POSTERS COMENTADOS

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PC 001

FACING THE UNCERTAINTY OF ASTHMA CONTROL SURING PREGNANCY

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Key-words: asthma, asthma control, follow-up

Introduction and Objectives: Asthma is by far the most common chronic disease during pregnancy, with an estimated incidence ranging from 2,4 to 13%. The association of maternal asthma and perinatal outcomes has consistently been reviewed and bad asthma control has been recognised as a contributor to poor maternal and neonatal health. Our objective is to describe a population of pregnant asthmatic females regarding mainly asthma control and patients' behaviour towards medication in the course of pregnancy.
Methods: Retrospective study including pregnant women with asthma observed in Pneumology Outpatient Clinic of Loures Hospital between February of 2012 and September 2016. Epidemiological and clinical data was reviewed and statistically analysed.
Results: A total of 58 pregnancies (56 patients) were analysed. Mean age was 30,9 years old (sd 6,7), 50% (n=28) of patients had allergic rhinitis, 36% (n=20) were smokers and 55% of these kept smoking habits during pregnancy. Before pregnancy, 74% (n=43) of women were medicated and 37% (n=16) of these interrupted therapy when they knew about the pregnancy. Most of the patients were observed for the first time between weeks 9 and 21, a mean of 3,5 times. With respect to asthma control at the beginning of follow up, 55% (n=32) of cases worsened with pregnancy, 7% (n=4) got better and 22% (n=22) remained stable. As time went by the Asthma Control Test score calculated in each observation was progressively higher and therapy modification was less needed. The rate of outpatient clinic abandonment was 24% (n=14). Regarding disease exacerbations, 11 women went to the emergency department and 2 of these were admitted to the hospital.
Conclusion: We verified a larger than expected rate of therapy interruption and outpatient clinic abandonment, as well as a much higher rate of asthma worsening during pregnancy than that described on the literature, all of these signalling the lack of health education in our population. Nonetheless, the disease was well controlled on those patients with regular follow up, which highlights the importance of a proper clinical approach.

PC 002

WHAT IS THE INFLUENCE OF ORAL CONTRACEPTIVES IN ASTHMA? AN EVIDENCE-BASED REVIEW

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Key-words: Asthma; Oral contraceptives

Introduction: Asthma continues to be one of the most common chronic diseases in developed countries and is a major cause of morbidity and costs in health care. Defined as multifactorial, it results from the interplay between environmental and genetic factors. Some studies have shown that the prevalence of asthma in females increases with puberty, especially with menarche. In addition, it is known that asthma and lung function may vary with the menstrual cycle phase, suggesting that endogenous and exogenous sex hormones may influence the occurrence of asthma in women of childbearing age. However, the role of OCs in asthma is not clear, particularly if they increase their appearance or aggravation.
Objective: Review available evidence on the relationship of oral contraceptives with asthma.
Material and methods: we proceeded to a systematic review review articles, meta-analyses and guidelines in Pubmed and Evidence-Based Medicine (TRIP) sites published between 2007 and 2017 under the terms MeSH "Asthma" and "Oral contraceptives" and published in the English, Spanish and Portuguese. The Strength Of Recommendation Taxonomy (SORT) was used to assign levels of evidence (LE) and recommendation forces.
Results: From the research, 194 articles were obtained, of which three cross-sectional studies, four cohorts and a systematic review were included. The remainder were excluded because they diverged from the objective of the study or did not meet the inclusion criteria. Regarding the cross-sectional studies, it was attributed LE 2. One of the cross-sectional studies showed benefit in the use of OC in asthmatic women, namely in the reduction of exacerbations. Another study has shown that there is no increase in the incidence of asthma only for lean women under CO. The other cross-sectional study has shown that women under CO have more wheezing. Regarding the cohorts, it was attributed to three of them LE 2 and to one of them LE 3. All cohorts demonstrated a benefit in taking CO in asthmatic women. The systematic review was assigned an LE 2, showing that there is no consensus regarding the role of OCs in asthmatic pathology.
Discussion and conclusion: From the analysis of the included articles we can conclude that, although most demonstrate evidence of benefit in the use of OC in asthmatic women, randomized and controlled clinical trials that support this evidence, namely the mechanisms and factors that influence this relationship, are necessary.

PC 003

OPEN AIR BRONCHOCONSTRICTION TESTS IN SUBJECTS UNDER 16 YEARS OF AGE - INFLUENCE OF TEMPERATURE, HUMIDITY AND EXHALED FRACTION OF BASAL NITRIC OXIDE

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Key-words: Bronchoconstriction; Children; Running test; Open air; Temperature; Humidity; FeNO

Introduction: The outdoor exercise-induced bronchoconstriction test is an indirect test for the diagnosis of bronchospasm induced by exercise, which is defined as narrowing of the airways that occurs during or after exercise. (1) Airways dehydration and force on the surface during hyperventilation during exercise result in epithelial damage, an inflammatory process and consequent reaction of bronchial hyper responsiveness. (2)
Objective: To determine if there is a relationship between the number of positive tests and the temperature and humidity in which they were performed, as well as correlate them with the value of basal FeNO.
Materials and Methods: Data were collected from an existing database at the Laboratory of Functional Respiratory Tests, in Centro Hospitalar de Vila Nova de Gaia/Espinho (CHVNG/E). The percentage of forced expiratory volume in the first basal second (FEV1%), the percentage of FEV1% drop and basal exhaled fraction of nitric oxide (FeNO) values were recorded. Temperature and humidity values were requested from the *Instituto Português do Mar e da Atmosfera* according to the date and time of the test.
Results: There were statistically significant differences in the mean temperature (p=0.037) and the mean value of basal FeNO (p=0.02) comparing the positive and negative tests. In the positive tests, the mean temperature was 14.5ºC and the basal FeNO value was 46.2ppb, being that in the negative tests these values were 16.0ºC and 26.8ppb, respectively. There were no statistically significant differences in the mean relative humidity (%) between the positive (mean 70.4%) and negative tests (mean 71.2%)(p=0.734).
Conclusion: A correlation was found between low temperatures and a greater number of positive outdoor bronchoconstriction tests, and this positivity may be related to elevated basal FeNO values.

