267. Viral infections and rare respiratory infections

P2533

Distinct bacterial species: Escherichia coli and staphylococcus aureus have specific microcalorimetric patterns

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Premise: Microcalorimetry represents a method through which micro heat variations of bacterial cultures can be recorded, in a form of a heatflow-time curve.
Objective: Our research aimed to identify the similarities and differences in bacterial microcalorimetric growth patterns of 2 distinct bacterial species.
Material and method: Series of experiments were conducted for E.Coli (15 experiments) as well as for S.Aureus (13 experiments) and the obtained thermograms were then compared. Several heatflow curve parameters were identified and then used for comparison.
Results: The obtained microcalorimetric curves present 2 peaks, each curve providing different recorded parameters.
After data analysis, we identified a set of parameters of thermograms that can be used to objectively differentiate the 2 species (with differences being statistically significant). In our opinion, these parameters could allow a primary microcalorimetric characterization of the bacterial growth. Furthermore, by using this method, identification of bacterial species could be possible in the near future.
The following parameters were defined: Time (h) to first peak, time to second peak, time to bacterial growth signal detection, time to bacterial growth signal loss, max first peak height, max second peak height.
Conclusion: Microcalorimetry represents a method which could be used to differentiate 2 bacterial species and maybe even to identify bacteria. Provided with a high sensibility in detecting bacterial presence, it could offer real time information regarding the characteristics of the bacterial population (antibiotic susceptibility).

P2534

Induction of protective T cell immunity against influenza using a novel peptide vaccine

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Influenza infection remains an important cause of global morbidity despite current vaccine strategies which generate antibody responses to surface viral proteins. Recent studies have established that naturally occurring T cells which recognise highly conserved core viral proteins and limit illness against a range of viral strains.We aimed to demonstrate that induction of T cell memory using a novel peptide vaccine (Flu-V) could limit influenza severity using a human viral challenge model.
32 seronegative healthy males were randomised to receive 500μg of peptide vaccine or placebo. All subjects were challenged by nasal instillation of live A/Wisconsin/67/2005 (H3N2). Safety, tolerability, influenza severity and cellular immunity data were collected.

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The vaccine was safe and well tolerated. No pre-existing T cell responses to the novel Flu-V vaccine were seen at baseline by IFN-y release assay. All subjects in the treatment arm demonstrated strong induction of the peptide specific cellular response (fold rise 8.2±3.9 (Range 2.0-30.6) p=0.0005). The strength of the induction of T cell response to Flu-V inversely correlated with influenza illness severity -symptoms r=-0.786, p=0.02 and viral shedding r=-0.821, p=0.01. Furthermore the peptide vaccine induced strong cellular responses against heterologous strains including H1N1pdm in vitro.
Peptide vaccination can induce cellular immunity to influenza which correlates closely with disease protection in humans. T cell responses can be induced against a range of strains and therefore this approach carries potential for the induction of broad heterologous immunity required to protect against future pandemics.

P2535
Limited effect of clarithromycin in non-elderly, non-severe patients with influenza
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Background: Macrolides, including clarithromycin, are molecules with antibacterial activity that also have anti-inflammatory properties. They have been reported to have inhibitory effects on influenza virus infection.
Objective: To determine the effect of concurrent therapy of clarithromycin and neuraminidase inhibitors for influenza on an outpatient clinic basis.
Method: This was an open-label study involving several hospitals in Japan. The clinical episodes of 141 non-immunosuppressed outpatients with seasonal influenza A (2010-2011), including 67 patients treated with a neuraminidase inhibitor alone and 74 treated with the combination therapy (mean age: 30 and 31 years, respectively), were analyzed.
Result: There was no additional efficacy when clarithromycin was used in combination with the neuraminidase inhibitor with regard to the duration of fever, cough, nasal secretions, or general malaise. However, the duration of cough in patients without cough at the onset was significantly shortened by the combined treatment compared to the treatment with the anti-influenza drug alone.
Conclusion: Although the effect of clarithromycin in non-elderly patients with seasonal influenza A was limited, further studies might be needed to determine the additional or preventive effect of clarithromycin during influenza virus infection for elderly subjects or patients complicated with serious underlying diseases.

