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391. Distinguishing phenotypes and dealing with comorbidities in primary care

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Diagnostic delay of pulmonary embolism in primary and secondary care: A retrospective study

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Objective: To document and quantify the various stages of diagnostic delay of pulmonary embolism and to identify clinical factors associated with this delay.

Design: A retrospective cohort study, conducted in Zwolle and surroundings, the Netherlands.

Participants

391 patients diagnosed with pulmonary embolism between 2008 and 2009 in the Isala klinieken, Zwolle, the Netherlands. 261 patients were included for analysis.

Main outcome measures: The diagnostic delay in days, subdivided in patient delay, delay in primary care, delay in secondary care, and total diagnostic delay. Secondary endpoints were the association between clinical variables and diagnostic delay expressed as odds ratio's.

Results: The 261 patients enrolled had an average delay of 8.6 days from symptom onset to diagnosis.

Patient delay (4.2 days average) and delay in primary care (3.9 days) were the major contributors to this delay. In secondary care there was a diagnostic delay of 0.5 days.

Chest pain and symptoms of deep venous thrombosis were associated with an early diagnosis.

Patient delay was shorter in patients with chest pain and longer in patients with dyspnea. In primary care, chest pain and rales were associated with an early referral, whereas co-morbidity led to a delayed referral. In secondary care dyspnea was the only parameter significantly associated with delay, leading to an earlier diagnosis.

Conclusion and recommendations

This study showed that the diagnostic delay of pulmonary embolism in daily practice is substantial, especially patient delay and delay in primary care. There is room to reduce this delay by increasing patient awareness and by developing practical diagnostic algorithms for primary care.

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Comorbidity, hospitalization and mortality in COPD: Results from a longitudinal study

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Objective: To evaluate comorbidity, hospitalization and mortality in COPD patients.

Design: Prospective longitudinal study.

Participants: 95 COPD patients admitted consecutively to a Respiratory Medicine ward from 1999 to 2000 for an acute exacerbation of the disease and followed up from the date of discharge to september 2007.

Results: Mean follow up period of 6±1.4 yrs. Hypertension the most common comorbidity (64.2%), followed by chronic renal failure (26.3%), diabetes mellitus (25.3%), cardiac diseases (22.1%) and peripheral arterial vascular diseases (17.9%). 359 hospitalizations with the leading cause being exacerbation of COPD (41.2%); cardiovascular disease (34.4%); COPD exacerbation concomitant with an other acute disease (8.4%). 19 deaths (20%) by the end of follow up with causes being mostly cardiovascular (13 patients, 13.7%). Survival analysis through Cox regression showing mortality risk depending on age, current smoking, pO₂, Charlson index, presence of ischemic heart disease and lung cancer as comorbidity. Multivariate logistic regression analyses showing number and length of hospital admissions depending on Charlson index and degree of dyspnoea. Presence of diabetes as comorbidity independent predictor of longer hospital admission.

Conclusions: High prevalence of comorbidity, particularly cardiovascular disease being the main cause of death. Level of frailty depending on comorbidities of COPD geriatric hospitalized patients related to their prognosis. Implementation of aggressive strategies to prevent or treat comorbidities necessary for a better care of patients, together with the correct management of the respiratory disease.

P3689

The impact of anemia on patients with chronic obstructive pulmonary disease in the community

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Background: Anemia of chronic disease (ACD) has been shown to be linked with multi-faceted clinical consequences in patients with chronic obstructive pulmonary disease (COPD) enrolled in clinical trials. The predictive value of ACD has not been evaluated in stable COPD patients in the community.

