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79. COPD management

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Inhibiting effects of tiotropium bromide on neocollagenesis during 6 month treatment

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Background: Chronic obstructive pulmonary disease (COPD) is one of the most important causes of morbidity and mortality worldwide, which are the third most common cause of death (8%) in the 25 member states of the European Union.
Purpose of the study: Is the evaluation of type IV collagen dynamic in bronchoalveolar lavage (BAL) during the treatment with tiotropium bromide.
Materials and methods: The content of type IV collagen was investigated in BAL of 43 patients with stage 2 COPD before and after 1, 3 and 6 months of treatment with tiotropium bromide using ELISA.
Results of the study: The content of type IV collagen in BAL on a moment of hospitalization in patients with COPD exacerbation was $(61,14\pm1,28)$ ng/ml that is in 6.19 times $(p<0,05)$ higher than in healthy. In patients with COPD exacerbation treated within 1 month with integrated treatment including tiotropium bromide as a basic therapy we identified the reduction of type IV collagen levels in 1.41 times in BAL compared with data before treatment. We found further positive trends - reduction of type IV collagen on 79.4% with using tiotropium bromide within 2 months. The level of type IV collagen in bronchoalveolar fluid dropped in 2.23 times $(p<0.05)$ compared with the level before treatment. We identified practically complete normalization of type IV collagen levels in BAL only during 6-month of tiotropium bromide admission in patients with stage 2 COPD. This rate was higher only at 29.8% $(p <0,05)$ comparing with healthy.
Conclusions: The reduction of type IV collagen content in BAL under tiotropium bromide treatment during 6 month is a clear evidence of inhibiting effects of tiotropium bromide on neocollagenesis

P536
Effect of erdosteine on airflow obstruction and symptom recovery in severe COPD exacerbations

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Introduction: Acute COPD exacerbations (AECOPD) represent an important cause of morbidity and mortality. Early and effective interventions may improve their outcome and patients' health status.
Objective: This study evaluated the effect of erdosteine, an anti-oxidant mucolytic agent, on airflow limitation and symptom recovery at AECOPD
Methods: 15 COPD patients hospitalized for an acute exacerbation randomly received erdosteine 900 mg daily (E) or placebo (P) for 10 days in combination

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with standard steroid, antibiotic and bronchodilator treatment. Pulmonary function test including spirometry (FVC, FEV1, FEF25–75) and breathlessness, cough, and sputum scale (BCSS) were measured at hospital admission, and at 10 and 30 days post-exacerbation.

Results:

Time	FEV1 ml	FEV1 % pred	FVC ml	FVC % pred	FEF25-75% ml/sec	Symptoms score
Erdosteine						
Baseline	1201	48.0	2067	58,7	457	8.1
10 days	1500**	67.0**	2668	70.9*	619**	4.4**
30 days	1574*	67.4**	2849*	83.7*	811*	2.7*
Placebo						
Baseline	1142	44.8	2058	61.3	335	7.6
10 days	1218	45.6	2315	64.9	375	5.6
30 days	1288	50.2	2470	71.6	472	3.8

$*p<0,05$ and $**p<0.01$ vs. P.

The improvement of lung function parameters and symptom scores from baseline was significantly greater in patients receiving erdosteine. Symptom score recovery significantly correlated to improvement of airway obstruction at time 10 and 30 in the erdosteine group.

Conclusions: Treatment with erdosteine plus standard therapy in AECOPD proved to be effective in improving both clinical symptoms, and large and small airway impairment. Mucolytic agents with relevant antioxidant activity may allow a more rapid and complete recovery of exacerbated patients by reducing the burst of airway inflammation.

