

MONDAY, SEPTEMBER 3RD 2012

235. Fungal, viral and other infections

P1913**Immunohistochemical analysis of endobronchial biopsies of patients infected with Puumala hantavirus**G.D. Rankin¹, J. Rasmuson², J. Pourazar¹, A. Blomberg¹, C. Ahlm².¹Department of Public Health and Clinical Medicine, Umeå University, Umeå, Sweden; ²Department of Clinical Microbiology, Umeå University, Umeå, Sweden

Puumala Hantavirus (PUUV) causes nephropathia epidemica (NE) and involves fever, hemorrhagia and acute renal failure but airway symptoms are common. Inhalation of aerosol-containing virus is a common route of infection. Studies have shown the involvement of a cytotoxic cell response, together with activation of endothelial cells however research into this disease in the lung is limited.

To investigate the local immune response in endobronchial biopsies of NE patients. We hypothesize that an increased inflammatory response occurs within the lower airways of patients with NE.

17 NE patients and 16 age and smoking-matched healthy controls underwent bronchoscopy. PUUV infection was confirmed using PUUV-specific IgM/IgG in serum. Bronchoscopy was performed 6-14 days after on-set of symptoms and endobronchial biopsies were processed into GMA for IHC and stained for inflammatory cells, endothelial cells and ICAM. Staining was corrected for submucosal area and epithelial length. Activated blood vessels were expressed as the ratio of ICAM+ to EN4+ vessels and corrected for submucosal area.

Submucosal staining

	NE	Control	p value
Neutrophils	30 (14.3)	13.5 (11.4)	<0.01
Mast cells	24.6 (8.2)	16 (9.9)	<0.05
CD8+ cells	12.7 (12.8)	3.3 (7.2)	<0.05
NK cells	0.66 (1)	0 (0)	<0.01
ICAM:EN4	0.37 (0.22)	0.25 (0.14)	<0.05

Results shown as median (IQR)/mm².

There was no significant difference in macrophages, eosinophils, T cells, CD4+ cells and B cells within the submucosa or between any cell type within the epithelium.

NE involves inflammation of the lung comprised of an infiltration of neutrophils, CD8+ and NK cells and increased ICAM expression in blood vessels. A cytotoxic response is likely to be important in the pathogenesis of NE.

P1914**Evaluation of efficacy of interferon inducer in treatment of the recurrent acute respiratory viral infections in children**Andrey Zaplatnikov¹, Nina Korovina¹, Irina Zakharova¹, Elena Burtseva²,Gulfiya Mingalimova¹, Ludmila Zaplatnikova¹, Irina Zak¹, Ludmila Shamrai¹.¹Pediatrics Chair, Russian State Medical Academy of Postgraduate Education, Moscow, Russian Federation

Background: It is known that recurrent episodes of acute respiratory viral infections (recurrent ARVI) are common for children attending nursery school. Nowadays the opportunities of multiple use of interferon inducer (IFN-i) in treatment of ARVI are unknown.

Aim: To evaluate the efficacy and safety of IFN-i (anaferon) in treatment of recurrent ARVI in children attending nursery school.

Methods: The open comparative prospective 2-center clinical trial of efficacy in parallel groups was conducted. The trial was performed in 141 children at the age of 1-5 years. 75 children included in 1-st group received IFN-i in preventive regimen: 1 pill 1 time in a day for 3 months. The 2-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 and the children of 1-st group received IFN-i in treatment regimen (1 pill 3 times in a day for 5 days, in first day additionally 5 pills). The duration of the first and recurrent episodes of ARVI in groups were estimated.

MONDAY, SEPTEMBER 3RD 2012

Results: The mean duration of ARVI was 8.9 ± 0.92 days in 1-st group, and 14.6 ± 1.79 days in control group respectively. The duration of the first ARVI episode was 8.9 ± 1.12 and 15.8 ± 2.1 days in 1-st and 2-d groups respectively. The duration of the second ARVI episode was 8.1 ± 0.78 in 1-st group vs 14.2 ± 2.11 days in 2-d groups. There were not registered any adverse effects in a children taking IFN- α during the trial.

Conclusions: The use of IFN- α (anaferon) in treatment of ARVI leads to reduction of disease duration. In case of repeated anaferon administration its treatment efficacy isn't decreased.

P1915

The prevalence of clinically relevant micro-organisms in stable and exacerbated COPD using PCR techniques

Siobhan George, Davinder Garcha, Anant Patel, Alexander Mackay, Richa Singh, Raymond Sapsford, Gavin Donaldson, Wisia Wedzicha. *Academic Unit of Respiratory Medicine, University College London, Hampstead, London, United Kingdom*

Airway bacteria and viruses are aetiological triggers of COPD exacerbations. We investigated the prevalence of clinically relevant micro-organisms (CRMs: human rhinovirus (HRV), H. influenzae, M. catarrhalis and S. pneumoniae) in stable and exacerbated COPD using sensitive PCR techniques.

Reverse-transcription PCR and real-time PCR detected HRV and bacteria respectively, in sputum samples collected at baseline (n=57) and at exacerbation onset (n=70) using our usual symptomatic definition (Seemungal et al, 1998 AJRCCM). Exacerbation samples were taken prior to antibiotic and/or steroid therapy.