Methods and results: We evaluated 488 patients (9.4% with stable COPD under the care of a regional nurse-led community respiratory team between June 2008 - November 2010. 86% of patients were on inhaled beta agonists; 43% on long acting anti-muscarinics, 54% on inhaled steroids and 8% on oral steroids. Mean age of the patients was 73.9±6.1 years, 43% were females and mean MRC grade was 2.2±0.7. ACD was defined as hemoglobin (Hb) between 9-12g/dl. Mean Hb levels were 14.1±0.7; 13.9±0.3; 14.0±0.6 and 13.7±0.2 g/dL at 0, 6, 12 and 24 months. To rule out iron deficiency we sample serum ferritin. Mean serum ferritin levels in the entire study population were 242±15.9 µg/L at the start and 227±19.8 µg/L at the end. The prevalence of ACD was 13.9±2% (+95% CI) and 14.5±1.3% respectively at the start and end of the study period. 2-year survival was 93% in the entire population; 81% in the anemic group (p<0.001). Risk-adjusted hazard ratio for 24 month mortality were 1.43 (1.19-1.98) for the anemic patients.

Conclusions: ACD is relatively common in ambulatory COPD patients in the community and is associated with worse clinical outcomes. It is also a stronger independent predictor for mortality in the short term.

P3690

Sleep does not affect health status in a primary care COPD population

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Introduction: Knowledge on the relation between sleep quality and health status in mild COPD patients is very limited.

Aims and objectives: The aim of the current study was to evaluate the effect of sleep on health status as measured by the Clinical COPD Questionnaire (CCQ) in a primary care COPD population.

Method: 38 COPD patients were enrolled in the study, which was part of a larger study evaluating health status based treatment versus standard GOLD guideline based treatment. The participants completed the CCQ (symptoms, mental, functional and total scale) and the Pittsburgh Sleep Quality Index (PSQI; duration, disturbances, latency, daytime dysfunction, efficiency, quality, medication need and total score).

Results: Mean participant age was 66 years; mean number of packyears 41; 72% male; GOLD I 36%, GOLD II 56%, GOLD III 8%. In the univariate analyses relations were found between the CCQ total scale and FEV1 (spearman -0.416, p=0.009), CCQ total and daytime dysfunction (spearman 0.404, p=0.012) and CCQ total and GOLD stage (spearman 0.369, p=0.023). No relations were found with group allocation, age, social economic status, medication, BMI or packyears. Multivariate analyses confirmed health status to be related to FEV1 and daytime dysfunction. The relation with GOLD stage was not confirmed.

Conclusion: Health status by means of CCQ is related to FEV1 and daytime dysfunction. None of the other sleep quality scales showed to have an influence on health status. The current study gives an insight into the possible relation between health status and sleep in a primary care COPD population and shows that the PSQI is a relevant instrument, however the n of 38 is too low for definitive conclusions.

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Gastroesophageal reflux and food allergy in infants with wheezing

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Introduction and background: Gastroesophageal Reflux (GER) and food allergy (FA), especially cow milk allergy, are common in the first year of life. Both are usually presented by similar symptoms: vomiting, regurgitation, failure to thrive, anemia, infant colic. Sometimes chronic cough and persistent wheezing is only symptom of GER. FA has considered as possible cause of GER and associated respiratory symptoms. The relation between GER, FA and respiratory problems in infants is not well established.

Aim and objectives: Dependence between GER and FA in infants with wheezing in the first 24 months of life.

Methods: During 2006-2011 years we studied 128 children with chronic cough and persistent wheezing. Median age was 8,5 months. Clinical history showed that 52 had concomitant symptoms of suspected FA: atopic dermatitis 31 (24,5%), diarrhea 8 (6,2%), rhinitis 6 (4,6%), urticaria 9 (7%), combination of two or more symptoms 15 (11,7%). 47 had concomitant symptoms of suspected GER (persistent regurgitation and vomiting). 29 had only respiratory problems.

Results: GER was found in 63,9% of patients. 26,5% had at least one laboratory parameter outside laboratory limits: positive skin prick 31, eosinophilia in nasal or sputum secretis 12, increased circulating EgE 16, specific EgE 10.

