

## 23. Miscellaneous respiratory infections II

### E121

#### Erythrocyte and blood plasma antioxidant system status during the community-acquired pneumonia acute period

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The research aim: the estimation of the erythrocyte (Er) antioxidative system condition and oxidative processes in blood plasma among the patients during the community-acquired pneumonia (CAP) acute period. There were examined 13 patients with verified pneumonia diagnosis (4 with mainly alveolar inflammation, 9 with mainly interstitial inflammation) and 13 healthy donors. In Er there was determined the reduced glutathione (RG) concentration, glutathione-dependent enzymes activity (peroxidase (GP), transferase (GT), reductase (GR)), catalase (CT), superoxide dismutase (SOD), in blood plasma – SOD and CT activity, ceruloplasmin (CP), diene conjugates (DC), malonic dialdehyde (MD) content. Statistic data analysis was carried out using Van der Varden and Mann-Whitney criterion. During the acute CAP period there was discovered CAT (p=0,04) and GP (p=0,01), GT (p=0,02), GR (p=0,05) activity decrease against the background of the expressed RG (p=0,01) concentration reduction in Er with the deficiency enhancement under the inflammation intensity increase. The reducing Er potential suppression was accompanied by the SOD and CT activity inhibition in blood plasma with both increases of protein-antioxidant CP content and activation of lipid peroxidation characterized by DC and MD content increase. The received data is the evidence of the expressed disbalance in prooxidant/antioxidant defence system, of the redox-potential and Er functional activity decrease during the acute CAP period, and that aggravates the acute inflammation.

### E122

#### Features of peroxide lipids oxidation in patients with community-acquired pneumonia in Belarus prisons

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**Hypothesis:** Peroxide lipids oxidation (PLO) has been attached great importance in cell injury. PLO is an important part of inflammation and anti-infectious defense. So, PLO processes can influence on patient condition severity and inflammation length.

**Aim:** To assess PLO in prisoners suffering from community-acquired pneumonia (CAP) of different severity and length.

**Methods.** PLO was studied in 46 CAP prisoners with different severity and length of inflammatory aged 25-40. 60 healthy prisoners and 70 healthy persons out of prison of the same age were the control groups. PLO activity was estimated in hemolysis venous blood sample with biochemical methods.

**Results:** Ferment antioxidant activity (FAA) was lower in healthy prisoners than in healthy persons out of prison (p<0,001). Malonic dialdehyde (MDA) blood level was higher in healthy prisoners (8,5 mmol/l) than in healthy persons out of prison (5,7 mmol/l; p<0,001). FAA increasing was registered in prisoners while CAP severity rising (p<0,05). MDA blood level didn't change while CAP severity increasing. But MDA blood level in CAP patients with inflammatory length more than 30 days was lower (p<0,05) than it was in CAP patients with inflammatory length less than 30 days (5,8 and 7,5 mmol/l). The FAA was decreased and the MDA blood level was increased in CAP prisoners to the treatment end (before the treatment - 7,1 mmol/l; after one - 8,1 mmol/l; p<0,05).

**Conclusion:** High PLO activity was in prisoners. There was PLO activity increasing while CAP severity rose in prisoners. FAA was in exhaustion to the treatment end. CAP took a long course in prisoners without sufficient PLO activity as a protective anti-infectious mechanism.

### E123

#### BAL in pneumonia

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The medical findings of neutrophil alveolitis is a characteristic in the patients with bacterial pneumonia. There is a good correlation between the absolute number of neutrophils placed in the bronchoalveolar lavage and pathohistological medical findings.

**Results:** BAL was done in the case of 19 patients with bacterial pneumonia. According to the clinical and radiological stage of illness this group of patients was divided into two subgroups.

a) The first subgroup is consisted of patients (n=7) with the evident clinical and radiological medical findings of pneumonia. The number of cells ranges from

157±103 x 10<sup>4</sup> /ml. PMN were represented in 65±46%. The significant rise (p<0,05) of the total number of cells, lymphocytes, T-lymphocytes and PMN was recorded in comparison with the group of healthy patients. The total number of alveolar macrophages didn't differ sharply from the group of healthy patients (p>0,05).

b) The second subgroup is consisted of patients with the evident radiological and clinical resolution of pneumonic changes (n=12). The number of cells is 31±17 x 10<sup>4</sup> /ml. T-Ly were represented in 29±8% which is highly significant and even more (p<0,01) comparing with healthy patients. The other examined parameters did not differ considerably from the group of healthy patients.

**Conclusion:** In pneumonia it comes to the magnificent and rapid increase of neutrophils in the alveolar spaces as well as the whole number of lymphocytes and T-lymphocytes. In the phase of resolution neutrophils, in relation to lymphocytes, pull back more rapidly from alveolars and it indicates that T- Ly have a specific role in the acute inflammation.

### E124

#### Correlation between nontuberculous mycobacterial infections and rapid immunochromatographic serum assay

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**Objective:** use an original rapid immunochromatographic assay in diagnosing NTM infections as well as co-infected with TB. The diagnosis of NTM infections is difficult to establish in both cases, as well as in mixed infections with tuberculous & nontuberculous bacilli.

**Material & Method:** we studied 117 sera, from patients with ages between 7 and 73 years old, 52 males and 65 females. All diagnoses of mycobacteriosis or/and tuberculosis were confirmed by identification of M. tuberculosis by culture according to standard methodology. It was extremely difficult to find patients infected only with MOTT, most of them being co-infected with TB.