Fifty-four COPD patients provided 127 sputum samples: mean(SD) age $71(\pm 8)$ years; FEV1 $43.7(\pm 20.0\%)$ predicted; current smoker 26%; male gender 63%. Airway CRMs were more prevalent at exacerbation than in the stable state (75% vs 42%, $p < 0.001$). The prevalence of co-infection with HRV and bacteria at exacerbation (29%) was similar to the prevalence of HRV (26%) or bacteria (21%) alone (figure 1A). Co-infection was proportionally reduced in stable COPD than at exacerbation (7% vs 29%, $p = 0.002$) (figure 1B).

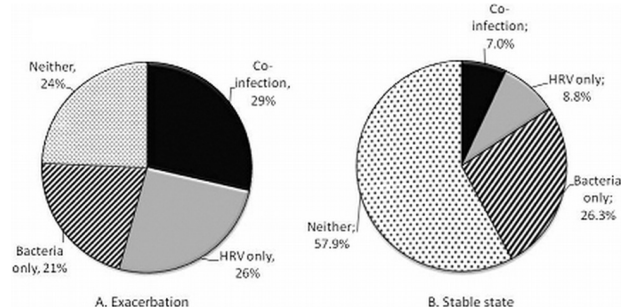


Figure 1

Co-infection in sputum is higher at COPD exacerbation compared to the stable state and 75% of exacerbations are associated with common CRMs. Further work is required to investigate the impact of co-infection on CRM load and the clinical utility of PCR techniques in managing COPD exacerbations.

P1916

Inhaled corticosteroids and influenza A (H1N1) viral pneumonia

Rosa Malo de Molina, Myrian Aguilar, Andrea Trisan, Manuel Valle, Patricia Minguéz, Antolin López, Piedad Ussetti. *Pulmonary Medicine, Hospital Universitario Puerta de Hierro de Majadahonda, Madrid, Spain*

Background: Recent studies suggest that the use of inhaled corticosteroids (ICS) may be associated with a higher risk of pneumonia in patients with COPD. However it is unclear if ICS are associated with pneumonia risk in patients with influenza A (H1N1) infection.

Therefore, our aim was to examine the association of prior outpatient ICS therapy with influenza pneumonia in patients with confirmed influenza A (H1N1) 2009 infection presenting to a University Hospital in Madrid.

Methods: We included patients ≥ 16 yrs of age with influenza A (H1N1) virus infection diagnosed by real-time reverse-transcriptase polymerase chain reaction (RT-PCR) and assessed the association of ICS exposure with viral pneumonia using covariate-adjusted regression model.

Results: We identified 121 subjects with a diagnosis of influenza A (H1N1) virus infection who had a chest radiograph ordered. 71 (59%) had pneumonia, 17 (14%) acute exacerbation of COPD, 18 (15%) acute asthma exacerbation and 15 (12%) an influenza syndrome with no other diagnosis.

15% of subject with viral pneumonia were on previous ICS compared with 32% of the subject with influenza infection without pneumonia ($p = 0.03$). In regression analyses, outpatient ICS therapy was associated with lower pneumonia in patients with influenza A (H1N1) infection (OR 0.29; 95% CI 0.11-0.77).

When we look for a possible class effect, the association was only found with fluticasone (OR 0.09; 95% CI 0.02-0.47, $p = 0.004$).

Conclusion: In our cohort viral pneumonia was quite common and the inhaled cor-

ticosteroid fluticasone may be associated with a lower risk of pulmonary infiltrates in patients with influenza A (H1N1) infection.

P1917

Elderly vs non-elderly patients with acute exacerbation of chronic obstructive pulmonary disease (AECOPD) due to a viral infection

Maria Lericou¹, George Dimopoulos², Sotirios Tsiodras², Aikaterini Chranioti², Elias Perros², Urania Anagnostopoulou¹, Petros Karakitsos², Apostolos Armaganidis². ¹8th Pulmonary Department, Sotiria Athens Chest Hospital, Athens, Greece; ²Department of Critical Care, Attikon Hospital, Athens, Greece; ³Pulmonary Department, General Hospital Nikaias, Peraeus, Greece

Introduction: The aim of this study was to compare the differences between elderly and non-elderly patients with AECOPD due to a viral infection.

Methods: Patients presenting with an AECOPD were recruited. They were classified as elderly (>65 years) and non-elderly (<65 years). Sputum and oropharyngeal samples were assessed, PCR for respiratory viruses and cultures for common pathogens were performed. Clinical outcome was reported.

Results: During the study period 247 patients were recruited [median age 69.3 ± 9.5 years] and categorized in two groups: group A, non elderly [n=81 (32.8%) median age 58 ± 5.99] and group B elderly patients [n=166 (67.2%) median age 74.8 ± 4.8 years]. In 133 (53.8%) patients a viral infection was identified and in 34 (13.8%) a bacterial pathogen was isolated from sputum or blood culture. In 18 (7.3%) patients a dual infection from both a bacterial and a viral pathogen was identified. In Group B influenza vaccination (57% vs 21%, $p < 0.001$), comorbidities (cardiac failure 55.4% vs 28.3%, $p < 0.001$, renal failure 13.8% vs 4%, $p = 0.03$), bacterial infections [28 (16.9%) vs 6 (7%) patients, $p = 0.04$] and longer hospital stay (8.9 ± 4.8 vs 7.5 ± 3.2 days, $p = 0.02$) were higher with a statistical significant difference. No differences were identified in the rate [elderly 93 (69.9%), non-elderly 40 (49.4%), $p = 0.3$] of isolated viruses.