P537
Analysis of therapy of community-acquired pneumonia (CAP) at the COPD patients
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To assess extent, accuracy and efficiency of therapy of CAP at patients (PT) with COPD case histories of 252 inpatients (54,4% males, mean age $59,03\pm13,75$) admitted due to CAP and COPD exacerbation were analyzed. PT with non-severe CAP were 94,8%. Moderate COPD had 54,4% PT, severe COPD – 34,1%, very severe COPD - 4%. Cardiovascular diseases were more than 60% PT. Analysis of therapy revealed average amount of prescribed medicines was $11,72\pm3,24$. The most frequently used antibiotics was cephalosporines of third generation (61,9%), macrolides (21,4%), ciprofloxacin (20,6%) and inhibitor-protected aminopenicillins (14,3%). Correct combination of beta-lactam+macrolide was prescribed 40,2%. Combinations of fluoroquinolone with beta-lactam received 12,1% or fluoroquinolone+amicacin - 7,5%. These combinations are alternative treatment for investigated PT. Non-recommended antibacterial therapy received 18,6%. Amoxicillin/clavulanate±macrolide, cefriaxon±macrolide and ciprofloxacin±beta-lactam or amicacin was the most effective treatment (in 99,6%, 95,0% and 95,2% PT, relatively). For COPD exacerbation's therapy systemic theophylline and corticosteroids were prescribed 59,5% and 52,4%, relatively, nebulization of inhaled corticosteroids and beta2-agonists - 11,5% and 27,8%. Mucolytics received 90,5%. Medications with non-established efficacy for CAP and COPD exacerbation received 76,2% PT. Non-recommended medicines for cardiovascular diseases were used for 53,3%. Thus the most of CAP PT with COPD received recommended, effective antibacterial therapy. The additional studies are needed for creation of reasonable guidelines for management of CAP patient with multiple concomitant diseases.

P538
Perioperative pulmonary complications and management of patients with COPD and esophageal malignancy
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The aim of this study was to determine the current incidence of pulmonary complications (PC) and to assess the optimal perioperative management in patients with COPD and esophageal malignancy.
Methods: From 2006 to 2010 87 patients with esophageal cancer were investigated (mean age 62.2 ± 1.5). According to FEV_1 and FEV_1/FVC ratio, we classified patients into three groups: COPD1 n= 37 with mild and moderate COPD, COPD2 n = 24 with severe COPD and WCOPD without COPD group n=26. We started the antibiotic treatment 24h before surgery in COPD groups. We conducted deep pre-medication, anesthesia with sevoflurane, fentanyl and pipecuronium. All patients were ventilated with PCV. Perioperatively arterial blood gases were tested. All patients were undergone overnight mechanical ventilation, postoperative analgesia, physiotherapy and early enteral therapeutic diet.
Results: We didn't detect any differences in hemodynamic parameters and intra-operative blood gases analysis. The major PC (21/87=24.1%) included: pneumonia (n=6), atelectasis (n=3), pleural effusions requiring drainage (n=4) and the exacerbation of COPD (n=6). Patients with COPD had more PC (31.1%) than WCOPD

(7.7%) $p<0.025$. Severe COPD2 group had more PC (54.2%) than COPD1 group (16.2%) $p<0.01$. Mean hospital length of stay was average 11 days for WCOPD and 16 days for COPD groups. The mortality in our study was 9.2% (8 patients) and was associated with the presence of severe COPD $p<0.025$.
Conclusions: Severity of COPD affects the incidence rate of PC and mortality. Patients with COPD need to be under vigilant postoperative monitoring, complex therapy, managed by team of anesthesiologist, pulmonologist, surgeon and physiotherapist.

P539
Index of myocardial injury CIIS and mortality of patients with chronic obstructive pulmonary disease
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Aim of the study was to assess informative power of the Cardiac Infarction Injury Score (CIIS) in patients with chronic obstructive pulmonary disease (COPD) to determine the role of CIIS in prognosis of death of patients with COPD.
We examined 124 patients with COPD (mean age $54,93\pm0,63$ yrs) and followed 76 of them for 4 years. During follow up 16 patients (21.1%) died. COPD was diagnosed according GOLD criteria.The Cardiac Infarction Injury Score (CIIS) is an electrocardiographic classification system that was developed as a diagnostic tool to assess the extent of cardiac injury in myocardial infarction.
12.1% patients had CIIS>20 compared of only 5.6% patients whom had a recognised history of MI. In patients with COPD III-IV stage CIIS > 20 was detected 1.8 times more often than in patients with COPD I-II stage. Difference in CIIS between survivors and those who died was significant ($p<0.001$)

CIIS in patients with COPD

CIIS, score	Alive (n=60)	Died (n=16)
<10	24 (40,0%)	0 **
10–20	34 (56,7%)	9 (56,3%)
>20	2 (3,3%)	7 (43,8%)***

$**p<0.01$, $***p<0.001$

Unrecognised MI is common in patients with COPD. We demonstrated that CIIS can be used for stratification of risk of death in patients with COPD. CIIS above 20 is defined as prognostically unfavorable factor or as risk factor of death in patients with COPD while CIIS < 10 is associated with lower probability of unfavorable outcome.

