193 Prevalence of Swallowing Dysfunction in Severe Asthma: Preliminary Results

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Background: The widespread use of inhaled corticosteroids (ICS) for the treatment of persistent asthma, although highly effective, may be associated with local side effects. The aim of this study was to evaluate swallowing function in patients with severe persistent asthma, by nasal fibroscopy.

Methods: Sixty-four patients with severe asthma with a mean age of 35 ± 11 years, using inhaled corticosteroids without spontaneous complaints related to swallowing, participated in the study. The participants were evaluated using nasal fibroscopy. Each participant was offered diet boluses (3, 5 and 10 ml) such as thin liquids, pasty and solids, and their swallowing function was determined according to the following criteria: (1) premature oral leakage to the pharynx; (2) laryngeal penetration; (3) tracheal aspiration; and (4) pharyngeal stasis.

Results: Nineteen (25.3%) of the patients with severe asthma presented premature oral leakage or pharyngeal stasis of the bolus after swallowing or laryngeal penetration.

Conclusions: Patients with persistent asthma presented subclinical manifestations of abnormal swallowing, when analyzed using nasal fibroscopy, possibly associated with neuromuscular dysfunction caused by inhaled corticosteroids.

194 Influence of Montelukast on the State of Eosinophil Activation in Asthmatic Children

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Background: Eosinophils play an important role in inflammation asthma. In asthma, the leukotrienes are implicated in pathophysiological mechanisms. The antileukotriene montelukast inhibits proinflammatory cytokines and decreases half-life of eosinophils. However, the influence of montelukast on the activation of eosinophils is not clear yet. Therefore, the objective of this work was to evaluate the effect of montelukast on the state of activation of eosinophils in children with persistent asthma.

Methods: It was selected 83 asthmatic children, from 2 to 18 years old, that were randomly assigned to treatment with montelukast or placebo for 12 weeks and 10 healthy control children. Asthma severity was assessed by the criteria of Global Initiative for Asthma (GINA, 2010). Peripheral blood was taken from children after parent’s informed consent. The activation of eosinophils was assessed by morphological parameters after adherence to slide, before and after 12 weeks of treatment with montelukast or placebo. The following morphological parameters were evaluated: normal eosinophils, spreading, rounding, presence of localized and generalized pseudopods, release of small, moderate and large quantity of granules, cytoplasmatic vacuoles, cluster of free eosinophils granules, cell degeneration and cell communication.

Results: The number of eosinophils with normal feature in peripheral blood showed an inverse correlation with the severity of asthma, while the emission of widespread pseudopods and isolated granules showed positive correlation with the severity of asthma (P < 0.0001; Spearman correlation test). Montelukast was able to reduce the number of eosinophils in peripheral blood from 513 cells/mm3 to 485 cells/mm3 (P = 0.017, paired t test) after treatment, and to increase the proportion of eosinophils with normal feature from 45% to 51% (P = 0.03; Wilcoxon test). The drug was also able to decrease the median of eosinophils with rounded feature (1.5 versus 0) and that releasing free eosinophil granules (2.25 versus 0.5) after 12 weeks of treatment compared to placebo, respectively (P = 0.005; Mann Whitney test).

Conclusions: Our data showed, for the first time, that montelukast is able to modify the activation of eosinophils correlated with clinical severity. Parameters of eosinophil activation could be used to the follow up of response to montelukast treatment of asthma individuals.
Results: The frequency of the coughing decreased significantly 12 months later (the last 4 months) as compared to the first 4 months in both groups. Concerning the wheeze, the significant change was also examined in both groups. As for the frequency of the β2-receptor agonist inhalation consumption, the significant decrease was observed in group A and B. The meaningful change of the peripheral blood eosinophile count was not watched in group A and B. The serum IgE value decreased 12 months later in the subgroup of group A, who showed the decreased frequency of symptoms, whereas such a meaningful decrease was never recognized in group B. PLK-EK likely restrains an increase of serum IgE value.

Conclusions: Pranolukast-EK modulates IgE production and eosinophile count in patients with the mild and moderate type of bronchial asthma, and has action to improve wheeze expression clinically.

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Effect of the Treatment With Montelukast in Asthmatic Patient
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Background: Asthma is chronic inflammatory illness of the air roads in which several cells playing an important role in the development of the bronchial hiperreactivity. The leukotriens are mediators that participate in the inflammatory process being involved in the bronchoconstriction. To evaluate the effectiveness of the Montelukast in patient pediatic and adults with Moderate-Severe Persistent Asthma.

Methods: 201 patients were studied, 101 of 6 to 16 years of age and 100 of 17 or more years old with persistent moderate and severe asthma, without antecedents of illnesses hematologic, hepatic or renal, to those that were administered montelukast in dose from 5 mg of 6 to 14 years and 10 mg to those bigger than this age, once a day during 6 months. A monthly pursuit of its clinical evolution was taken, with control of the renal function and liverwort to the beginning, to the 3 months and when concluding the study; tests of breathing function were also made to the beginning and when finishing the treatment.

