

SUNDAY, SEPTEMBER 2ND 2012

84. Respiratory infections: a clinical point of view

P560

Prognostic biomarkers in severe community-acquired pneumonia (SCAP) patients, requiring intensive care unit (ICU) admission

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Background and aim: Measurement of prohormones representing different pathophysiological pathways could enhance risk stratification in SCAP pts. The aim of the study was to investigate procalcitonin (PCT), adrenomedullin (AMD), copeptin (CP), B-type natriuretic peptide (BNP-32) levels in ICU SCAP pts and their relationship with in-hospital outcomes (in-hospital mortality (IHM), length of in-hospital stay (LOS), duration of ICU stay), disease specific complications, need for invasive mechanical ventilation (IMV) and vasopressor support (VS).

Methods: 20 ICU pts with proven SCAP CURB-65 class 3, 4 were enrolled to the study. Serum PCT, AMD, CP, BNP-32 values were measured within the 24 hours after admission.

Results: Increasing CAP severity was associated with increased PCT values ($r=0,74$; $p=0,05$). PCT in CURB-65 3 and 4 class pts was [median] 0,73 vs 5,94 ng/ml, respectively ($p=0,03$). CP levels on admission appeared to be higher in CURB-65 4th class pts vs the 3rd class pts -74,8 vs 47,6 pg/ml, respectively ($p=0,03$). PCT values demonstrated statistically significant correlation with IHM ($r=0,74$; $p=0,005$), were higher in non-survivors than those in survivors [5,94 vs 0,73 ng/ml, $p=0,01$]. PCT and CP values correlated with need for VS ($r=0,74$; $p=0,0005$ and $r=0,54$; $p=0,02$) and showed higher concentrations in pts requiring VS compared with those with stable haemodynamics [102 vs 0,73 ng/ml, $p=0,01$] and [74,8 vs 47,6 pg/ml, $p=0,03$]. AMD levels on ICU admission were associated with need for IMV ($r=0,47$; $p=0,04$). BNP-32 values correlated with LOS ($r=0,56$; $p=0,02$), PCT - with duration of ICU stay ($r=0,81$; $p=0,001$).

Conclusion: PCT and CP appeared to be the most reliable prognostic biomarkers in ICU pts with SCAP.

P561

Cat-scratch disease mimicking lymph node tuberculosis about four cases

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Cat-scratch disease (CSD) is a bacterial infection due to *Bartonella henselae*. It's usually present as isolated lymphadenopathy.

Lymphadenopathy histological examination is often non specific. It can be revealed an epithelioid necrotizing granuloma just like lymph node tuberculosis.

We report four cases referred in our institution for tubercular lymphadenitis suspicion, which were in fact CSD.

Patients were aged between 15 and 61 years old, healthy, without biologic inflammation. Regional lymphadenopathy without any other lesions was confirmed by CT scans. Biopsy were realized for all patients. Histological analysis was necrotizing epithelioid granuloma and giant cells. Ziehl-Neelsen method and quantiferON-TB GOLD test were negative whereas serologic tests for *Bartonella henselae* were positive. One patient does not remember contact with cat. Two patients were treated by antibiotic. Outcome of all cases was favorable.

Cat-scratch disease stays a difficult diagnostic. Clinicians must keep this diagnosis possibility in mind when lymph node analysis presents an necrotizing epithelioid granuloma with giant cells. A systematic clinical and laboratory testing approach is necessary. Serology is the best initial test and can be performed by immunofluorescence assay. Moreover polymerase chain reaction can be useful. Indication of antibiotic treatment is reserved to complicated CSD.

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SUNDAY, SEPTEMBER 2ND 2012

P562**Serotyping, multilocus sequence typing and antibiotic resistance of *Streptococcus pneumoniae* isolates in China**

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Introduction: *Streptococcus pneumoniae* is a major causative agent of severe infections, which has become a major public health concern.

Objectives: A prospective study was performed to investigate the serotype distribution, genetic relationship and antimicrobial resistance in *Streptococcus pneumoniae* (*S. pneumoniae*) isolates from patients in China.

Methods: 21 Blood/cerebrospinal fluid (CSF) isolates and 18 sputum isolates were collected from patients admitted to the Peking University People's Hospital and Fujian Provincial Hospital were analyzed for investigating the serotypes, the multilocus sequence typing (MLST), and their susceptibilities to antibiotics.