P540
Polypharmacy in patients with acute exacerbation of COPD
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Introduction: Polypharmacy (PP) is frequent in patients with COPD who often have comorbid chronic diseases, and PP increases the risk to experience adverse drug events.
Objective: To determine the prevalence of PP in patients hospitalized for an acute exacerbation of COPD, and the factors associated with PP in this population.
Subjects and methods: ECCO is an observational, prospective, multicentre study. It included those patients admitted with a COPD exacerbation to any of the participating Internal Medicine departments consecutively between January 1, 2007, and December 31, 2008. They were all spirometry-confirmed COPD GOLD II or higher in stable condition. PP was defined as chronic concurrent use of ≥ 5 medications and excessive PP (EPP) as ≥ 10.
Results: 398 patients, 353 men and 45 women, with a mean (SD) age of 73.7 (8.9) years were surveyed. The average use of drugs was 5.0 (2.6). On admission 224 (56.3%) had PP and 22 (5.5%) EPP. Patients with PP had more comorbidity [Charlson index 2.8 (2.8) vs 2.3 (1.6); p=0.004] and more severe mMRC dyspnea (p=0.009) but there were no differences according to GOLD stage. On discharge the average chronic use of drugs was 6.6 (2.4) with an increase in 272 (68.3%) patients. At discharge, 296 patients (78.7%) had PP and 44 (15.9%) EPP. Patients with PP at discharge had more comorbidity and lower FEV1 (p=0.01). In a multivariate logistic regression model PP was associated with lower predicted FEV1, heart failure, hypertension, diabetes, home oxygen therapy and PP on admission.
Conclusion: Polypharmacy is frequently observed in COPD patients, and is associated with more severity of COPD and more comorbidity.

P541
Comparison of two models of factors associated to hospital admission for COPD
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Introduction: COPD is a leading cause of hospital admissions.
Objectives: We aimed to identify factors significantly associated with hospital admission for COPD exacerbation in a population of patients with COPD.
Method: A multi-center, cross-sectional, observational, study was conducted with the aim to identify factors associated with hospital admission in patients with COPD. Demographic and clinical data, treatment and socioeconomic status were collected. Evaluation of comorbidities (Charlson index), psychological profile (HAD questionnaire), health-related quality of life (EuroQOL-5D, LCADL), pulmonary and cardiac function testing, 6MWT and BODE index were measured and compared between patients with and without hospital admission the last year.
Results: 127 patients were included, of which 50 (39.3%) were hospitalized the previous year. Patients hospitalized for COPD exacerbations showed more use of Emergency Room, LTOT, NIMV, worse SpO2 and FVC, and worse BODE and EuroQoL scores. The findings from the multivariate analysis made possible to establish two models: the one with SpO2, BODE index, and previous visits to ER had a sensitivity of 61.5% and a specifity of 87.2%, and the model that did not consider 6MWT or BODE index but included SpO2, MRC dyspnea score and visits to ER had a sensitivity of 62.4% and a specifity of 86%.
Conclusions: Hospital admissions for exacerbated COPD are associated with worse SpO2, BODE index, baseline MRC and previous visits to ER department. If 6MWT is not available, the other variables provide a similar discrimination capacity between admitted and non admitted patients.
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More than two years of a monographic consultation on control of chronic home oxygen therapy
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Objectives: To know the characteristics of our patients on chronic home oxygen therapy. We assess the prescription criterion, the prescriber department, time since chronic home oxygen therapy started and the main diagnosis that causes the home oxygen therapy.
Materials and methods: Retrospective descriptive analysis of the patients that attend to our monographic consultation since it started on October of 2008.
Results: The number of patients is 598 with 1181 number of consultations, this means 1,9 consultations per patient. The main diagnoses frequency is COPD 558 (47,2%), Heart Disease 65 (55%), prescription criteria was adequate in most patients, the prescriber was Pulmonology in a 31,8%. From the 598 patients evaluated were prescribed to105 cease prescription, representing a 17.5% after a mean of 469 days (15.4 months). The most common diagnoses in such patients were: COPD 43 (40%), Heart disease20 (19%),. The diagnostic groups that less time in oxygen therapy required were Respiratory Infection 67 days. The diagnostic groups to which therapy were withdrawn most frequently were: Pneumonia 28%, Heart Disease 23%,
Conclusions: Most patients who come to the consultation have a diagnosis of COPD and are referred primarily from the Pulmonology department with a correct prescription criteria. The withdrawal of OCD is made after an average time in therapy of 15 months. This cease of prescription is made in 8,9% of the consultations representing 17,5% of the total number or patients. The most frequent diagnoses on these patients not differ from those pursuing therapy but oxygen therapy was withdrawn more frequently in pathologies potentially reversible and those also needed less time.