Conclusion: In this study in elderly patients with AECOPD were identified a higher vaccination rate against influenza, more comorbidities, more bacterial infections and longer hospitalization compared to non elderly patients but no differences on the rate and the type of viral infections which led to exacerbations.

P1918

Respiratory syncytial virus (RSV) causes ciliary dyskinesia but not loss of frequency during infection of human ciliated respiratory epithelial cells in culture

Claire Smith¹, Gwyneth Williams², Andrew Rutman², Andrew Easton³, Peter Andrew², Chris O'Callaghan¹. ¹Department of Respiratory Medicine, UCL & Great Ormond Street Hospital, London, United Kingdom; ²Infection, Immunity and Inflammation, University of Leicester, United Kingdom; ³School of Life Science, University of Warwick, United Kingdom

Aim To determine the effect of RSV on ciliary function using ciliated air-liquid interface (ALI) cultures.

Introduction: RSV targets ciliated respiratory epithelial cells for infection. Two previous studies on the effect of RSV on ciliated cultures have shown different effects, one describing rapid ciliostasis and another describes no cytopathic effect.

Methods: Ciliated epithelial cells were cultured from nasal and bronchial brush biopsies. Cells were infected with RSV (A2) for up to 72h. Ciliary beat frequency (CBF) and pattern (CBP) were observed with a high-speed video camera. The cells were fixed and stained using anti-RSV (FITC) and anti-acetylated tubulin (Alexa594) antibodies. Confocal optical sectioning and electron microscopy (EM) was also performed.

Results: CBP showed a higher proportion of dyskinetic cilia following RSV infection. The median (IQR) dyskinesia index was increased as early as 24h and at 72h had increased to 33% (25-42%) compared with controls 13% (11-14%). CBF was unaffected by RSV infection. By 72h the ultrastructure of the ciliated epithelium was abnormal following RSV infection with an increased in ciliated cells exhibiting loss of cilia and an increase in ciliated cells with mitochondrial damage. Furthermore, RSV antigens were observed on the apical surface of the cell and had extended the full length of the cilia shaft.

Conclusion: RSV infection of ciliated cells results in increased dyskinesia of cilia, whilst CBF is maintained. Epithelial damage was preferentially seen in ciliated cells.

References:

- [1] J Virol. 2005;79(2):1113-1124.
- [2] Arch Otolaryngol Head Neck Surg, 1998;124(7):777-83.

P1919

Clinical prognostic factors for pneumocystis pneumonia in non-HIV patients

Koji Tamai, Ryo Tachikawa, Takahisa Kawamura, Kazuya Monden, Takeshi Matsumoto, Junpei Takeshita, Kosuke Tanaka, Kazuma Nagata, Kyoko Otsuka, Atsushi Nakagawa, Kojiro Otsuka, Keisuke Tomii. *Department of Respiratory Medicine, Kobe City Medical Center General Hospital, Kobe, Japan*

Introduction: Non-HIV patients with Pneumocystis pneumonia (PCP) has poor prognosis. Improved knowledge of presenting symptoms and prognostic factors for non-HIV PCP may help to reduce its associated high mortality rate.

Aims: To describe the characteristics of PCP in non-HIV patients and to identify prognostic factors.

Methods: We retrospectively reviewed non-HIV PCP patients between April 2006 and July 2011. Demographics, laboratory findings and their prognosis were evaluated.

Results: A total of 33 non-HIV PCP patients were analyzed. Of these, 15 patients (45.5%) died. BAL was performed in 26 patients and was successfully done in 10 of them under non-invasive positive pressure ventilation. Pneumocystis PCR in BAL specimens yielded the high positive ratio of 96.2%. There was no serious adverse events associated BAL procedure. Cox proportional hazards model revealed C reactive protein (CRP) and BAL neutrophilia were significant prognostic factors determining 30-day mortality. Logrank test showed patients with higher CRP (≥ 7 mg/dL) and BAL neutrophilia ($\geq 16\%$) had significant lower survival rates ($p=0.003$, $p=0.0048$, respectively).

Conclusions: CRP and BAL neutrophilia were identified as significant predictors of survival in patients with non-HIV PCP. Our data also emphasize significance of performing BAL in these patients since it provides important prognostic information.

P1920

Seasonal influenza vaccination rates in chronic asthma patients

Rachelle Asciak, Liam Mercieca, Jesmar Buttigieg, Martin Balzan, *Medicine, Mater Dei Hospital, Tal Qroq, Msida, Malta*

Aim: To document influenza vaccination in asthma patients, to explore factors that influence vaccination.

Method: Adult patients with chronic asthma attending a hospital clinic (n=146, Female =103, mean age 49.81 ± 3.2 , 29.66 Male) filled in a questionnaire in January 2012 on influenza vaccination.

