

## Infecção

### OXYGEN DESATURATION DURING EXERCISE AS PREDICTOR OF SUBCLINICAL LUNG DISEASE BY *P. Carinii* IN ASYMPTOMATIC HIV-INFECTED PATIENTS.

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Although prophylaxis has led to a decline in the frequency of *P. carinii* pneumonia among HIV-infected patients, the mortality associated with PCP ranges from 10% to 30%. We studied 11 patients infected by HIV without AIDS. Subjects underwent chest X-ray, blood gas sampling, pulse oximetry before and during exercise, and induced sputum examination for *P. carinii*. The subjects were divided in 2 groups based on SO<sub>2</sub> behavior during exercise. Oxygen desaturation during exercise was observed in 15 (37%) of the subjects (group 1), and 11 (73%) of them had *P. carinii* detected in induced sputum. In 26 subjects (63%) oxygen desaturation did not occur during exercise and *P. carinii* was absent in all. We concluded that oxygen saturation during exercise may be a sensitive method for prediction of subclinical lung diseases by *P. carinii* in asymptomatic HIV-infected subjects.

### NEUTROPHIL AND EOSINOPHIL POLYMORPHONUCLEAR LEUKOCYTES IN HUMAN AND EXPERIMENTAL BRONCHIECTASIS (Bx).

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Neutrophil (NPMNL) and eosinophil (EPMNL) polymorphonuclear leukocytes are associated with capacity to damage bronchial wall components in the presence of bacterial infections (Jones et al., Chest 1985;79:301) and acute inflammation (Azzawi et al., Am Rev Resp Dis 1990;142:1407) of lungs, and epithelial hyperplasia (EP) is present in both conditions. EPMNL are perceived not to be activated in the presence of bacterial infection. We have found significant numbers in the bronchiectatic bronchial wall of an *in vivo* Exp model of progressive Bx. (D. Guerreiro et al., Eur Resp J 1998;12:347s). So far, no comparison has been made between the relative numbers of both types of PMNL in human (H) & Exp Bx lung bronchial wall. For H: 12 normal (N; n = 6) & Bx H specimens (n = 6) were oriented, sectioned & stained with endogenous peroxidase and carbol chromotropic to identify NPMNL & EPMNL respectively. Exp.: 7 groups (Gp), of 5 rats each, provided a test (T, Pal + L), & controls, produced with the aid of 10<sup>8</sup> *Pseudomonas aeruginosa* and processed as above. Only the T Gp developed progressive Bx. The no. of PMNL/0.22mm<sup>2</sup> with no less than 5x10<sup>3</sup> being counted and using Kruskal-Wallis analysis of variance. H (Bx v.N): NPMNL = 699 ± 108 v. 9 ± 4; EPMNL = 88 ± 51 v. 1 ± 1; EP = 1048 ± 75 v. 554 ± 156. Exp (Bx v. N): NPMNL = 465 ± 81 v. 83 ± 14; EPMNL = 28 ± 6; EH = 160 ± 13. We have identified, quantitated & compared both PMNL & EP cells in the bronchial wall of natural & Exp. progressive Bx. These may be involved in the pathogenesis & and progression of Bx.

### HIGH RESOLUTION COMPUTED TOMOGRAPHY AND SPIROMETRY IN PATIENTS WITH PARACOCCIDIOIDOMYCOSIS.

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Paracoccidiodomycosis is a systemic mycosis with high incidence in South America. The patients are infected mainly by inhalation route

and the lungs are involved in the majority of the cases, but can occur in any site of the body. Routinely chest roentgenogram had showed pulmonary infiltrate or nodules in almost all cases. We suppose to find in simply spirometry decrease in pulmonary volume and, as consequence, a restrictive defect. The proposition of this is to correlate the findings of HRCT with spirometry. Methods: we studied 31 patients with proven pulmonary paracoccidiodomycosis during the last 4 years. The mean age was 49.2 all males with expectation of 2 females, 29 smokers and 2 non smokers. And 1 non white. All patients were studied by chest X-ray and HRCT by three experienced readers and simply spirometry. Results: in 11 patients (35.4%) the spirometry was normal showing in HRCT probably early lesions multiple parenchymal infiltrates with ground glass opacities in 10% of the cases. Micro or macronodules with or without cavitation in 14% and peripheral inflation in 35% of the patients, some axial interstitial thickening probably due to lymphatic spread in 58%. In 18 patients (58%), it showed some obstruction on air flow. 7 patients (22.5%) with mild obstructive disease. 2 patients (6.4%) with moderate obstruction. With moderate severe obstruction, 7 patients (22.5%). With severe obstruction, 8 patients (25.8%). All patients showed some abnormalities in chest roentgenogram and with more details in HRCT. Peripheral blebs (para-septal emphysema) were demonstrated with 70% of the cases. Hyperinflation in 35%. Scattered nodules and infiltrates in 45%. Acinar opacities in 38.7%. Thickening of axial interstitium in 32.2%. Pleural thickening in 29%. Only 2 patients had a restrictive defect, 1 mild and 1 with moderate abnormality. In HRCT, besides the lesion described early, we found some honey combing in localized areas. Conclusions: the lesions of Paracoccidiodomycosis are better seen in HRCT. Probably the initial lesions are ground glass in appearance. With some acinar lesions. Some thickening in axial interstitium probably due lymphatic spread. At this time the spirometry would be normal or mild disease. As the disease spreads out you can have all sorts of lesions in HRCT. And with destruction of pulmonary tree we will have hyperinflation and subpleural blebs and/or thickening of axial interstitium. At this time the spirometry will show some obstruction of the air flow. If they are severe enough, the defect will be moderate or severe. With the evolution of the disease you can have thickening of peripheral interstitium and/or some honey combing. At this time the obstruction will be very severe. Or if there is a volume reduction, the spirometry will show restrictive defect, in 2 patients it had showed this.