Results: The most frequent serotypes of blood/CSF isolates were 14 (38.1%), 19A (14.3%), 23F (9.5%), 18C (9.5%), and in the sputum isolates the most frequent serotypes were 19F (33.3%), 23F (16.7%), 19A (11.1%), 3 (11.1%). The coverage rates of the blood/CSF and sputum isolates for the 7-valent pneumococcal conjugate vaccine (PCV7) were 66.7% and 61.1%, respectively. 4 of 5 isolates determined as 19A were collected from patients <5 years old. The MLST analysis showed that all the 5 isolates were ST320. All the 21 blood/CSF isolates, the resistance rates of erythromycin and penicillin were 90.5% and 61.9%. Of the 18 sputum isolates, the resistance rates of erythromycin and penicillin were 83.3% and 66.7%. All of the isolates of serotype 19A were resistant to both penicillin and erythromycin.

Conclusions: The introduction of PCV13, in which the 19A conjugate is included, will be necessary in China because of the high rates and severe antibiotic resistance of 19A.

P563**Pulmonary manifestation of lassa fever and the impact on mortality**

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Background: Lassa fever is associated with multi-systemic clinical disease in severe cases, with consequent increase in mortality. The respiratory system has been shown, both clinically and pathologically, to be involved. However, there is little information on the impact of this on mortality. This study aims to determine the impact of pulmonary involvement on mortality.

Materials and methods: The medical records of 65 RT-PCR confirmed cases of Lassa fever patients with respiratory symptoms (cough and/or breathlessness) admitted to the medical wards of our hospital between January 2009 and February 2011 were reviewed. There were 34 males and 31 females. Of the 65 patients, 10 had both physical and chest x-ray features of pulmonary involvement. Case fatality rates (CFR) were compared between the sub-groups of patients with, and those without pulmonary involvement. Significance level was set at P value < 0.05.

Results: The pulmonary features were pneumonia (5); pneumonia with pleural effusion (3); ARDS (2). Among the 10 patients with pulmonary involvement, 7 died, giving a CFR of 70%, while with the group without pulmonary involvement 21 died out of 55, with a CFR of 38.2% (p= 0.086; Odds ratio 0.26; 0.04-1.34 (2-tailed Fisher exact)). Over all CFR was 44.6% (29/65).

Conclusion: Lassa fever with respiratory features is associated with high CFR, especially when the lungs and pleura are involved.

P564**Obesity as the most considerable risk factor for death due to influenza A/H1N1-09 viral infection**

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Objective: The aim of this study was to assess the complications of A/H1N1-09 viral infection in died patients in dependence of body mass.

Methods: We reviewed medical records and postmortem examination reports of 33 pts who died in 2009 in Zabaikalsky region of RF. A/H1N1-09 viral infection was confirmed by transcription-polymerase chain reaction method.

Results: 14 men and 19 women (average age 39,8±12,5 years) were included. All patients were divided into 2 groups: 22 patients with BMI 32,2±1,08 (the 1st group) and 11 patients with BMI < 25 (the 2nd group). There was no difference between the groups in age and gender structure. Causes of death were pneumonia and progressive respiratory failure. Pneumonia developed more rapidly in the 1st group (5,3±1,75 vs 4,09±1,13 days, p=0,049). The rate of acute respiratory distress syndrome was similar in both groups. Thrombosis of various locations was seen more often in obese patients (31,7% vs 0%, p=0,037). A tendency was found to a higher rate of rhabdomyolysis, acute canalicular necrosis and intravascular blood coagulation syndrome in obese patients. Additional risk factors were deter-

mined in 77,3% pts of the 1st group (diabetes mellitus, pancreatitis and arterial hypertension). We suppose that possible reasons of severe course of influenza A/H1N1-09 viral infection in obese people were alveolar hypoventilation, production of proinflammatory cytokines by the fat tissue resulting in poor immune response.

Conclusions: Thus, obesity was the most considerable risk factor for death during influenza A/H1N1-09 viral outbreak in Zabaikalsky region due to aggravation of underlying metabolic disorders by specific effects of A/H1N1-09 virus strain.