**Results:** NTM was serologically found in 43 cases and confirmed by MOTT cultures: only NTM 7 cases, in association with TB 27 cases, among them 1 with HIV (we used both rapid NTM assay and ELISA), in association with bronchiectasis, 9 cases; 37 cases with pulmonary TB, in different stages, and 37 cases with other diseases than TB. All immunosuppressed cases had false negative responses. Most frequent NTM found were: m. avium, M. gordonae and m. xenopi.

**Conclusions:** The serological diagnostic obtained by the rapid NTM assay, combined with radiological and clinical evidence, could allow the start of early specific treatment. Treatment is based on results of laboratory testing that will identify an effective antibiotic for treatment. Preventive treatment of close contacts of persons with disease caused by atypical mycobacterium is not necessary.

### E125

#### A case of hemoptysis due to leech infestation – case report

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A 14 years-old male patient, student from a boarding school in Diyarbakir (South-western Turkish city), presented with complaints of hoarseness and hemoptysis for 17 days. Standard chest x-ray and thorax CT revealed no radiological lesion; therefore, the patient was referred to an ENT specialist for consultation. Endoscopic larynx examination showed a polypoid mass lesion on left vocal cord, extending from posterior one third to subglottic area. CAT scan of the neck displayed a space-filling lesion expanding up to the proximal end of the trachea. Subsequent bronchoscopy showed a brown-green, mobile formation appearing to be a living foreign organism in the proximal part of trachea, just behind the vocal cords; distal sections of the bronchial tree was observed as normal. As the bronchoscope was pulled back in order to reexamine the relevant region, the mentioned formation was unseen. The patient was referred to gastroenterology clinic; endoscopic examination manifested an approximately 5 cm-sized foreign object in the stomach. This was taken out with a specific tool and revealed to be a leech. Detailed history obtained from the patient provided the information that potable water sources in that region were contaminated with leeches.

### E126

#### Bacteriological profile of community acquired pneumoniae (CAP) in a respiratory disease department in Tunisia

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**Aim:** To relief the bacteriological features of the CAP.

**Patients and methods:** 100 patients admitted for CAP diagnosed on radio-clinical data and enrolled on 4 years.

**Results:** The mean age of the patients is 67±11 years. 70% of the patients have acute pneumonia, 18% have bronchopneumoniae and 12% have interstitial pneumoniae. The identification of the involved pathogen was possible in 64% of the patients. The sputum specimen was positive in 37% of the patients. The most

frequent isolated microorganisms are Haemophilus Influenzae (30%), pneumoniae streptococcus (25%) and pneumoniae Klebsiella. The sputum specimen seems to identify more easily the pathogens in the patients who haven't been previously treated by antibiotherapy. (50% vs 29%; p=0,1). The output of this diagnostic procedure is poor for the class I (23%) and V (0%) of the Fine's score; it's more efficient for the class II (35%), III (50%) and IV (38%) of Fine. The protective specimen brush through flexible bronchoscopy was positive in 27% of the cases. The initial empirical antibiotherapy was changed in 18% of the cases according to the results of the antibiogram in 9% of the cases and after a worsening evolution in 9% of these. The outcome was favorable in 82% of all the cases. The complications occurred include pleural effusion (9%), radiological extension (6%), and respiratory distress (3%).

**Conclusion:** The management of the CAP based on the radioclinical aspects and the severity of the illness seems to be effective. We conclude that the bacteriological findings are poorly contributive for the advanced classes of Fine.

#### E127

##### Mediastinal hydatid cyst

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The liver and the lung are the most frequent location of thoracic hydatid cyst. Mediastinal hydatid cyst (MHC) is extremely rare and accounts for only 0.1% of all localizations of hydatid cyst. We describe 2 cases of MHC. In the first patient, the MHC was revealed by recurrent hemoptysis, CT scan and MRN showed multiple MHC with compression of the pulmonary artery (Fig 1). Surgical intervention demonstrates a unique multilocular MHC arising from the pulmonary artery with a false aneurysm. Pneumonectomy was done and postoperative evolution was poor with development of post-pneumonectomy syndrome. The second patient presented with a cervical mass. Chest radiography showed cervico-mediastinal opacity. CT scan demonstrated a lobulated mass with thin septations suggesting a cyst lymphangioma. Fine needle aspiration of this mass showed a clear fluid with scolices. The patient underwent cystectomy and post-operative evolution was uneventful.



MRN: Multiple MHC with compression of pulmonary artery.

Positive diagnosis and location of MHC are difficult to specify especially when it is complicated. It exposes to the risk of rupture and erosion of mediastinal structures.

#### E128

##### Legionellosis in patient treated with TNF inhibitors. About 2 cases and literature review

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Rheumatoid arthritis, a chronic, systemic, inflammatory autoimmune disease, has as its primary target the synovial tissues. When the disease is unchecked, it leads to substantial disability and premature death. Recent advances in understanding the cytokine networks that are responsible for the ongoing inflammatory response in rheumatoid arthritis have led to the successful use of therapies that target tumor necrosis factor  $\alpha$  (TNF $\alpha$ ) and interleukin-1. TNF $\alpha$ . Whether the new TNF inhibitors increase the risk of infection is a matter for debate since the drugs have been associated with a change in the spectrum of infections. Serious bacterial infections, tuberculosis, atypical mycobacterial infection, aspergillosis, histoplasmosis, coccidioidomycosis, listeriosis, *Pneumocystis jirovecii* pneumonia, cryptococcal infections, cytomegalovirus, and other infections have occurred, and such infections may be more common among patients 65 years of age or older than among younger patients. The background risk of serious infection is approximately twice as high among patients with rheumatoid arthritis as among those without this condition; Such observations are congruent with animal studies showing that TNF is important for granuloma formation and preventing the reactivation of latent tuberculosis or intracellular infections.