P2536
Incidence of adenoviral infections in children
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Adenoviruses are highly prevalent in children.
It is estimated that 3% of all infections, and approximately 7% of febrile conditions are caused by adenoviruses. During winter season they cause over 70% of all respiratory diseases.
Aim: To evaluate presence of antibodies on Adenoviruses in children sera, during 2011.
Material and methods: The sera from hospitalized children with symptoms of prolonged febrile conditions and cough were examined. Examination was performed by Indirect Immunofluorescent Assay –Pneumoslide IgM.
Results: During 2011, 217 sera samples were examined. Antibodies on Adenoviruses were confirmed in 59 (27.1%).
The investigations were made in all months, but in November, December, March, and surprisingly in July, detections were most frequently.
Conclusion: Adenoviral infections occur during whole year, they are common infections in children, and often result in and unnecessary hospitalization and antibiotic therapy. Identifying adenoviruses as the cause of illness can have significant influence on treatment and care, and in some instances may be life-saving.

P2537
Pulmonary cytomegalovirus infections following renal transplantation
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Cytomegalovirus (CMV) infections are the most important causes of mortality among kidney transplant patients. The pulmonary localisation is one of the most common manifestations of these infections.
The aim of the study is to determine the risk factors for CMV pneumonia and its clinical outcome in patients after renal transplantation.
Thirty kidney recipients with clinical, laboratory and radiological data for infiltrative pulmonary inflammation are included in the recent prospective study. After etiological diagnosis the active CMV infection is established in 10 cases (33.3%). There was no significant correlation between CMV pneumonia and the period of dialysis before transplantation, and/or time of development of pneumonia after surgical procedure. The infection did not depend on the kind of immunosuppressive therapy and the severity of hypoxemia in the time of hospitalization ($p>0.05$). On the fifth day there were statistical differences in the blood oxygen level between the group with pulmonary CMV-infection and the group with infection due to the other microbiological agents ($p = 0.028$). CMV-pneumonia is with longer hospital stay than other etiology (8.75 days vs. 12.20 days, $p = 0.049$). Pulmonary CMV infection increased the risk of developing of acute respiratory distress syndrome ($p=0.002$) and fatal outcome.
Early diagnosis and active treatment of pulmonary infections caused by Cytomegalovirus reduce the incidence of complications and mortality in the group of patients after kidney transplantation.

P2538
Respiratory functional status after intrapleural t-PA administration for complicated parapneumonic effusions
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Background: In a multicentered randomized trial, intrapleural administration of streptokinase has been proved unsuccessful.
Aims: To investigate lung function and exercise capacity after intrapleural administration of t-PA in patients with complicated parapneumonic pleural effusion (CPE).
Methods: 18 consecutive patients with CPE were included. Chest tube was inserted under guidance of CT. After pleural fluid drainage has stopped, 25 mg t-PA/day was administered for 2 consecutive days. We evaluated patients with spirometry before t-PA, one day after chest tube removal and one month after discharge. During the second and third time-points, 6 minute walking test was also performed.
Results: Patients reported symptoms 10.2±6.8 days days before hospital admission while all have demonstrated loculated effusions. The mean production of fluid was 717±775 ml before and 1.516±240 ml after t-PA administration ($p<0.001$). Lung function and exercise capacity tests are presented on table 1. Adverse events were pain (9/18) and minor bleeding (2/18) at the site of insertion.
Conclusion: Intrapleural administration of t-PA for CPE was an effective treatment considering lng function status during follow-up.