Results: 51.39% used reliever medication less than twice per week. 4.79% were current smokers. 86(58.9%) of patients had experienced acute episodes in the previous year. 80(55%, 40% of Male, 61% of F) received the influenza vaccine this winter. 129 (88.6%) had been vaccinated in the past. 49 patients did not re-vaccinate because of fear of side effects(21), forgotten or had no time(12), were sick when vaccine available(6), adverse media report (1), because of current pregnancy(5) and 4 thought the did not need it. 41 patients who had experienced side effects in the past, 16 re-vaccinated this year. 78 of 125 (62.4%) of all patients who were advised the vaccine were vaccinated, while 10% of those not advised were vaccinated this year ($p<0.0001$). 78% of those who were advised to take the vaccine by a doctor were actually vaccinated. The mean age for vaccinated was 54, and 42 in those who were not ($p=0.0003$). The main reasons for taking the vaccine were advised by a doctor(34%), to protect themselves(60%), to reduce severity and frequency of asthma attacks (39%). Reasons for not having the vaccine were fear of side effects (40%), forgot or had no time to take it (19%), did not know they should take it (12%)

Conclusion: The rate of influenza vaccination in asthma patients is low. Medical advice by a medical practitioner resulted in a high vaccination rate. Fear of side-effects was main reason for non-vaccination.

P1921

Role of virus in community-acquired pneumonia (CAP)

Ana Simon¹, Carolina Panadero¹, Elisa Mincholé¹, Sergio Fandos¹, Ana Lasierra², Maria Angeles Ruiz³, Elena Forcen¹, Virginia Moya¹, Elisabeth Vera¹, Salvador Bello¹. ¹*Pulmonology, Hospital Miguel Servet, Zaragoza, Spain;* ²*Biochemistry, Hospital Miguel Servet, Zaragoza, Spain;* ³*Microbiology, Hospital Miguel Servet, Zaragoza, Spain*

Introduction: It is of increasing interest the role of viruses as etiologic agent of CAP. We tried to assess this subject in our patients.

We conducted a prospective observational study to investigate the viral, bacterial and mixed viral/bacterial etiology of patients admitted to hospital with a diagnosis of CAP. Samples were taken for blood culture and sputum culture, serial serology studies, urinary Legionella and S pneumoniae antigens, and nasopharyngeal aspirate to search virus by immunofluorescence and 2 different multiple polimerase chain reaction (PCR).

Results: Of a total of 262 patients with CAP admitted to our hospital were included, and we found at least one pathogen in 180 (68.7%). Out of the 180 patients with etiological diagnosis, in 70 (38.8%) a bacterial agent, in 64 (35.6%) a viral agent and in 46 (25.6%) had a mixed etiology (virus + bacteria) were found. The bacteria most frequently found was S. pneumoniae, in 67 patients. Rhinovirus was found in 30 patients, and was the most prevalent virus associated with CAP. The most frequent virus/bacteria combination was S. pneumoniae with Rhinovirus, found in 9 patients.

Conclusions: Prevalence of virus in CAP is important, reaching more than half (62%) of all known etiology. The most common pathogen causing CAP is S. pneumoniae, which was also the most often associated with virus. The study of viruses as pathogens of CAP must be taken into account in future studies of this disease.

Bacterial	Viral and atypical bac	Mixed (Bacterial/Viral)	
S. pneumoniae	31 Adenovirus	15 S. pneumoniae + Rhinovirus	9
L. pneumophila	4 Rhinovirus	11 S. pneumoniae + Adenovirus	4
S. aureus/Moraxella/Parainfluenza (SVM)	3 Influenza A	8 S. pneumoniae + VSR	2
E. coli	2 Coronavirus	6 S. pneumoniae + Metapneumovirus	2
S. pneumoniae	2 VSR A	4 S. pneumoniae + Influenza A	2
H. influenzae	2 Influenza B	2 S. pneumoniae + Influenza B	1
C. striatum	2 Metapneumovirus	2 S. pneumoniae + VSR B	1
E. faecalis	2 M. Parainfluenza	1 S. pneumoniae + S. aureus + Adenovirus	1
P. aeruginosa	1 VSR B	1 S. pneumoniae + Rhinovirus + Influenza A	1
S. aureus	1 VSR A + Coronavirus	2 S. pneumoniae + Rhinovirus + Influenza B	1
S. faecalis	1 Adenovirus + Influenza A	1 S. pneumoniae + Influenza A + Parainfluenza 4	1
M. catarrhalis	1 Adenovirus + Rhinovirus	1 S. pneumoniae + Influenza B + Coronavirus	1
E. cloacae	1 Adenovirus + Coronavirus	1 S. pneumoniae + Adenovirus + Coronavirus	1
A. donkshoffii	1 Coronavirus + Influenza A	S. pneumoniae + H. influenzae + Adenovirus + Rhinovirus	1
A. xylosoxidans	1 Enterovirus + Rhinovirus	1 C. striatum + Metapneumovirus	1
S. pneumoniae + S. aureus	2 Influenza A + Rhinovirus	1 S. faecalis + Adenovirus	1
S. pneumoniae + H. influenzae	2 Influenza A + VSR A	1 S. faecalis + Sp. epididymidis + Adenovirus	1
S. pneumoniae + M. catarrhalis	1 Influenza A + Parainfluenza 1	1 E. coli + MISA + Influenza A	1
S. pneumoniae + SVM	1 Influenza B + Rhinovirus	1 E. coli + M. Parainfluenza	1
S. pneumoniae + P. aeruginosa	1 Metapneumovirus + VSR	1 H. influenzae + Adenovirus + Rhinovirus	1
P. aeruginosa + C. striatum	1 Rhinovirus + Influenza B	1 H. influenzae + Adenovirus + Influenza A	1
P. aeruginosa + K. oxytoca	1 Metapneumovirus + VSR + Influenza A	1 H. influenzae + Rhinovirus + MISA + Influenza A	1
P. aeruginosa + E. pneumophila	1	1 H. parainfluenza + Parainfluenza 3	1
H. influenzae + S. pneumoniae	1	1 P. aeruginosa + Influenza A	2
E. coli + A. shakelatae	1	1 P. aeruginosa + VSR A + Coronavirus	1
E. coli + C. striatum + A. baumannii	1	1 P. aeruginosa + VSR + VSR B	1
S. aureus + P. multocida	1	1 M. catarrhalis + Coronavirus	1
S. aureus + E. faecalis + S. pneumoniae	1	1 M. pneumoniae + Coronavirus	1
		1 E. faecalis + Parainfluenza 1	1
		1 S. multophila + Adenovirus	1
		1 E. cloacae + K. pneumoniae + Rhinovirus	1
TOTAL	78 TOTAL	84 TOTAL	46