PC 004

EOSINOPHILIC GRANULOMATOSIS WITH POLYANGIITIS - CASE SERIES

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Key-words: eosinophilic granulomatosis with polyangiitis; churg-strauss syndrome; vasculitis; asthma

Introduction: Eosinophilic granulomatosis with polyangiitis (EGPA), previously known as *Churg-Strauss* Syndrome, is a rare, systemic vasculitis with small and medium sized vessel involvement, that is associated with asthma and eosinophilia. Respiratory involvement, present in 90% of the patients, is characterized by severe asthma that is frequently associated with nasal polyposis and sinusitis. Asthma usually precedes the vasculitic phase by several years. *American College of Rheumatology* (ACR) diagnostic criteria include: asthma; greater than 10% of peripheral blood eosinophilia; mono/polyneuropathy; migratory or transient pulmonary opacities; sinusopathy; biopsy-proven vasculitis and eosinophilic infiltrate. Treatment regimens often consist of systemic corticosteroids and imunosupressive therapy (e.g. cyclophosphamide).
Objectives: To characterize all patients with EGPA admitted to the Internal Medicine Ward (IMW) of Hospital de Cascais.
Methods: Retrospective observational analysis of the patients admitted to the IMW that met the ACR diagnostic criteria for EGPA, in the period between 2010 and 2017. We evaluated clinical, laboratory, imaging and histological features along with therapy and clinical outcome.
Results: Four patients were included (three males and one female), with a mean age of 61 years. All patients had a previous diagnosis of late-onset asthma (poorly controlled in two), sinusopathy and nasal polyposis. At the time of diagnosis, all patients had systemic, respiratory and dermatological symptoms (purpuric skin lesions). Laboratory investigation revealed leukocytosis, eosinophilia and elevated erythrocyte sedimentation rate. The antineutrophil cytoplasmic antibodies (ANCA-MPO) were positive in three patients. High resolution chest computed tomography documented pulmonary infiltrates in two patients. In all patients, cutaneous biopsy revealed necrotizing vasculitis with the predominance of eosinophils, suggestive of EGPA. All of them were treated with high dose corticosteroids, which led to clinical and biochemical improvement in two patients. Cyclophosphamide was necessary in two patients due to severe disease and relapse, respectively. One patient, due to neurological complaints, was treated with intravenous human immunoglobulin leading to marked clinical improvement.
Conclusion: The described cohort illustrates the diagnostic challenge imposed by the clinical diversity of EGPA. It is imperative to consider the diagnosis in a patient with late-onset asthma, sinusopathy, peripheral neuropathy and vasculitic lesions. Early diagnosis and therapy improves patient's quality of life and disease free survival.

PC 005

BRONCHIECTASIS AND CHRONIC RHINOSINUSITIS - A RARE CAUSE

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Key-words: Bronchiectasis, chronic rhinosinusitis, primary ciliary dyskinesia, IgA deficiency

Recurrent respiratory infections at a young age imply a challenge in clinical practice, sometimes leading to extensive diagnostic progression until the definitive diagnosis.

We present the case of a 27-year-old female patient, non-smoker. Followed in Pulmonology Consultation by recurrent respiratory infections, without admission criteria. Of the exams performed: chest X-ray: heterogeneous hypotransparency of the lower 2/3 of the hemithorax. Thoracic computed tomography (CT): multiple cylindrical and cystic bronchiectasis in the different pulmonary lobes bilaterally with some distal mucoid impaction. Respiratory functional study: moderately severe obstruction with air trapping. Analytical evaluation: IgA 0.09 mg/dl (decreased), IgG 1890 mg/dl, IgM 153 mg/dl; normal alpha 1-antitrypsin dosage. Negative sweat test.

Recurrent purulent rhinorrhea. Paranasal sinuses CT: extensive rhinosinusitis process, inflammatory thickening of the nasal cavity mucosa and filling of the sinus cavities by mucosal thickening and secretions. She was sent to the Otorhinolaryngology consultation. The pathological study with scanning electron microscopy diagnosed primary ciliary dyskinesia of complex type, corresponding to the microtubular disorganization with doublet transposition and internal arm deficiency.Currently maintained surveillance in Pulmonology consultation.

Primary ciliary dyskinesia is a rare clinical entity caused by genetic mutations of autosomal recessive transmission that can cause structural or functional changes in the ciliary membrane, compromising mucociliary clearance. This pathology may affect several organs, but mainly involves the upper and lower airways and causes long-term pulmonary changes, including the presence of bronchiectasis. The diagnosis is made in childhood, but 5 to 30% of cases can be diagnosed in adulthood. The definitive diagnosis is made by scanning electron microscopy.

The selective IgA deficiency is defined as a decreased IgA assay, where the remaining immunoglobulins are normal and there is no other co-existing immunodeficiency. Despite the importance of IgA in the mechanisms of mucosal immunity, most patients do not present an increase in the number of infections, and it is assumed that this is secondary to a mechanism of redundancy that compensates for the function of the different immunoglobulins. Symptomatic patients usually present with upper and lower airway infections.

It is a rare case in which a patient presents two rare pathologies which manifestations have some similarities. From the literature review, it was found that the association between IgA deficiency and primary ciliary dyskinesia has been described, however, the underlying pathophysiological mechanism is not known, and some hypotheses are put forward. The authors present this case for their particularities and the challenge of etiologic diagnosis in patients with bronchiectasis.

PC 006

RAPID MEASUREMENT OF IGE BY NIJI TEST - EXPERIENCE IN DAILY PRACTICE IN HOSPITAL ASTHMA CONSULT

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Key-words: Asthma, IgE, Niji test

Introduction: In atopic asthma increased serum total IgE levels are associated with moderate-to-severe disease and often represent difficult-to-treat case. Total IgE concentration is measured to confirm a diagnosis of atopy and guide treatment decisions. It has developed a total IgE assay that is measured on a novel point of-care in vitro diagnostic system (Niji™). The Niji test is a quantitative immunoassay that is performed on a droplet of capillary whole blood. The total IgE assay measurement range is 30 to 1500IU/mL. It is designed for use outside of a laboratory to give results within approximately 12 minutes, simplifying the diagnosis, referral, and treatment of patients with allergic asthma and other atopic conditions. The accuracy of Niji Total IgE Assay is comparable to that of different lab total IgE assays.

Objectives: To determine the clinical accuracy of total IgE measurement by Niji test versus reference test performed in the laboratory. To relate, in atopics, IgE levels with scores resulting from the application of the ACT questionnaire.