P565**Seasonal variation of viral lower respiratory tract infections in immunocompromised patients undergoing diagnostic bronchoscopy**

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Pulmonary infectious and non-infectious complications are frequent in immunocompromised patients. Multiplex PCR allows to make a better differentiation of viral infections in immunocompromised patients suffering from respiratory symptoms. We analysed the types of viral infection in a large cohort of patients undergoing diagnostic bronchoscopy for symptoms of LRT infection. Multiplex PCR for respiratory viral infection consisted of 13 viruses. 670 patients underwent a bronchoscopy with BAL from October 2009 to January 2012. 351 of the patients suffered from haematologic disorders, 157 underwent solid organ transplantation (including 137 lung transplantation, 10 kidney transplantation, 5 heart transplantation and 5 liver transplantation) and 174 were immunocompromised for other reasons (HIV, rheumatological diseases, interstitial lung disease). Overall respiratory viral infection could be documented in 212 cases (31.6%). The most frequent viruses were rhinovirus in 109 samples. A single viral infection was found in 196 cases (29.3%) whereas at least two viruses were detected in 16 patients (2.4%). Rhinovirus was found throughout the whole year whereas coronavirus, parainfluenza, RSV and hMPV were documented from November to April. There were only nine cases of adenovirus and eight cases of influenza respectively. H1N1 was only present in the winter of 2009.

Summary and conclusion: Multiplex PCR in BAL allows to diagnose rapidly viral infection in a high percentage of immunocompromised patients suffering from respiratory tract infection. Except for rhinovirus most viruses show seasonal pattern. However the "winter" period lasts for at least 6 months.

P566**Risk factors for tuberculosis in patients with early gastric cancer: Is gastrectomy a significant risk factor for tuberculosis?**

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Since 1940s, many studies suggested the strong relationship between gastrectomy and the development of TB. But there is no study about the association between TB development and gastrectomy in patients with early gastric cancer (EGC)

We used our EGC cohort confirmed pathologically by gastrectomy (pT1N0M0) or endoscopic mucosal resection (EMR) (pT1) between Jun 2001 and Dec 2008 and followed up with chest X ray over 1 year. We searched an active TB case developed at least 3 months after gastrectomy and EMR in EGC cohort retrospectively.

Of total 1935 patients with EGC, 1495 patients were classified as gastrectomy cohort and 440 patients as EMR cohort. While only one patient (0.2%) was diagnosed as active TB in EMR cohort, 26 (1.7%) were diagnosed in gastrectomy cohort during the follow-up period. TB cumulative incidence showed significant difference between the two cohort (Log-Rank test P=0.030). Cox proportional multivariate analysis after adjustment with age, sex, and BMI group in EGC cohort showed hazard ratio of old TB lesion was 4.911 (95% CI 2.213-10.901) and that of gastrectomy was 8.599 (95% CI 1.155-64.000). In subgroup analysis using gastrectomy cohort, Cox proportional multivariate analysis after adjustment with age and sex showed hazard ratio of old TB lesion was 4.570 (95% CI 2.041-10.231) and postoperative weight reduction (per 10% compared with weight before gastrectomy) was 2.240 (95% CI 1.452-3.486).

Gastrectomy and old TB lesion on chest radiograph were significant risk factor for TB development in EGC cohort and old TB lesion on chest radiograph and body weight loss after gastrectomy were too in gastrectomy cohort.

P567**Identification of bacterial pulmonary infection by a PCR based rapid molecular diagnostic assay in bronchoalveolar lavage**

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Rapid PCR based diagnostic tools have been developed to diagnose early bacterial sepsis. If there is a suspicion of pneumonia patients are usually empirically treated. Bronchoscopy with BAL is advocated in patients with nonresolving pneumonia.

SUNDAY, SEPTEMBER 2ND 2012

Bacterial PCR might allow to find bacterial pathogens in patients with nonresolving pneumonia under current treatment. In a pilot-study we analysed the diagnostic yield of a new PCR- and microarray-based rapid molecular diagnostic assay (Prove-it) with 35 samples auf BAL-fluid including patients with non-resolving pneumonia.