Abstract P1921 – Figure 1

P1922

Quality of life & clinical outcomes following referral to a specialist bronchiectasis service

Jane Elliott, Judy Ryan, Karen Henderson, Helen Gronlund, Helen Barker, Dennis Wat, Nadia Shafi, Jane French, Floto Andres, Floto Andres, Charles Haworth. *Cambridge Centre for Lung Infections, Papworth Hospital NHS Foundation Trust, Cambridge, United Kingdom*

It is currently unclear whether referral of patients with bronchiectasis to a specialist centre improves quality of life (QoL) or clinical outcomes. We therefore evaluated these outcomes in consecutive new patients referred to our service in 2010. St George's Respiratory Questionnaires (SGRQ) were completed at their initial consultation and 12 months later. Clinical data were retrospectively collected from patient records.

Of the 89 new patients, 44 (49%) completed both QoL assessments. Their mean age was 62.2 ± 16 y and 21/44 were male. In the 12 months following referral, 27% (12) patients cultured *P. aeruginosa*, 25% (11) grew *H. influenzae*, 18% (8) *S. pneumoniae*, 11% (5) *M. catarrhalis* and 5% (2) NTM. 55% (24) patients grew no organism. There was no significant change in FEV1, however the average (median; IQR) number of infective exacerbations requiring antibiotics decreased from 5.0 (3-6) in the 12 months preceding referral to 1.0 (0-2) in the 12 months following initial assessment ($p=0.0001$). Analysis of SGRQ (where lower scores reflect a better QoL) at the beginning and end of the same period revealed significant decreases in overall scores from 44.0 (25.9-64.0) vs 36.8 (21.7-76.6; $p=0.02$), symptom scores from 61.4 (36.9-80.1) to 47.7 (26.3-70.3; $p<0.003$) and impact scores from 35.2 (19.9-54.0) to 28.4 (13.7-50.0; $p=0.032$). A common change to patient management was the prescription of long-term antibiotic prophylaxis which increased from 13.6% (6/44) patients at baseline to 50% (22/44) at follow up.

We conclude that referral of patients to our specialist bronchiectasis service leads to significant improvements in quality of life and decreased infective exacerbations.

P1923**Clinical profile and risk factors of H1N1 swine flu in Indian health care workers during the 2009 pandemic**

Barnev Isaac Thomas¹, Henry Kirupakaran², Devasahayam J. Christopher¹.
¹Department of Pulmonary Medicine, Christian Medical College, Vellore, Tamil Nadu, India; ²Staff Students Health Service, Christian Medical College, Vellore, Tamil Nadu, India

Background: The Christian Medical College, Vellore was one of the first few centers in India that could perform RT-PCR for Influenza A H1N1 during the 2009 pandemic. The health care workers being a high risk group were screened and tested when they developed flu symptoms. Through the staff-students health service of the institution, the clinical profile and risk factors in this group were studied.

Aim: To study the clinical profile and risk factors of swine flu in health care workers during the pandemic of 2009 and compare it with other acute febrile respiratory illnesses in the group during the same period.

Methods: Consecutive health care workers who presented with an acute febrile respiratory illness were screened and those who fulfilled a set of clinical criteria were included. Demographic and clinical data were obtained and a throat swab was taken for RT PCR for swine flu. All those who were positive were included as cases and those who were negative, as controls. The clinical profile and risk factors were compared between the two groups.

Results: A total of 158 patients were included. Of these 76 were cases and 82 were controls. Female sex, students, work involving minimal contact with patients, diarrhea and need for admission were more in the cases. There were more nurses and technicians in the control group. There was no difference in the co-morbidities, exposure to swine flu patients or use of protective measures between the two groups.

Conclusion: The study has identified some risk factors for H1N1 swine flu in health care workers. This information may be helpful in setting up policies during subsequent epidemics. A larger study should be planned in the future.