Methods: Patients aged ≥17 years, with confirmed asthma diagnosis. Patients undergoing current or recent treatment with omalizumab were excluded. The IgE value was determined for each patient by the Niji test and in the laboratory (maximum interval of 1 month).

Results: Twenty-three patients were included, 73.9% were female. The sample had an average age of 34 +-16 years, between 17 and 76 years. Of the total sample, 14 patients had atopic asthma. An IgE measurement by the Niji test <30 IU/mL, was obtained in all patients without atopy (n = 9), which was consistent with the determination of IgE values in the laboratory. As expected, these values do not correlate with the score obtained in the ACT questionnaire. In patients with atopy, an IgE value of at least 30 and maximum> 1500 IU/mL was obtained by the Niji test, which was consistent with the determination of IgE values in the laboratory. The ACT questionnaire was applied to all patients with atopy. Six patients had a maximum score of 25 with a mean IgE measurement by the Niji test of 214 IU/mL. The remaining 8 patients scored <24, with an average IgE of 326 IU/mL.

Conclusion: This study, although limited by the small sample size, show that the Niji assay is an accurate and reproducible method for quantifying total IgE concentrations in atopic patients and healthy subjects in an outpatient setting. It allows a rapid diagnosis of atopy and is particularly useful, in a hospital setting, in patients with severe atopic asthma proposed for biological therapy with omalizumab.

PC 007

ASTHMA-CHRONIC OBSTRUCTIVE PULMONARY DISEASE OVERLAP: WE NEED TO KNOW MORE!

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Key-words: Asthma-COPD overlap; Asthma; COPD

Background: Asthma and Chronic Obstructive Pulmonary Disease (COPD) are two highly prevalent obstructive chronic diseases and they are associated with significant morbidity e mortality.
Asthma and COPD have each clear clinical manifestations, epidemiology, pathophysiology, lung function changes, treatment, prognosis and evolution differences. However, some patients have features of both diseases and can be classified as Asthma–COPD overlap (ACO). Various diagnostic criteria have been proposed. The prevalence of ACO varies greatly, 2 to 55%, reflecting different diagnostic criteria and populations analysed. It is essential identify this patients because ACO seems have different evolution, treatment and prognosis.
Objectives: To evaluate the prevalence of ACO in asthma and COPD patients; Assess clinical features and lung function of ACO patients.
Methods: Retrospective study that included asthma and COPD patients evaluated in pulmonology consultation of the Hospital da Luz-Lisboa, between July and December 2016, who were identified in the hospital database according International Classification Disease, 9th version. Label "Obstructive Chronic Bronchitis" was used to define COPD.
Assistant physician, according Portuguese Consensus, identified ACO patients. We evaluated clinical characteristics, rest lung function, exacerbations during 2016 and treatment.
Results: In the 6 months evaluated, were assessed 571 asthma patients and 129 COPD patients.
Twenty-nine patients with ACO were identified (all: 4.1%; asthma: 5.1%; COPD 22.5%). Sixteen patients (55.2%) were male and the mean age was 65.3±11.5 years old (40-88). Three patients were non-smokers but had history of exposure to other noxious gases or dust. The mean packs-year was 35.1±20.1 (4-75). The mean of pos-bronchodilator FEV_1 was 76.0±14.7% (40.7-99.5) / 1883.1±459.4mL (1050-2930) and the increase in the value of FEV_1 was +22.9±8.1% (12.6-42.6) / +339.3±112.1mL (210-600). Twenty-four (82.8%) patients had an increase >15% in FEV_1 and 9 (31.0%) also >400mL. Blood count was available in 18 patients, the mean of eosinophilic count was 262.8±196.9/QL and 3.5±2.5%; 8 patients had >300eosinophils/QL and 4 patients > 5%.
Twenty-four patients (82.8%) did not have exacerbations during 2016 and only one patient had >2 exacerbations. Nineteen patients had dyspnoea mMRC grade <2 and 10 mMRC grade ≥2. According to GOLD combined COPD assessment, 19 patients were group A, 9 group B and one was group D. The most commonly prescribed regimen was inhaled corticosteroid/long-acting β2-agonist (ICS/LABA). Eight patients performed dual bronchodilation+ICS and 1 with azithromycin.

Conclusion: Considering the sample analysed of asthma and COPD patients, the prevalence of ACO was lower than in other studies, mainly within the asthma group. In this study, ACO patients seem to have few exacerbations/year and lower grade of dyspnoea than described in the literature. The post-bronchodilator FEV_1 was according other data and a very positive response occurred in 31.0% of ACO patients. The high proportion of ICS/bronchodilator treatment, proposed first line therapy, and different ACO diagnosis criteria can explain the differences. The small sample size and recruitment method are other possible bias.

PC 008

NEW DRUGS, NEW CHALLENGES

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Key-words: nivolumab, immunotherapy, adverse reaction, pneumonitis

Advanced stage non-small cells lung cancer (NSCLC) treatment has evolved with the emergence of target therapies and immunotherapy.
Nivolumab was the first drug within immunotherapy approved has second line treatment in metastatic NSCLC. With it came new chances of continued treatment with less toxicity.
However, it came with new challenges relating to autoimmunity, such as pneumonitis, which, if not detected early, can develop as a severe adverse reaction and, eventually, become fatal.
The authors report the case of a 67 year old female, with previous history of osteoarticular pathology, former smoker, with no other relevant past history and presented with a good performance status at the first medical evaluation. In October 2013 a lung adenocarcinoma was diagnosed, Pancoast (T4, N0, M0), in the right lung. She then began treatment with chemotherapy (carboplatin and pemetrexed) and concomitant radiotherapy (RT). In September 2015 she was started on second line treatment with chemotherapy (gemcitabine) and RT because of disease progression (cervical adenomegaly and pulmonary lesion progression). Since the disease continued to progress, she was recommended treatment with Nivolumab, and it was started on May 2016. The treatment went well till January 2017; by this time, the patient had mild complaints of non-productive cough, without dyspnoea, but presented with hypoxia (peripheral blood oxygen saturation at rest of 92%, when previous baseline was at 97%) and "de novo" altered breathing sounds (crackles in the left lung). A thoracic CT scan was preformed which revealed multiple peripheral lung opacities, with bilateral diffuse distribution (middle lobe, lingula, superior left lobe and inferior lobes).
A pneumonitis, with radiological presentation suggestive of organizing pneumonia (OP) was diagnosed, so Nivolumab was stopped and the patient was started on corticotherapy with prednisolone (with a starting dose of 1 mg/Kg/day, with slow tapering of dose over 12 weeks total), presenting a significant clinical and radiological improvement, without evidence of relapse till this date.
In spite of treatment interruption with Nivolumab, there was still no evidence of progression of the lung cancer.
OP was the most prevalent radiologic presentation of Nivolumab related pneumonitis in previous studies.
The adverse effects described in association with this drug are usually mild, however, when presenting has pneumonitis, can potentially be fatal. A rate of 4% of severe pneumonitis (grade 3 or higher) was described in patients treated with Nivolumab. There are some guidelines for the treatment and management of these cases. Nevertheless, given the small number of cases known and their clinical heterogeneity, is still difficult to establish guidelines that can be applied to every clinical setting.
The case report presented highlights the importance of knowing this type of adverse reaction and its early detection, thus allowing for a better treatment response and particularly a better prognosis for patients.

