

TUESDAY, SEPTEMBER 4TH 2012

377. Asthma management

P3420**Influence of body mass indexes on response to treatment in acute asthma**

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Background: Increases in body mass index (BMI) are reported to influence asthma response to treatment. The aim of this study was to investigate the relationship between BMI and response to treatment in a group of patients that were referred for asthma control.

Patients and methods: Effectiveness measurements in this analysis included percentage of changes in forced volume in 1 second (FEV1), forced volume capacity (FVC), FEV1/FVC, and FEF25-75%. A total of 293 subjects with asthma of both genders and above 18 years of age were divided into the following BMI categories: 107 (36.5%) non-overweight (BMI <25), 186 (63.5%) overweight and obese (BMI ≥25). Percentage of change was defined as change in variable between baseline and end-of-treatment.

Results: Analyses of non-overweight vs. overweight/obese asthmatics demonstrated non-significant differences in baseline FEV1 (1.62±0.56 Lit vs. 1.63±0.56 Lit L, p=0.89); FVC (2.58±0.73 Lit vs. 2.47±0.82 Lit, p=0.25); and FEF25-75% (1.04±0.55 ml/sec vs. 1.05±0.50 ml/sec, p=0.47) respectively.

Compared with non-overweight subjects, obese subjects with asthma were less responded to treatment than non obese asthmatic subjects. Percentage changes of FEV1, FVC, FEF25-75%, and FEV1/FVC in non-obese versus obese patients were: 79.57±55.14% vs. 62.13±41.72%, p= 0.005; 47.71±33.76% vs. 39.93±28.30%, p= 0.036; 151.98±127.82% vs. 123±91.12%, p= 0.041; 20.54±15.63% vs. 15.63±11.32%, p=0.005; respectively.

Conclusion: Percentage changes of spirometric values to treatment in over weight/obese asthmatic patient were lesser in compared with non-overweight subjects.

P3421

Perceptions and factors affecting poor adherence to inhaled steroids among bronchial asthma patients in Kuwait

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Background: Poor adherence to regular inhaled steroids is a cause of poor asthma control.

Aim: To assess adherence to treatment, factors of poor adherence, perception on inhaled steroids among asthmatics in Kuwait

Design: Observational study

Subjects: 150 asthmatics (95 m,55f) 15-60 years, were recruited and followed up for 12 consecutive months from January 2009 to December and asked to fill in a questionnaire of adherence, beliefs about asthma,treatment and reasons for non adherence.

Results: First 3 months, 66 (44%) were adherent to twice daily dosage, but at 12 months only 25%. More males were adherent at 3 months (63.6% vs. 36.4% $p < 0.05$) and at 12 months (81.6% vs 18.4% $P < .05$). Employed as compared to unemployed ($p < 0.05$), educated up to secondary school and above, as compared to the less educated ($p < 0.05$) were more adherent at 3 and 12 months. At 12 months, Kuwaitis were more adherent than expatriates ($p < 0.05$).

Logistic regression analysis of the beliefs for non adherence showed 52% did not consider asthma as a serious disease. 82% stopped medicine because of fear of side effects ($p < 0.05$). 73% were influenced by the wrong advice by relatives or friends, that long term steroids are dangerous ($p < 0.05$). 80 (51.6%) believed tablets are less dangerous than inhalers.

Conclusion: Adherence to inhaled steroids was poor. Factors were, females, fear of side effects, influence of friends and relatives with wrong information on steroids and poor understanding about asthma.

Since the employed and educated patients showed good adherence, asthma education is important in asthma management. In non-adherence, the clinician should find methods to overcome the barriers of non adherence.

P3422

Community-acquired pneumonia in pediatric patients: New diagnostic priorities

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Background: High incidence of childhood community-acquired pneumonia (CAP), changes in CAP manifestations, reduced significance of classical diagnostic criteria, leading to inadequate treatment, work against lowering risk of complications and mortality.

