SUNDAY, SEPTEMBER 25TH 2011

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75. The new clinical spectrum of lung diseases: from bronchi to pleura

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P483

Different treatment courses with inhaled corticosteroids for eosinophilic bronchitis

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Background: Eosinophilic bronchitis (EB) is a common cause of chronic cough. Inhaled corticosteroids can improve sputum eosinophilia and cough severity. However, the treatment course with inhaled corticosteroids for EB is unkown.
Objective: To observe the efficacy and recurrence in EB patients with different treatment courses of inhaled corticosteroids.
Methods: 60 patients diagnosised as EB were randomly divided into three groups with inhaled budesonide 200 μg twice daily via a turbohaler for 4 weeks, 8 weeks and 16 weeks respectively. Cough severity was assessed by visual analogue scale (VAS) and daytime cough symptom score at baseline and during the treatment period. Airway inflamation was assessed by sputum eosinophil count (Eos%). All the patients were followed up for 6 months after treatment.
Results: The daytime cough score after treatment decreased in all three group ($p<0.05$), which was lower in 16 weeks group and 8 weeks group than 4 weeks group ($p<0.05$). The rate that VAS decreased over 80% after treatment were 55% in 4 weeks group, lower than 8 weeks, 16 weeks group (85%, 95%, $p<0.05$). The sputum eosinophil count decreased in all three group after treatment. The rate that sputum eosinophil count returned to normal level (Eos%<2.5%) in 8 weeks group (75%), 16 weeks group (95%) were significantly higher than 4 weeks group (50%, $p<0.05$). The rate of recurrence was 31.3%, 23.5%, 27.8% in 4, 8, 16 weeks group respectively. There are no significant difference among three groups.
Conclusion: Our results suggest that eosinophilic brochitis should be treated with low-dose inhaled budesonide for over 8 weeks. Recurrence appear not to be related to treatment course.

P484

Impact on objective cough severity by continuous positive airway pressure (CPAP) in subjects with chronic cough and obstructive sleep apnoea – A randomized controlled trial

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Recent studies have suggested chronic cough is prevalent in patients with sleep-disordered breathing (SDB). We investigated the effect of continuous positive airway pressure (CPAP) on cough in patients with obstructive sleep apnoea (OSA) and chronic cough in a randomized controlled trial.
11 consecutive patients with OSA confirmed on polysomnography (respiratory disturbance index (RDI) >15/hour) and chronic cough > 2months were recruited. All patients underwent a CPAP titration study. 1 patient did not tolerate CPAP. 10 Patients were randomized to receive sham CPAP (4 cm H_2O) or CPAP at pressures determined by the titration study for 1 month. The primary outcome was objective 24-hour cough count via the Leicester Cough Monitor (LCM).
7 (5 males) patients received sham CPAP and 3 (2 males) received titrated CPAP. There were no significant differences between groups [mean (SD)] in age [56.3

65s

SUNDAY, SEPTEMBER 25TH 2011

(7.1) yrs vs 63.7 (5.1) yrs, p=0.15], body mass index [36.3 (9.3) vs 32.8 (5.2), p=0.57], RDI [45.9 (30.0) vs 33.4 (17.4), p=0.53] and baseline 24-hour cough count [307.6 (275.9) vs 208.0 (82), p=0.57]. After 1 month there were no significant changes in 24-hour cough count in the sham CPAP group [307.6 (275.9) vs 122.0 (181.1), p=0.07] but there was significant improvement in the titrated CPAP group [208.0 (82.0) vs 42.3 (53.1), p=0.01].

These preliminary results suggest that CPAP may reduce objective cough severity in patients with cough associated with OSA and supports our previous study showing improved cough related quality of life following CPAP therapy. Further studies are needed to determine the mechanism of cough in OSA.