PC 009

T790M-MUTATION IN EGFR PROGRESSIVE NON-SMALL CELL LUNG CANCER

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Key-words: lung cancer; T790M mutation; EGFR mutation

Background: Disease progression in metastatic non-small cell lung cancer (NSCLC) with epidermal growth factor receptor (EGFR) mutation after treatment with tyrosine-kinase inhibitor (TKI) is mostly due to T790M mutation. This occurs in approximately 50-60% of resistant cases. In this situation, treatment with Osimertinib is recommended (3rd generation TKI). Thus, after disease progression, re-biopsy and liquid biopsy to document the mechanism of resistance are of major value.
Methods: Retrospective analysis of EGFR-mutated NSCLC-patients who presented progression, between 2015 and 2016, after previous TKI treatment, and were submitted to re-biopsy or circulating tumour DNA (ctDNA) analysis, for screening of T790M-mutation.
Results: Eighteen patients were eligible; twelve patients underwent tumour biopsy and seven ctDNA analysis (one patient underwent for both analysis). The mean age was 61.00 years ± 13.36, and eleven patients (61.1%) were men. T790M-mutation was detected in ten (55.6%) patients, eight in tumour sample and three by ctDNA. Nine patients with T790M-mutation are being treated with Osimertinib; six of those had partial response and in four patients response was not evaluated. One patient died due to disease progression. The median progression free survival (PFS) and overall survival (OS) weren't determined yet.
Conclusion: Re-biopsy and liquid biopsy were able to identify T790M-mutation in 55.6% patients, 90% of them being treated with Osimertinib. After disease progression with 1st or 2nd TKI, identifying patients with T790M-mutation is of major importance.

PC 010

PULMONARY ACTINOMYCOSIS WITH TUMORAL PRESENTATION - CLINICAL CASE

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Key words: Pulmonary actinomycosis; Lung cancer

Actinomycosis is a rare infection, particularly in developed countries, being the lung the third most common site of infection with 15% of the global burden of the disease. The diagnosis is difficult and time consuming and is often confused with lung tumour or suppurative lung diseases. Patients generally has risk factors for this infection being alcoholism, poor oral hygiene and structural pulmonary diseases the most common.
The authors describe a clinical case of a 57-year-old male, former smoker of 5 pack units / year with a history of bilobectomy of the middle and right lower lobe at age 25 due to tuberculosis sequelar bronchiectasis.
At 2017 March he started heartburn and regurgitation with development of odynophagia after 2 weeks. He was medicated by his general physician with 7 days of amoxicillin / clavulanic acid, and, because there was no improvement, with intramuscular penicillin. A few days later he started coughing with sparse sputum and subfebrile temperatures. In this context, he underwent a new course of antibiotic therapy with 7 days moxifloxacin and a chest x-ray and computed tomography (CT) were requested. The latter, performed on May 8, showed a mass involving the right upper perihilar region, extending along the mediastinal pleura with 6 centimeters of greater diameter and presence of coarse calcifications dispersed in the right lung as residual granulomatous nature. It was referenced to Pulmonology appointment due to suspected lung cancer. At the entrance he maintained only a barely productive cough. Observation was normal. For diagnosis he underwent bronchofibroscopy (BF) on June 12 with endobronchial ultrasound endoscopy (EBUS) with a radial probe that did not reveal endoscopic changes. Bronchial brush cytology was negative for neoplastic cells. He repeated BF/EBUS with a linear probe for transtracheal puncture of the mass whose cytology showed bronchial cells without atypia and cartilage fragments. Analyses, CYFRA 21.1, CEA and CA 125 were normal. Positron emission tomography (PET-CT) of the whole body with 18F-FDG administration performed on July 7 showed that the lesion previously described had no morpho-metabolic translation. Small juxta-metric areas of nodular parenchymal densification were present on the right lung without metabolic expression. The cytology of bronchial secretions (BS) revealed *Actinomyces spp* and direct and cultural examination, was negative.
The diagnosis of pulmonary actinomycosis was admitted after encompassing the clinic, radiological improvement with antibiotic therapy and *Actinomyces spp* on BS. The presence of structural sequelae after surgery, where the infection occurred, may have been a risk factor for the development of this infection. Currently, the patient is under prolonged antibiotic therapy with amoxicillin / clavulanic acid 875 / 125mg every 12 hours. The authors describe this case because of the rarity of pulmonary actinomycosis and because of its very suggestive presentation of lung neoplasia.