Aim: To study the features of actual clinical course of pediatric CAP.

Methods: 64 patients aged 1-18 years, with clinically and radiographically diagnosed CAP with detection of serum antibodies against intracellular pathogens, were followed up for 12 months. Patients were divided into two age groups: aged 1-4 (group A, n = 24) and 5-18 (group B, n= 40). All patients had numerous phenotypic signs of heritable connective tissue disorders (HCTD).

Results: All patients had indistinct clinical manifestations. Recurrent course of CAP was in 54(84.4%) patients. CAP caused by Chlamydomphila pneumonia (Cp) was more frequent in group A – in 23 patients (95.9% of the group), by Mycoplasma pneumonia (Mp) - in group B, in 37 patients (92.5% of the group).

Asthma was diagnosed in 29(45.3%) patients mainly of group B, with recurrent CAP in 34.5% of asthmatic patients; 62.1% of them had pulmonary hypertension (PH), 6.7% - CT signs of bullous emphysema (BE).

Conclusions: 1. Close relationship between HCTD and CAP is revealed. 2. Cp-CAP was more frequent in pediatric patients up to 4 years old, Mp-CAP - in children 5 years and older. 3. Recurrent CAP was the cause of asthma exacerbation in one-third of patients with asthma and CAP. 4. Asthma in children with CAP and HCTD was more severe with development of PH, BE.

P3423

Strategy and implementation documents were published to improve outcomes in COPD and asthma in England

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Rationale: Despite three million people estimated to have COPD in the UK, only 900,000 currently have a diagnosis. Variation in care and outcomes is significant. Action was required to move from a reactionary service, treating those with moderate to severe disease, to prevention, earlier diagnosis and pro-active management.

Methods: A systematic evidence review was undertaken with the engagement of a range of healthcare professionals from primary and secondary care. Following wide consultation, consensus was reached on six high-level objectives to improve

outcomes for patients which would require a collaborative approach involving public health, health and social care services.

Results: An Outcomes Strategy for COPD and Asthma was published in July 2011. This was accompanied by an implementation document specifically for the health service, which set out in more detail the actions to help meet the objectives. A baseline dataset of indicators for measuring and monitoring outcomes for improvements in the respiratory care have been established and benchmarking data produced to assess variation in models of service provision across England. This dataset is responsive to change at all levels of the provider system from local through to national and helps to identify areas and particular aspects of care for local action.

Conclusion: Through the Outcomes Strategy for COPD and Asthma, the NHS implementation document that accompanies it, and the regional clinical leadership, care and outcomes for COPD are improving through a shift in the burden of the disease to prevention, diagnosis and proactive management.

P3424

The directions of mild asthma evolution

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Mild asthma is the heterogenic cohort with low level of adherence and asthma control, so investigators curiously study it.

The aim was to study the results of evolution of the disease in mild asthma cohort for the period of 3 years.

We studied the history of 141 patients with a 3 year history of mild persistent asthma. Three groups were formed: 1st group – had actual controlled asthma (n=43), 2nd – had partly controlled asthma (n=74), 3rd - uncontrolled asthma (n=24). E-data base collected the data of all the patients and includes information concerning educational level, passing educational asthma programs, lung function, Ig E level, treatment regimens, asthma control, measured by ACQ and ACT, cooperation index, life quality level and etc.

We observed in the 1st group – higher level of lung function and life quality level. Patients of this group more often took part in asthma educational programs, had higher cooperation index ($p < 0.05$). Besides this, 28% this group didn't get any therapy for 3 last months and 6.9% passed successfully allergen-specific immunotherapy. We have revealed difference in educational status and life quality level in other two groups. Patients of the 3rd group had significantly higher ICSs current dose (269.6±13.9 mgk per day vs 108.9±119.5 mgk per day in the 2nd group), Ig E level, low cooperation index, more rarely have made planned visits to their physician ($p < 0.05$). Obvious difference in asthma control assessed by ACT test between 2nd and 3rd groups was not found.