Table 1. Pleural fluid characteristics, lung function and exercise capacity during follow-up

pH	7.18±0.21
Cells (mm^3)	2,838±3,083
Neutrophils (%)	65.5±12.6
LDH	2,816±5,524
FVC before t-PA (L)	2.54±0.77
FEV1 before t-PA (L)	2.04±0.61
FVC after tube removal (L)	2.91±0.86
FEV1 after tube removal (L)	2.33±0.76
6 MWT after tube removal (m)	493±166
FVC one month after discharge (L)	3.73±1
FEV1 one month after discharge (L)	3.04±0.76
6 MWT one month after discharge (m)	591±83.5

P2539
Nitrofurantoin-induced interstitial lung disease
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Nitrofurantoin is widely used for UTI prophylaxis. Long-term use is known to be able to cause serious adverse effects including pulmonary and hepatic toxicity. The prevalence of nitrofurantoin-induced pulmonary injury is on the increase again as the drug regains popularity as a urinary antiseptic.
We describe a previously healthy 83-year-old woman who presented to our emergency department in January 2012 with progressive dyspnoea since 2 weeks. This was not preceded by cough. She had no fever, wheezing, chest pain, or sputum production. She was a 50 pack-year ex-smoker. She had no previous exposure to tuberculosis or industrial chemicals. However, she suffered from recurrent symptomatic urinary tract infections.
On examination she appeared dyspnoeic. She was afebrile and normotensive with respiratory rate of 31 per minute and oxygen saturation was 91% while receiving supplementary oxygen at a flow of 5 liter per minute. Respiratory examination revealed fine inspiratory crackles throughout both lungs. Arterial blood gas showed hypoxia with paO2 5.4 kPa (without oxygen suppletion), paO2 8.3 kPa (with 5 liter/min oxygen suppletion) and complete compensation of respiratory acidosis with pH 7.37, and PaCO2 6.9 kPa on 5 liter oxygen suppletion with base excess 2.9 mmol/l. Chest x-ray showed diffuse bilateral interstitial infiltrates.
Initial treatment with co-amoxiclav was initiated. CT scanning of the chest showed widespread ground-glass appearance in both lungs with organising pneumonia. A diagnosis of nitrofurantoin-induced interstitial lung disease (NIILD) was suspected. Nitrofurantoin was subsequently stopped and prednisone treatment at 30 mg OD was initiated. Follow-up chest X-ray showed marked improvement.

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P2540

Health care associated pneumonia versus community acquired pneumonia: Comparison of etiology, treatment and prognosis

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Introduction: Since 2005 and according to the ATS/IDSA, Health care associated pneumonia (HCAP), is a novel category of pneumonia that has been grouped into the group of nosocomial pneumonias, because differs from community-acquired pneumonia (CAP) concerning etiology, treatment and prognosis.
Objectives: The aim of this study was to compare the etiologic agents, therapeutic regimens and prognosis between HCAP and CAP.
Methods: We analyzed retrospectively the pneumonia admissions in the period of April 2010 to March 2011, in the Pulmonology Unit of a District Hospital.
We compared HCAP vs CAP regarding clinical and epidemiological characteristics, comorbilities, functional status, previous antibiotic treatment, risk stratification by Pneumonia Severity Index(PSI) and CURB 65 score, etiologic agents, therapeutic regimens, hospital length and mortality.
Results: A total of 221 patients has been included, 89 (40.3%) with HCAP and 132 (59.7%) with CAP.
Statistic significant differences favoring HCAP were observed in the following variables: older age (75,6 yr avr), presence of cerebrovascular disease (66,7%), poor functional status (74,1%), previous antibiotic treatment (53,9%), more severe disease (CURB65-2,2), predominance of gram negative bacteria (33,6%), higher mortality rate (68,4%) and initial empiric therapy (piperacilin/tazobactam plus aminoglicoside- 63,2%).
Conclusions: Our results confirm the greater severity and worse prognosis of HCAP. In this group the most frequent agents were the gram negative bacteria. Accordingly, the empirical antibiotic therapy should cover not only the usual CAP agents, but also the causative agents associated with nosocomial pneumonia.