PC 011

PREOPERATIVE BLOOD TESTS AS PREDICTORS OF OUTCOME IN SURGICALLY TREATED PATIENTS WITH LUNG CANCER

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Key-words: Non-small cell lung cancer; resection; preoperative blood tests; recurrence

Background: Surgical resection is the standard of care for locorregional non-small cell lung cancer (NSCLC). The recurrence rate, even with complete resection, remains about 45%. The identification of predictors of outcomes in patients treated surgically seams crucial in reducing relapse rates.
Objectives and methods: Retrospective analysis of data from a surgically treated NSCLC cohort, from 2008 to 2010, emphasizing the predicting value of preoperative common blood tests.
Results: A total of 102 patients were included, 70 males and 32 females, with a mean age of 64 ± 9.3 years.
Relapse rate was 43% (n=44), on a median follow-up of 50.1 months (IQR 58.4). Disease-free survival rate at 1, 2 and 5 years was, respectively, 76, 65.8 e 54.6%. In the unifactorial (log-rank) analysis leukocytosis (p=0,0437), elevated platelet distribution width (PDW) (p=0,0276), chemotherapy, pathologic stage, tumor permeation and pleural invasion associated with increased recurrence. On the multifactorial (Cox) analysis only stage was relevant. Mortality rate was 40% (n= 41), on a median follow-up of 55.8 months (IQR 44.7). Survival rate at 1, 2 and 5 years was, respectively, 91.2, 80.4 and 62%. Unifactorial (log-rank) analysis showed survival association with: leukocytosis (p=0,0257), chemotherapy, pathologic stage, peripheral localization, tumor permeation, pleural invasion, residual tumor and relapse. By multifactorial (Cox) analysis only stage and relapse were relevant.
Conclusions: Relapse and mortality rates remain high in these patients despite improved surgical technique. Identification of outcome predictors takes on particular relevance, especially if it becomes as routinely available as preoperative blood tests.

PC 012

TREATMENT WITH NIVOLUMAB - INITIAL EXPERIENCE OF A CENTRAL HOSPITAL

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Key-words: Nivolumab, Lung Cancer

Introduction: Patients with Non-Small Cell Lung Carcinoma (NSCLC) who develop disease progression during or after the first line of chemotherapy have limited therapeutic alternatives. A better understanding of the role of the immune system has led to the development of nivolumab which is a human immunoglobulin G4 (IgG4) monoclonal antibody (HuMAb) that binds to programmed-1 (PD-1) death recipients and blocks interactions with PD- L1 and PD-L2, thus enhancing the anti-tumor immune response. It is the first PD-1 inhibitor approved for the treatment of advanced stage non-small cell lung cancer after chemotherapy.
Objective: To characterize the patient population and the initial experience of the use of Nivolumab in a central hospital at the Oncology Pneumology clinic.
Methods: Retrospective analysis performed through the consultation of the clinical process of NSCLC patients submitted to Nivolumab since February 2016 (time of drug introduction in the center of the study). The response rate and the median survival in days after the start of immunological therapy were evaluated.
Results: sample consisted of 21 patients, the majority males (71.4%), mean age 63.9 years (height at the beginning of Nivolumab). There was a high rate of smoking (81%) with the following distribution: 52.4% of ex-smokers and 28.6% of smokers. Histologically the majority corresponded to adenocarcinomas (n = 19), with 2 cases of epidermoid carcinoma. The search for EGFR and ALK mutations was negative in all cases. At the time of diagnosis, the sample had the following distribution: 15 in stage IV, 1 in stage IIIb, 3 in stage IIIa, 1 in stage Ib and 1 in stage Ia. The most frequent metastatic sites were: ganglion (45%), Lung and pleura (32.4%), bone (27%) and central nervous system (14%). Sixteen patients received Nivolumab in the second line of treatment and five in the third line of treatment. Adverse effects were reported in 85.7% of the cases, the most frequent being asthenia. Regarding the response, it was observed: progression in 28.6% of cases, stability in 42.9% and partial response in 14.3%. No assessment at the time of the study 14.3%. Seven patients had to stop the drug: 4 for side effects (mean days on therapy: 218 days) and 2 on progression (mean days on therapy: 274 days). The median survival of patients receiving Nivolumab was 225 days (95% confidence interval: 188.2-268.8 days).
Conclusion: Nivolumab was recently introduced in our hospital center so we still have limited experience, but it is a promising therapy in the treatment of advanced NSCLC with good tolerance and safety.

PC 013

CANCER TO CANCER METASTASIS - SINGLE CASE OF METASTATIC PATTERN IN LUNG ADENOCARCINOMA

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Key-words: lung cancer, prostate cancer, metastasis

Cancer to cancer metastasis is a rare occurrence. The most frequent donor tumor is lung cancer. On the other hand, the most common recipient tumor is renal cell carcinoma.
We report the case of a 68-year-old man with a history of past smoking habits, dyslipidemia, essential hypertension and heart failure.
The patient underwent radical retropubic prostatectomy due to prostate adenocarcinoma. This intervention was complicated by postoperative bilateral pulmonary thromboembolism. In the computed tomography angiography performed he had a mass in the left lower lobe. Given the severity of the situation, therapy with low molecular weight heparin was started at therapeutic dose and bronchofibroscopy was postponed.
The histology of the prostate revealed prostatic adenocarcinoma with micrometastasis compatible with lung adenocarcinoma.
The patient was discharged clinically stable. He underwent bronchial fibroscopy which revealed no endobronchial changes. The cytology of bronchoalveolar lavage and bronchial secretions was compatible with the diagnosis of lung adenocarcinoma.
He performed a computed tomography of the head that showed multiple secondary deposits, and bone scintigraphy and positron emission computed tomography that revealed bone metastasis of both osteoblastic and osteolytic nature.
The patient was admitted to our service due to worsening of his general condition, requiring high oxygen concentrations due to significant partial respiratory failure. In the imaging exams there was a worsening of the bilateral infiltrate suggestive of lung adenocarcinoma progression. The patient maintained clinical deterioration and died.
The authors did not find in the literature any case of lung adenocarcinoma with metastization to a prostate cancer. There is only one case in the literature of small cell lung carcinoma metastasizing to prostate adenocarcinoma.

PC 014

TWO CASES OF LUNG ADENOCARCINOMA IN THE SAME FAMILY: ANOTHER COINCIDENCE?