P543
How we can modify the steroid insensitivity in patients with chronic obstructive pulmonary disease? The new pharmacological approach to old problem
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How we can modify the steroid insensitivity in patients with chronic obstructive pulmonary disease? The new pharmacological approach to old problem.
The aims of our study was the follow-up of efficacy of low-dose theophylline in patients with chronic obstructive pulmonary disease (COPD) 3 stage. We have examed 43 patients with severe COPD (GOLD, 3 stage) and all patients were divided two groups: 1) 23 patients have recieved teophylline 200mg/day and Seretide-Discus 1000/100/mcg/day + Tiotropium-bromide 18mcg/day; 2) 20

patients have recieved Seretide-Discus 1000/100 mcg/day + Tiotropium-bromide 18mcg/day without theophylline. All of patients with severe COPD were observed during 6 months. In all patients were investigated lung function, cell and sytokine (IL-8, IL-6, TNF-a) contents of induced sputum before and after treatment regime. Our investigation shown that low doses of phosphoinositide-3-kinase (PI3K) inhibitors (theophyllines) might be a useful addendum to steroid therapy in patients with severe COPD. Our study reported that twice daily dose (200mg) of teophylline significantly improved FEV1 (58,7±8,9% vs 51,6±7,5% in patients control, p<0,05),redeuced the number of neutrophiles (24,8±5,9% vs 32,1±5,7% in patients control, p<0,05) and significantly reduced the level of pro inflammatory sytokines,especially the level of IL-8 (23,4±6,5 pg/ml vs 38,9±7,8 pg/ml in patients control, p<0,05). Considred significantly efficacy on lung function, on cell and sytokine contents of induced sputum,we can conclude that, low doses of teophylline as the PI3K inhiubitor may improve steroid sensitivity and to be apporovewd for the managment in patients with evere COPD.

P544
The influence of high doses of N-acetylcysteine alone or in combination with inhaled corticosteroids on quality of life in patients with COPD
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Background: The aim of our study was to evaluate the effects of 6-month oral N-acetylcysteine (NAC) treatment 1200 mg/day alone or in combination with inhaled corticosteroids (ICS) on health-related quality of life (QOL) in outpatients with COPD.
Methods: A total of 62 patients with stable COPD (36 males, mean age 66.8 years, GOLD stage I-IV) were included and divided into two treatment groups. Group 1 received bronchodilators and NAC. Group 2 received NAC and ICS in addition to bronchodilators. Clinical examination, pulmonary function tests and QOL were measured at baseline and repeated after 6 months of treatment with the Short Form 36 Questionnaire (SF-36) and St. George's Respiratory Questionnaire (SGRQ).
Results: SGRQ symptoms, total score and SF-36 social function score at baseline were higher in group 2 (p<0.05). SGRQ symptoms, impact, activity and total scores recorded significant improvements (p<0.0001) after NAC treatment with greater changes in group 2. All improvements recorded by SGRQ scores were higher than the 4 units' threshold for the minimum clinically important difference for both groups. The SF-36 scores indicated significant improvement in QOL in both groups, especially in physical functioning, role-physical functioning, bodily pain, general health, role-emotional and mental health domains scores. Reduction of respiratory symptoms was registered even after 1 month of NAC treatment. Nevertheless lung function parameters did not change over 6 months.
Conclusion: Long-term treatment of stable COPD patients with NAC 1200 mg/day improves QOL measured both SF-36 and SGRQ with greater changes in combination of NAC with ICS.