P485
Outcome of chronic cough referrals seen in general respiratory clinic

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Aim: Chronic cough is a common symptom for which patients seek medical consultation. Identifying the cause and alleviating their symptoms is a real challenge. In this study we aimed to find the outcome of such patients attending our centre.
Method: This is a retrospective study of patients who were referred with chronic cough to the respiratory clinic between June 09 till June10. Clinical information was obtained from electronic records.
Results: A total of 53 patients was identified. Average age was 59 years. 35 (66%) were females. 34 (64%) presented with dry cough. 34 (64%) of patients were non-smokers. 95% of patients had a cause identified by investigations or by a trial of therapy. 45 (85%) had a single aetiology whilst 15% had at least two. 12 (22%) patients had asthma, 9 (16%) reflux, 10 (18%) bronchiectasis, 7 (13%) rhino sinusitis, and 5 (9%) fibrosis. For 5 patients aetiology was unestabilished. Eight (15%) had their symptom completely cured. 17 (32%) had their symptoms controlled of which 15 (88%) were discharged. 28 (52%) of patients were still symptomatic.
Conclusion: The study showed asthma was still the commonest etiology however this was not as high as seen in other studies. Instead a sizable number of patients were diagnosed to have bronchiectasis and fibrotic lung disease. This could be due to different patient population studied as most of the studies previouslyy reported were done in tertiary centres. Guidelines for diagnostic work up for chronic cough recommend use of HRCT late in the algorithm but our study suggest early use would be more rewarding.Using appropriate clinical judgement, early request of HRCT scans in the diagnostic workup of patients with chronic cough is thus recommended.

P486
Accuracy of inhaler and nebulizer prescribing in hospitalized patients

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Introduction: There are a considerable variety of inhaler devices available. It is important that these are prescribed correctly when a patient is admitted to hospital as incorrect prescribing may have an adverse effect on patient recovery and length of stay. We have investigated the accuracy of inhaler prescribing on the respiratory wards in our hospital.
Methods: All admissions into the respiratory wards (total no of beds =57) between March to May 2010 were included (total 83). All case notes were retrieved and only patients on inhalers or nebulizers were included.
Results: 83 patients were admitted of whom 44 (53% of total, age range 20-92, 68% female) were on inhalers or nebulizers prior to admission. COPD (57%) was the main reason patients were on inhalers/nebulizers.

Table 1. Indications for inhaler/nebuliser prescribing

COPD	24 (54.5%)
Asthma	7 (15.9%)
Asthma/COPD	1 (2.3%)
Cystic fibrosis	5 (11.4%)
Bronchiectasis	3 (6.8%)
Asthma/Bronchiectasis	4 (9.1%)

Detailed accuracy of prescribing on admission during this period is detailed in Table 2.
Conclusion: Our results show that inhaler prescribing in hospitalized patients is poor and hospital doctors need to prescribe the correct medication for the patient as a duty of care during their in-patient stay.

P487
Long term efficacy of war related bronchiolitis obliterans treatment

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Introduction: There is few data about war related bronchiolitis obliterans (BO) treatment. We compared FVC and FEV1 changes during BO treatment in comparison to non bronchiolitis obstructive pulmonary disease in a cohort of chemical victims.
Materials and methods: Seventy two Iranian veterans, with chronic pulmonary disease were followed from September 2005 to December 2010. All of them had documented exposure to Sulfur Mustard gas from 1982 to 1988.
The bronchiolitis group (diagnosed based on HRCT and/or biopsy) was treated with inhaled Seretide (500-1000 μg/day), Azithromycin (500 mg/3 times per week) and N-acetylcysteine (1200-1800/day). The non bronchiolitis patients were treated according to GINA and GOLD guidelines.
Results: 16 patients had BO and 56 had non bronchiolitis obstructive pulmonary disease. The baseline FVC and FEV1 were not different between bronchiolitis and non bronchiolitis groups. Mean FVC and FEV1 has decreased significantly during the 5 years followup despite standard treatments in all patients (baseline FVC=3.50±0.78 L, Final FVC=3.21±0.75 L; P<0.001) and (baseline FEV1=2.77±0.80 L, Final FEV1=2.47±0.77 L; P<0.001). The FVC and FEV1 changes in bronchiolitis group were -0.30±0.18L and -0.15+/0.521 L respectively. It was not significantly different from FVC and FEV1 changes in non bronchiolitis group (-0.29±0.58L and-0.34±0.62 L respectively).
Discussion: The five year spirometric parametric changes were not different between bronchiolitis and non bronchiolitis group in mustard gas victims. This finding suggests the long term efficacy of treatment with inhaled steroid, macrolide and N-acetylcysteine in war related bronchiolitis obliterans.