We report 2 cases of legionella lung infection in patients treated by anti-tnf. In the second part we discuss relations between the bacteria and the treatment with review of the literature.

#### E129

##### The analysis of efficiency of amoxicillin/clavulanate (AC) usage at inpatients with community-acquired pneumonia (CAP)

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To estimate clinical efficiency and safety of AC at inpatients with CAP results of treatment of 208 patients were analyzed. The average age of patients was 46,8 $\pm$ 1,96 years, men - 102 (49,0%), women - 106 (51,0%). Average duration of hospitalization was 15,2 $\pm$ 2,5 day. Comorbid diseases (heart failure, COPD, diabetes mellitus) had 39,8% ones. CAP was complicated by pleural effusion, empyema, abscess at 35,2%. Pathogen was revealed at 50 (24%) patients (*S. pneumoniae* - 32, *H. influenzae* - 8, *S. aureus* - 6, *K. pneumoniae* - 4). AC was prescribed as a switch therapy of 88,6%. In the beginning of treatment AC was entered IV in a daily dose 3,23 $\pm$ 0,09 g during 4,8 $\pm$ 0,3 day. Then the patients were switched to oral AC, in an average daily dose 1,54 $\pm$ 0,12 g during 8,3 $\pm$ 2,4 day. AC with other antibiotics was prescribed of 33% (Ciprofloxacin+AC - 20,3% - may be correct combination, Cephalosporins+AC - 10,1%, AC+penicillins - 2,5% - incorrect combinations). After antibiotic therapy chest pains, crepitations disappeared; cough, purulent sputum, breathlessness significantly decreased (p <0,001). Successful outcome was at 88,6%. IV prescribing AC in dose 4,56 $\pm$ 0,08 g/day was ineffective at 11,4% during 4,7 $\pm$ 1,2 days. They had complications of CAP (abscess, empyema). AC was replaced with other antibiotic. We didn't watch any adverse events. AC was clinically effective and safe antibiotic of a choice for empirical treatment CAP at inpatients. It was prescribed by switch therapy in most cases. Clinical failures of CAP treatment by AC were connected with late diagnostics and development of complications.

#### E130

##### The peculiarity of etiological agents of community-acquired pneumonia depends on the severity

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**The aim** of this work is to evaluate the peculiarity of etiologic agents in patients with community-acquired pneumonia (CAP) depends on the severity.

**Methods:** 89 patients with chest X-ray confirmed diagnose of CAP was enrolled. We performed the clinical and laboratory data. Patients were classified according to the PORT score. We divided the patients into 2 groups (G): 1G the pts of I-II risk classes and 2G the pts of III-IV risk classes. Bacteria were cultured from the sputum. Atypical bacteria were detected in sputum by polymerase chain reaction.

**Results:** Etiologic diagnosis was obtained in 42,7% of pts and there were 49 isolates. At the 1G were 31 (34,8%) pts and 9 bacteria were found. 58 (65,2%) pts were in the 2G and 40 bacteria were found.

Table 1

Microorganisms	n=49 (%)	1G, n (%)	2G, n (%)
<i>Str. pneumoniae</i>	28.6	2 (22.2)	12 (30.0)
<i>H.influenzae</i>	10.2	1 (11.1)	4 (10.0)
<i>St.aureus</i>	10.2	0	5 (12.5)
<i>Kl. pneumoniae</i>	10.2	1 (11.1)	4 (10.0)
<i>Enterobacter spp.</i>	12.2	1 (11.1)	5 (12.5)
<i>Mycoplasma pneumoniae</i>	18.4	2 (22.2)	7 (17.5)
Others	10.2	2 (22.2)	3 (7.5)

**Conclusions:** 1. *Str. pneumoniae* was the leading cause of pneumonia. 2. The gram-negative agents (*Kl. Pneumoniae*, *Enterobacter spp.*) and *St.aureus* were the most frequent pathogens in patients with severe CAP with comorbidity. 3. The etiologic diagnosis is least frequent in outpatients, which confirms the inexpediency of microbiological testing. These results might represent local data about the pathogens in pts with severe CAP that can influence on the choice of empiric antimicrobial treatment.

#### E131

##### The etiology and antimicrobial drugs resistance of microorganisms in patients with community-acquired pneumonia

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**The aim** of our study was to determine the etiology and antimicrobial drugs resistance of microorganisms in hospitalised patients (pts) with community acquired pneumonia (CAP).

**Methods:** overall 89 pts (62 male) with CAP were enrolled. Sputum for microbiological investigation and antimicrobial drugs susceptibility were obtained. Atypical bacteria were detected in sputum by polymerase chain reaction.

A total of 49 pathogenic microbial strains were isolated in 38 (42,7%) pts and tested for their in vitro susceptibility to 6 common antimicrobial drugs: ampi-

cillin (AMP), amoxicillin/clavulanate (AM/CL), ceftriaxone (CFT), erythromycin (ERT), azitromycin (AZT), moxifloxacin (MXF).

**Results:** the most frequent isolated pathogens were: *S. pneumoniae* (14 is; 28.6%), *H. influenzae* (5 is; 10.2%), *St. aureus* (5 is; 10.2%), *Kl. pneumoniae* (5 is; 10.2%), *Pr. mirabilis* (1 is; 2.0%), *Enterobacter spp.* (6 is; 12.2%), *M. pneumoniae* (18.4%), others (8.2%). The mixed infection was in 11 (28.9%) pts and in six of them *M. pneumoniae* was found.