Conclusion: Patients younger than 24 months with GER and respiratory symptoms should be evaluated for food allergy. There is connection between GER and FA (specially cow milk allergy). Atopy and positive tests can help to separate GER patients for need of elimination diets.

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Daily activities and quality of life in COPD patients: Psychological determinants

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Background: Psychological variables play an important role in COPD patients' management of their illness and daily life. To develop self-management interventions to improve Quality of Life (QoL) in COPD patients, more detailed studies are needed.

Objective: To study the influence of illness perceptions, proactive coping competencies and depressive symptoms on daily activities and QoL in COPD patients.

Method: In a cross-sectional study in primary care, 90 COPD patients (GOLD1-3) completed the following questionnaires: Brief Illness Perception Questionnaire, Utrecht Proactive Coping Competence scale, Center for Epidemiologic Studies Depression scale, Medical Research Council dyspnea scale, Functional Performance Inventory, Clinical COPD Questionnaire (CCQ) and the Chronic Respiratory Questionnaire (CRQ). Analyses were performed with multiple linear regression.

Results: More positive perceptions about treatment and consequences of COPD on daily life, lower levels of depressive symptoms and less experienced dyspnea are associated with better health status and QoL, after correction for age and lung function (FEV1). Combined, illness perceptions, depressive symptoms and dyspnea explain 60% of variance in health status (CCQ total $R^2=0.60$, $p<0.001$), 58% of variance in QoL (CRQ fatigue subscale $R^2=0.58$, $p<0.001$) and 56% of variance in functioning (CCQ functional state subscale $R^2=0.56$, $p<0.001$).

Conclusion: Patients' perceptions about COPD, their depressive symptoms and dyspnea should be explored with questionnaires, discussed with the patient and if necessary corrected at an early stage. This most likely results in better QoL and health status in COPD patients, given the theoretical and empirical knowledge of COPD.

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Asthma in elderly – What is the difference?

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Aim: To study differences between older and younger asthmatics.

Methods: Patients aged 18-75 with a diagnosis of asthma were randomly selected from 56 primary and 14 secondary care centres in Sweden. Information was collected in 2005 using questionnaires (71% response) and record review for the period of 2000-2003. History of comorbidities, allergy and spirometry data was obtained from the records. This analysis included patients aged 25-75.

Results: Some 1094 patients (764 from primary and 330 from secondary care) were included, 215 aged 25-39 (younger adults, YA), 618 aged 40-63 (middle age, MA) and 261 aged 64-75 (older adults, OA) with 40% men. Daily smoking was less common in older age: YA 12%, MA 13%, OA 5% ($p=0.007$). There was no age difference regarding depression: YA 10%, MA 11%, OA 7% (ns). Heart disease and hypertension were more common in the older group, 27% and 32%, compared with 7% and 18% in MA, respectively. Allergic rhinitis was commoner in the younger: YA 51%, MA 26%, OA 16% ($p<0.001$).

Treatment varied by age: 29% of YA, 24% of MA and 22% of OA were on step 2 while 43% of YA, 56% of MA and 63% of OA were on step 3 ($p<0.001$). Lung function was lower among the older (FEV1%pred): YA 95%, MA 87% and OA 79% ($p<0.001$).

Total mean of MiniAQLQ was lower in the older: YA 5.61, MA 5.25 and OA 5.01 ($p<0.001$). Among the older 28% achieved optimal asthma control with a higher proportion in YA 46% and in MA 32%. Odds ratios for not achieving asthma control were for OA 2.07 (95%CI 1.36-3.15), and 1.53 (95%CI 1.09-2.14) in MA compared with YA, adjusted for sex, daily smoking, educational level and level of care.

Conclusion: Older asthmatics had poorer asthma control than younger, despite medication on higher treatment level.

P3694

Diagnosing asthma and COPD in primary care patients in Serbia: A multicenter study

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Background: Asthma and chronic obstructive pulmonary disease (COPD) are often unrecognized and undertreated.