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Key-words: adenocarcinoma, lung cancer, EGFR mutation, familial aggregation

Introduction: Lung cancer (LC) is the leading cause of cancer death worldwide, and smoking is a known and proven risk factor for its occurrence. However, it is known that only about 20% of smokers develop LC, and that the number of non-smokers with LC is increasing. Family history is also a risk factor, suggesting the existence of individual factors, namely genetic, that promote a greater cancer susceptibility. The authors describe the case of two relatives, both non-smokers, diagnosed with lung adenocarcinoma and EGFR mutations
Case report: We report the clinical case of a 76-year-old female patient, non-smoker, domestic, with no relevant exposures - namely radon or asbestos. She had a personal history of vascular disease (ischemic stroke with resulting right brachial hemiparesis), essential hypertension and dyslipidemia. She described a history of anorexia with unquantified weight loss, fatigue / mMRC2 dyspnoea, cough with mucosal sputum and unquantified fever that had begun in December 2013. In January 2014 she started complaints of right posterolateral cervicalgia irradiating to the anterior and posterior face of the homolateral hemithorax. A thoraco-abdomino-pelvic computed tomography (CT) scan showed a mass (5.7 x 4 x 6.6 cm) in the right upper lobe's apical segment, with pleural contact and evidence of hepatic, bone, subcutaneous and intramuscularly (gluteus) metastasis. Bronchial biopsy was diagnostic for lung adenocarcinoma (T2b N2 M1b) with a positive EGFR mutation at exon 21. Antalgic radiotherapy and tyrosine kinase inhibitor were initiated, but the patient died in May 2014 due to a pulmonary embolism.
A second case (daughter of the first case patient) is described of a 58-year-old female, non-smoker and seamstress, also without relevant exposures. She had a known family history of LC (mother), bladder cancer (father), melanoma, and gastrointestinal cancer (cousins). Because of her family history, a thoracic CT was obtained (April 2014) which showed evidence of a spiculated nodule (2cm) in the middle lobe's external segment. The PET-CT showed fixation only in the medium lobe lesion (13.8cm3, SUV 8) and the patient was submitted to mediastinal lobectomy and mediastinal lymph node dissection by videothoracoscopy (lung adenocarcinoma, pT2N0R0) and adjuvant therapy. A positive EGFR mutation at exon 19 was identified. The patient remains in follow-up with clinical stability and no imaging relapse.
Discussion: Mutations associated with familial aggregation of cancer have already been identified, namely in cases of breast and ovary cancer (BRCA1 or BRCA2) or familial adenomatosis polyposis. Several studies try to demonstrate this reality in LC; however, this relationship has not yet been scientifically proven. Given the increasing number of familial LC cases, more studies are needed and we are looking forward for advances in the currently widely used area of genomic analysis.

PC 015

THREE YEARS OF EXPERIENCE WITH ALK-POSITIVE PATIENTS

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Key-words: Crizotinib; ALK; Adenocarcinoma

Introduction: Crizotinib, ceritinib and alectinib are tyrosine kinase inhibitors approved for the therapy of non-small cell lung cancer (NSCLC) caused by ALK rearrangement. The extraordinary effect of these drugs on overall survival, disease progression as well as their toxicity allow an easy usage, which represents a turning-point on lung cancer treatment.
Materials and Methods: We performed a retrospective analysis of all the patients with NSCLC and ALK rearrangement that received crizotinib as first-line or second-line therapy in our health care unit, by investigating its toxicity and the disease progression. We also evaluated the same parameters concerning the use of ceritinib or alectinib after crizotinib.
Results: Out of the 113 patients diagnosed with stage IV or stage IIIB lung adenocarcinoma, 17 were ALK positive (from those who had clinical indication and enough histologic material to perform the test). In this population, the mean age was 60,76 years-old and 76,47% (n=13) were females. Sixteen patients (94,12%) were non-smokers and one (5,88%) was a smoker. By the time of the diagnosis, 94,12% (n=16) presented with stage IV disease (one of them had brain metastasis and was treated with holocranial radiotherapy) and 5,88% (n=1) presents with stage IIIB disease. 41,18% (n=7) had a Performance Status of 0 and 58,82% (n=10) of 1.Crizotinib was started as first-line therapy in 35,29% (n=6) of patients and as second-line therapy in 64,71% (n=11) (these started first with chemotherapy fulfilling either 2, 4 or 6 cycles of treatment). 10 patients showed crizotinib-induced toxicity (1 presented skin rash, 1 presented onicolisis, 6 had liver toxicity and nausea and/or diarrhea, 1 had renal toxicity and 1 presented cardiac toxicity and died). As such, crizotinib dose reduction was needed in 6 patients (4 due to liver toxicity, 1 due to renal toxicity and 1 due to skin rash) and 1 patient had his treatment shifted to ceritinib (because of liver toxicity). Considering follow-up until July 2017, complete and partial response with crizotinib was first seen in 10 and 3 patients, respectively, 3 patients presented disease progression and 1 patient doesn't have follow-up data available yet. After a period of time, 6 patients kept their response to crizotinib and 10 patients showed disease progression (4 patients evolving with cerebral, 2 with bone metastasis, and the remaining with lesions in different locations), and 2 of them eventually died. The average time under crizotinib was 14 month (minimum month and maximum 28 month). 7 of the latter had their treatment shifted to alectinib (n= 5) or ceritinib (n=2). Regarding the data available so far, from the patients that started alectinib 2 showed partial response and 1 showed complete response, and from those under ceritinib 1 showed partial response and 1 showed stability of the disease. From those patients with progression with brain metastasis, 1 is currently under ceritinib (presenting disease stability) and 3 are under alectinib (1 presents complete response, 1 presents partial response, the third doesn't have available follow-up data yet. Three of these patients were treated with holocranial radiotherapy.
Discussion: The experience in our healt care unit is similar to the data from other studies, showing high response rates, high overall survival and low toxicity associated to these drugs.

PC 016

THE ROLE OF FEV1 AND OTHER PREDICTIVE FACTORS OF RECURRENCE IN RESECTED PRIMARY LUNG CANCERS

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Key-words: Lung cancer; lobactomy; FEV1