Most of the patients are already pretreated before a sampling with BAL could be done. We included 22 patients (group A) undergoing bronchoscopy with BAL with a strong clinical suggestion of bacterial infection (purulent bronchial secretions) and 13 patients (group B) with no evidence of bacterial infection and no inflammatory signs in the peripheral blood (low CRP). 73% of group A were under antibiotic treatment as compared to 15% in group B. Conventional microbiological cultures showed no growth in group B. In group A there were bacteria grown from 10 samples (45%). The Prove it assay identified additional bacteria in 7 BALs of group A with negative culture results (mainly haemophilus influenzae). 3 cases were cultural positive (pseudomonas aeruginosa, klebsiella oxytoca, enterobacter) without detection in Prove it assay. On the other hand bacteria were identified by Prove it in 6 cases of group B.

Conclusion: Bacterial Multiplex PCR (Prove it) might be an interesting tool to diagnose bacterial infection in the BAL of patients with nonresolving pneumonia under current treatment with antibiotics.

P568

Early diagnosis and causal treatment of pneumonia associated with pandemic influenza A (H1N1) virus

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Introduction: In the conditions of epidemic of highly pathogenic virus a special role is taken away to early aetiological diagnosis of the disease. Meanwhile, expectation or absence of the result of RT-PCR can't be the reason for a delay of appointment of the antiviral therapy.

Aim: The aim of the study was to investigate early diagnostic features of pneumonia associated with influenza A (H1N1) and the role of antiviral therapy.

Methods: Retrospective analysis of the medical records of 135 patients with pneumonia associated with influenza A (H1N1) during October-December 2009 in Chita, RF. In all patients high resolution CT was developed. Antiviral therapy consisted of oseltamivir 150-300 mg or zanamivir 20 mg per day.

Results: The greatest diagnostic value in laboratory confirmed cases of pneumonia associated with influenza A (H1N1) possessed following indicators: myalgia, leukopenia (4,0 or less), and a symptom of "matte glass".

Diagnostic value of indicators of pneumonia associated with influenza A (H1N1)

	Myalgia	Leukopenia	"Matte glass"
Sensitivity (%)	56,8	59,0	62,5
Specificity (%)	78,7	82,9	93,6

Antiviral therapy in the first 48 hours received 25 pts (18,5%). Duration of hospitalization in those patients was shorter - 8 [6; 11] in comparison of patients not receiving early antiviral therapy - 12 [9; 14,5] (p<0.01). An early initiation of oseltamivir reduced the risk of lethal outcome in 3 times, zanamivir - in 3,2 times (p<0.03).

Conclusion: The greatest sensitivity and specificity in early diagnostic of influenza A (H1N1)-associated pneumonia was shown by the symptom of "matte glass". Antiviral medications, prescribed in due time can reduce risk of lethal outcome.

P569

Biomarkers in community-acquired pneumonia (CAP)

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Introduction: Many investigators have tried to identify a simple blood test or predicting rules that can help physicians to make more rational decisions to identify patients who are at risk for adverse outcomes or death.

Aim: The aim of this study was to investigate the prognostic value of plasma D-dimer, CRP and some other biomarkers levels in patients with CAP.

Materials and methods: In this study were enrolled 72 patients admitted on Sept - Dec 2011 with clinical and radiological evidence of CAP. Within 24 hours after admission and on the 4-th day blood samples were taken for analysis. CURB-65 and PSI severity scores were calculated at admission. Statistical analysis is made with SPSS 19.0.

Results: Mean age 62.7±16.6 years (range 25-92). Mean D-dimer on the first day resulted 2621ng/ml (range 296-9000), on the 4-th day 2585 ng/ml (range 120-9000). Mean CRP on the first day resulted 198 mg/l (range 0.76 - 743), on the 4-th day 72 mg/l (range 0.10 - 316). On admission mean value of fibrinogen was 811mg/dl (range 279-1780); APTT- 37.39 sec (range 17- 100); leukocyte -15363 (range 1900- 47200); ESR-28 mm/hr (range 2-68); fever - 37.8°C (range 36.4- 41). Mean

hospitalization 9.65 days (range 0- 35). Mean values of D-dimer and CRP resulted in correlation with complications events. Even though mean values of D-dimer and CRP are higher, no significant correlations resulted between them and CURB-65 and PSI score. Significantly mean values of D-dimer and CRP are higher on groups of patients with complicated CAP (p < 0.004).

Conclusion: D-dimer and CRP level cannot replace CURB-65 or PSI scoring for assessment in CAP patients, but are useful to predict clinical outcome, especially complications in patients with CAP.