Aim: The aim of this study was to describe the frequency of COPD and asthma in patients with respiratory symptoms and/or smoking history in primary care settings in Serbia, and to examine the agreement between general practitioners (GPs) and pulmonologists on the diagnosis of COPD and asthma.

Methods: In this multicentric, prospective, observational study GPs from practices in 3 different centers in Serbia identified eligible patients from October 2009-June 2010. The study included all adult patients with respiratory symptoms and/or smoking history based on structured interview. The patients were referred to a pulmonologist and underwent a diagnostic work-up, including spirometry.

Results: There were 2074 patients, 38.4% men, mean age 54 ± 15.5 years. Patients were mostly current (40.3%) or ex-smokers (27.4%). The common symptoms included shortness of breath (84.9%), cough (79.1%) and wheezing (64.3%). The COPD diagnosis was confirmed by pulmonologists in 454 (21.9%) and asthma in 455 (21.9%) patients. COPD was newly diagnosed in 226 (10.9%) and asthma in 269 (13.0%) of the cases. There was a moderate agreement between pulmonologists and GPs on the diagnosis of COPD ($\kappa=0.41$, 95%CI 0.36-0.46) and asthma ($\kappa=0.42$, 95% CI 0.37-0.465).

Conclusion: A significant number of patients seen in GPs office was diagnosed with COPD or asthma and half of them represent new cases. A substantial proportion of patients referred to pulmonologist by primary care physicians have been misdiagnosed.

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The likelihood of low bone mineral density (BMD) in male patients with chronic obstructive pulmonary disease (COPD) in age 40-70 years

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Aim and objectives: to study the likelihood of low BMD in male pts with COPD in age 40-70 yrs.

Material and methods: We examined (retrospective study) 92 COPD male pts aged 40 – 70 years. All the findings were compared in 34 normal age-, sex- and BMI-matched control subjects. BMD was measured in spine (L1-L4) and femoral necks using DEXA.

Results: Osteopenia and osteoporosis were diagnosed in 46% and 22% cases in COPD pts group respectively. The index of "odds ratio" (OR) was 4.14 with the confidence interval (CL) (95%CI, 3.12-5.51) in pts with the presence of exacerbations in the year 3 and more. Exacerbations occurring with the increase of leukocytes increase the probability of reducing BMD (OR, 3.54; 95% CI, 2.74-4.58). The likelihood of low BMD significantly increase in pts with disease duration 10 yrs or more (OR, 7.34; 95% CI, 5.41-9.95); work with hazardous occupational factors – OR, 2.30 (95% CI, 1.63-3.24); smoking – OR, 5.25 (95%

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CI, 3.20-8.35); the presence of emphysema in the X-ray – OR, 3.11 (95% CI, 2.37-4.06). Age 57 years and over - increases 5.25 times (95% CI, 3.90-7.07). The likelihood of lower BMD in the 2nd stages is 2.18 (95% CI, 1.36-3.50) and in the 3rd stage is greatly increase – OR, 10.91 (95% CI, 6.98-17.05). The hypoxia (SO₂%) significantly increases the risk of secondary reduction of BMD - OR 15, (95% CI 10.05-22.38).

Conclusion: Factors that increase the likelihood of reducing the BMD are the frequency and type of exacerbations, age, duration and severity of disease, the presence of occupational factors, emphysema and hypoxia.

P3696**Distribution of dyspnea etiologies among patients with either acute or chronic breathlessness and normal cardiorespiratory function**