Table 1

Antibiotics	AMP	AM/CL	CFT	ERT	AZT	MXF
	I : R	I : R	I : R	I : R	I : R	I : R
<i>S. pneumoniae</i>	35.7:21.4	14.3:7.1	7.1:14.3	7.1:14.3	14.3:0	14.3: 0
<i>H.influenzae</i>	20.0:40.0	20.0:0	40.0:0	40.0:0	20.0:0	0:0

**Conclusions:** there is a trend to the resistance of *S. pneumoniae* and *H.influenzae* to AMP, but AZT and AM/CL have good activity to these microorganisms. These epidemiological data might represent a local guide for the choice of empiric antimicrobial treatment in people with CAP.

### E132

#### Significance of comorbidity in elderly patients with community acquired pneumonia

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According to international guidelines, presence of comorbidity and advanced age are considered as risk factors and are among the most important determinants of empirical treatment choices, in cases with community acquired pneumonia (CAP). Although being evaluated under the same category in guidelines, they may differ from each other in clinical and prognostic outcomes. Current study was designed retrospectively to explore the comorbidity profile and its effects on the course of disease.

Study included 115 (46 female, 69 male) hospitalized cases with CAP in the year 2005 with a age range of 65-82 (73.54 ± 5.65) of whom 79 had at least one of the major comorbidities, given in the CAP guidelines, and 36 had none. Forty-five patients had more than two comorbidities. Most common comorbidities were COPD (29.56%), cardiac disease (26.08%), hypertension (18.26%), renal disease (6.95%), diabetes (7.82%), previous malignancy (6.95%), and others (4.34%). Patients with COPD as a comorbidity had longer hospital stay than others (13.75 ± 4.12 and 10.80 ± 3.45, respectively). Patients with more than two comorbidities had more morbidity-enhancing factors in numbers (with physical examination and laboratory findings), and had longer hospitalization time than others (11.7 ± 3.5 ve 13.61 ± 4.2, respectively). During the study period 11 patients had died because of CAP and 7 of them had more than two comorbidities. There was no difference in terms of type and intensity of antibiotics used. We took p<0.05 as the level of significance.

We conclude that comorbidity, especially COPD, is an important factor resulting in longer treatment duration and may effect prognosis in patients with CAP.

### E133

#### The investigation of infectious agents and their antibiotic sensitivities in COPD exacerbations

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**Aim:** It is aimed to find out which infectious agents are responsible for COPD exacerbations and their antibiotic sensitivity in Goller Region.

**Material and Methods:** Demographic features, sputum Gram stain and culture results of 59 patients suffering from COPD exacerbations were assessed retrospectively.

**Results:** The study included 51 males and 8 women (mean age: 67.54±9.39) who had a COPD history with an average of 10.9 years. The mean FEV<sub>1</sub> values were 39.96% (10-69.5% predicted). The agents, *Streptococcus pneumoniae* (33.9%), *Klebsiella pneumoniae* (3.4%), *Klebsiella oxytaca* (3.4%) and *Acinetobacter* (3.4%) were grown in sputum cultures of 26 patients (44.1%). There were no growth in 55.9% of the patients' cultures and sputum Gram stain of them revealed normal upper airway flora. Twenty seven % of the patients had moderate COPD, while the others had severe (40.7%) and very severe (32.2%)COPD. NIMV was added to the medical treatment of 14 patients (23.7%) in acute exacerbations. The antibiograms were performed for penicillin, amoxicillin clavulanate, ciprofloxacin, cefepim, cefuroxime and piperacilline/tazobactam. In all strains, *S. pneumoniae* had moderate resistance to cefepim, *K. pneumoniae* was resistant to cefuroxime and piperacilline/tazobactam, *Acinetobacter* was resistant to cefuroxime and cefepim. No resistance to ciprofloxacin was detected.

**Conclusion:** Since *S. pneumoniae* was the main agent for COPD exacerbations in our study, we assume that β-lactam/β-lactamase inhibitors and 2<sup>nd</sup> generation cefalosporins are appropriate therapies for acute exacerbations and ciprofloxacin can be safely administered in COPD exacerbations due to sensitivity of all grown strains.

### E134

#### Comparative analysis of clinical and epidemiological characteristics of patients with CAP (community-acquired pneumonia) treated as inpatients and outpatients

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The total of 4,647 patients (pts) were treated at the Institute of Pulmonary Diseases in 2004, out of whom 365 (7.66%) were treated for CAP. In the same period, 249 CAP pts underwent outpatient treatment. Out of the total number of hospitalized pts who were aged between 18 and 92 years (mean age 62), 1/3 was ≥ 65.

Out of the total number of inpatiently treated cases, 37 (10.39%) were treated at the Intensive Care Unit, while 3/4 of the pts (273) were classified into the risk groups IV and V.

One or more accompanying diseases were evidenced in 268 (75.28%) cases: cardiovascular in 34.83%, COPD in 31.46%, diabetes in 16.57%, other diseases in 16%. 36.23% pts had several associated diseases. Out of 249 outpatiently treated pts 48 (19.27%) were ≥ 65 years. Multilobular pneumonia was evidenced in 12 (4.81%) cases, segmental-lobular in 199 (79.91%). Non-pulmonary symptoms were evidenced in 22% of the outpatients vs.42% of the inpatiently treated cases. The associated diseases were evidenced in 121 (48.59%) pts: cardiovascular 7.2%, COPD 15%, diabetes 7%, malignancies 2%. The total of 76% of pts were classified into risk groups I and II.