P2541

Clinical features, outcome and factors associated with mortality in patients with Nocardia pneumonia

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Background: Nocardia pneumonia has emerged as an important cause of mortality and morbidity in both immunocompetent and immunocompromised hosts. In this study, risk factors, clinical features, outcomes and factors associated with mortality in nocardia pneumonia were reported.
Materials and methods: Clinical records of all cases diagnosed with nocardia pneumonia during 2001-2010 were reviewed. Identification of Nocardia species was based on positive Gram stain and positive modified acid-fast stain results, colonial morphology, and conventional biochemical reactions. Data was analyzed using SPSS version 17. Factors associated with mortality was assessed by univariate and multivariate analysis.
Results: Fifty Five cases were identified. Fever, cough and dyspnea were the most common presentations. Most important risk factors were chronic steroid administration (69%) and an underlying malignancy (24%). Most common complications observed were respiratory failure (27%) and septicemia (27%). 19(34.5%) patients died. Factors associated with mortality were Smoking (p 0.01), decreased appetite (p 0.007), leukocytosis (p 0.006), mechanical ventilation (p <0.001) and septicemia (p <0.001). Septicemia (OR 20 [95% CI 3.13 -130] was found to be independent risk factor for mortality on multivariate analysis.
Conclusion: We report underlying malignancy and chronic corticosteroid therapy as a risk factor for development of nocardiosis in our patients. High mortality rate in this cohort were observed. Septicemia was found to be independent risk factor for mortality. Clinicians should keep a high index of suspicion for early diagnosis and management to decrease mortality.

P2542

Local and systemic cytokine profiles in patients with non-severe and severe community-acquired pneumonia

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Background: Cytokines are important mediators in the host response to infection. Local inflammatory responses in community-acquired pneumonia (CAP) however remain insufficiently elucidated, especially in patients with non-severe CAP.
Objectives: In this study we aimed to determine both local and systemic cytokine responses in patients with non-severe and severe CAP and to correlate these with pneumonia severity index (PSI) and other clinical parameters.
Methods: In a prospective study, 20 CAP patients and 10 healthy individuals were included. Upon admission, levels of interleukin (IL)-6, IL-8, IL-10, IL-1β, tumor necrosis factor (TNF)α, interferon (IFN)γ, IL-22, IL-17A and IL-4 were determined in bronchoalveolar lavage (BAL) fluid and serum by enzyme-linked immunosorbent assay (ELISA). Systemic cytokine levels were also measured on days 7 and 30.
Results: In BAL fluid of CAP patients, levels of IL-6, IL-8, and IFNγ were significantly increased compared with healthy individuals, but no correlations with disease severity were found. Systemic levels of IL-6, IL-10 and IFNγ were significantly higher in severe CAP patients than in non-severe CAP patients and healthy individuals. Moreover, these cytokines showed a strong correlation with the PSI. In the total group of CAP patients IL-8 and IL-22 levels were also increased compared with healthy individuals.
Conclusions: IL-6 and IFNγ are important cytokines in both the local and systemic inflammatory response in CAP. Differences in disease severity upon admission are however only reflected by the systemic levels of these cytokines and IL-10.

P2543

Acute respiratory distress syndrome (ARDS) – Manifestation of onset in an immunocompetent patient with pleuropulmonary tuberculosis (TB)

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Introduction: The association TB – ARDS is very rare, data from the literature saying that 4,9% of ARDS were admitted in ICU (intensive care unit) wards had TB, and the forms of TB were the most common cases of miliary to people with HIV, mortality is very high.
Purpose: The description of active pleuropulmonary TB started with ARDS.
Method: The authors present a clinical case of pleuropulmonary TB and ARDS.
Results: Young patient, 38 years, smoker (25 pack-year), is hospitalized in emergency with fever 39.8 °C, polipnea, dyspnoea on minimal effort (SaO2 = 77%) not corrected after administration of O2, hypotension (blood pressure = 80/60 mmHg), tachycardia (heart rate = 120/min), left thoracic stabbing. Admission chest Xray: opacities highlight-ulcerated nodular infiltrative nature and opacity right upper lobe and posterobazal fluid secluded on left. At 6 hours after admission, the general condition worsens (SaO2 = 40%, PaO2 = 35mmHg), and chest Xray and CT scan shows bilateral pulmonary infiltrates ("white lung"). Sputum exam for tuberculosis is negative in microscopy and culture is positive. Pleural biopsies reveal the presence of tuberculosis follicles. Test for HIV was negative.The patient was intubated and mechanically ventilated for 3 days, then improved clinical course and radiological image become the same as admission. After biopsy confirmation of TB patient received tuberculostatic treatment with favorable clinical and radiological evolution.
Conclusions: To improve the prognosis of ARDS of unknown cause we should think of tuberculosis etiology, especially in people with impaired immunity.