P488
Lung function disturbances and BAL IL-6 in adult patients with sickle cell disease in Bahrain

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Sickle cell disease (SCD) is a common genetic disorder of hemoglobin in Bahrain with a lot of pulmonary complications either acute or chronic including its effect on pulmonary function tests (PFT). IL-6 is an inflammatory cytokine that was found to be high in serum of SCD patients.
Objective: To study PFT and evaluate BAL IL-6 level in adult Bahraini patients with SCD and to correlate PFT values with BAL IL-6 and the recurrent occurrence of acute chest syndrome (ACS).
Methods: Study was done on 120 subjects (2 groups): group 1 (20 healthy controls) and group 2 (100 adult Bahraini SCD patients during steady state). PFT were done to all subjects. BAL was done to 20 SCD patients and 5 control subjects to evaluate the BAL IL-6.
Results: PFT was abnormal in 85% of SCD patients with restrictive pattern (60%), isolated low DLCO (17%), obstructive pattern (5%) and mixed obstructive and restrictive pattern (3%). BAL IL-6 was higher in SCD patients than in controls. In SCD patients, BAL IL-6 level had significant negative correlations with both FEV_1, FVC, DLCO, and PaO_2, with no significant correlation with TLC. There were significant positive correlations between BAL IL-6 and both age and number of ACS. There were significant negative correlations between ACS number and both FEV_1, DLCO, and PaO_2 with no significant correlation between ACS number and both TLC and RV. There were significant negative correlations between age and both FEV_1, TLC and DLCO.
Conclusion: Abnormal PFT in adult Bahraini SCD patients was correlated to BAL IL-6 and number of ACS indicating that impaired lung functions in this category of patients is caused by repeated vascular occlusion and increased airway inflammation.

P489
Capsaicin sensitivity in patients with chronic refractory unexplained cough

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Background: When known causes for cough are excluded there still remains

Abstract P486 – Table 2. Inhalers/nebulisers prescribed on drug chart

	SABA inh	SABA nebs	Steroid inh	LAMA inh	SAMA inh	SAMA nebs	Combined LABA/Steroid
Home use	30 (68.1%)	14 (31.8%)	6 (13.6%)	17 (38.6%)	1 (2.3%)	2 (4.5%)	27(61%)
Prescribed in hospital	16 (53.3%)	25 (179%)	4 (66.7%)	11 (64.7%)	0 (0%)	16 (800%)	25(92.6%)[4 new prescriptions]
Correct dose prescribed	4 (13.3%)	12 (85.7%)	3 (50%)	10 (58.8%)	0 (0%)	2 (100%)	17(63.0%)
Correct device prescribed	2 (6.7%)	NA	0 (0%)	2 (11.8%)	0 (0%)	NA	5(18.5%)

66s

SUNDAY, SEPTEMBER 25TH 2011

a group of patients with persistent coughing. They can be described as having chronic refractory unexplained cough. Sensory hyperreactivity (SHR) is one suggested explanation to cough and other airway symptoms induced by chemicals and scents. The patients can be identified using a capsaicin inhalation test.

The aim was to analyze capsaicin sensitivity in a group of patients with chronic refractory unexplained cough. Further we wanted to evaluate a cough specific questionnaire.

Method: From an earlier cross sectional study in patients with chronic cough, 41 patients without chemical sensitivity (non sensitive group) and 35 patients with chemical sensitivity (sensitive group) were invited. The participants underwent a capsaicin inhalation test, and answered the Swedish version of Hull Airway Questionnaire (HARQ). A cut off limit of ≤ 13 score has been suggested as normal.

Results: 15 patients in the non sensitive group and 30 in the sensitive group participated. The reason for not participating was in the non sensitive group: recovery (n=19), would not (n=7) and in the sensitive group: problems to be away from work (n=5). Capsaicin induced significantly more cough and other airway symptoms in the sensitive group compared to the non sensitive group (p < 0.05). Mean total HARQ score was 18 in both groups.

Conclusions: Chemically induced airway symptoms in chronic refractory unexplained cough, seems to be a prognostic factor that can cause prolonged symptoms. SHR is a possible explanation for this sub-group of cough patients. The HARQ questionnaire has a good ability to identify patients who for various reasons have chronic cough.

P490

Contribution of clinical pulmonary infection score in the diagnosis of hospital acquired pneumonia

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Introduction and aim: Clinical pulmonary infection score (CPIS) is a scoring system calculated by symptoms and signs of pneumonia, that is used in the diagnosis and management of hospital acquired pneumonia (HAP). In this study, the contribution of CPIS for diagnosis of HAP was investigated in intensive care unit (ICU) patients.