Conclusion: The results of evolution of the disease finally demonstrate several interventions that could influence predictably on it: taking part in asthma educational programs, pass allergen-specific immunotherapy, making planned visits to the physician.

P3425

Current smoking and low HRQoL as strong predictive factors for acute care among elderly asthma patients

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Objective: To examine risk factors for emergency visits among elderly asthma patients in a well-organized asthma care setting.

Methods: The study population was a random sample of 344 patients visiting the Pulmonary Clinic of Helsinki University Hospitals (HUCH) with a diagnosis of asthma (J45-J46) during the years 1995-2006. 117 asthma patients had had at least one emergency visit and formed the active group. 227 patients without emergency visits formed the control group. Uni- and multivariate logistic regression was used to analyze the significance of several demographic and clinical variables for the need of emergency treatment.

Results: The study population was on average 56 (SD 13) years old and 72% of the patients were women. Follow-up among cases covered 799 patient years and on average 0.4 emergency visits per patient year was identified. Asthma, lower and upper respiratory infections were described as the discharge diagnosis in 45%, 17% and 6% of the visits, respectively. The cases were older, had suffered longer from asthma, had lower lung functions, and were more often ex- or current smokers. In the multivariate analysis current smoking and poor HRQoL (health related quality of life) remained independent risk factors for emergency room care (OR 3.9, CI 1.7-8.8 and OR 1.9, CI 1.2-3.0, respectively).

Conclusions: Current smoking is a risk factor for the need of emergency care. Also those with self-estimated poor HRQoL are in a risk for emergency treatment. In this study population, enrolled in the special care setting, the promotion of smoking cessation might play an important role in prevention of acute hospital care among elderly asthma patients.

TUESDAY, SEPTEMBER 4TH 2012

P3426**Which device for which patient? Criteria for selecting inhaler devices**

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Inhalation is the preferred route of delivery for anti-asthma medications. Asthma management guidelines recommend inhalation choice, but they don't provide specific guidance regarding devices selection.

Unless all asthmatic patients are able to use their inhaler devices correctly, poor inhaler technique will continue to be one of the main obstacle of asthma management. Prescribing a suitable device for the patient will grantee better inhaler technique and improves medication delivery to the airways and as a result will improve level of asthma control.

The ideal inhaler device is the device that is easy to be used by the patient and enable the desired medication to reach the airways. The selection of the device should be made after assessing patients abilities to ensure that they are able to understand the instructions and perform all the necessary steps correctly. However, in reality inhaler devices are often prescribed according to patient age, level of education, cost of the device, pharmaceutical companies recommendations or prescribers preference.

To guide our prescribers in selecting the best devices for their patients, we developed inhaler devices selection criteria according to patient's cognitive, physical and inhalation abilities.

The aim of this presentation is to present the criteria assessment steps and inhaler devices choices.

References:

- [1] R. Barrons. *Am J Health Syst Pharm*, July 2011; 68:1, 1221-1232.
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P3427**Methacoline challenge response in controlled asthma and correlations with other disease characteristics**

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Aim: To assess methacoline challenge response in patients with controlled asthma and its correlations with other asthma characteristics.

Subjects and methods: Patients with controlled asthma performed methacoline challenge (MC) using ATS Guidelines (1999). Bronchial hyper-reactivity was considered severe for PC20 <0.125 mg/mL and moderate for 0.125-2 mg/mL. Spirometry, exhaled nitric oxide (NIOX) and blood eosinophils measurements were performed the same day prior to MC. A bronchodilator test was performed the next day and dFEV1 was calculated (difference and % from the baseline FEV1 value). The allergic rhinitis history was noted. Correlations between parameters were calculated.