Introduction: Surgical resection remains the treatment of choice for anatomically resectable lung cancer. Despite this, tumour recurrence is the most common cause of treatment failure after surgery. Reduced lung function increases surgical risk in patients with operable stages of lung cancer (LCa). Nevertheless, there have been few studies to reveal association of lung function with mortality and recurrence in patients with early stages of lung cancer.
Aim: We sought to evaluate whether low forced expiratory volume in 1 second (FEV1) is an independent predictor of mortality, among other known covariates, in a cohort of surgically operated LCa patients.
Methods: A retrospective cohort study was performed on patients who had undergone lobectomy for LCa (stages IA-IIIA), in a University Hospital, from January 2013 to December 2014. The patients had the last follow-up consecutively between April 2014 and July 2017. Statistical analysis was performed using SPSS. Cumulative survival was analyzed by the Kaplan-Meier method and compared by log-rank test. A multivariate Cox proportional hazard model was used to identify prognostic factors. Statistical significance was accepted at the P values of less than 0.05 level.
Results: The study included 116 patients with a median age of 65 (interquartile range, 57-71 years of age; 68.1% males). Twenty-five patients had history of chronic obstructive pulmonary disease (COPD). Histologically, 63.8% had adenocarcinoma, 15.5% squamous cell carcinoma, 1.7% small cell lung carcinoma and 15.5% thoracic carcinoid tumors. Patients that have undergone higher therapeutic burden (lobectomy plus chemotherapy and radiotherapy), followed by those submitted to surgery plus chemotherapy, were at higher risk for disease progression, and had lower time-to-progression (Kaplan-Meier, P<0.0001) than those treated only with surgery. Multivariate Cox regression confirmed these findings (HR, 1.8; 95CI, 1.4-2.2, P<0.0001). Additionally, by each unit of increase in tumour size, there was an increase by 40% in the risk of progression (HR, 1.4; 95CI, 1.1-1.8, P=0.002).
An effect of treatment burden as seen for the risk of progression, was observed in overall survival, even after multivariate analysis (HR, 1.5; 95CI, 1.3-1.9, P<0.0001). Interestingly, besides therapeutic actions needed to implement to control disease, we found that the American Thoracic Society (ATS)-stratified groups according to FEV1 cutoffs associated with LCa all-cause mortality. We observed shorter time-to-death with increasing FEV1-ATS severity on Kaplan-Meier, and after Cox regression (HR, 2.5; 95CI, 1.7-3.7, P<0.0001).
Conclusion: Surgery remains the best potentially curative modality for early-stage lung cancer patients. However, a proportion of lung cancer patients develop recurrence, even after curative resection. We consider that FEV1 is strongly associated with worse survival of lobectomized LCa. Moreover, some characteristics of the tumour, namely its size, are strongly associated with the risk of cancer progression.

PC 017

BIPHASIC PULMONARY BLASTOMA – CASE REPORT

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Key-words: pulmonary blastoma, hemoptysis

Introduction: Pulmonary Blastoma (PB) is a very rare and aggressive lung malignancy, comprising 0,25%-0,5% of all primary lung tumours. Currently, PB is regarded as a type of sarcomatoid carcinomas. It typically presents with cough, haemoptysis, dyspnoea or chest pain. Pulmonary blastoma almost always presents as a unilateral, large, well-circumscribed, solitary mass on chest radiograph. Due to the challenging nature of the histology, a preoperative diagnosis is only obtained in one third of the cases. Surgery is the optimal treatment for localized disease. No agent is known to be more effective than another, but cisplatin is often used given its efficacy with primitive tumours. The prognosis is generally poor, with limited survival within 2-3 years from diagnosis.
Clinical case: Female patient, 51 years old, melanodermic, natural from Cape Verde, smoker (25 pack-years of smoking history), alcoholic habits with no other relevant past medical history or usual medication, evacuated to Portugal for diagnostic and therapeutic investigation due to persistent cough and haemoptysis, starting in May 2016, with no constitutional symptoms or other complaints. Blood tests showed negative serologies and bacilloscopy, and chest X-ray with evidence of a nodular lesion with well-defined contours in the third middle of the right lung. In this context, the patient underwent computed tomography of the chest that showed a hypodense mass of the upper right lung (URL) lobe with approximately 37x38mm of well delimited contours, without contrast capture and optic bronchoscopy with evidence of subtotal occlusion of the most posterior subsegmentar bronchus of B3 by pedunculated and hemorrhagic lesion. Bronchoalveolar lavage and lung biopsies were negative for neoplastic cells. ET-CT was performed, which reported hypercaptation at the periphery of the known URL lesion, adopting SUV max of 10.4; A significant part of the contents of the liquid contents (necrosis? Cystic lesion?); Right hilar adenopathy, with SUV of 5 and hypermetabolic right paravertebral adenopathy; PFR compatible with surgical resection, having been discussed the case with Thoracic Surgery that performed upper right lobectomy and mediastinal nodal emptying by posterior thoracotomy. Anatomopathological examination of the surgical piece would reveal pulmonary blastoma staged as pT2aN0. The postoperative period was uneventful. After discussion at a multidisciplinary meeting, she performed 4 cycles of Adjuvant Chemotherapy with Cisplatin / Etoposide with tolerance and significant clinical improvement, being monitored with subsequent imaging revaluation.
Conclusion: The authors present a case of a biphasic pulmonary blastoma, a lung malignancy that due to the low incidence rate and reclassification, it is difficult to interpret the published epidemiology, clinical features treatment and prognosis. A lot of earlier reports of PB may have included fetal adenocarcinomas, so data are not in accordance to the new classification. Considering all these limits, even smaller number of cases or individual experiences of PB are important to improve our understanding of this rare lung cancer.

PC 018

INITIATION AGE AND ITS ASSOCIATION WITH SMOKING HABITS IN HOSPITALIZED PATIENTS

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Key-words: smoking habits, initiation age, hospitalization

Background: Some studies show that the age of initiation has an inverse relation with dependency, successful quitting and is associated with a greater tobacco consumption. Consequently, people who started smoking earlier are more likely to develop respiratory illnesses and face co-morbidity issues.
Objectives: Analyse the differences between smoking habits in hospitalized patients in a pulmonology department who started smoking before and after the age of 18, and evaluate its influence on hospital admissions.
Methods: Cross-sectional, prospective study, in which data were collected from a demographic and tobacco profile questionnaire given to every patient admitted to our pulmonology department between Mar.-Sept. 2016.
Results: The population comprised 126 individuals, of which 100 had smoking habits: 37 were active smokers and 63 were former smokers. The majority of the active and former smoking population was from the male sex (69%).
58% of the active and former smoking population started smoking before the age of 18, and a greater proportion of those were active smokers at the time of admission. Of those who started smoking before the age of 18, 48% were still active smokers at time of admission when compared to 21% of those who started after the age of 18 ($p<0,05$ – Qui-square test).
Hospitalized patients who were active smokers and who started earlier were slightly younger at the time of admission (55 vs 58 years old). Although not statistically significant, they presented higher grades of dependency (evaluated through the Fagerstrom Test) with 89% having medium/high dependencies when compared to those who started smoking after the age of 18, with 78% having medium/high dependencies. They also had less willingness to quit smoking after discharge (57% vs 67%).
Conclusions: 79% of the hospitalized patients had smoking habits and similarly to the general population, the majority was from the male sex. More than half of our smoking population started smoking before the age of 18. This group had a greater probability of being active smokers and younger at the time of admission. This shows that not only smoking habits are a risk factor for respiratory diseases and increased morbidity but, younger initiation age also plays an important role in hospital admissions and, consequently, an increase in morbidity. Similar to other studies, we showed that this population has a greater dependency and a lower will to quit. Therefore, targeting teenagers through smoking prevention programmes is of vital importance to reduce tobacco associated co-morbidities.