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We aimed at investigating the distribution of dyspnea etiology in patients with normal cardiorespiratory function (NCF). We studied 57 pts. (33 male & 24 female) aged 58.4±7.8 yrs. who presented at the Outpatients' Department during the past 12 months, complaining of breathlessness with no other respiratory symptoms. Patients complained of either acute breathlessness (AB group- starting within the past 48 hrs.) or chronic (CB-group-more than 48 hrs. duration). All had a chest X-ray along with spirometry, arterial blood gases and heart ultrasound, having been rated as normal. Those in whom diagnosis was not primarily established, underwent further testing including hormonal profile, lung perfusion scan, computerized chest tomography & angiography and respiratory muscle testing. In AB group (31 pts: 15 male & 19 female) aged 46.4±4.7 yrs. the final diagnosis was: 18 pts. (58%) acute psychogenic hyperventilation syndrome (HS), 11 (36%) anemia due to silent gastrointestinal bleeding (GB) and 2 (6%) hyperthyroidism (HT). In CB group (26 pts: 18 male & 8 female) aged 61.3±6.8 yrs. the final diagnosis was: 6 pts. (23%) HS, 7 (27%) GB, 3 (12%) obesity-deconditioning (OD), 3 (12%) anemia of renal failure syndrome (RF), 2 (8%), HT 2 (8%), diaphragmatic weakness (DW), 2 (8%) chronic thromboembolic pulmonary disease (TD) and 1 (2%) had brain tumor (BT). Our results indicate that patients with "NCF" AB was most frequently due to either HS or GB while those with CB these diagnoses were less frequent. HS was more frequent in females while GB in males. Even with "NCF", a minority of CB patients had DW or TD which without specific testing might have been missed.

P3697**Health state and the quality of life in patients with chronic obstructive pulmonary disease (COPD) in Poland: A study using the EuroQoL-5D questionnaire**

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Introduction: Chronic obstructive pulmonary disease (COPD) is a severe disease that leads to respiratory disability and a considerably reduced comfort of living that affects all the aspects of patient activity.

Objectives: The aim of our study was to assess the quality of life (QoL) in patients with diagnosed COPD using, as the research tool, EuroQoL-5D, a health-related QoL questionnaire.

Patients and methods: The data were obtained using designed questionnaire by conducting a cross-sectional survey in a large (N=9310) group of patients with COPD.

Results: Mild and moderate COPD patients (GOLD stage 1 and 2) constituted the majority of the study population (16% and 54%, respectively). A perceptible COPD-related low health state was shown for each stage of the disease, including patients with mild to moderate COPD. Significant differences were observed between the groups of patients stratified by spirometry results in perceived health state assessed with the questionnaire and on a visual analogue scale (VAS). Using linear regression models the association between the health status measured using VAS scale and comorbidities (especially heart failure), and severe (or very severe) COPD status were found (p<0.001). Patients with the history of exacerbations had significantly lower health status assessed by VAS scale (p<0.001).

Conclusions: EQ-5D along with VAS seems to be a useful tool to characterise health state of patients with COPD. It is noteworthy that also in the milder stages of the disease there are limitations in various life aspects that are important to the patients.

P3698**Association of CAT scores with exacerbations and comorbidity in COPD patients in Greece attended primary care settings**

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Introduction: Health status measurement with CAT has been proposed for COPD

management in the updated GOLD guidelines. We aimed to investigate CAT score correlation with AECOPD and comorbidity in a Greek cohort of COPD patients

Methods: Data were selected from 544 COPD patients from Greece through a prospective cross-sectional study, attending primary health care units. Demographic data, previous treatment, lung function testing, exacerbations and co-morbidity were recorded. Chi-square test, bivariate Pearson r correlation and binary logistic regression were applied on data regarding the CAT score, FEV₁ (% pred.), FEV₁/FVC (%) and certain clinical parameters of the disease.

Results: CAT scores classification percentages showed: 38% mild CAT score, medium impact level 46%, severe score 15% and very severe score 1.0%. 56.9% of the patients with exacerbated disease had medium CAT score while the 19.6% of them a high impact score (p<0.001). A positive correlation was found between CAT scores and risk for exacerbation Odds (95%CI): 1.2 (1.0-3.0), p<0.001 for the group with moderate impact CAT score, 1.9, (1.4-3.1), p<0.001 for high impact and 2.1, (1.3-2.9), p<0.001 for very high impact. Patients with comorbidity presented a higher risk of developing high and very high impact of CAT score: Odds(95%CI): Stroke 2.4 (1.7-4.2), p <0.001, heart failure 1.5, (1.1-1.9), p<0.001, peripheral vascular disease 1.3 (1.0-1.8), p<0.001, ischemic heart disease 1.8, (1.3-3.0), p<0.001, osteoporosis 1.5(1.2-1.8), p=0.03 and depressive symptoms 1.3 (1.1-1.8), p=0.04.