Results: Twenty-two patients were evaluated: mean age 47, 7 males. The mean PC20 was 0.558 mg/mL (range 0.003-2). Nine patients had severe and 13 moderate hyper-reactivity. Mean baseline FEV1 was 84%, mean NIOX 35 ppb (range 5-108), mean dFEV1 0.46 L (0.04-1.35) and 23% (3-63), blood eosinophils 234/mmc (30-840) and 3% (0.6-9.4). Ten of the patients had allergic rhinitis.

The PC20 values correlated with dFEV1 post-bronchodilator value ($r=0.429$, $p=0.046$), but with no other parameters studied. The severity of hyper-reactivity was only associated with the dFEV1 values ($p=0.017$).

The methacoline response was similar regardless the presence of allergic rhinitis.

Conclusions: Moderate/severe bronchial hyper-reactivity was seen in our patients with asthma considered controlled when using GINA 2011 criteria. NIOX values, eosinophil blood counts and bronchodilator response showed high variability. None of the studied characteristics correlated with the methacoline response, except for the bronchodilator response.

P3428**Exhaled nitric oxide correlations in patients with controlled and partially controlled asthma**

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Aim: To assess NIOX values correlations with other disease characteristics in patients with controlled and partially controlled asthma.

Subjects and methods: Patients with controlled and partially controlled asthma performed exhaled nitric oxide (NIOX), spirometry, bronchodilator test and blood eosinophils measurements. The allergic rhinitis history was noted. Correlations between NIOX values and the other parameters were calculated.

Results: 42 asthma patients were evaluated: mean age 43, 14 males; 24 had controlled and 18 partially controlled asthma.

NIOX values varied between 5 and 151 ppb (mean 41) in the whole group of 42 patients.

All the tested parameters differ between the two groups. Significant differences were only seen in baseline FEV1 value (75% from predicted in the partially controlled, 85% in the controlled, $p=0.035$) and blood eosinophils values (371/mmc, 4.5% in the partially controlled, $p=0.012$; 155/mmc and 2.3% in the controlled asthma patients, $p=0.023$).

In the whole group of 42 patients NIOX values correlated with blood eosinophils ($r=0.492$, $p=0.001$), not with FEV1 values or the dFEV1 increase after the bronchodilator administration ($p>0.05$).

The correlations were similar when the two groups were analyzed separately. NIOX values correlations with blood eosinophils values were $r=0.577$, $p=0.012$ in the partially controlled, and $r=0.412$, $p=0.046$ in the controlled group.

No correlations were seen related to the presence of allergic rhinitis.

Conclusions: Exhaled nitric oxide values showed high variability and only correlated with blood eosinophils values in our group of patients, regardless of asthma control.

P3429**Occupational asthma and rhinitis caused by brazing agent?**

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Background: Aluminium potassium fluoride (KAlF₄) often used in automotive industry as a brazing agent is not currently classified as an allergen.

Methods: Between 2007 and 2011, eleven patients with suspected occupational asthma (OA) and/or occupational rhinitis (OR) exposed in their workplace to KAlF₄ were examined. Diagnostic of OA/OR included: methacholine (MCT), specific bronchoprovocation (SBPC) and/or nasal challenges if necessary. Inhaled corticosteroids (ICS) were withdrawn 6 weeks prior to the evaluation.

Results: Seven of the 11 patients tested positive. According to final diagnosis patients were divided into 2 groups. Group 1: no occupational disease (OD) diagnosed (4 cases); ICS withdrawn in 100%; average age of subjects was 35; mean exposure time was 50.2 months; subjects were examined 6.5 months after leaving the workplace; no allergic disease before exposure; MCT negative in 50%, mild hyperactivity in 50%; IgE: 21 IU/ml, ECP: 16 ng/ml, eosinophils (eo): 5%. Group 2: OD diagnosed in 7 cases (OA in 4, OR in 3 cases), ICS withdrawn in 25%; average age of subjects was 44.3; mean exposure time was 65.5 months; subjects were examined 2.4 months after leaving the workplace; allergic disease before exposure in 42%; MCT negative in 14%, moderate to severe hyperactivity in 86%; IgE: 42 IU/ml, ECP: 38 ng/ml, eo: 10%.