P570

Tuberculosis in Esbjerg. High risk group of persons from Greenland

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Introduction: Tuberculosis among immigrants in Denmark decreased with 50% as the immigration decreased. However, tuberculosis among persons from Greenland is increasing and in the period 2006 to 2010 an increased number of persons from Greenland immigrated to Denmark.

Material and method: In the period of two years from January 2009 to December 2010, 24 patients were treated for active tuberculosis, 32 treated for latent tuberculosis as new positive and four before treatment with TNF-alpha-inhibitor: Mb.Chron (2), SA (1), Psoriasis (1). Sexratio M/F 2.0, mean age 43 years, range 7-80 years in the group with active tuberculosis. Sexratio 0.4, mean age 16 year, range 10-43 years in the group with latent tuberculosis. Nationality noted.

Results: In the group treated for active tuberculosis patients were born in Greenland (5), Somalia (2), India (1), Vietnam (1), Burma (1) and Denmark (13). In the group with latent disease as new positive patients were born in Greenland (5), Somalia (2), Venezuela (1) and Denmark (24). Only 1 of 4 treated with TNF-inhibitor and latent disease was born in Denmark. Discussion. Uptake area for the hospital in Esbjerg include 210,000 persons. In the town 400 persons are born in Greenland. About 75 persons of them have social problems with abuse of alcohol and drug. The number of persons from Greenland is increasing in Denmark and even in Esbjerg. The frequency with active disease and latent disease of tuberculosis in 2009-2010 was 20.8% and 15.6%.

Conclusion: Tuberculosis in Denmark an increasing problem with persons born in Greenland. In Esbjerg 60 patients through a 2 year period 2009-2010 were treated for active disease and latent disease. 16.6% of the patients from Greenland.

P571

A case of HIV-associated multicentric Castleman disease with pulmonary involvement

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Multicentric Castleman disease (MCD) is a rare lymphoproliferative disorder that is increasingly diagnosed in patients with HIV infection. The course of the disease is unpredictable, ranging from a rapidly progressive form that can be fatal within weeks to a long course of a remitting and relapsing disease. Its principal manifestations are diverse but almost always include fever, malaise, lymphadenopathy and hepatosplenomegaly. Pulmonary manifestations are rare.

We report a case of HIV-associated MCD that relapsed after being on remission for 10 years. The patient presented with recurrent "attacks" of classical symptoms (fever, night sweats, polyadenopathy), accompanied by rhinorrhea, shortness of breath and cough. A diffuse interstitial pneumonitis was found on CT-scan of the chest, described as a ground-glass infiltrate with peri-lymphatic micronodules and interlobular thickening that affected mostly the inferior third of both lungs. A slight bilateral pleural effusion was also noted. Lung function tests were normal. Final diagnosis of MCD was made on lymph node biopsy. We first treated this patient with Rituximab alone which led to a rapid relief of his symptoms and radiologic improvement. However, as he relapsed twice following this treatment, each time with systemic symptoms accompanied by a radiologic progression of the diffuse interstitial pneumopathy, we opted for a combined regimen of Rituximab and chemotherapy (CHOP). He is still on remission (6 months) and a follow-up CT-scan shows an almost complete regression of the pulmonary interstitial anomalies. The long term management of MCD presenting with pulmonary involvement has yet to be defined, as long term prognosis.

P572

The resistance rates of Acinetobacter baumannii at endotracheal aspirate cultures

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Aim: We aimed to determine the rate of Acinetobacter baumannii resistance in intensive care unit (ICU).

Method: We analyzed 34 cases' (30 intubated and 4 nonintubated) files who had positive cultures for Acinetobacter baumannii at endotracheal aspirate.

Results: The mean age of patients was 65.5, 73.5% (n:25) was male. The most

common comorbidities were COPD and CVD. In 27 patient, blood culture was taken concurrent with endotracheal aspirate culture and 22.2% (n:6) was positive with same agent. 52.9% (n:18) of patients were dead. The rate of *Acinetobacter baumannii* resistance and MICs presented in Table 1 and 2.