Our analysis evidenced that CAP is the most frequent in the fifth decade of life. 32% of the hospitalized pts were ≥ 65 years, with multilobular infiltrates found in 38%, severe clinical picture (3/4 of the pts in the risk groups IV and V) and associated diseases in 75.28% of the pts.

Application of criteria for prediction of severity of pneumonia and lethal outcome may help to the physicians in careful evaluation and decision-making on the need for hospitalization.

### E135

#### False positive chlamydia pneumonia IgM assay induced by rheumatoid factor

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**Background:** Chlamydia pneumonia is a respiratory pathogen in community. Microimmunofluorescence (MIF) serology is commonly used in the diagnosis of chlamydial infections. In the MIF assay, chlamydia pneumonia elementary bodies were used to detect C. pneumonia IgG and IgM.

**Methods:** Paired serum samples from 286 patients (217 outpatient and 69 inpatient) with respiratory illnesses and 25 patients who were known case of rheumatoid arthritis but without signs and symptoms of respiratory illness were collected and stored at -85 prior to to used in the MIF assay.

**Results:** 204 (71%) of 286 patients were C. pneumonia antibody positive and 64(22%) had MIF test result indicating recent infection; 11 showed fourfold increase in IgG titer, 18 had IgG titer of greater than or equal to 1:512, and 41 had IgM titer of greater than or equal to 1:16. 78% of C.pneumonia IgM -positive patients had circulating rheumatoid factor (RF) by rheumatoid arthritis latex assay. RF positivity increased with age. after absorption with anti-human IgG, all C.pneumonia IgM-positive sera became IgM- negative in the MIF assay. In 25 rheumatoid arthritis patients, 14 were C.pneumonia IgG positive and IgM positive as well. Absorption of IgG from these RF-containing sera invariably resulted in disappearance of reactivity in the MIF IgM assay.

**Conclusion:** We conclude that with age the serologic diagnosis of recent C.pneumonia infection becomes increasingly prone to false-positive results unless sera are routinely absorbed prior to MIF IgM testing.

### E136

#### Commonly acquired pneumonia (CAP) in the elderly patients

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We analyzed the history of diseases of the patients with commonly acquired pneumonia (CAP)(n=100), who over 65 years old (x 72.5± 11.9). The patients were treated at the Clinic for lung disease in Knez Selo. The assessment of the levels of CAP were done according to the guidelines of British Thoracic Society (Scor CURB 65), and all the patients were treated in the Clinic Department. The acute beginning with higher temperature were in 52% of patients, and the respiratory symptoms were cough with expectoration (59%) and dyspnea (30%). Mental disorders appeared in 12% of the patients. The bacteria in sputum or fiber aspirate were found in 48% patients: *S.pneumonia* 18%, Gram negative enteric bacteria 17% (*Proteus*, *Paeruginosa*, *Serratia*) and *Staph. aureus* 8%.The blood culture was done in 8 patients, but it was negative in all patients. The hypoxemia found in 78% patients (pO<sub>2</sub> 55+ 9,6mmHg). The patients had co-morbidities (cardiomyopathy 32%, COPD 25%, diabetes mellitus 17%, arterial hypertension 15%, arrhythmia of cords 12% and etc.) The treatment lasted from 6-46 days (23,2+ 18,1) and exitus letalis were found in 6 patients (6%). We were found a significant correlation between the age of the of patients and mental disorders (r= +0,412, p<0,05), between the longer treatment and co-morbidities (r= 0,399, p<0,05) and mortality

and the patients who were treated without antibiotics before hospital treatment ( $p < 0.05$ ).

### E137

#### Bronchial brush-biopsies peculiarities in dependence on different pathogens at COPD exacerbation

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**Purpose:** To define bronchial brush-biopsies cytograms peculiarities in dependence on infectious agent species associated with COPD exacerbation.

46 COPD exacerbation patients were examined. Cytological research of brush-biopsies were taken at bronchoscopy was made; the quantitative bacteriological sputum research, definition of diagnostic main IgG, IgM levels to *C.pneumoniae*, *M.pneumoniae* in serum by means immuno-assay method, definition of their genomes fragments in sputum by means of PCR method were made. Kruskal – Wallis criterion was used.

Infectious character of COPD exacerbation was confirmed at 36 patients. Typical ciliated cell count in H.influenzae (HI), *C.pneumoniae* (CP), *M.pneumoniae* (MP) infections was  $14.6 \pm 2.2\%$ ,  $15.1 \pm 2.5\%$ ,  $15.5 \pm 3.0\%$ , that was lower ( $p < 0.05$ ), than in *S.pneumoniae* (SP), *M.catarrhalis* (MC) infections ( $32.7 \pm 3.6\%$ ,  $37.1 \pm 5.1\%$ ). Reserved cell count was higher ( $p < 0.05$ ) in MP ( $12.0 \pm 2.7\%$ ), than SP HI, CP, MC ( $5.3 \pm 1.0\%$ ,  $8.4 \pm 1.6\%$ ,  $8.9 \pm 2.0\%$ ,  $5.0 \pm 2.4\%$ ). Scumous methaplasted cells was higher ( $p < 0.05$ ) in HI, CP, MP ( $6.3 \pm 1.2\%$ ,  $7.5 \pm 1.2\%$ ,  $7.4 \pm 1.6\%$ ), than in SP, MC ( $2.5 \pm 0.9\%$ ,  $2.3 \pm 0.7\%$ ). Dystrophical epithelial cell count was higher ( $p < 0.05$ ) in HI, CP ( $56.6 \pm 2.1\%$ ,  $54.9 \pm 2.9\%$ ), than SP, MP, MC ( $46.9 \pm 3.0\%$ ,  $44.7 \pm 3.6\%$ ,  $38.9 \pm 4.3\%$ ). Macrophages count was higher ( $p < 0.05$ ) in MP ( $55.1 \pm 0.9\%$ ) than in SP HI, CP, MC ( $33.7 \pm 3.7\%$ ,  $27.4 \pm 3.0\%$ ,  $25.3 \pm 3.5\%$ ). Neutrophiles count was higher ( $p < 0.05$ ) in HI, CP ( $50.3 \pm 4.5\%$ ,  $56.5 \pm 4.2\%$ ) as compared with SP, MP, MC ( $36.0 \pm 4.0\%$ ,  $30.8 \pm 4.7\%$ ,  $34.8 \pm 4.6\%$ ).