Conclusion: Subjects in group 2 versus patients in group 1 were: a) often tested with ICS b) more likely to be bronchial hyperreactors and atopics c) demonstrated higher levels of eosinophils, IgE and ECP. The small number of patients did not allow proper statistical analysis, however KAlF₄ seems to be hazardous and likely to cause allergic occupational diseases.

P3430**Narrow band imaging bronchoscopy versus white light bronchoscopy – An analysis of accuracy for the diagnostics of lung tumors**

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NBI (Narrow Band Imaging) is a new technology that enhances the visibility of vessels of the mucosa. The advantage of this method is a possibility to determine the most detailed information on the structure of bronchial mucosa and character of vascular structures in bronchial mucosa. On the basis of morphology and frequency of vascular structures it is possible to view the difference in the changes during malignancy and inflammation. We analyzed relative sensitivity and the rate of false positive results for the diagnoses of malign tumor and severe dysplasia.

Methods: We have analyzed a group of 500 patients examined by NBI bronchoscopy and then by white light (WL) bronchoscopy. We used Olympus Evis Lucera system. The results of histological and cytological examinations were rated with respect to relative sensitivity and relative rate of false positive results as compared with WL. Statistical significance was determined by McNemara's test.

Results: The statistical evaluation has focused on the results of biopsies performed in NBI and in WL modes. We have analyzed relative sensitivity and the rate of false positive results in NBI as compared to WL in relation to histological and cytological results of malign tumor and severe dysplasia. Relative sensitivity of NBI as compared to WL is 1.06 ($p=0.004$). The relative rate of false positive results of NBI as compared to WL is 0.91 ($p=0.012$).

Conclusions: The performed statistical evaluations show a statistically significant increase in examination accuracy as compared to WL. Better visualization of vessel anomalies in bronchial mucosa can improve the possibility of malignant lesions and severe dysplasia detection.

TUESDAY, SEPTEMBER 4TH 2012

P3431

The relationship between the serum YKL-40 level and severity of asthma
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Aim: The aim of this study was examined a relationship between the serum YKL-40 (chitinase-3-like-1) level and severity of asthma.

Methods: In the study, 90 female non-smoker and without additional disease patients (ages 20-66) in a stable and exacerbation period for asthma were grouped as Group I: Stable mild persistent asthma (n: 30), Group II: Stable moderate and severe persistent asthma (n:30), Group III: Exacerbation period (n:30). The differences of the serum YKL-40 level among all the groups were examined with ELISA. Also, in the patient groups with asthma, the serum YKL-40 level was compared with age, age of asthma, body mass index (BMI), forced expiratory volume in first second (FEV1), peak expiratory flow (PEF), total IgE results. One-way analysis of variance was used to examine differences between groups. Pearson's correlation coefficient was used for correlation between variables.

Results: The serum YKL-40 levels during asthma exacerbation period were found the highest average (36.36±10.49 ng/ml) while the serum YKL-40 levels were found the lowest average (13.20±5.60 ng/ml) in stable mild persistent asthma have (p <0.05). There was a negative correlation the serum YKL-40 levels and FEV1, PEF in exacerbation period (p<0.05). There was no correlation between the serum YKL-40 levels and other variables in three groups.

Conclusion: Increased the serum YKL-40 may be a marker used to evaluate the level of asthma severity.

P3432

Heritable connective tissue disorders as factor modifying asthma symptoms in pediatric patients

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Background: High prevalence of heritable connective tissue disorders (HCTD) among children changes clinical manifestations of common childhood diseases, leading to diagnostic and therapeutic errors.

Aim: To study clinical features of asthma (A) in children with HCTD.