Conclusions: The co-existence of other diseases with COPD increases the probability of presenting a worse health status.

P3699**Effects of abdominal visceral obesity measured by bioelectric impedance analysis on lung function**

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While many studies suggest the impact of obesity on lung function, studies of abdominal visceral obesity on lung function provide inconclusive informations. The aim of this study was to investigate the association of abdominal visceral fat measured by bioelectrical impedance analysis and changes in lung function. We included never-smokers between the ages of 18 and 80yr, who had undergone spirometry and abdominal adipose tissue analysis with bioelectrical impedance analysis during March 1, 2008 to December 31, 2010 as part of the health examination. Among a total of 67,368 participants, 54.3% were male. The mean body mass index and waist circumference among males and females were 24.8 kg/m² and 87.3cm and 23.1 kg/m² and 83.2 cm, respectively. Although total adipose tissue of the abdomen in males was similar to that in females, the ratio of visceral adipose tissue/total adipose tissue was statistically different. In males, total abdominal adipose tissue and visceral adipose tissue were inversely associated with the value of forced vital capacity(FVC) and forced expiratory volume in one second(FEV1). In females, total abdominal adipose tissue and visceral adipose tissue, but not subcutaneous adipose tissue, were inversely associated with absolute FVC and FEV1 values. In conclusion, abdominal visceral obesity is inversely associated with lung function.

P3700**Pilot study of reliability of PHQ-9 questionnaire for evaluation of depression in hospitalized asthmatic patients**

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In chronic pulmonary disease patients, consideration of physical signs of illness such as difficulty breathing, etc. as well as psychiatric conditions which occur due to lack of adaptability with disease are important. In this study it was tried to evaluate a short and comprehensive questionnaire for screening for psychiatric disease and the PHQ-9 for depression and GAD-7 for anxiety were evaluated.

This was a cross-sectional study with completion of questionnaire by one interviewer. All asthma patients hospitalized at Masih Daneshvari Hospital during the summer of 2011 who were able to respond to questionnaire and agreed to participate were included in the study. Demographic information was also collected. Data was entered into the computer and analyzed via SPSS 12 software.

In total 20 patients participated for the pilot study with mean age of 58±18 years and 70% were female. Fifty six percent were illiterate and average years of illness were 9±5 years. Depression and anxiety was found more in women compared to men which a larger study for significance evaluation is needed. The Cronbach alpha values for PHQ-9 were 0.645 and for GAD-7 0.837.

The shortness of the questionnaires makes them practical. A larger study is in progress by researchers for determining validity and reliability of the two questionnaires and comparison with the GHQ-12.

P3701**The role of inflammatory markers in obstructive pulmonary disease**

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Background: Asthma and chronic obstructive pulmonary disease (COPD) are characterised by airway and systemic inflammation, but little is known about

differences and similarities in inflammatory markers in patients with obstructive airways disease.

Methods: In 320 adult outpatients serum level of leucocytes, neutrocytes, blood eosinophils, high-sensitivity C-reactive protein (hs-CRP), fibrinogen were measured.

Results: hs-CRP levels were increased in COPD patients as well as fibrinogen ($p < 0.01$, $p = 0.03$ respectively), whereas eosinophils were increased in patients with asthma ($p = 0.04$). There was no difference in leucocytes, neutrocytes. In the ROC analysis, hs-CRP and fibrinogen had the largest area under the curve ($AUC = 0.651$; 95% confidence interval (CI) 0.552 to 0.749), with a specificity of 83% and a sensitivity of 42% for the diagnosis of COPD. Serum levels of fibrinogen correlated with the number of smoking pack-years ($r = 0.218$, $p = 0.001$) and inversely with lung function parameters.