P2544

Endothelial damage markers in patients with pandemic influenza A (H1N1/09)

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Introduction: One of the most important features of influenza A (H1N1) is endothelium damage. In patients with lethal outcomes because of A (H1N1) antigens of a virus in endotheliocytes of pulmonary capillaries were founded (Shieh, W.J. et al. Am. J. Pathol. 2010 177:167-175).
Aims and objectives: The aim of the study is to define the value of endothelial damage markers in patients with influenza A (H1N1) in the course of the disease and its outcomes.
Methods: 135 patients with pneumonia associated with influenza A (H1N1) during pandemy'2009 were examined in Chita. Of them 58 (group I) were hospitalized to the intensive care units. Group II included 77 patients in the pulmonological department. The virus was verified by the polymerase chain reaction. Plasma level of desquamated endotheliocytes (DEC) and intercellular adhesion molecule-1 (sICAM-1) was determined in all patients, using enzyme-linked immunosorbent assay and immunohistochemistry. For statistical analysis, Mann-Whitney test was applied. Significance was assumed if p value was 0.05.
Results: In 44 patients acute respiratory distress-syndrome or acute lung injury (ARDS/ALI) was diagnosed, 20 patients died. The level of DEC and sICAM-1 was elevated in patients of I group - 16 [12,5; 18] and 415 [238; 552] against 8 [6; 10,5] and 219 [179; 338] in group II (p<0.001). The level of DEC and sICAM-1 was considerably raised in patients with ARDS/ALI: 18,5 [16,5; 21] and 525 [372; 672] accordingly. The relative risk of lethal outcome in those patients was 24,4 [3,3; 177].
Conclusion: The high level of DEC and sICAM-1 is associated with severe course of influenza A (H1N1), also with the development of ARDS/ALI and lethal outcomes of the disease.

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P2545

The clinical evaluation of respiratory tract infection caused by MRSA

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Background: Most of the MRSA detected in respiratory specimens were colonization. However pneumonia due to MRSA becomes severe and improvement of outcomes were important.
Methods: Medical records of 11 MRSA pneumonia patients among 106 patients with MRSA detected in respiratory specimens from June 2010 to May 2011 at Kameda Medical Center were reviewed retrospectively. The following variables were studied: patient background, hospitalization, drug susceptibility, outcomes.
Results: Mean age was 73.5 y.o. Eight patients were male, 3 were female. Eight were HAP, 3 were NHCAP (Nursing and healthcare associated pneumonia). Four patients have Chronic kidney disease, 3 have neurological disorder and 2 were under steroid administration. Nine patients (81,8%) were detected through microbial substitution. Period from admission to detection was 41.9 days, period from antimicrobial initiation to detection was 23.1 days, numbers of antimicrobial agents were 2.1 on average. Nine patients (81.8%) have polymicrobial detection. P.aeruginosa, S.maltophilia, K.pneumonia were detected in 4, 3, 2 patients frequently. All of the anti MRSA agents administered were VCM. MIC of VCM were 1 with 2 patients, 0.5 with 1 patients, unexamined with 1 patients in the 4 patients after the introduction of broth microdilution method. Duation of administration was 12.8 days on average. In 9 patients (84.6%) beta-lactam agents were administered in combination. Duration of hospitalization was 124.8 days on average, 5 patients (45.5%) were died.
Conclusions: Most of the MRSA pneumonia were HAP and polymicrobial detection. MRSA caused the prolonged hospitalization and poor prognosis.