Methods: The ICU patients followed-up between February 2008 and September 2010 were assessed retrospectively. Hospital acquired pneumonia was diagnosed by quantitative endotracheal aspirate (ETA). CPIS was calculated on 3rd and 7th days of ICU admission. The correlations of CPIS with concurrent ETA cultures and laboratory markers of infection were assessed.

Results: Out of 240 patients (165 men, mean age 58.2 ± 16.6 yrs) included in the study, ETA cultures were positive in 61 patients (25.4%) on 3rd day, and in 59 patients (24.6%) on 7th day. CPIS was found higher in patients with ETA culture positive (5.0 ± 2.3 vs. 3.5 ± 2.1 on 3rd day, p<0.0001; 5.2 ± 2.6 vs. 3.6 ± 2.9 on 7th day, p<0.0001). Sensitivity and specificity ratios of CPIS with a threshold level of 6.5 in diagnosis of HAP were 26.2% and 92.3% for 3rd day; 30.5% and 91.9% for 7th day, respectively. On 3rd and 7th days, there were positive correlations between CPIS and C-reactive protein (CRP) levels (p=0.002 and p=0.001, respectively); and also between CPIS and procalcitonin (PCT) levels (p=0.012 and p<0.0001, respectively).

Conclusion: Clinical pulmonary infection score can be used instead of infection markers like CRP and PCT in the diagnosis of hospital acquired pneumonia.

P491

Implementing a community acquired pneumonia care bundle in the acute hospital setting

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Objective: The aims are to reliably deliver clinically effective and timely treatment in the management of CAP (community Acquired Pneumonia), to reduce overall variances in care, and to improve the quality of patient care and outcomes.

Methods: Using Improvement Methodology techniques the project team: Conducted a base line audit, mapped out current patient journey, arranged education sessions for relevant staff members, used a locally customised CAP bundle pack, and used the PDSA Cycle and the sustainability tools.

A multi professional group, including patient representative, used a bespoke reporting tool to record weekly measures of bundle compliance. Non compliance was disseminated to the team for response and feedback. Project team meetings were held weekly, this gave the opportunity for all to monitor progress.

Results: A base line audit of 50 patients was compared with 200 patients in the CAP Care Bundle, over18 months. There was an improvement in providing written information to patients from 0 to 88%, documenting the CURB-65 CAP severity score 32% to 94%, oxygen correctly prescribed 78% to 88%, timely administration of antibiotics within 4 hours of arrival to hospital from 54% to 88%, and antibiotic following BTS guidelines from 48% to 87%.

Implications: Implementing a Care Bundle Pathway can improve patient care, but a high degree of perseverance is required to implement changes and sustain

improvements. The success cannot be dependant on only a few champions but needs to have support from the organisation at all levels.

The project was funded and supported by NW London CLAHRC.

P492

Evaluating the efficiency of complex treatment of influenza A (H_1N_1) in hospital conditions

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Aim: To study the efficiency of oseltamivir depending on the time of its administration to patients with typed A (H_1N_1) and non-typed influenza.

Methods: The prospective evaluation of disease severity, frequency of complications and mortality in hospital patients with influenza has been executed. 720 patients with suspicion on a virus infection were surveyed. From them at 373 patients the influenza A (H_1N_1) was typed by RT-PCR test. Shortness of breath was assessed by MRC scale, severity of patient state was estimated by scale APACHE II. Patients underwent x-rays, laboratory tests, spirometry and diffusion capacity of the lungs.

Results: At oseltamivir administration after 48 hours from the disease beginning efficiency of therapy decreased and frequency of complications increased. The severe course of influenza on APACHE II scale was accompanied by an increase in mortality (p<0,05). The disease prognosis worsened with an increase of dyspnea after normalization of temperature (p<0,019). The negative impact of obesity and diabetes on the disease course (p<0,004) was revealed.

Conclusion: The administration of oseltamivir later than 48 hours from onset of illness, severe state of patients on a scale of APACHE II, the increase of dyspnea after decrease of temperature, obesity and diabetes mellitus are risk factors for complications and adverse outcome of influenza A (H_1N_1).

P493

Prediction of complications development and lethal outcome in patients with community-acquired pneumonia

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Background: The prediction of community-acquired pneumonia (CAP) complications development may provide effective prophylaxis and prevent the lethal outcome.

Aim: The improvement of prophylaxis of CAP complications development and lethal outcome on the basis of prediction by inflammation markers.