Table 1. The rates of *Acinetobacter baumannii* resistance to broad spectrum antibiotics

Antibiotics	%
Amikacin (n=34)	76.5
Gentamycin (n=34)	100.0
Piperacillin-tazobactam (n=24)	95.8
Cefoperazone-sulbactam (n=21)	71.4
Cefotaxime (n=25)	100.0
Ceftazidime (n=34)	100.0
Cefepime (n=34)	100.0
Meropenem (n=32)	58.8
Imipenem (n=32)	58.8
Ciprofloxacin (n=34)	100.0
Levofloxacin (n=33)	100.0
Tigecycline (n=8)	no resistance
Colistin (n=9)	no resistance

Table 2. The MICs of *Acinetobacter baumannii* resistance to broad spectrum antibiotics

Antibiotics	MIC	n	%
Amikacin (n=28) ≤	≤8	7	25
Gentamycin (n=28)	>8	28	100.0
Levofloxacin (n=28)	>4	28	100.0
Ciprofloxacin (n=28)	>2	28	100.0
Imipenem (n=28)	>8	16	57.1
	4	1	3.6
	≤1	8	28.6
	2	3	10.7
Meropenem (n=28)	>8	16	57.1
	4	1	3.6
	≤1	8	28.6
	2	3	10.7
Cefotaxime (n=22)	>32	22	100
Ceftazidime (n=28)	>16	28	100.0
Cefepime (n=28)	>16	28	100.0

Conclusion: Higher resistance rates for broad spectrum antibiotics in *Acinetobacter baumannii* infections explains higher mortality rates in these patients. Higher resistance rates for carbapenems seems to limit of these antibiotics usage for ICU patients in time.

P573

Thoracic actinomycosis changing with time

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Background: Actinomycosis, a very rare disease, with nonspecific symptoms was first described by J. Israel in 1878. It has been a diagnostic and therapeutic problem ever. The clinical picture has changed with social and medical development. We describe our experience.

Methods: Between 2001 and 2010 all cases of actinomycosis treated at our hospital were recorded and analyzed in comparison with the description in the literature.

Results: A total of 11 patients were diagnosed and treated, 8 male and 3 female, age 37 to 81, average age of 61 years. Dental status was fine in 91% (10). Alcohol and tobacco abuse were found in only 27% (3), previous thoracic surgery in 18% (2). Symptoms of cough were mentioned in 91% (10), with hemoptysis in 36% (4), and chest pain in 18% (2). Fever was found in 27% (3), elevated CRP and leucocytosis in 64% (7) of the cases. In 36% (4) we suspected pneumonia or abscess, in 64% (7) malignancy. The time to diagnosis ranged from 3 weeks to 1 year. Antibiotic treatment and if necessary surgery (n=6) cured patients in 91% (10). In those patients with early diagnosis within 3 weeks surgical intervention was necessary in 33% of the patients, whereas later diagnosis was associated with surgery in 66%. One patient developed rapid progressive NSCLC under the treatment of actinomycosis.

Conclusions: Thoracic actinomycosis no longer manifests itself as in the last century in our pneumological patient population. Clinical signs and radiological imaging are often similar to malignant disease. Simultaneous occurrence of malignancy and actinomycosis is possible and can be cause and consequence of immunological deficiency. Early diagnosis and consistently antibiotic treatment may prevent the need for surgery.

P574

Procalcitonin and D-dimer to predict prognosis and clinical outcomes in severe community-acquired pneumonia (SCAP) patients

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Background: Early prognostic assessment is crucial for the optimized care and treatment of patients with SCAP.

The aim: We analyzed prognostic accuracy of procalcitonin (PCT), plasma D-dimer (D-d) in predicting mortality and disease severity assessment in CAP patients, relationship between their levels and in-hospital outcomes (in-hospital mortality (IHM) and length of in-hospital stay (LOS)), need for invasive mechanical ventilation (IMV) and vasopressor support (VS).

Methods: 20 ICU patients with proven SCAP CURB-65 class 3,4 were enrolled to the study. Serum PCT and D-d values were measured within the first 24 hours after admission.

Results: Increasing CAP severity was associated with increased PCT and D-d values (r=0,74; p=0,05 and p=0,0004, r= 0,62 respectively). PCT in CURB-65 3 and 4 class patients was 0,73 [0,56;5,8] vs 5,94 [4,6; 37,1] ng/ml, respectively (p=0,03). PCT and D-d values demonstrated statistically significant correlation with IHM (r=0,74; p=0,005 and r=0,48; p=0,03) and were higher in non-survivors than those in survivors [median][5,94 vs 0,73 ng/ml, p=0,01] and [1,63 vs 1,19 mg/mL, p=0,02] respectively. Both PCT and D-d levels correlated with need for VS (r=0,74; p=0,0005 and r=0,54; p=0,02 respectively) and showed higher concentrations in patients requiring VS compared with those with stable haemodynamics [102 vs 0,73 ng/ml, p=0,01] and [1,9 vs 0,87 mg/mL, p=0,002] respectively.