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Gender differences of predictors of health status in patients with COPD
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Background: In recent years there has been an increase in the incidence, prevalence and mortality of COPD in women. The influence of gender on the health status of COPD patients is studied rather superficially.
The aim of the study was to to evaluate the health status of COPD patients and to identify the main predictors of quality of life in these patients according to the gender.
Methods: 80 consecutive COPD patients were enrolled into the study. Spirometric data were analyzed (FEV1, FVC, FEV1/FVC) and BODE index (BMI, FEV1, MRC, 6 MWD). Health-related quality of life was assessed by the Clinical COPD Questionnaire (CCQ) and the St. George Respiratory Questionnaire (SGRQ).
Results: The cohort consisted of 40 women with mean age 65±8.3 years and 40 men with mean age 64±8 years. Patients in both groups had the similar severity of COPD by GOLD/ATS/ERS: FEV1,% was 46.27±15% versus 44.9±9.5% (p= 0.62). Patients in both groups had similar scores of all domains of the SGRQ: total 62.23 vs 65.01, p= 0.29; symptoms 76.46 vs 80.63, p=0.29; activity 57.49 vs 59.35, p=0.58; impact 60.49 vs 63.35, p=0.29. There were no significant differences in CCQ total score 2.96 vs 2.8, p=0.38. The forward stepwise regression analysis shows that the BODE index, severity of obstruction and comorbidities are the important predictors of health related quality of life in men, which explain 55% of the total score of SGRQ (p<0.01). In women, 6MWD, age and oxygenation explain 54.6% of SGRQ total score.
Conclusion: BODE index, degree of obstruction and comorbidities were found to be the major determinats of quality of life in men, meanwhile age, exercise capacity and level of arterial oxygenation in women.

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The subclinical atherosclerosis and its association to clinical features of stable COPD

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The link between COPD and atheroscleros (AS) has been speculated but such information at clinical features of COPD and its relation to AS is limited. To evaluate subclinic AS in patients with COPD 33 male COPD patients and 15 healthy male control subjects included the study. Subjects with exacerbation, DM, chronic renal failure, cardiac diseases excluded. All the subject underwent spirometry, blood sampling, carotid artery USG,24 hour oxygen saturation recording via a holteroxymeter. We determined carotid artery intima-media thickness (CAIMT) as indicator of subclinical AS.

Mean CAIMT was greater in COPD group (p=0.005)

Table 1. Subject characteristics

	COPD group (n=33) Mean ± SD	Control group (n=15) Mean ± SD	p value
Age	56.8±7.6	51.8±4.2	0.03
BMI, kg/m^2	24.5±4.9	26.5±3	0.009
Pack-year history	42.4±29.3	24.8±23.8	0.03
Duration of illness, yr	8.9±6	0	<0.001
Systolic BP, mmHg	130.1±19.9	118±16.1	0.03
Diastolic BP, mmHg	79.7±11.9	72.3±8.6	0.009
CRP, mg/dl	6.04±4.5	3.4±1.1	0.03
% FEV$_1$	44.4±17.5	119.1±18.3	<0.001
% FVC	57.2±16	104±15.3	<0.001
Avarage saturation in 24 hours	90.8±3.7	94.9±1.2	<0.001
T%90	32.3±33.18	3.42±10.1	<0.001
Mean CAIMT	0.802±0.19	0.65±0.07	0.005

HsCRP: High sensitive CRP, T%90: Time below 90% saturation.