Methods: 70 patients with CAP of different severity were examined. When the patient got into hospital his blood serum was tested on the level of procalcitonin (PCT) by immunochromatographic assay. Cytokines IL-2, IL-6 and TNF-α and also C-reactive protein (CRP) were identified by immune-enzyme assay.

Results: The level of CRP grew alongside with the severity of CAP, the highest one was $131,5\pm7,6$ mg/l in severe form. CRP was 1,5 times higher in patients with complicated clinical course, the highest one was $155,3\pm14,7$ mg/l (p<0,01) at the lethal outcome. The levels of cytokines in patients with developed complications were 2 times higher than in the patients without complications. A higher level of PCT was found in patients with complicated CAP ($2,36\pm0,20$ ng/ml, p<0,01) in comparison with noncomplicated one. At the lethal outcome the level of PCT was significantly higher ($3,67\pm0,33$ ng/ml). To predict the complications development the discriminant equation was derived: D= +3,611 PCT–0,035 CRP+2,281 IL-2+0,076 IL-6+2,335 TNF-α. If D is more than or equals 15,60, the development of complications is predicted with the probability of 90,1%.

Conclusions: The level of PCT, IL-2, IL-6, TNF-α, CPR increases proportionally to severity of CAP. With the help of the proposed equation it is possible to predict the development of complications from the first day of patient getting into hospital.

P494

Findings in peripheral biopsy muscle in severe pneumonia due to H1N1 influenza

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Rationale: Myalgia and weakness are complications in H1N1 Influenza severe pneumonia (H1N1 ISP). Myopathy and polyneuropathy has been described only in Influenza B. Muscle damage in H1N1 ISP, has not been studied yet.

67s

SUNDAY, SEPTEMBER 25TH 2011

Objetive: To evaluate physiological, morphological and metabolic characteristics in muscle biopsies from patients with severe muscular weakness after a H1N1 ISP
Case report: After signed consent form 14 subjects with H1N1 ISP and muscular weakness were enrolled. Bilateral muscular strength (biceps and Quadriceps measured by electronic manometer) and electromyography and muscle biopsy (3-5 days after extubation) were performed.
Results:

General and Clinical characteristics

Age, years	Gender	CK >360 UI/L	APACHE II	MV	Muscular strengh, %p	Biopsy alterations	
37	M	Yes	10	Yes	38	SMP	M/N
25	M	Yes	16	Yes	0	SMP	M/N
28	F	No	11	Yes	0	SMP	M/N
51	F	Yes	14	Yes	0	MMN	M/N
52	F	No	14	Yes	0		M/N
39	F	Yes	22	Yes	0		M
39	M	Yes	9	Yes	56	SMP	
40	F	No	11	Yes	0	SMP	M/N
56	M	No	17	Yes	0	SMP	M/N
55	M	Yes	20	Yes	0	SMP	
54	F	No	13	Yes	0	SMP	M
30	F	Yes	15	No	109	SMP	M
72	F	Yes	19	Yes	0	SMP	M
34	M	No	11	Yes			M

M = male, F = female, CK = creatin kinase, APACHE = Acute Physiology and Chronic Health Evaluation, MV = mechanical ventilation, %p = percentage predicted average of 4 muscles, EMG = electromyography, SMP = sensoriomotor polyneuropathy, MMN = multiple mononeuropathy, M/N = mixed pattern myopathy and neuropathy, M = myopathy (metabolic).

Conclusions: All patients with H1N1 ISP presented metabolic and physiological muscular alterations compatible with myopathy or myopathy/neuropathy. This findings explain the severe muscle symptoms and the low recovering even after discharge. An early physical rehabilitation program must be recommended.