Infectious agent species influence on degree of bronchial mucosa damage.

### E138

#### Bronchial limitation and infectious pathogens in COPD exacerbation

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103 patients with COPD exacerbation were inspected, mean age is  $51.9 \pm 14.1$  years old, mean duration of disease is  $16.5 \pm 10.3$  years, mean FEV1 is  $58.0 \pm 19.8\%$  of predicted. Spirography, Gram bacterioscopy of sputum, quantitative bacteriological sputum research, definition of *C.pneumoniae*, *M.pneumoniae* antigens in sputum by PCR method, Ig G, Ig M levels to them by immuno-assay method. Kruskal-Wallis and Spearman criteria were used.

Infectious character of COPD exacerbation was revealed in 70% of patients. Mono- and mixt-infection rates were 47% and 23% accordingly. *S.pneumoniae* was prevailing (41.7%), whereas H.influenzae, *M.catarrhalis*, *M.pneumoniae*, *C.pneumoniae* rates were not differed (14.5%, 12.6%, 16.5%, 16.5% accordingly). FEV1 data were analysed in dependence on infection. FEV1 data were not reliable differed both in infectious and noninfectious COPD exacerbation ( $60.9\% \pm 19.7\%$ ;  $52.0\% \pm 19.3\%$  accordingly,  $p = 0.11$ ), and in mono- and mixt-infection ( $61.2\% \pm 18.9\%$ ;  $60.5\% \pm 21.3\%$ , accordingly,  $p = 0.84$ ). FEV1 data were analysed in dependence on different pathogens of infectious process. Lowest FEV1 data were in H.influenzae infection ( $44.8\% \pm 10.0\%$ ;  $p < 0.05$ ), highest FEV1 data were in *M.catarrhalis* infection ( $74.9\% \pm 7.4\%$ ;  $p < 0.05$ ).

Analyses of exacerbation etiology was made in different COPD stages. At IIa stages noninfectious character of COPD exacerbation was reliable rarely ( $p < 0.001$ ), *S.pneumoniae* infection was more frequent ( $p < 0.05$ ).

Data about correlation between infectious process of COPD exacerbation and FEV1 were obtained.

### E139

#### Structure of the basic pathogens of bacterial bronchitis and pneumonia in hospitalized patients in Belarus

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The investigation included 1365 adult patients with bronchitis and pneumonia, hospitalized in 2005 in Research Institute for Pulmonology and Phthisiology, Minsk, Belarus. Samples of sputum, bronchoalveolar lavage, bronchial washings, pleural liquid were used as materials for microbiological research. Isolation and identification of microorganisms were carried out by standard microbiological methods. The concentration  $\geq 10^5$  CFU/ml was considered significant. Bacterial respiratory infections were identified in 46.6% of patients. The prevalence of bacteria isolated is shown in the table below.

Bacteria were also isolated from 675 patients (49.5%) in concentration less than  $10^5$  CFU/ml. There was no growth of bacteria in materials from 3 patients (0.2%). In 52 patients (3.8%) the mixed-infection: *Staphylococcus* spp. and gram-negative bacteria (*P.aeruginosa* or enterobacteria) was revealed.

Gram-positive bacteria prevail in etiology of bacterial bronchitis and pneumonia in adult hospitalized patients in Belarus. It was isolated from 26.4% of patients,

Microorganism	Prevalence, %	Microorganism	Prevalence, %
<i>S. aureus</i>	10.8	<i>E. coli</i>	2.5
<i>Streptococcus</i> spp.	7.0	<i>Enterobacter</i> spp.	1.0
<i>P. aeruginosa</i>	5.9	<i>Citrobacter</i> spp.	1.0
<i>Klebsiella</i> spp.	5.3	<i>Acinetobacter</i> spp.	0.9
CNS	4.5	<i>Proteus</i> spp.	0.6
<i>S. pneumoniae</i>	4.0	<i>Enterococcus</i> spp.	0.1
<i>Neisseria</i> spp.	3.0		

gram-negative - from 20.2%. The pathogens caused respiratory infections at hospitals more often were: *S. aureus*, *Streptococcus* spp., *P. aeruginosa*, *Klebsiella* spp., *coagulase-negative Staphylococci*, *S. pneumoniae*.

### E140

#### Diagnostic value of nonproteic sulphur in pulmonary infections

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**Introduction:** The non-proteic sulphur in the serum was determined in order to see the modifications of the sulphur anion in infectious pulmonary processes.