Table 2. Pearson's corralation of all subjects forCAIMT and other variables

	Coefficient number	p value
Age	0.39	0.008
Duration of COPD	0.304	0.02
Systolic BP	0.448	0.006
Diastolic BP	0.355	0.008
T%90	0.320	0.04
CRP	0.32	0.03
% FEV$_1$	–0.343	0.03

Multivariate stepwise analysis showed significant associations between CAIMT and decreased % FEV1 (p=0.018) and between systolic BP (p=0.004) independent of age, BMI, duration of illness, diastolic BP, % FVC, CRP, T90%. Although the duration of COPD, T90% and CRP correlated with CAIMT, impaired lung function and severity of systolic blood pressure the predict CAIMT.

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Prevalence of heart disease in patients hospitalized for an acute exacerbation of COPD: Impact on clinical outcome. A 6 month follow-up study

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Aim: In order to analyze the prevalence of heart disease "HD" (known or not) in patients hospitalized due to an acute exacerbation of COPD, we carried out a prospective study.

Material and methods: A total of 103 patients were prospectively included. Clinical course and outcome were analyzed during a 6-month follow-up.

Assessment of mean length of stay, mortality and hospital readmission was made. ECG, Echocardiography and NTproBNP value were used for the cardiac evaluation.

Results: 103 patients (71.83±9.3 years) were recruited, 81% of them with GOLD stage ≥ 3.

Thirty-seven patients had a HD (a "newly" disease in 14): group FI. The COPD was alone in 63: group FII.

The mean length of stay was 5.74±3.4 days and the in-hospital mortality rate was 2.9%. At 6-month follow-up: the mortality rate was 4.9% and the readmission rate 46.6% (35.5% of early readmission). Between readmitted cases, 56% were in GOLD stage 4.

With regard to the cardiac evaluation, the phisical examination (yugular venous distention: 21.1% vs 4.6%, p=0.017; peripheral edema:31.6% vs 12.3%, p=0.022, pulmonary rales: 18.4% vs 2%, p=0.04), the ECG (28.9% vs 10.8%, p=0.030), the ecocardiography (LVEF < 50%: 23.7% vs 6.2%, p=0.014) and NT-proBNP (> 1200 pg/ml: 44.4% vs 13.3%, p=0.003) were more freqüent abnormal in the group FI than in the group FII.

Conclusions: 1. The global prevalence of HD in our cohort of patients with an acute exacerbation of COPD was 37%.

2. In this setting, physical examination, an abnormal ECG, an EF<50% and a NTproBNP value > 1200pg/mL, could help to identify patients with a probable HD.

3. Fifty-six% of readmissions were patients in GOLD stage IV.

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WITHDRAWN

P549

COPD circle of care: Patient centred education and counselling tool for COPD self-management

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Background: Current gaps exist between heathcare professionals and COPD patients in effective communication & counselling on patient self management.

Aim and objective: To develop a patient centred counselling tool, based on Canadian Clinical Practice Guidelines, for COPD self management that will meet the needs of family physicians, nurses, respiratory therapists, COPD educators & pharmacists responsible for COPD patient education.

Methods: 7 national stakeholder organizations and 14 healthcare professionals from across Canada collaborated in the development of a patient centred COPD education/counselling tool. A core development board (3 COPD nurse educators, 1 pharmacist, 1 family physicians and 1 respirologist) developed the core materials. Input and direction was then provided by 3 regional committees (each comprised of 2-3 healthcare practitioners) to ensure regional nuances and national application of the tool. The national stakeholder organizations ensured that the tool meet the requirements of the respective organizations. The tool was tested with COPD patients to ensure usability and validity.

Results: A tool with universal graphics and language in a paper format will be presented at the ERS. The tool contains self management strategies for preventing acute exacerbations, breathlessness, signs of worsening COPD and action plan.

Conclusion: An effective patient education/counselling tool is required for successful communication between healthcare professionals and patients on COPD patient self-management. The utility and clinical impact of the tool will require HCP education and training.

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Influence of tiotropium bromide (TB) on the severity of clinical, functional symptoms and health-related quality of life (HRQL) in COPD patients (pts)

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Aim: To study influence of TB on the severity of clinical, functional symptoms and HRQL in COPD pts.