P495
Bacterial profile, antibiotic sensitivity and resistance of lower respiratory tract infections in upper Egypt
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Purpose: To identify causative bacteria,antibiotic sensitivity/resistance of lower respiratory tract infections (LRTIs) in Upper Egypt.
Methods: A multicentre prospective study was performed. Sampling was done for all patients including,sputum and/or BAL for Gram stain and culture. Samples were cultured on 3 media (Nutrient,Chocolate and MaConkey's agars).Indirect Fluorescent Antibody was used to detect atypical pathogens.
Results: Predominant isolates in patients with CAP were *S.pneumoniae* (36%), *C.pneumoniae*(18%), *M. pneumoniae*(12%) and *K. pneumoniae* (10%). A higher sensitivity was recorded for moxifloxacin, levofloxacin, macrolides, and cefepime. A higher rate of resistance was recorded for tetracyclines, cephalosporins, lincomycin, and β-lactam-β-lactamase inhibitor. Predominant isolates in patients with HAP were, MRSA (23%), *K.pneumoniae* (14%),*E.coli*(11%), *P.aeruginosa* (9%). A higher sensitivity was recorded for vancomycin,amikacin,and respiratory quinolones.An absolute resistance was recorded for β-lactam-β-lactamase inhibitor,high rates were recorded for cephalosporins.Predominant isolates in patients with AECOPD were *H.influnzae* (30%), *S.pneumoniae* (25%), *M.catarrhalis* (18%), *K.pneumoniae* (12%) and *C. pneumoniae* (5%). A higher sensitivity was recorded for quinolones,macrolides and cefepime. High resistance was recorded for amikacin,clindamycin, and cephalosporins.
Conclusion: The most predominant bacteria for CAP in Upper Egypt are *S.pneumoniae* and atypical organisms,while that for HAP are MRSA and Gram negative bacteria. For AECOPD,*H.influnzae* is the commonest. Respiratory quinolones,linezolides,and cefepime are the most efficient antibiotics in treatment of LRTIs in our locality.

P496
Arterial hypoxemia and diminished immune response at admission predict poor outcome in patients with viral-bacterial pneumonia during flu H1N1 pandemic period
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Severe flu associated respiratory infections remain actual.
Aim: To evaluate the prognostic model of outcome of severe viral-bacterial

community acquired pneumonia (VBCAP) during flu H1N1 pandemia based on hospital admission data.
Materials: 84 patients (43 survivors and 41 non-survivors) admitted with VBCAP in hospitals of Bashkortostan region between November and December 2009 were included in the retrospective study. The endpoint was defined as hospital mortality.
Methods and results: Initially 16 demography, history, functional and laboratory variables were obtained from hospital admission records. In the univariate ROC analysis, 5 variables were correlated with poor outcome of VBCAP.

Univariate ROC-analysis results

Cut-off point	Sensitivity	Specificity	Area under ROC-curve (95% CI)
SpO2 <90%	72.7	93.9	0,89 (0,78-0,96)
Breathing rate >20/min	86,4	66.7	0,84 (0,71–0,92)
Serum glucose >5 mmol/l	77,3	63,6	0,69 (0,55–0,81)
Age <40 years	68,2	69,7	0,68 (0,54–0,70)
WBC <6,9×10⁹/l	50,0	84,8	0,68 (0,54–0,80)

Cutoffs were used to transfer continuous variables to dichotomous ones. Multivariate stepwise logistic regression analysis identified SpO2% and white blood cell count as independent predictive factors at p<0.05.
Logistic regression equation:
logit P = 3,49×"SpO2<90%"+ 2,24×"WBC<6,9×10⁹/l" – 1,76, where P- poor outcome probability. Correct classification rate was 82,8%.
Conclusion: Acute respiratory failure and diminished immune response are the most powerful independent prognostic factors of poor outcome of viral-bacterial pneumonia during flu H1N1 pandemia.

P497
Comparison of telomerase activity in malignant and benign pleural effusions
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Background: Despite advances in diagnosis and treatment of lung cancer, patients survival has just improved in those with early stages. Telomerase is a tumor marker that has been focused recently as a novel tool for early diagnosis of lung cancer.
Objective: To compare telomerase activity in malignant and benign pleural effusions in Rasoul-e-Akram Hospital of Tehran.
Methods & materials: Telomerase activity in 28 consecutive pleural effusions (19 malignant and 9 benign; histopathologic diagnosis) assessed with telomeric repeat amplification protocol (TRAP) between Apr. 2006 and Sep. 2007. Data analysis was performed by chi-squared test and t-test; results expressed as frequency, percent, and mean ± SD.
Result: 20 cases (71.4%) from the total of 28 pleural effusions were positive for telomerase activity. Telomerase activity was positive in all 19 malignant effusions, while only one effusions from benign conditions (TB) had telomerase activity (P<0.0001). Sensitivity, specificity and diagnostic accuracy of telomerase activity for detecting malignant pleural effusions were 100%, 88.9% and 96.4% respectively. Mean telomerase relative activity in malignant and benign effusions was not significantly different (24.3±5.2% vs. 15.05%; P>0.05).
Conclusion: Telomerase activity is a highly sensitive and specific diagnostic biomarker for malignancy and may be used as an adjunct to other diagnostic tools such as cytological findings for malignant pleural effusions.