Methods: 80 patients aged 3-18 years with moderate allergic A (GINA Guidelines 2009) were followed up for two years. 33(41.6%) patients had mild persistent A, 37(49.5%) – moderate persistent A and 10(8.9%) – severe persistent A. 55(68,8%) patients had clinically, serologically and radiographically diagnosed CAP. All children had phenotypic manifestations of HCTD.

Results: CAP caused by Mycoplasma pneumoniae was in 80% of asthmatic patients with CAP, by Cytomegalovirus – in 36.3%, by Chlamydia pneumoniae – in 29.1%. 47.3% of patients with A and CAP had recurrent episodes of CAP that caused A exacerbation. Pulmonary hypertension (PH) was in 28.8% of patients with A and in 32.7% of patients with CAP and A, 33.3% of the latter had severe persistent A with CT evidence of pulmonary fibrosis (PF) and emphysematous bullae (EB). Patients with A exacerbation due to CAP received antibiotic treatment (macrolides) (ABT) besides controller therapy, and this provided the achievement of A control.

Conclusions: 1. A exacerbation in 80% of asthmatic patients was due to CAP caused by Mycoplasma pneumoniae. 2. Recurrent episodes of CAP were in 47.3% of asthmatic patients with HCTD. 3. 28.8% of patients with A and HCTD, and 37.2% of patients with A, HCTD and CAP had evidence of PH, with PF and EB in 33.3% of the latter. 4. Basic therapy of asthmatic patients with CAP included ABT to achieve A control.

P3433

Relationship of body mass index and current asthma status among adult asthmatics presenting in the outpatient department

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Purpose: To determine whether a relationship between body mass index (BMI) and current asthma status among adult asthmatics seen in the outpatient department exists and the impact of asthma control upon enrollment to the asthma comprehensive care unit for proper education.

Methods: All adult patients who fulfilled the inclusion criteria seen in the outpatient department (OPD) of the Philippine General Hospital from November 2010 to December 2011 referred by consultants, fellows in training and residents will be gathered and ask to complete a questionnaire after informed consent was obtained. If subject has no pulmonary function test, a free pulmonary function test will be done. Levels of control will be determined as well as medications and computation of BMI.

Results: BMI status was significantly associated with outcome measures. Majority of the obese patients have uncontrolled asthma. Results showed that patients, regardless of their body mass index, who were enrolled at the Philippine General Hospital Asthma Comprehensive Care Unit, have better asthma control, decrease asthma severity, higher FEV1, and good response to bronchodilator.

Conclusions: Obese asthmatic patients have more severe asthma, poorer asthma control, with more recent asthma attacks, more frequent usage of relievers, and less responsive to bronchodilators. Those asthmatics with proper education of their disease have better levels of control.

Clinical implications: Proper weight management improves asthma control; prevent asthma attacks and better response to bronchodilators. Thus prevent hospitalization. Enrollment to asthma education program enhanced asthma management.

P3434

The role of the tracheal phonography in chronic obstructive lung disease and asthma diagnosis

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Obstructive lung diseases are the most common chronic diseases of bronchopulmonary system. According to epidemiological markers were identified more than 11 million people with chronic obstructive lung disease (COPD) in Russian Federation, and most common cause of population disability. In recent years, have been increasing the rates of asthma. The purpose of this study is to determine the role of tracheal phonography of forced expiration in the obstructive lung diseases diagnosis. This acoustical method is based on registration of forced expiratory noises which recording from laryngotracheal area. There were examined 59 patients with obstructive lung diseases at the age 46-58 years. It was diagnosed that 24 patients had bronchial asthma and 35 one had COPD. We compared spirometry rates and duration of the noise detected by tracheal phonography of forced expiration. All patients had lengthening of the acoustic value of 1.5-5 times the calculated norm. According to the correlation analysis was obtained statistically-valid correlation between the acoustic value and FVC (r = -0,64, p<0,05), FEV1 (r = -0,46, p <0,05) and FEV1/FVC (r = -0,11, p <0,05). The result of our research is allowing us to recommend the acoustical method for chronic obstructive lung disease and asthma diagnosis.