Materials and methods: We studied 24 pts in stable phase of COPD (age – 64,3±2,3 yrs), who used fenoterol/ipratropium bromide (Berodual-H), before and after 2-month's course of treatment with TB (Spiriva® HandyHaler). Measurements included clinical status (severity of cough score (1 – mild, 2 – moderate, 3 – severe), quality of mucus score (1 – low, 2 – moderate, 3 – high), severity of breathlessness MRC-score), spirometry, St.George's Hospital Respiratory Questionnaire (SGRQ).

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Results: Results are presented in the Table.

Parameters	Before treatment	After treatment	p
Cough	1.27±0.14	0.64±0.15	0.004
Mucus	0.91±0.21	0.36±0.15	0.038
Breathlessness	1.91±0.16	1.00±0.19	0.001
FVC (% pred.)	84.8±5.86	92.3±5.64	0.361
FEV1 (% pred.)	53.4±4.52	61.8±4.89	0.214
FEV1/FVC	0.53±0.04	0.56±0.05	0.651
PEF (% pred.)	50.4±4.21	61.0±5.14	0.117
SGRQ: symptoms score	61.7±3.10	41.6±4.05	0.000
SGRQ: activity score	53.6±8.33	47.7±8.03	0.613
SGRQ: impacts score	42.4±6.97	40.2±6.19	0.814
SGRQ: total score	48.7±6.13	42.8±5.67	0.483

Conclusion: 1) 2-month's course of treatment of COPD pts with TB leads to more rapidly improvement of clinical status than of functional one; 2) symptoms score of SGRQ reflects clinical changes of COPD pts and may be use as an objective parameter during introductions of new treatment programs.

P551
The comparative characteristic of respiratory muscles function in patients with bronchial obstruction
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Almost all patients with bronchial obstruction have respiratory muscles (RM) dysfunction of various severity levels.
The aim of our investigation was to evaluate the change of RM function in bronchial asthma (BA) and chronic obstructive pulmonary disease (COPD) patients on different stage of diseases.
Study population: 48 COPD and 12 BA patients were included. Subjects were divide depending on a stage of disease. The mean age of COPD pts. is 52,33±0,70 years, 8 females (22,3%) and 28 (77,7%) males. In gr. with BA the mean age is 49,78±5,64 years, 5 females (41,7%) and 7 (58,3%) males.
Methods: Spirometry and pneumotonometry were performed by means Master-Screen Body/Diff ("Jaeger", German). FEV1 and PImax were evaluated.
Results: Results are performed in table 1.

	BA I st.	BA II st.	BA III st.	COPD I st.	COPD II st.	COPD III st.
FEV1, %	83.44±3.5	66.45±2.6	44.33±8.2	91.25±3.23	66.09±5.33	36.78±5.82
PImax, %	74.05±2.1	55.75±3.7	49.99±5.3	47.22±3.12	51.77±3.27	65.93±4.41

p<0.05.

Conclusion: We estimate the dysfunction of RM in all groups pts with BA and COPD. Correlation interrelation between FEV1 and PImax in pts with BA was positive (r=0,78), in COPD pts – negative (r=-0,94). We assume, that obtained data should be considered at drawing up of individual programs of treatment and rehabilitation of COPD and BA pts.

P552
Comparative characteristics of protein metabolism disorders in patients with occupational and non-occupational COPD
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Respiratory diseases, particularly COPD, set a significant place in the disability of Ukrainian population. In the industrial regions of the country considerable place in disability structure sets occupational COPD. Occupational and non-occupational COPD have their peculiarities of the course, particularly at the biochemical level. In order to identify biochemical differences between patients with COPD and occupational COPD we examined 32 patients with occupational COPD (group 1) and 32 patients with non-occupational COPD (group 2). These groups of patients were comparable in all major characteristics. The control group consisted of 30 healthy individuals.
Study of biochemical homeostasis of patients showed a significant decrease of albumin and a significant reduction of α1-globulin level in patients of 2nd group compared with the 1st and the control groups, that shows the prevalence of catabolism due to the long course of chronic inflammation in broncho-pulmonary system and failure of α1-antitrypsin synthesis in these patients. Also it was shown increasing levels of α2-globulin and β-globulins in patients of the 2nd group compared with the groups 1st and control, indicating expressed activity of systemic inflammation; increased γ-globulins level demonstrates a greater intensity of immune processes. All the correlations were significant with p <0.01.
The results suggest a more pronounced shift of protein metabolism in patients with non-occupational COPD, the prevalence of catabolic processes, active systemic inflammation and intensification of immune processes. This may indicate the need of including anti-inflammatory drugs in the rehabilitation of such patients.