Conclusion: PCT is more reliable biomarker than D-d in predicting prognosis and clinical outcomes in SCAP pts.

P575

Lower respiratory tract infections in haematologic patients with and without stemcell transplantation

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Pulmonary complications are frequent in haematologic patients undergoing chemotherapy or stemcell transplantation. We analysed the diagnostic yield of bronchoscopy with BAL in haematologic patients suffering from symptoms of LRT infection. The assessment of BAL fluid included bacterial/fungal culture, staining and PCR for mycobacteria, immunohistochemistry for pneumocystis, multiplex viral PCR and cell differentiation. 355 haematologic patients underwent diagnostic bronchoscopy with BAL from October 2009 to January 2012. In 50 cases the patients received high dose chemotherapy, 225 underwent allogeneic and 18 autologous stemcell transplantation. 100 patients suffered from fever, 183 from cough and 200 showed an infiltrate on chest CT scan. Bacteria were cultured from 61 BAL fluids: streptococcus pneumoniae (11), staphylococcus aureus (7), pseudomonas aeruginosa (3), enterococcus (9), moraxella (2), enterobacteriaceae (4), mycoplasma pneumoniae (2), mycoplasma hominis (1), stenotrophomonas maltophilia (2), haemophilus influenzae (4), legionella pneumophila (1). There were 4 cases of pneumocystis jirovecii. In 4 patients we found atypical mycobacteria. Aspergillus species were cultured in 13 cases. In 41.7% viruses were documented. Most often we found rhinovirus (54), followed by CMV (32), HSV (24), parainfluenza (16), RSV (15), human metapneumovirus (13), coronavirus (12), adenovirus (8), EBV and H1N1 (each 4).

Summary and conclusion: The incidence of viral infection is very high in patients with pulmonary symptoms and haematological underlying diseases. We recommend to perform BAL with multiplex viral PCR in these patients instead of empiric antibiotic treatment.

P576

Clinical epidemiology of pneumonia in hemodialysis patients

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Introduction: Traditionally, pneumonia developing in patients who receive health care services in the outpatient environment, such as nursing homes, long-term care facilities, and dialysis centers, has been classified and treated as community-acquired pneumonia (CAP). A greater recognition of HCAP as a new class of pneumonia with a distinct epidemiologic, microbiologic, and clinical profile should lead physicians to initiate appropriate empiric antibiotic therapy more often, thereby improving the likelihood for optimal clinical outcomes and patient care.

Method: Among the HCAP, we inspect the retrospective to identify hospitalizations with pneumonia in 218 hemodialysis patients between Jan 2010 and Dec 2011 at Myongji and National Health Insurance Corporation Ilsan Hospital.

Results: Mean patient age was 60.3 years and duration of end-stage renal disease

(ESRD) 3.8 years; 41.1% of patients had diabetes mellitus. From the associated microbiological spectrum, no organism was specified in 71.7% of cases; 16.1% (35 patients) of cases were attributed to gram-positive bacteria, 13.3% (29 patients) to gram-negative bacteria and 9.2% (15 patients) cases were drug resistant organism (methicillin resistant *S.aureus*: 13 patients, ESBL *K.pneumoniae*: 2 patients). We treated 218 patients with pneumonia treatment guidelines. Among the 218 ESRD pneumonia patients, 8.7% (19 patients) received mechanical ventilation and 3.2% (7 patients) were died.

Conclusion: Although ESRD patients suffered from pneumonia caused by multi-drug resistant pathogens compared with previous CAP studies, including *S. aureus*, their pneumonia mortality was not serious compared with previous CAP studies.