P2546

Pulmonary effects of perfluorocarbon emulsion therapy on *Streptococcus pneumoniae* infection in sickle cell mice

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Perfluorocarbon emulsions (PFCEs) are a potential alternative therapy to blood transfusion in severe sickle cell lung disease. However, there are few data on the effects of PFCEs in sickle cell disease. In this study, we investigated the effects of intravenous therapy with PFCE on transgenic sickle cell and control mice infected with *Streptococcus pneumoniae* or vehicle.
Methods: Mice were injected intravenously with single dose of saline or PFCE (3ml/kg) +/– *S. pneumoniae* strain (D39) and harvested at 72 hours or on showing signs of 2+ lethargy. A second group of mice were injected with PFCE daily for 1 week. Histological analysis of lungs was performed using H&E sections and light microscopy. In addition, white blood cell analysis was performed using flow cytometry.
Results: *S. pneumoniae*-infected mice treated with PFCE died earlier than those treated with vehicle and were less able to clear *S. pneumoniae* from the bloodstream. In the absence of infection, mice treated with a single dose of PFCE showed mild inflammatory changes in the lung. However, mice treated with PFCE for 1 week did not show any histological abnormalities. The inflammatory response in healthy mice injected with PFCE was significantly higher compared to sickle cell mice
Conclusions: Single-dose PFCE therapy causes lung injury mice whereas chronic PFCE therapy does not. In addition, the inflammatory response to PFCE therapy is different in healthy and sickle cell mice. Further studies are required to determine mechanisms of inflammatory responses in sickle cell mice and whether supplemental oxygen therapy improves outcomes in mice infected with *S. pneumoniae* and treated with PFCE.

P2547

What happens to pneumocystis prophylaxis use when antiretroviral therapy is widely available?

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Background and aims: International guidance advocates primary prophylaxis to prevent Pneumocystis pneumonia (PCP) predominantly in HIV infected individuals with a blood CD4 count <200 cells/μL. Sustained antiretroviral therapy (ART) reduces the risk of PCP; and recent evidence suggests it is less likely in subjects with HIV suppression and blood CD4 count between 100-200 cells/μL. We investigated patterns of PCP prophylaxis use in a cohort with widespread use of ART.
Methods: Observational cohort review using the Royal Free Hospital HIV database of subjects accessing care between 2002 and 2011. Use of PCP prophylaxis medication was recorded cross sectionally at the beginning of each calendar year. Data were related to pharmacy prescriptions and clinical and immune outcomes.
Results: The number in the total cohort rose from 1553 to 2739 persons; and the overall use of ART increased from 63% to 81%. The proportion of subjects with blood CD4 <200 cells/μL declined from 13% to 5%; and prescription of PCP prophylaxis diminished to one quarter of its baseline level. Around one third of those given PCP prophylaxis, in recent years, were new to the HIV service. Significant changes appeared to occur in prescribing patterns, with a decline in the proportion given co-trimoxazole and dapsone and an increase in those using nebulised pentamidine. This was most clearly seen in persons with blood CD4 counts 100-200 cells/μL ($p<0.0001$).
Discussion: Changes in the HIV population and their use of ART has led to quantitative and qualitative shifts in PCP prophylaxis. How much this reflects local issues, such as the relative availability of nebulised pentamidine in our Centre, remains to be determined.

P2548

Community-acquired pneumonia during the influenza pandemic A(H1N1)pdm09 and post-pandemic period in hospitalized patients, Russia