Conclusions: Levels of serum hs-CRP, fibrinogen, blood eosinophils, could identify distinct aspects of local and systemic inflammation in patients with obstructive airways disease. This might help to differentiate between asthma and COPD in primary care patients when spirometry is not available.

P3702

Neutrophils and the increased risk of cardiovascular events in severe COPD

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Introduction: Inflammatory cells and mediators that may lead to destructive changes in airways, pulmonary vasculature, and lung parenchyma may be associated with an increased risk of cardiovascular events in patients with chronic obstructive pulmonary disease (COPD).

Aims: We tested the hypothesis that neutrophils in venous blood have a relationship with serum human atrial natriuretic peptide (hANP) and brachial-ankle pulse wave velocity (baPWV) in COPD.

Methods: Five male outpatients with COPD (83±4 age, forced expiratory volume in 1 second (FEV₁) 39.1±7% predicted), all ex-smokers and undergoing long-term oxygen therapy, were included.

Measurements were obtained monthly for the ratio of circulating neutrophil cell count to peripheral white blood cell count (neutrophil%), FEV₁, forced vital capacity (FVC), hANP, and baPWV from July 1, 2011, to December 15, 2011.

Results: Neutrophil% (67.4±11.1%) was significantly correlated with BaPWV (2465.8±652.7cm/s) ($r = 0.480702$, $p < 0.05$) and hANP (27.6±8.7 pg/ml) ($r = 0.471491$, $p < 0.05$). However, BaPWV was not correlated with FEV₁ or FVC.

Conclusions: This report suggests that neutrophils might be involved in the increased risk of cardiovascular events in severe COPD.

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Status of upper airways in exacerbation of COPD

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Environmental tobacco smoke is the most significant factor of development and progression of COPD. Besides the pathological effects of environmental tobacco smoke on upper airways cannot be excluded.

Purpose of our study was to study the condition of upper airways at exacerbation of COPD. Twenty patients (twelve men and eight women) with the second and third stages of COPD have been examined, index of a smoker was 29.3±1.2. Average age of patients was 57.9. Control group included twenty non-smokers comparable in age and sex, not having respiratory disease.

Study of condition of upper airways included the anterior active rhinomanometry, transport time of the saccharin, endoscopic examination of nasal cavity, X-ray computed tomography scans paranasal sinus, videostroboscopy, fibrolaryngoscopy, estimation of acoustic analysis of voice.

Changes in paranasal sinus were characterized by appearance of thickening of mucosa on the X-ray computed tomography have been determined for sixteen patients with COPD. According to Lund-Mackay scale the average index was 3.5±0.2; $p < 0.01$. Elongation of transport time of the saccharin as the index of mucociliary clearance of nasal cavity mucosa has been determined, average index in the group was for fifteen patients 28.05±2.1; $p < 0.01$. For eight patients the statistically distinguishable change in larynx has been shown as thickening of free surface of vocal cords in the form of Reinke's space edema.

Thus we determined frequent occurrence of upper airways pathology in the form of edema of paranasal sinus mucosa, elongation of transport time of the saccharin of nasal mucosa, changes in vocal cords in the form of Reinke's space edema in patients with exacerbation of COPD.

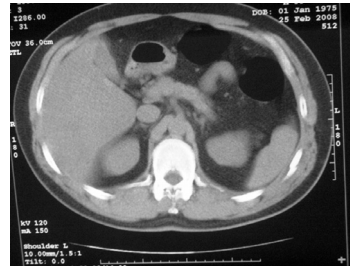
P3704

Rib fracture caused by coughing in a young patient

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Introduction: A cough is a voluntary or involuntary explosive expiration that protects the lungs against aspiration and promotes the movement of secretions and other airway constituents upward toward the mouth. Rib fracture which is caused by coughing usually occurred due to underlying pathologic factors such as osteoporosis, renal failure, metastatic tumors. We presented a young patient with rib fracture caused by coughing.