P1924**Predictor of outcome and length of hospital stay in acute viral pneumonia: 2009 H1N1 influenza A experience**

Ashish Jain, Rajesh Chawla, Vikas Sikri, Sudha Kansal. *Respiratory and Critical Care, Indraprastha Apollo Hospitals, New Delhi, Delhi, India*

Introduction: - H1N1 Influenza A virus spreads globally causing pneumonia and high mortality.

Aim: - We studied clinical characteristics of patients admitted with influenza pneumonia in a tertiary care hospital of northern India over one year.

Method: - We analyzed 77 patients with H1N1 influenza, confirmed with RT-PCR assay.

Results: -Out of 77 patients, 33(43%) were female. Mean age was 41±13 years. Thirty eight patients (50%) had at least one comorbidity, Diabetes Mellitus was most frequent. Presenting symptoms were fever in 75 (97%), cough in 67(87%) and dyspnoea in 59 (76%) patients. Mean duration of dyspnoea at presentation was higher in expired group 6±3 Vs 4±3 days (P=0.02). Bilateral opacities on chest radiograph seen in 49 (55%) patients. Mean PaO₂/FiO₂ ratio on admission was 213±133 and 175±101 at 24 hours in discharge patients while expired patients it was 141±92 and 122±65 respectively. Mean PaCO₂ was higher in expired group 55±27 Vs 37±11 (P=0.002). Forty five patients (59%) had one or more organ failure. Respiratory Failure was commonest (n=43, 56%) requiring Invasive ventilation in 13(17%) patients and Non invasive ventilator in 23(30%) patients. Overall mortality was 13% (n=10). PaCO₂ on admission (odds ratio, 1.093; confidence interval, 1.133 to 1.193; P=0.044) and number of organ failure (odds ratio, 8.089; confidence interval, 1.133 to 57.77; P=0.037) were identified as independent risk factors for in hospital mortality.

Conclusion: -Factors associated with poor outcome in acute viral pneumonia are long duration of dyspnoea, bilateral pneumonia, low PaO₂/FiO₂ ratio on admission and 24 hours later, high PaCO₂ & number of organ failure.

P1925**The treatment of acute respiratory viral infections in a patients with a chronic obstructive pulmonary disease**

Nadejda Kniajeskava, Chair of Pulmonology, Russian State Medical University, Moscow, Russian Federation

Background: Acute respiratory viral infections (ARVI) often cause the exacerbation of Chronic Obstructive Pulmonary Disease (COPD) in adults. The possibilities of ARVI treatment with antiviral medication combining anti-inflammatory and antihistaminic actions in a patients with COPD are still unknown.

Aim: To evaluate the efficacy and safety of medicine combining ultralow doses of anti-bodies to interferon- γ , CD-4 and histamine (ULD AB IFN- γ , CD-4, His - the medication "Ergo-feron") in ARVI treatment in patients with COPD.

Methods: Open comparative randomized study in 2 parallel groups including 60 adult patients with COPD was conducted. All patients obtained the treatment of main disease and also necessary symptomatic therapy. Antibiotics were administered as required. Treatment group (32 patients) took complex of ULD AB IFN- γ , CD-4, His (ergoferon) in treatment regimen (in a first day first 2 hours 1 pill every 30 minutes, then 1 pill 3 times in a day; in 2-5 days - 1 pill 3 times in a day). The

comparison group (28 patients) didn't obtain complex of ULD AB IFN- γ , CD-4, His (ergoferon) and other antiviral medications.

Results: The mean duration of fever response in treatment group was 1,5 day less than in comparison group (2,9±0,45 vs 4,6±0,8). The treatment group patients were discharged from hospital to the 10-th day of disease (10,3±0,8) and the length of hospital stay in comparison group was 3-4 days longer (14,8±1,2). Side effects were not registered during the trial.

Conclusions: The medicine combining ULD AB IFN- γ , CD-4, His (ergoferon) administration in a patients with ARVI afford to decrease the duration of COPD exacerbation caused by acute respiratory infections.

P1926**Can pseudomonas aeruginosa infection change the outcome of bronchiectasis?**

Snen Houda, Daghfous Hafaoua, Kotti Amina, Saad Soumaya, Kahloul Olfa, Slim Leila, Tritar Fatma. *Pneumology C, Abderrahmane Mami Hospital, Ariana, Tunisia Pneumology C, Abderrahmane Mami Hospital, Ariana, Tunisia Pneumology C, Abderrahmane Mami Hospital, Ariana, Tunisia Pneumology C, Abderrahmane Mami Hospital, Ariana, Tunisia Microbiology, Abderrahmane Mami Hospital, Ariana, Tunisia Microbiology, Abderrahmane Mami Hospital, Ariana, Tunisia Pneumology C, Abderrahmane Mami Hospital, Ariana, Tunisia*

Background: Bronchiectasis patients are susceptible to infection with *pseudomonas aeruginosa* (PA). Isolation of PA is associated with increased severity of disease, greater airflow obstruction and poorer quality of life. It is not known whether infection by PA is a marker of disease severity or contributes to disease progression.

Aim: Determine frequency, clinical, biologic, management and outcome of PA infection complicated bronchiectasis.

Patients and methods: Between 2005 - 2011, 24 PA infection occurred in patients with bronchiectasis were retrospectively enrolled in the study.