P577

Pulmonary brucellosis detected during treatment of active tuberculosis in a patient with operated lung cancer (Case report)

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Brucellosis is a disease with rare manifestation of pulmonary involvement. Difficulties in diagnosis is seen because pulmonary involvement is uncommon and symptoms are nonspecific. In our case a patient with pulmonary malignancy first had a diagnosis of active pulmonary tuberculosis, then pulmonary brucellosis was detected by tests performed because of clinical deterioration during treatment. The patient with diagnosis with pathologic stage II epidermoid carcinoma was admitted with complaints of cough, sputum, fever and night sweats. *Acido-fast bacilli (AFB)* was detected on sputum examination. Anti-tuberculosis treatment is started. The symptoms regressed and patient was transferred to tuberculosis dispensary. In fourth month of therapy patient came with coughing, fatigue, night sweat, weight loss and fever. Fibronodular infiltration in right lower zone was detected in chest x-ray. Sputum AFB was negative. Bronchoscopy was performed. AFB was negative in bronchial lavage, biopsy was nondiagnostic. Blood culture was repeated and in second week proliferation (gram negative coccobacilli) was detected. Bronchoscopy was repeated with suspect of brucellosis and brucella agglutination in bronchial lavage was found 1/320. It has been diagnosed as pulmonary brucellosis. Streptomycin+doxycycline treatment was started. Clinical recovery was seen after treatment. Radiological recovery was seen in second week of treatment. Diagnosis of pulmonary carcinoma and tuberculosis had concealed diagnosis of pulmonary brucellosis. In conclusion especially in endemic regions, patients referring with nonspecific symptoms that cannot be explained, brucellosis should be taken account.

P578

Copeptin application in severe community-acquired pneumonia (SCAP) severity assessment and outcomes

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Background: Appropriate early prognostic assessment is crucial for SCAP patients management.

Aim: We aimed to investigate copeptin levels in SCAP patients and their relationship with in-hospital outcomes (in-hospital mortality (IHM), length of in-hospital stay (LOS), duration of ICU stay), disease specific complications, need for invasive mechanical ventilation (IMV) and vasopressor support (VS).

Methods: 20 ICU patients with proven SCAP CURB-65 class 3, 4 were enrolled to the study. Serum CP values were measured within the first 24 hours after the hospitalization.

Results: Increasing CAP severity was associated with increased CP values ($r=0.53$; $p=0.02$). CP levels on admission appeared to be higher in CURB-65 4th class patients vs the 3rd class patients - 74.8 [55,06; 90] vs 47.6 [24.5;59,8] pg/ml, respectively ($p=0.03$). CP values on ICU admission correlated with need for VS ($r=0.54$; $p=0.02$ respectively) and showed higher concentrations in patients requiring VS compared with those with stable haemodynamics [74,8 vs 47,6 pg/ml, $p=0.03$] respectively. CP correlated with duration of ICU stay ($r=0.43$; $p<0.005$).

Conclusion: CP could add prognostic information in SCAP patients.

P579

Neuropsychiatric side effects of tuberculosis

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Accuracy of neurological or psychiatric complications secondary to the administration of antituberculosis may be at the origin of diagnosis and therapeutic problems. This work aims at studying the frequency of these manifestations, their clinical presentations and their therapeutic approach.

Patients and methods: This retrospective study was carried on from January 1990 to June 2008 at Ibn Nafis Pulmonary Department of Abderrahmen Mami Hospital in Ariana. It dealt with 18 in-patients with a neurologic or psychiatric complication due to antituberculosis drugs. Peripheral neuropathy was noted in 6 patients (33%). One of them had a history of chronic alcoholism, another one had a history of diabetes mellitus and 2 other patients were more than 72 years old. We had definitively stopped isoniazide in 2 cases and decreased the dosage in 4 other patients. However, all patients received B6 vitamin. Convulsions occurred in 2 women without any history of epileptic status. Anticonvulsant treatment was prescribed and isoniazid definitively stopped. Hallucinations was noted in 4 patients, with one having a history of chronic alcoholism. Isoniazid was stopped in all cases. Aggressiveness, insomnia and memory problems were noted in 6 patients. Isoniazid was interrupted in only one woman who had history of depression. In 5 other patients, anxiolytics were prescribed. Isoniazid was incriminated in all cases and evolution was favorable for the 18 patients. A close monitoring of patients on antituberculosis treatment is required to detect the onset of any neuropsychiatric complications incriminating usually isoniazid. Definitive interruption or decrease of the dose of isoniazid depending of the acetylation test were necessary.