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Aim: The authors wondered whether the clinical characteristics have changed, comorbidities, radiological data, frequency admitted to the ICU, and outcomes in-patients with CAP in the post-pandemic period compared with the influenza pandemic period.
Methods: This was a retrospective study including adults patients with CAP admitted to the Regional Hospital 1 during an pandemic A(H1N1)pdm09 between November 1, 2009 and January 15, 2010 (group A) and post-pandemic period between January 1 and April 20, 2011 (group B). Group A: 94 patients, mean age 36±13 (men, 39%). Group B: 109 patients, mean age 43±15 (men, 45%).
Results: Patients with laboratory confirmed influenza A(H1N1)pdm09 (gr. A) 45% vs (gr. B) 28% (p. 0.02). In gr. B compared with gr. A: were hospitalized less often pregnant (30% vs 58%, p. 0.003), decreased the proportion of obese patients (14% vs 25%, p. 0.05), less lung injury: 2-way process (55% vs 82%, p. 0.000) and loss of 2 or more segments (69% vs 80%, p. 0.000) and rarely detected "glass matte" (2% vs 11%, p. 0.03). In gr. B decreased need for admitted in the ICU (40% vs 62%, p. 0.002), with a smaller proportion of them are pregnant (9% vs 49%, p. 0.01). The length of stay in the ICU, the need for mechanical ventilation and the patients with laboratory confirmed A(H1N1)pdm09 not significantly different. The frequency of deaths in the groups did not differ significantly and was 18% (gr. B) vs 21% (gr. A).
Conclusion: Among in-patients with CAP in post-pandemic period decreased: the number of persons infected with the virus A(H1N1)pdm09, the need for admitted in the ICU with a tendency to reduce the incidence of CAP in pregnant.

P2549

Prevention of the recurrent acute respiratory viral infections in children

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Background: It is known that recurrent episodes of acute respiratory viral infections (recurrent ARVI) are common for children attending nursery school.
Aim: To evaluate the efficacy and safety of interferon inducer (IFN-i - "Anaferon") in prevention of recurrent ARVI in children.
Methods: The open comparative prospective 2-center clinical trial of efficacy was conducted. The trial was performed in 141 children at the age of 1-5 years. 50 children included in 1-st group received IFN-i repeatedly in preventive regimen: 1 pill 1 time in a day for 3 months (the previous preventive course was administered 6 months before the trial). 75 children of 2-d group took IFN-i for the first time in the same preventive regimen. The 3-d group consisted of 16 children and they didn't receive medical prevention of ARVI. In case of appearing the ARVI symptoms all children received symptomatic medicines. The percent of children becoming ill with ARVI for a first time and recurrent ARVI were evaluated.
Results: For 3 months follow-up period 28% of children suffered from ARVI in 1-st group, 56% in 2-d group and 87,5% in 3-d group. There wasn't registered any case of recurrent ARVI in 1-st group, recurrent episodes (2 episodes) of ARVI observed in 9,3% of children in 2-d group. Cases of recurrent morbidity were seen in 75% of children in 3-d group (about 44% of children suffered from more than 2 episodes of ARVI). There were not registered any adverse effects in a children taking IFN-i during the trial.
Conclusions: The repeated preventive administration of IFN-i (anaferon) allows to decrease the morbidity and the frequency of recurrent ARVI episodes in a children attending nursery schools without decreased its efficacy.

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Prevalence and risk factors for pneumonia in a cohort with clinical suspicion of influenza A (H1N1)

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Due to the potentially life-threatening of H1N1 infection, mainly influenza pneumonia (IP), distinguishing IP from non-influenza pneumonia (NIP) is crucial to adequate the appropriate treatment.
Aim: 1.- To determine the prevalence of IP and NIP in a cohort with suspected pandemic H1N1.
2.- To evaluate the presence of risk factors for pneumonia in both groups.
Methods: Retrospective observational study undertaken in patients with clinically suspected influenza admitted to emergency room, from August to December of 2009. Nasopharyngeal swabs were obtained from patients and RT-PCR was performed. Episodes in patients under age 18, nosocomial acquisition and infections in health-care workers were excluded. Demographic variables, comorbidities, final diagnosis and administered treatment were recorded.
Results: 326 episodes were evaluated (59.8% women). In 141 cases (43.2%) pandemic H1N1 was confirmed. IP was diagnosed in 33/326 (10.1%) and NIP in 86/326 (26.4%). 84.8% of IP episodes required hospital admission (27.3% in ICU). On the other hand, 79.1% of NIP needed hospitalization (17.4% in ICU). 24% of IP were classified as PSI class IV/V vs. 44.2% of NIP (p=0. 045). Mortality in both groups was 9.1% vs. 10.5% respectively. Regarding to risk factors, statistical significant differences were found in age (47.5±15.9 vs. 58.7±19.5, p=0.002), asthma (18.2% vs. 5.8%, p=0.037) and COPD (9.1% vs. 30.2%, p=0.016). Obesity and pregnancy did not show significant differences.
Conclusions: 1. - The overall prevalence of pneumonia was 36.5% (10.1% for H1N1).
2. - Older age and COPD were risk factors associated with non-influenza pneumonia while asthma was associated with influenza pneumonia.