Results: The mean age of patients (13 women and 11 men) was 42 years (16-65 years). Twenty one patients have diffuse and bilateral bronchiectasis. PA infection reveals bronchiectasis in 3 cases (13%). Clinical manifestations included: acute respiratory failure (n= 15), fatal sepsis (n=1, increased sputum (n= 24) and fever (n=20). PA strain was isolated from sputum in 23 cases and from bronchial alveolar fluid in 1 case. All patients received continuous 2 antibiotics for more than 14 days: ceftazidim + ampicillin or quinolone (96%) and imipenem + ampicillin (4%). Following intravenous antibiotics, PA was eradicated in 22 cases and 2 patient was colonized with PA. Long term outcome complications were involved: chronic respiratory failure (12,5%), recurrent PA (12,5%) and *Hemophilus perfluentis* (12,5%).

Conclusion: *Pseudomonas aeruginosa* lung infection in patients with bronchiectasis is associated with more severe disease and a higher utilization of health-care resources.

P1927**Multiple thoracic hydatidosis (About 23 cases)**

Nahid Zagha, Hanane Benjelloun, Najiba Yassine, Abdelaziz Bakhtar, Abdelkrim Bahlaoui. *Respiratory Diseases, UHC Ibn Rushd, Casablanca, Morocco Respiratory Diseases, UHC Ibn Rushd, Casablanca, Morocco Respiratory Diseases, UHC Ibn Rushd, Casablanca, Morocco Respiratory Diseases, UHC Ibn Rushd, Casablanca, Morocco Respiratory Diseases, UHC Ibn Rushd, Casablanca, Morocco*

The multiple thoracic hydatidosis is rare, but dangerous because of the difficulties of its therapeutic management, and severity of its complications, some of which can be life threatening. The aim of our study was to evaluate the diagnostic and therapeutic difficulties of multiple thoracic hydatidosis. This is a retrospective study spread over 11 years (January 2000 to September 2011) concerning 23 cases of multiple thoracic hydatidosis. Patients included had two or more thoracic hydatid cysts. There are 11 women and 12 men with a mean age of 46 years (range 16 to 78 years). Six patients have already been operated on for pulmonary hydatid cysts in 3 cases and liver cysts in 3 cases. Pulmonary localization is constant with multiple hydatid cysts making an appearance in balloons release in 16 cases, a double pulmonary hydatid cyst in 7 cases. Cardiac localization was found in 4 cases, while with mediastinal, hepatic, and great vessels is found in 3 cases each. The treatment was surgery alone in 8 cases, associated with medical treatment in 6 cases. Medical treatment alone (Albendazole) was recommended in 15 cases. The evolution was marked by the worsening lesions in five cases, pulmonary hydatid cyst rupture into the pleural cavity in 2 cases, and lesions were stationary in 10 cases. Through this work, we emphasize the rarity and severity of multiple thoracic hydatidosis. Medical treatment remains the only treatment of disseminated forms. The best treatment is preventive.

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P1928**Pulmonary tuberculosis relapse or atypical mycobacterium infection?**

Abdelhamid Ben Amar, Nada Rahmouni, Nawel Chaouch, Mourad Zarrouk, Saoussan Bacha, Sana Cheikh Rouhou, Hajer Racil, Abdellatif Chabbou. *Pneumology and Endoscopy Department, Research Unit Oncologie Thoracique, El Manar University - Tunis Medical School, MESRS-MSP, A. Mami Ariana Hospital, Ariana, Tunisia Pneumology and Endoscopy Department, Research Unit Oncologie Thoracique, El Manar University - Tunis Medical School, MESRS-MSP, A. Mami Ariana Hospital, Ariana, Tunisia Pneumology and Endoscopy Department, Research Unit Oncologie Thoracique, El Manar University - Tunis Medical School, MESRS-MSP, A. Mami Ariana Hospital, Ariana, Tunisia Pneumology and Endoscopy Department, Research Unit Oncologie Thoracique, El Manar University - Tunis Medical School, MESRS-MSP, A. Mami Ariana Hospital, Ariana, Tunisia Pneumology and Endoscopy Department, Research Unit Oncologie Thoracique, El Manar University - Tunis Medical School, MESRS-MSP, A. Mami Ariana Hospital, Ariana, Tunisia Pneumology and Endoscopy Department, Research Unit Oncologie Thoracique, El Manar University - Tunis Medical School, MESRS-MSP, A. Mami Ariana Hospital, Ariana, Tunisia Pneumology and Endoscopy Department, Research Unit Oncologie Thoracique, El Manar University - Tunis Medical School, MESRS-MSP, A. Mami Ariana Hospital, Ariana, Tunisia*

In endemic countries, pulmonary tuberculosis (PTb) relapse is the first diagnosis evoked when patients with previous history of PTb develop respiratory symptoms. The diagnosis of atypical mycobacterial infection (AMI) complicating Tb sequelae is often accidentally discovered.

In order to precise predictors features of AMI, we analyzed all cases of AMI complicating PTb sequelae in immunocompetent patients diagnosed 2006 through 2011. AMI diagnosis was based on American Thoracic Society criteria. Only 4 AMI cases were collected. All patients were male, smokers and aged 37, 40, 42 and 54 years respectively. Two patients were ethylic and 1 asthmatic. No patient had HIV infection. Clinical and radiological presentation simulates PTb in all cases. Chest radiography showed PTb sequelae, excavated opacities and apical nodules. All patients had positive smear bacilli and were then treated as a PTb relapse. But outcome was unfavorable in all cases. Sputum culture revealed in all cases AMI (1 M. avium, 1 M. Kansasii, 1 M. Abscessus, 1 M.). The average time to diagnosis was 3.3 months due to culture needs. Evolution under treatment adapted to the antibiogram was favorable in two cases.