Case report: A 33-year old man has admitted with the complaint of immediate onset and localized left sided chest pain which was occurred due to coughing induced by upper airway infection. The history of patient was not significant and he had no injury to his chest. The crepitation and tenderness were determined on his physical examination. The thorax computed tomography was revealed a rib fracture on the left tenth rib. When we evaluate him for an endocrinopathy, we did not find any abnormality. We decided that his rib fracture was occurred due to coughing.



Conclusion: A rib fracture should be considered in mind in a patient who admitted with immediate onset and localized chest pain.

P3705

Etiology and outcome of dyspnoea in emergency department patients

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Introduction: Dyspnoea is a common and complex diagnostic problem in ED patients.

Aim: To record initial diagnoses and outcome in ED cases of dyspnoea in a general hospital.

Material: Adults whose presenting complaint was dyspnoea during 3 consecutive summer on calls.

Methods: On site recording of relevant data. SPSS 18 was used for statistical analysis.

Results: 54(2.9%) patients presented to A&E complaining of dyspnoea out of a total attendance of 1861 persons. 33 were male (61.1%) and the mean age was 66.1 years. At triage severity was characterized as: 1(11.1%), 2(38.9%), 3(33.3%), 4(16.7%), 5(0%). BORG scale of dyspnoea was: 1(5.6%), 2(5.6%), 3(4.8%), 4(31.5%), 5(11.1%), 6(5.6%), 7(11.1%), 8(3.7%), 9(1.9%), 10(9.3%). Onset of dyspnoea was acute in 7 patients (13%), subacute in 38 patients (70.4%); in 9(16.7%) patients there was acute deterioration of chronic dyspnoea.

Initial diagnoses were: COPD(20.4%), asthma(5.6%), cancer(9.3%), pleuritis(7.4%), haemoptysis(7.4%), pulmonary embolism(1.9%), febrile infection(22.2%), SOAS(1.9%), heart failure(14.9%), coronary artery disease(3.7%), hypertension(1.9%), neuropsychiatric disease(1.9%) and miscellaneous(1.9%). Patients were treated at short stay units (3.7%), special departments (48.1%), ITUs(1.9%), specialist centres(1.9%) and at home(44.4%). The mean duration of hospitalization was 7±2 days.

Concordance between admission and discharge diagnoses was 90.7%. Additional medical problems were identified in 25.9% of the patients that presented with dyspnoea.

Conclusion: Dyspnoea in ED patients is a complex medical problem that requires meticulous clinical attention.

P3706

The bronchial asthma course change during pregnancy

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It is well known, that the course of bronchial asthma (BA) changes at some of

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women during pregnancy. The disease evolves in lighter or severe form. The aim of work was to analyze how the BA course is changing at pregnant women

Material and methods: During 2010-2011, the BA course at 37 pregnant women has been studied in perinatal centre of regional hospital. The mean age was 24.2 ± 3.4 years. The average disease duration totaled 7.3 ± 2.7 years. The initial condition of disease course at women was the following: at 9 cases it was easy intermitting, including the remission stage, at 16 it was easy persistent, at 10 - moderate and at 2 - severe.

Results: The course of BA at 21 women during pregnancy (56.8%) didn't change, at 9 women (24.3%) it became easier, and at 7 women (18.9%) it went to severe. In most cases exacerbations occurred during the initial symptomatic BA course (85.6%). The following exacerbation factors were also marked: the wilful withdrawal of basic medications after the pregnancy identification (54.1%), the existence of the connection between cold endured before BA exacerbations and exacerbations itself (29.7%).

Conclusions: The BA course during pregnancy can be accompanied by both the reductions and exacerbations of semiology. It might be connected with patients' self-treatment or with the cold endured earlier.