Results: Neither of the patients worsened, 81% of them passed to stay asymptomatics in this period and 18.9% they happened to fast. In 6 cases it was necessary to move away the treatment for different reasons for causes unaware to the medication.

Conclusions: The effectiveness of this medication was demonstrated and they were not problems of intolerance or important adverse effects.

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The Effectiveness of two Different Methods of Salbutamol Nebulization in Children with Asthma
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Background: Short acting beta-2 agonists (SABA) inhalation is commonly used in bronchodilatatory test, which is still an important research tool in the diagnosis of respiratory diseases with bronchial obstruction. Bronchodilatatory effect of SABA depends primarily on the degree of patency of the airway, the type and dose of SABA, as well as the type of inhaler and inhalation technique. The aim of the study was to evaluate the spirometric effectiveness of 2 different methods of salbutamol nebulization in asthmatic children.

Methods: The study group included 132 children aged 6 to 18 years (mean: 11.7), 91 (69%) boys and 41 (31%) girls with partly controlled asthma treated in the Allergy or Pulmonology Outpatient Clinics in Children’s University Hospital in Lublin. The study was randomized and single blind design. Patients were randomly assigned to one of 2 groups. The first group used 2.2 mg of salbutamol (mean calculated dose) in the breath-actuated nebulizer (BAN) (Marine, Medbryt, Poland), while the second one—5 mg salbutamol (constans dose) in the constant-output nebulizer (CON) (Porta-Neb, MEDIC-AID, UK). Flow-volume curve (dynamic spirometry) was measured before and 20 minutes after drug nebulization (bronchodilatatory test). FEV1 (expiratory volume in first second) and FEF25-75 (forced expiratory flow at 25 to 75% of forced vital capacity) values were analyzed. The change in FEV1 and FEF25-75 after treatment with respect to baseline was calculated.

Results: The mean baseline value of FEV1 was 67.4% in BAN and 70.5% in CON group and there was no statistical difference between these groups. The significant improvement of measured ventilatory parameters was observed. There was the significant difference in the bronchodilator response to salbutamol between 2 methods of nebulization. The value of FEV1 increased at 16.2% in BAN group and at 12.6% in CON group (P = 0.026). The value of FEF25-75 increased in both groups at 37.7% and 32.7% respectively and there was no statistical difference between these groups.

Conclusions: We observed greater bronchodilatatory effect of salbutamol inhaled via breath-actuated nebulizer while delivering a double lower dose. 2 Bronchodilatatory test using nebulized salbutamol in breath-actuated nebulizer should be recommended for children.

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AAAI Survey on Immunotherapy Practice Patterns Concerning Dosing, Dose-Adjustment after Missed Doses and Duration of Immunotherapy
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Background: Several practical issues dealing with the exact application of allergen immunotherapy (AIT) among European and US allergists are not well known. Guidelines on AIT give recommendations and suggestions for only some of them. We present this unique survey with worldwide response.

Methods: The AAAAI immunotherapy committee conducted a web-based practice patterns survey (program: Survey Monkey) among all members in/outside US on dosing, dose-adjustment after missed doses and duration of AIT.

Results: 1201 Returned questionnaires (almost 25% response rate). 21% were non-US-Canada members. Maintenance doses in USCan are (mean/median): Dermatophagoides farinae (Df): 2155/1000AU; Df solo 2484/1000AU. Dpt when combined with Df 1937/1000AU; Dpt solo: 2138/1000AU.Cat 3224/2000BAU. Grass 11,410/4000BAU. 57-65% of the dosing falls within the recommended Practice Parameters recommended ranges. Non-USCan allergists expressed maintenance doses in many different units making analysis impossible. Dose-adjustment after missed doses is based on ‘time elapsed since the last applied dose’ by 77% of USCan and 58% of non-USCan allergists and on ‘time since missed scheduled dose’ by the rest. Doses are adjusted when a patient comes in more than 14 d/5 wk after the last administration at build-up/maintenance by both USCan and non-USCan colleagues. The mostly followed dose-adjustment schedules after 1, 2, 3 missed doses are: Build-up: repeat last dose, reduce by one dose, reduce by 2 doses; maintenance: reduce by one dose, reduce by 2 doses, reduce by 3 doses. 26% uses a different approach reducing doses by a certain percentage or volume. AIT is restarted after a gap in build-up of >30 days and of >12 weeks during maintenance in both groups (median). Outside USCan AIT is prescribed for 3 years (Median). However, 75% of USCan allergists prescribes AIT for 5 years. Main reasons why to