P3435

Study of motivation in patients with bronchial asthma

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The disease leads to reevaluation of personal values and motivation, that is why the patients are usually motivated to escape failures and are afraid of risk. The motivation of patients with bronchial asthma (BA) has not been studied enough.

Aim: To study motivation of BA patients.

Methods: 168 patients (78% of whom were women) with BA of different severity. The mean age was 47±11.9 years; the mean duration of the disease was 6±0.7 years. The test "Motivation to success" by T. Ehlers, method of diagnosis of the readiness to risk by Schubert, Marlow-Crowne Social Desirability Scale were used.

Results: The patients were divided into three groups. The 1st group included 37 patients with mild BA, the 2nd – 95 patients with moderate BA, and the 3rd group – 36 patients with severe BA. The patients of all groups had a motivation to success predominantly of medium and high level (the mean values are 3.14±0.66, 2.9±0.83, 3.05±1.24 points, respectively, at the maximum of 4 points). The patients of the 1st and 2nd groups were equally careful (low degree of readiness to risk: 2.4±0.63 and 2.36±1.03 points, respectively). By this criterion they significantly differed from the patients of the 3d group who had medium values of the test (3.05±1.24, p<0.05). The level of approval motivation were low in the majority of the examined patients (in 78% of respondents it was within the range from 1.2±0.41 to 1.29±0.45 points).

Conclusion: BA patients have quite a high motivation to success achievement and a desire to get the result not depending on the disease severity. The low approval motivation appears due to the orientation to the personal opinion. The motivation have to be taken into account for effective doctor-patient communication.

P3436

Use of leukotriene modifiers promotes to decrease bronchial hyperreactivity in bronchial asthma patients

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Background: Clinical studies proved, that leukotriene modifiers have mild and variable broncholytic effect, decrease symptoms, improve lung function and decrease asthma exacerbations.

TUESDAY, SEPTEMBER 4TH 2012

Objectives: This study aimed to investigate the influence of leukotriene modifiers (antagonists of CysL-R1 – montelukast) on bronchial hyperreactivity in steroid-naïve bronchial asthma patients.

Methods: 30 steroid-naïve (didn't receive ICS more than 3 months before study) patients, male 9, female 21, in the age (53,4±2,3) years, with ACT score < 20 received montelukast (Lukast) 10 mg OD during 3 months. Salbutamol was allowed as rescue medication. Bronchoprovocative test with physical load (treadmill-test) was performed at the beginning and at the end of the study.

Results: Bronchial hyperreactivity (BHR), which revealed in fall of FEV1 on >10% vs basic data after 5 – 30 min after the end of physical load, was revealed in 12 patients. Initially FEV1 fell on 16% on the 5 min after the end of test, with maximal decrease (19,3%) on the 15 min. In 30 min after the end of physical load FEV1 didn't return to the basic data – difference was 9,5%. At the end of study treatment course BHR was revealed only in 9 patients, with maximal fall 11,5% on 15 min after the test, with recovery within 30 min. Correlative analysis showed, that risk of BHR decreased after the impermanent course of montelukast therapy, but without statistical significance.

Conclusion: Use of leukotriene modifiers (antagonists of CysL-R1 – montelukast (Lukast)) decrease BHR in steroid-naïve BA patients.

P3437

ObSERvational study for thE mONitoring of not controlled Asthma (SERENA)

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Background: International guidelines recommend control of asthma as a major goal of therapy. Patients with “well-controlled” asthma present no exacerbations. However, it is well known that implementation of guidelines in real clinical practice may be difficult.

Objective: To assess the level of asthma control in real clinical practice in patients treated with inhaled steroids and/or bronchodilators following the GINA guidelines.