**Materials and method:** 98 patients with pulmonary infections were studied, grouped as follows: 35 patients with pneumonia, 42 patients with pulmonary abscess, and 21 patients with empyema.

**The determinations** were made when the patients were hospitalized and after three weeks from the patients' visit to our clinic. The non-proteic sulphur was determined from the serum, by using the nephelometric method.

**Results:** table 1.

Table 1

	Pneumonia (medium values) mg%	Pulmonary abscess (medium values) mg%	Empyema (medium values) mg%
	At hospitalization	9,5	33,7
After three weeks from the hospitalization	6,8	20,9	22,5

Normal values of the proteic sulphur in human serum = 5-9mg/100ml.

**Conclusions:** 1. The non-proteic sulphur records significant values in the pulmonary infections complicated with abscesses processes and necrotic processes with pulmonary tissue destruction. 2. Sensitivity = 92%, Specificity = 88%. 3. The determination of non-proteic sulphur may constitute an indicator in the diagnosis of the infectious pulmonary processes.

### E141

#### Etiologic and clinical characteristic of hospitalized patients with CAP

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A retrospective analysis of 598 patients with CAP hospitalized in the clinic was done for the period 2002-2005. Men were 292 (48.83%), women 306 (51.17%). The patients were divided into two subgroups according to the presence of concomitant diseases and risk factors (diabetes mellitus, congestive heart failure, immuno suppression). Pneumonias with normal clinical course and that with complications were observed in both subgroups.

Only 148 (24.75%) patients had etiologically proven pneumonia with the prevalence of the bacterial agents (83.78%).

Complicated pneumonia was registered in 198 patients (33.12%). The frequency of the microbiological verification in those cases was not significant to that of patients with normal course of the disease (26.26% and 24.00%).

A significantly higher frequency of nonbacterial pneumonias in patients with normal course of the disease, in comparison with that with complications was observed (21.88% and 5.77%).

The highest relative part of nonbacterial pneumonias (24.24%) was registered in the subgroup of the patients with normal course of the disease without concomitant diseases. There was a prevalence of Gram (+) bacterial agents (61.54%) in the same subgroup, while in all other groups there was no significant difference between the Gram (+) and Gram (-) isolated bacteria.

### E142

#### Pulmonary hydatid cyst embolisation successfully treated with albendazole

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**Introduction:** Pulmonary hydatid cyst embolisation is an extremely rare complication of cardiac or hepatic echinococcosis.

**Case report:** A 51 years old male patient, heavy smoker, working as a farmer was admitted to our department for chest pain. His past medical history revealed surgical excision of a hepatic hydatid cyst at the age of 40 and an exsudative pleural effusion of unknown aetiology. On admission, the physical examination was

normal, but the chest X ray showed multiple rounded, small, masses disseminated in both lungs associated with a localised, left pleural thickening.

The laboratory evaluation, the bronchoscopy as well as the ECG were Normal. Titer of anti-echinococcal antibodies was positive. The Cardiac Ultrasonography did not reveal any intra cardiac cyst. A thoracic Angioscan was realised, showing a partial occlusion of the distal branches of the left pulmonary artery by cystic lesions, associated with multiples disseminated cysts in both lungs. Non operative treatment was suggested and the patient did well after four cycles of albendazole. **Conclusion:** The importance of the present case lies in the fact that medical therapy alone may be suggested for small pulmonary hydatid cysts and plays an important role in the regression of these cysts. So medical therapy can improve the quality and length of survival, even when not curative.

#### E145

##### **Bacteriological profile of the community acquired pneumoniae (CAP) in a respiratory disease department in Tunisia**

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**Aim:** To clear up the bacteriological features of the CAP.

**Patients and methods:** 100 patients admitted for CAP diagnosed on radio-clinical data and enrolled on 4 years.

**Results:** The mean age of the patients is 67±11 years. 70% of the patients have acute pneumoniae, 18% have bronchopneumoniae and 12% have interstitial pneumoniae. The identification of the involved pathogen was possible in 64% of the patients. The sputum specimen was positive in 37% of the patients, the most frequent isolated microorganisms are Haemophilus Influenzae, pneumoniae streptococcus and pneumoniae Klebsiella. The sputum specimen seems to identify more easily the pathogens in the patients who haven't been previously treated by antibiotherapy (50% vs 29%; p=0.1). The output of this diagnostic procedure is poor for the class I (23%) and V (0%) of the Fine's score: it's more efficient for the class II (35%), III (50%), and IV (38%) of Fine. The protective specimen brush through flexible bronchoscopy was positive in 27% of the cases.

The initial empirical antibiotherapy was changed in 18% of the cases according to the results of the antibiogram in 9% of these and after a worsening evolution in 9% of these.

The outcome was favourable in 82% of the cases. The complications occurred include pleural effusion (9%), radiological extension (6%), and respiratory distress (3%). No death is noted.

**Conclusion:** The management of the CAP based on the radio-clinical aspects and the severity of the illness seems to be effective. We note that the bacteriological findings are poorly contributive for the advanced classes of Fine.

#### E146

##### **The efficiency of levofloxacin in the therapy of community acquired pneumonia**

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**Background:** the study of clinico-biological efficiency and tolerance of levofloxacin in the therapy of patients with Community Acquired Pneumonia (CAP).

**Methods:** the authors have studied a group of 26 patients hospitalized in the Clinic of Infectious Diseases Timisoara with CAP. The positive diagnosis based on clinical elements (acute debut, fever, frisson, chest pain, cough with pus expectoration, dyspnea, crepitan rales, etc.), biological (ESR, Leukocytosis, Fibrinogen, CRP, sputoculture) and paraclinic elements (radiography, spirometry). All patients have been treated with levofloxacin (Tavanic Grup Sanofi Aventis 1 cp=500 mg, 2x1cp/day), for 10-14 days, associated with vitamine C, antithermics, expectorants and anti-inflammatory of non-steroid type.