Our results show, that diagnosis of AMI complicating PTb sequelae is difficult and diagnosis delay is relatively long due to culture necessity. Frequently positive Smear bacilli and no specific signs (clinical, biological, radiological) were associated to AMI leading to confusing diagnosis. Only sputum culture allows the distinction between typical and atypical mycobacterium infection. In PTb relapse, AMI should always be kept in mind.

P1929**Respiratory Infections in HIV infected patients in an urban resource limited setting in India**

Bibhuti Saha¹, Vikas Punamiya², Shiva Bikmalla², Ariyur Balaji², Martin Dedicoat², **Rahul Mukherjee**². ¹Department of Tropical Medicine, School of Tropical Medicine & Carmichael Hospital for Tropical Diseases, Kolkata, WB, India; ²Department of Respiratory Medicine & Physiology, Heart of England NHS Foundation Trust, Birmingham, West Midlands, United Kingdom

Background: Tuberculosis is the most frequent cause of serious respiratory infection in people living with HIV and AIDS (PLHA), but other pulmonary conditions are often over looked or not diagnosed in resource limited areas. This study looks at pulmonary manifestations in PLHA in an urban setting in India.

Methods: All newly diagnosed PLHAs under care of a unit of Calcutta School of Tropical Medicine were prospectively studied over a period of one year. Patients presenting acutely having cough for more than 2 weeks with any one or more of fever, chest pain or tachypnoea were included in the study. Investigations included sputum for gram stain & culture, AFB stain, Chest X-ray (CXR) and Computerised tomography(CT) scan of the chest, where indicated. CD4 counts were available in some cases.

Results: A total of 559 PLHA's were included. Of the 77 patients meeting the study criteria, 77(100%) had cough, 73(95%) had fever, 41(53%) had chest pain, 33(43%) had tachypnoea. Conditions diagnosed are shown below. The mean CD4 counts for patients with the conditions above were as follows: TB 115 cells/ml, pneumonia 141 cells/ml and PJP 88 cells/ml.

Conditions diagnosed

Diagnosis	Number of cases (%)
Pulmonary Tuberculosis	49 (64)
Bacterial Pneumonia	20 (26)
Pneumocystis Jerowici Pneumonia (PJP)	4 (5)
Pulmonary Histoplasmosis	3 (4)
Bronchiectasis	2 (3)
Lung Abscess	1 (1)
Diagnosis not made	4 (5)

Conclusions: Although TB is the most frequent cause of pulmonary infection in this group of patients several other conditions are seen. This information has public health importance to ensure correct diagnostic pathways are developed to allow correct treatment and proper allocation of limited health resources.

P1930**Aspergillus tracheobronchitis. Analysis of our experience in a tertiary care centre**

Maria Beatriz Arias Arcos¹, Ricardo García Luján¹, Mario Fernández-Ruiz², Eduardo de Miguel Poch^{1,3}, Manuel Lisazoain², Jose María Aguado². ¹Department of Pneumology, Hospital Universitario 12 de Octubre, Madrid, Spain; ²Unit of Infectious Diseases and Investigation, Hospital Universitario 12 de Octubre, Madrid, Spain; ³CIBER- ES. CIBER of Respiratory Diseases, Hospital Universitario 12 de Octubre, Madrid, Spain

Aspergillus tracheobronchitis (AT) constitutes an infrequent and severe form of invasive pulmonary aspergillosis in which the fungal infection is predominantly confined to the tracheobronchial tree.

Population and methods: We reviewed all cases of AT diagnosed in our center between April 1991 to December 2010. "exitAspergillus tracheobronchitis" was defined as the isolation of *Aspergillus* spp. from endobronchial specimens and the presence of ≥ 1 endobronchial lesions without an alternative diagnosis. In order to exclude simple colonization, all cases also had histopathological evidence of tissue invasion of the tracheobronchial tree with hyphae morphologically consistent with *Aspergillus* spp.

Results: 8 cases (6 male; mean age 55.5 years) of AT were diagnosed. Hematologic malignancy (n=4), solid organ transplantation (n=2), systemic lupus erythematosus (n=1) and nasopharyngeal carcinoma (n=1) treated with chemotherapy and radiotherapy, were the underlying conditions reported. Fever and respiratory complaints (cough, dyspnea, stridor or wheezing) were the most frequent symptoms but one case was asymptomatic. *A. fumigatus* constituted the unique specie in our study. In bronchoscopy the pseudomembranous form was the most commonly observed (4 cases). Two cases revealed necrotic lesions and two cases only showed multiple mucus plugs. All cases were diagnosed by bronchoalveolar lavage and bronchial biopsy. Two cases died so the overall intra-hospital mortality was 25%.

Conclusions: *Aspergillus tracheobronchitis* is an infrequent form of invasive pulmonary aspergillosis that would be suspected in some immunosuppressed patients. It is mandatory histopathological evidence of tissue invasion to confirm the diagnosis.