Methods: This 6 months observational study was promoted by AIPO and was carried out in 16 Pulmonary Units. Consecutive patients with asthma, treated after GINA guidelines, attending the outpatients of each center were enrolled (2010). Data on exacerbations and treatments were collected by mean of a web based Case Report Form, and control of asthma was assessed with the Asthma Control Test (ACT) questionnaire.

Results: The number and characteristics of the patients enrolled are reported in Table 1.

Table 1. Patients characteristics

N. of patients	Gender (M/F)	Age	BMI	Smokers/Ex smokers	Non smokers
548	210/338	53 (19-88)	27 (16-34)	28%	72%

91% of patients were treated with LABA+ICS, while 9% with ICS and SABA prn. 60% of patients reported 1 exacerbation, 16% 1 Emergency Visit and 44% 1 non programmed visit in the year preceding the study. The data on control of asthma in the 548 patients is reported in Table 2.

Table 2. Control of asthma (ACT score)

Controlled (ACT ≥25)	Not completely controlled (ACT 20–24)	Not controlled (ACT <20)	Data not available
10%	39%	47%	4%

Conclusions: The study shows that an adequate control of asthma following the GINA guidelines is far from being achieved in real life. A significant portion of patients report a not controlled asthma despite guidelines driven treatments.

P3438

Peak inspiratory flow rates through placebo dry powder inhaler device in various asthma and COPD patients

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Dry powder inhalers (DPIs) are inspiratory flow driven. We sought to characterise inspiratory flow parameters of placebo dry powder inhaler devices in asthma patients of various age groups and in patients with chronic obstructive pulmonary disease (COPD) in an open, randomised, multicentre study (SALIF). Preliminary data of the Easyhaler[®] arm will be presented.

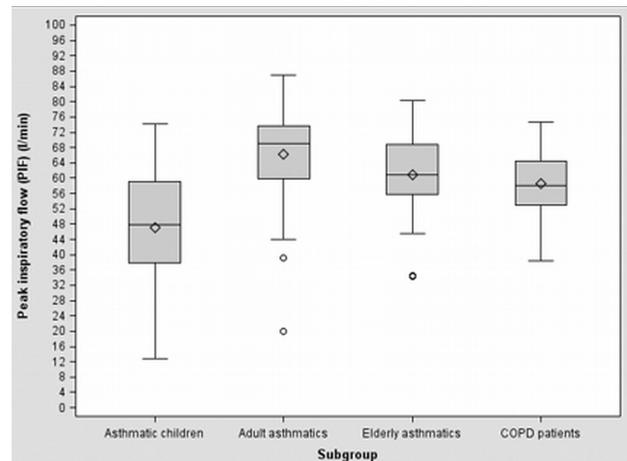
The primary variable was the peak inspiratory flow (PIF) rate through the inhaler. Three inspiratory flow curves were recorded and the best of them was analysed. To ensure consistent dose delivery of the drug peak inspiratory flow rates for this device should be 28 L/min or higher.

A total of 227 subjects with documented diagnosis of asthma and/or COPD of

various severities were included in the open-label study. Asthmatic patients were divided into three different age groups: 4-11 years (n=60), 12-64 years (n=62) and ≥ 65 years (n=52). COPD patients consisted of all ages groups (n=53)

Descriptive statistics of PIF values in different subgroups

Subgroup	N Obs	Mean	Median	10th Pctl	90 Pctl	Min	Max
Asthmatic children	60	47.19	47.93	28.59	63.09	12.83	74.10
Adult asthmatics	62	66.14	69.11	52.99	76.47	19.99	87.01
Elderly asthmatics	52	60.88	60.99	49.05	72.05	34.38	80.25
COPD patients	53	58.51	58.19	48.97	70.92	38.35	74.63



Irrespective of age or the severity of disease, most asthma and COPD patients were able to inhale through the studied DPI device with an adequate PIF.