### EFFECTS OF PREDNISOLONE ON THE COURSE OF BRONCHOLITIS AND THE REDUCTION OF POSTBRONCHOLITIS WHEEZING.

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Introduction: although systemic use of corticosteroids has not generally improved acute outcome of bronchiolitis in infants, to our knowledge, there has been no clinical trail to evaluate the effectiveness of these drugs in reducing postbronchiolitis wheezing. Study design: a prospective, randomized, controlled trail was performed. Patients: 42 infants with clinical diagnosis of bronchiolitis were admitted to the University Hospital of Fundação Universidade do Rio Grande, Brazil. Methods: the patients were randomly allocated prednisolone (1 mg/kg/day for 5 days) plus intervention or routine intervention alone. The patients were followed in our clinic 1, 3, 6 and 12 months after dis-

charge. All the clinical evaluations were done by the same two investigators, without knowledge of treatment regime. Acute outcome variables included days in oxygen therapy and days to resolution (normal respiratory frequency, absence of retractions and normal pulse blood oxygen saturation). Chronic outcome variable was presence of wheezing. Results: there were 22 patients in the prednisolone group and 20 in the control group. No significant differences were found between the two groups in terms of acute outcome variables during the hospitalization. Of 42 patients, only 18 (42.9%) had follow-up period over 6 months after discharge. The preliminary analysis of follow-up data in these patients had not showed significant differences in the incidence of postbronchiolitis wheezing between the two groups (62.5% in prednisolone group vs 70% in control group at 6 months after discharge). Conclusion: the preliminary results of this study did not demonstrate beneficial effects of prednisolone on the course of acute bronchiolitis and the reduction of postbronchiolitis wheezing.

#### DETECTION OF STREPTOCOCCUS PNEUMONIAE IN SPUTUM SAMPLES IN POLIMERASE CHAIN REACTION.

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Introduction: *Streptococcus pneumoniae* is major cause of community-acquired pneumonia. The bacteriologic methods used to diagnose these infections have been presenting very low accurate results, not identifying the responsible agent in about a half of the cases. The goal of this study is evaluate the polimerase chain reaction (PCR) for the detection of *S. pneumoniae* in sputum samples, comparing it with the conventional methods. Methods: sputum samples of one hundred patients with lower respiratory tract infection were collected and analyzed by gram stain and culture and subjected to PCR, using specific primers for the amplification of nucleotides sequences of the autolysin gene *lytA* of *S. pneumoniae*. Results: in 50 cases (50%) the gram stain and culture did not identify the presence of one specific pathogen, but only upper respiratory tract floras. *S. pneumoniae* was the most frequent infectious agent isolated by this methods, occurring in

14 patients (14%). PCR was able to detect the pneumococci in 13 of this cases and in more 9 additional cases (22%). Conclusions: this results show that PCR increased the diagnostic yield obtained by the conventional bacteriologic methods in 57.1%, and would be very useful to detect respiratory pathogens in clinical samples.

#### COMMUNITY-ACQUIRED PNEUMONIA IN OUTPATIENTS EPIDEMIOLOGICAL, CLINICAL AND RADIOGRAPHICS FEATURES BETWEEN ATYPICAL AND NO ATYPICAL PNEUMONIAS.

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Aim: to study the community-acquired pneumonia in outpatients: Identify the epidemiological, clinical and roentgenological features that permit to distinguish between atypical and no atypical pneumonia. Design: prospective cohort study was conducted in a teaching hospital. Patients and Methods: 129 patients were evaluated with clinical and radiographic diagnosis of pneumonia. Blood and sputum samples were obtained at beginning and at the end of the protocol (48 h and 21 days) for serological tests, blood cultures and Gram stain. The thorax Rx were reviewed by 3 independent observers. The patients were included when at least 2 observers agreed with radiogram criteria for pneumonia diagnosis and had all sorological tests. Results: 69 patients, with a mean age of 37 years old, were studied. The etiological diagnosis was defined in 34 (50%) of the patients. The etiological agents included: *Chlamydia sp*, 11 (16%) isolated cases; *M. pneumoniae* 7 (10%) cases. *Influenza A* was in 4 (6%) and *Legionella sp* in 4 (6%) patients. Mixed infections were also observed to *Chlamydia sp* and *M. pneumoniae* in 5 (7.3%) cases, *Chlamydia sp* and *Influenza B*, one (1.5%) case and another of *M. pneumoniae* and *Influenza A*. There were no differences between the groups to respiratory symptoms and signs. The three independent observers radiographic evaluation showed disagreement among them to types of pneumonia. Conclusion: we conclude that atypical pneumonia were due to atypical agents in 50% of the cases. There is no difference between atypical and no atypical pneumonia referring clinical, epidemiological and radiogram.