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Nebulised therapy in pregnants with acute respiratory virus infections (ARVI)

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In extragenital pathology of pregnants ARVI occupy the first place - more than 2/3 from the general disease with sharp infections. Identical respiratory support is the most important and necessary component of complex therapy. Advisable to combine the lung ventilation with entering the medicinal preparations through nebuliser that allows to perfect mucociliar clirens, decrease inefficient and unproductive cough. In I trimester of pregnancy possible using mucolytics, bronchodilatators, antibiotics. It was analysed medical documentation of 65 pregnants with ARVI. The threat of the interruption of pregnancy developed in 45 (69,23%) cases: in I-st trimester in 27 (41,53%), in II-d - 14 (21,53%), and in III-rd in 4 (6,15%) pregnants. Intrauterine fetal hypoxy developed in 29 (44,61%) cases after carried out ARVI. The delay of development of the fetus was diagnosed in 21 (32,3%) pregnants. In 36 (55,38%) pregnants developed preeclampsy of low degree, in 17 (26,15%) cases of average degree. For reduction of the risk of toxic influences preparation on fetus we recommend active using respiratory therapy in pregnant with ARVI. In 28 pregnants with ARVI since november 2011y to February 2012y broadly used nebulised therapy with different preparation. As a result the more quick regression of viral intoxication, improvement of functions of the external breathing and increasing saturation of the blood oxygen, reduction of the complications was noted: threat of the interruption developed in 9 (32,14%) pregnants, intrauterine fetal hypoxy in 10 (35,7%) pregnants. In 13 (46,42%) pregnants developed preeclampsy of low degree. Preeclampsy of average degree developed in 5 (17,85%) pregnants.

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Application of dot immunoenzyme filtration assay for rapid detection of influenza A virus

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Objective: To explore an approach for rapid influenza A virus detection.
Methods: Nasopharyngeal swab specimens were collected for influenza A virus detection from 40 patients with suspected influenza who visited the First Affiliated Hospital of Guangzhou Medical College from November 2009 to March 2010. According to Ministry of Health of China in September 2009, the diagnostic criteria for the infection of influenza A is a positive test for influenza A virus via qRT-PCR. Based on the positive result with qRT-PCR, we compared dot immunoenzyme filtration assay(DIEFA) with colloid gold immunochromatography(GICA), the two rapid antigen tests, and the one with higher sensitivity and specificity would be the choice of rapid influenza A virus detection.
Results: 21 cases were founded influenza A virus positive by the way of qRT-PCR and the positive rate was 52.5%. 22 cases were found influenza A virus positive via DIEFA with a positive rate of 55%, while 12 cases were found influenza A virus positive via GICA with a positive rate of 30%. Compared with qRT-PCR detection, the sensitivity, specificity and consistency of DIEFA were 85.7%, 78.9% and 82.5% respectively, while the GICA's sensitivity, specificity and consistency were 42.8%, 84.2% and 62.5% respectively. The data showed that DIEFA had apparent superiority of sensitivity over GICA in rapid influenza A virus detection.
Conclusions: DIEFA can be an optimal approach for rapid detection of influenza A virus with the advantage of higher sensitivity and specificity, adapting for screening influenza A virus rapidly in influenza A virus epidemic conditions.

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