P553
Evaluation of incontinence and quality of life in patiens with chronic obstructive pulmonary disease (COPD) and bronchiectasis
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Background: Incontinence is common and more prevalent in respiratory disease. Despite this, the effect of incontinence on quality of life in respiratory patients is unknown.
Methods: We conducted a case controlled questionnaire study. We sent the International Consultation on Incontinence Modular Questionnaire (ICIQ), the Leicester Cough Questionnaire (LCQ), the EuroQol 5D (utility) and the MRC questionnaire to 150 patients with COPD, 150 patients with bronchiectasis and 150 controls (orthopaedic surgical patients). The groups were age and gender matched. Mann-Whitney test was used to determine effects of gender and disease.
Results: 164 (81 male) patients and 53 (22 male) controls replied. Overall, females (68%) had more incontinence than males (41%). Median (IQR) values for ICIQ were significantly (p<0.05) higher for female patients (4 (0-7.5)) but not for male patients (0 (0-4)) compared to controls (3 (0-5.5), 0 (0-3.7) respectively). However, male, but not female, patients with incontinence had a significantly (p=0.01) lower utility score, despite no difference in MRC (table).

Effect of incontinence on quality of life

	Number	Age, yrs mean (sd)	ICIQ*	Utility*	LCQ*	MRC*
Female						
Continent	23	72.7 (10.4)	0 (0.0–7.0)	0.8 (0.7–0.8)	17.4 (15.0–18.4)	2.0 (2.0–3.0)
Incontinent	58	67.6 (11.3)	7 (5.0–10.5)	0.7 (0.6–0.9)	14.8 (11.9–17.2)	3.0 (2.0–3.8)
Male						
Continent	48	71.7 (8.6)	0 (0–0)	0.8 (0.6–0.9)	16.6 (13.7–19.8)	3.0 (2.0–4.0)
Incontinent	31	72.4 (9.3)	5 (3.75–6.0)	0.6 (0.5–0.8)	13.8 (11.6–17.5)	3.0 (2.0–3.0)

*Values as median (IQR).

Conclusion: Incontinence is more common in females but males with incontinence had more impaired overall health related quality of life.

P554
Initial clinical phenotype of COPD: Correlation with the natuaral history of the disease
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The chronic airflow limitation characteristic of COPD is caused by a mixture of small airway disease (obstructive bronchiolitis) and parenchymal destruction (emphysema), the relative contributions of which vary from person to person.
Aim of this study was to evaluate, at the time of the first specialist evaluation, the differences in lung and cardiac function and HRCT extent of emphysema in patients with a spirometric diagnosis of COPD but different initial clinical presentation (chronic bronchitis [CB] versus dyspnea [Dy]). 45 consecutive patients referred to our outpatients service by their GP were divided according to their main first symptom (chronic bronchitis or dyspnea).Patients with Dy had an obviously higher dyspnea score vs those with CB (MRC 2.9±0.9 vs 2.3±0.6, p=0.02) and produced much less sputum (p<0.001). The severity of obstruction was similar in the two groups (FEV1 31±11% predicted in both groups, p=0.89; FEV1/VC 26±6% vs 27±7%, respectively for Dy and CB, p= 0.62). The CB had worse arterial blood gases (PaO2 62±12 vs 69±10 mmHg, p=003; PaCO2 50±7 ±vs 45±7 mmHg, p=0.02) and showed a higher proportion of pulmonary artery diameter >29 mm (a surrogate sign of pulmonary hypertension) 18/24 vs 8/21 pts, p=0.02). Dy group had larger CT emphysema extension score (35±16 vs 27±13%, even if this difference did not reach statistical significance, p=0.06). In conclusion we have shown differences between the two COPD phenotypes with similar airflow limitation, with CB patients showing worst ABGS and indirect signs of pulmonary hypertension, while Dy group was characterized by a higher degree of emphysema.