer, reproducible and correlates well with the severity of the disease. HRQL assessment helps us to do psycho educational training to adhere compliance.

33 Exhaled Nitric Oxide and Airway Function in Seasonal Allergic Rhinitis

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Background: Seasonal allergic rhinitis could predispose to the development of chronic bronchial inflammation. However, association between seasonal allergic rhinitis and airway function, especially exhaled nitric oxide [FENO], are not fully understood.

Objectives: The aim of this study was to evaluate the relationship among FENO and airway function and nasal symptoms in patients with seasonal allergic rhinitis without asthma.

Methods: We included 37 subjects [9 males and 28 females] in this study. Total serum IgE were investigated and specific IgE for 4 pollen allergens and 5 perennial antigens were determined by RAST. Sensitization to a specific allergen was defined as over RAST score 2. We compared 4 groups. Group A: 7 nonatopic subjects [no nasal symptoms and RIST, RAST negative, 1 males and 6 females, mean age:33.2 24–52 years]. Group B: 10 atopic subjects with a sensitization to Japanese cedar without medication [6 males and 4 females, mean age: 44 20–58 years]. Group C: 10 atopic subjects with a sensitization to Japanese cedar who took oral anti-histamine medicine during pollen season [2 males and 8 females, mean age: 34.9 24–52 years]. Group D: 10 atopic subjects with a sensitization to Japanese cedar who receive intranasal corticosteroid treatment during pollen season [2 males and 8 females, mean age: 40.2 26–56 years]. Score of nasal symptoms, FENO, spirometry, total eosinophils, nasal eosinophils, were investigated before, during, and after pollen season.

Results: Regardless of having treatment or not, in comparison with the subjects without the allergy, FENO showed a statistically significant increase in all patients with a sensitization to Japanese after pollen season. In group D, v 50/v 25 was the tendency to adversely affect after the pollen season, and correlation between FeNO rate of the change and v 50/v 25 rate of the change admitted. As for the other indexes, a statistically change were not showed in the comparison of each group.

Conclusions: These results suggest that FENO is a primarily marker of bronchial inflammation in patients with seasonal allergic rhinitis during pollen season and intranasal corticosteroid treatment may be effective for improvements in lower airway outcome.

ANAPHYLAXIS

34 Immunologic Evaluation of the Patients With Ranitidine Anaphylaxis

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Results: Regardless of having treatment or not, in comparison with the subjects without the allergy, FENO showed a statistically significant increase in all patients with a sensitization to Japanese after pollen season. In group D, v 50/v 25 was the tendency to adversely affect after the pollen season, and correlation between FeNO rate of the change and v 50/v 25 rate of the change admitted. As for the other indexes, a statistically change were not showed in the comparison of each group.

Conclusions: These results suggest that FENO is a primarily marker of bronchial inflammation in patients with seasonal allergic rhinitis during pollen season and intranasal corticosteroid treatment may be effective for improvements in lower airway outcome.