**Results:** for the appreciation of the clinico-biological efficiency, the clinical modifications have been registered daily in the individual patient file. At the end of the treatment, 20 patients (84,61%) were declared clinically (no fever, no cough, no expectoration, no repose dyspnea) and biologically (parameters monitored in normal limits) healed; 2 patients (7,69%) presented a partial improvement of the symptoms and signs of infection and 2 patients (7,69%) with diabet mellitus and cirrhosis, who needed supplementary therapy with aminoglycosydes. No patient needed changing of the therapy with antibiotics previously established. The registered adverse effects were reduced and transitory (nausea, vomiting, headaches, diarrhea).

**Conclusion:** by its extended antibacterian spectrum, clinico-biological efficiency, high compliance and reduced adverse reactions, levofloxacin (Tavanic) remains an efficient alternative therapy to the patients with CAP.

#### E147

##### **BAL in pneumonia**

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The medical findings of neutrophil alveolitis is a characteristic in the patients with bacterial pneumonia. It is well known that many factors have an influence on lym-

phocyte recruiting, for example IL-1 and C5a which are increasing considerably at bacterial pneumonia.

**The results:** BAL was done in the case of 19 patients with bacterial pneumonia. According to the clinical and radiological stage of illness this group of patients was divided into two subgroups.

a) The first subgroup is consisted of patients (n=7) with the evident clinical and radiological medical findings of pneumonia. The number of cells ranges from 157±103 x 10<sup>4</sup> /ml. PMN were represented in 65±46%. The significant rise (p<0,05) of the total number of cells, lymphocytes, T-lymphocytes and PMN was recorded in comparison with the group of healthy patients (n=20).

The total number of alveolar macrophages didn't differ sharply from the group of healthy patients (p>0,05). The average value in the lavage of patients with pneumonia is IgG=0,3060 g/L and IgA (=0,2100 g/L) which is considerably greater (p<0,5) comparing with the group of healthy patients (0,1707 g/L; 0,0921). A relevant difference (p< 0,05) was also recorded in the level of IgA (0,2100/0,0921). b) The second subgroup is consisted of patients with the evident radiological and clinical resolution of pneumonic changes (n=12). The number of cells is 31±17 x 10<sup>4</sup> /ml. T-Ly were represented in 29±8% which is highly significant and even more (p<0,01) comparing with healthy patients (n=20).

**Conclusion:** In the phase of resolution neutrophils, in relation to lymphocytes, pull back more rapidly from alveolars and it indicates that T-Ly have a specific role in the acute inflammation.

#### E148

##### **Haemoptysis and lung condensation in an HIV patient**

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*Aspergillus* is responsible for a large number of diseases, irrespective of the individual immune status. In spite of the increase in the number of *Aspergillus* cases in immunodepressed patients, knowledge of its pathogenesis, diagnosis and therapy is still at an early stage.

The authors present a case of a 53 year-old black male patient born in Cabo Verde, living in Portugal for the past 30 years, with an Acquired Immunodeficiency Syndrome diagnosis since 1997.

On October 2004, the patient begins with asthenia, adynamia, weight loss, non-quantified fever, cough with bloody sputum for which he was admitted, in December, to Desterro Hospital for suspicion of pulmonary tuberculosis. After thoracic-CT scan showing an image compatible with Aspergilloma in the left lung field and an *Aspergillus* positive serology, a diagnosis of disseminated Aspergilosis was considered and therapy with Voriconazol was administrated for 20 days and the patient was released in March of 2005.

In May of 2005, the patient was admitted again and later (June 2005) transferred to the Pulido Valente Hospital due to worsening of the clinical symptoms (persistent cough with bloody sputum) and a condensation image with cavitation in the left superior lobe in the thoracic CT scan. Bronchial fibroscopy with transbronchial biopsies fungi hyphae and spores compatible with *Aspergillus* infection. The patient reintiated therapy with Voriconazol, which cause clinical improvement. Considering the clinical presentation and evolution a diagnosis of chronic necrotizing Aspergilosis is likely. The authors discuss the several diagnosis methods and therapy for *Aspergillus* in patients with Human Immunodeficiency Virus 1 (HIV) infection.

#### E149

##### **A neurosarkoidosis case**

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Sarkoidosis is a granulomatosis disease with unknown etiology and multisystemic pattern. As the other systems were often effected by sarkoidosis, central nerve system is effected as an incidence of %7 and only at %5 of these patients have neurological findings and symptoms. Be cause of this reason, we want to present our female patient who had applied our clinic with the symptoms of fever, cough, sputum and headache and had been diagnosed as neurosarkoidosis. In her chest X-ray and thorax computed tomography, there were bilateral hilar and mediastinal lymph nodes and paranchimal multiple nodules. The fiberoptic bronchoscopy was normal; and we had the diagnosis with an open lung biopsy. In the cranial MR which was taken because of her severe headache, there were hiperintense lesions in the bilateral frontoparietal regions, in subcortical and deep white matter and neurosarkoidosis diagnosis was thought by neurology department by this appearance. 40 mg/day metilprednisolone therapy was started and after one-month treatment, symptoms and radiological findings regressed. Neurosarkodosis is seen rarely and our patient had interesting cranial MR findings so we want to present this case.