P498
Evaluation of the utility of using pleural fluid cholesterol as a new criterion for the differential diagnosis between transudates and exudates
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Objective: To study two alternative criteria to differentiate between exudates and transudates:a) pleural fluid cholesterol and b)the ratio of pleural fluid cholesterol to serum cholesterol in order to compare their diagnostic value with the widely accepted and used Light's criteria.
Method: 97 patients with pleural effusion were tested. According to Light's criteria there were 29 transudative and 68 exudative pleural effusions. Pleural fluid and serum levels of lactate dehydrogenase, protein and cholesterol were measured using colorimetric methods and a biochemical analyzer.
Results: Using as a cut-off value for the pleural fluid cholesterol the value of 65mg% (the upper limit to identify a pleural effusion as a transudate) this criterion yielded a sensitivity of 87% and a specificity of 79%. Using the alternative criterion of pleural fluid cholesterol to serum cholesterol ratio (and a cut-off level of 0,4 as the upper limit to identify a transudate) the sensitivity was 87% and the specificity was even greater at 81%.
Conclusions: This study showed that using pleural fluid cholesterol and pleural fluid cholesterol/serum cholesterol ratio may be useful for the differential diagnosis between transudates and exudates, and can provide assistance especially where other criteria are marginal or ambiguous.

SUNDAY, SEPTEMBER 25TH 2011

P499
A clinical study on broncholithiasis

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Broncholithiasis is defined as the presence of a calcified fragment of tissue within a bronchus. It almost invariably represents the end-stage of healing of granulomatous diseases such as histoplasmosis or tuberculosis. Broncholiths are found with almost equal frequency in men and women, mostly in the fifth or sixth decade. Common symptoms are chronic cough, hemoptysis and sputum. Lithoptysis, which is pathognomic, is rare. The chest radiograph mostly shows calcified masses around the bronchi. In most cases, because of no significant symptoms or complications, observation may be the best course but bronchoscopic removal or surgical interventions are indicated in some instances.

From June 1996 to December 2010, 24 patients with broncholithiasis had undergone the analysis for clinical manifestation, bronchoscopic finding, treatment modality and follow-up status.

Broncholithiasis was developed in association with tuberculosis in 45.8% and locations corresponded in 54.5%. Lithoptysis occurred in 20.8%. Obstructive pneumonitis was the most common radiographic finding, and calcification was found in 50.0%. Various positive findings, noted in all patients undergoing flexible bronchoscopy, included visible broncholith, granulation tissue or blood clots. In follow-up patients, while all patients with conservative care only continued to have symptoms, an excellent result was evident in 8 of 11 patients in whom broncholith was removed after treatment or spontaneously.

A clinical awareness of the manifestations of broncholithiasis will result in early diagnosis and treatment. If the broncholith can be removed, as indicated, before irreversible distal bronchial and parenchymal damages occur, the long-term outlook for symptomatic relief is excellent.

P500
Cough among hypertensive patients treated with angiotensin convertase inhibitors. Reduction of its frequency by substitution of angiotensin convertase inhibitor with angiotensin receptor blocker. Results of non-interventional, observational postmarketing study

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Background: A dry, nonproductive cough is a common phenomenon during angiotensin convertase inhibitor (ACE-I) therapy and may result in treatment discontinuation. Patient compliance during antihypertensive therapy is of crucial importance since treatment discontinuation increases risk of cardiovascular events.
Aims and objectives: The aim of this study was to assess tolerability and safety of angiotensin receptor blocker, telmisartan, in hypertensive patients who did not tolerate their previous ACE-I treatment due to cough.
Methods: This was a multi-center, non-controlled, observational study.
Results: A total of 2498 patients were enrolled. At initial visit majority of study subjects reported cough which was ascribed by a physician to previous ACE-I use. Cough intensity was significantly correlated with ACE-I dose.
Substitution of ACE-I with telmisartan resulted in marked reduction of the frequency of cough after approx. 3 months of observation. Mean cough frequency at the initial and at the follow-up visit was 74,2% and 2,92%, respectively (p<0,001). The efficacy of telmisartan in cough elimination was slightly but significantly lower in patients with asthma, bronchitis and with gastric reflux. Gender and smoking (neither present or in history) did not influence the effect of study drug on cough intensity.
Conclusions: In this non-interventional study, telmisartan proved to be generally well tolerated and highly effective in alleviation of dry cough resulting from previous ACE-I therapy.