PC 019

ADMISSION IN THE PULMONOLOGY DEPARTMENT - AN OPPORTUNITY TO INTERVENE SUCCESSFULLY IN SMOKING CESSATION

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Key-words: Smoking Cessation, Pulmonology Department, Opportunity

Introduction: Admission to hospital is an opportunity to address smoking cessation in smokers, especially if hospitalized for decompensation of respiratory disease. Recent studies indicate a prevalence of smokers in pulmonology ward with variation between 37% and 52%.
Objectives: 1. Characterize the smoking habits of patients hospitalized in a pulmonology ward of a central hospital and to establish more personalized smoking cessation strategies; 2. Evaluate the success of smoke cessation in intensive consultation from ward pulmonology referral patients compared with other referral pathways.
Methods: a cross-sectional study was conducted in a pulmonology ward of a central hospital between March and September 2016 (7 months). At hospital admission a questionnaire was administered to each patient by a physician. Information collected included demographic data, characterization of smoking habits, and clinical, laboratory and radiological aspects related to the respiratory disease. The success rate of patients referred to the intensive care setting was considered to be at least 6 months without smoking (retrospective assessment of smoking cessation consultation procedures).
Results: 128 patients were included in the study (two were excluded due to dementia and inability to collaborate in completing the questionnaire). The mean age was 63.4 years with a predominance of males (59.5%). The distribution of smoking habits was: 29.4% of smokers (mean age: 55.5 years); 50.0% of ex-smokers (mean age 67.7 years) and 20.6% of non-smokers (mean age: 64.5 years). The prevalence of smokers and ex-smokers was higher among males (67.6% and 69.8% respectively), whereas the non-smokers group had a higher prevalence among females (76.9%). The majority had a medium degree of nicotine dependence (54.1%) and 32.4% had high levels of dependence (evaluated using the *Fargeström* test). Most smoking patients started before 18 years of age (89.2%); 67.6% made at least one attempt to quit but only 24.3% with specialized help. Of the patients with active smoking habits, 59.5% expressed their desire to stop smoking after hospitalization and were referred to the smoking cessation service consultation. Patients referred to the intensive care visit after hospitalization in Pneumology were more successful in cessation than those referred by alternative means (54.6% vs. 35.1%).
Conclusion: Characterization of the smoking habits of patients hospitalized in a pulmonology ward is important to define the smoker patient profile and establish effective and personalized strategies. In this study, the majority of smokers had the following patient profile: male, under 65 years of age and with early onset of smoking habits (<18 years). There was a lower prevalence of smokers than described in the literature.
There was a high referral rate of the study patients for the intensive consultation with a higher success rate in smoking cessation compared to patients referred by other means, reinforcing the importance of hospitalization in pulmonology as an excellent opportunity.

PC 020

CHARACTERIZATION OF A SMOKERS' POPULATION ATTENDING A TOBACCO CESSATION PROGRAM - KNOW FIRST TO TREAT BETTER

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Key-words: tobacco, Portugal, comorbidities, pregnancy, breast-feeding, therapy

Introduction: Tobacco smoke is directly responsible for about 6 million annual deaths. In Portugal, last Nacional Health Survey (2014) revealed that 27.8% of men and 13.3% of woman older than 15 years were smokers, and that only 3.6% of those who quit smoking searched for doctors' advice and/or pharmacologic therapy. The aim of this study is to characterize a population of smokers who started an hospital cessation program in Portugal and try to identify adhesion preditors.
Methods: The authors randomly screened 400 clinical files from an hospital cessation program since January 2012 to December 2016, excluding incomplete files. The data analysed were: sex, age, age for starting consume, number of packs per years units, women that smoke during pregnancy and breastfeeding, comorbidities, how they took notice of the program, reasons for smoking, past attempts for stop smoking and time of abstinence, motivation for starting the program, CO levels measured, Fagerstrom Test (FT) and Richmond Test (RT) scores, and therapy modalities (educational and pharmacological)
Results: 372 smokers were eligible, with mean age of 51.8 years (minimum 18, maximum 81). The mean age for start smoking was 20 years (minimum 9, maximum 55) and 35.9 was the average number pack per year of units they smoke (minimum 0, maximum 135). 39% were women, 42.8% of those smoked during pregnancy and breastfeeding, 11.8% only during pregnancy and 1,4% only during breastfeeding. The most reported comorbidities were dyslipidaemia (37.6%) and hypertension (30%). 91.4% of the participants took notice of the program by their doctors and only 4.8% by the pharmaceutic, a friend, social media or other. The principal reasons for smoking were: stress (79.8%), pleasure (45.43%), automatic gesture (45%) and socially (42,3%). The majority of smokers (80.4%) did previous attempts to quit smoking, 24.2% used a pharmacological method, 33% kept abstinence during days, 38.7% during months and 15.3% during years. The main reasons to start the program were: personal (82.3%), medical advice (53%) and familiar advice (32.8%). 51.1% of the patients did CO evaluation at the first medical appointment, 42.5% had values under 11, 72.1% between 11 and 20, and 5.8% higher than 20. The mean results of FT were 5.9, for women and 5.8 for men (minimum 0, maximum 10), and for the RT were 7.3 for women and 7.1 for men (minimum 3, maximum 10). All patients had educational support, and 91.9 % had also pharmacological treatment: 68.3% nicotine gum, 60.1% varenicline, 20.8% bupropion and 15.5% nicotine patches.
Conclusions: Understanding the reasons that leads a smoker to search medical counselling and start a cessation program is crucial to design this kind of strategies. Our data is globally overlapping with national reports, but we can still point the high prevalence of women that kept smoking during pregnancy and breastfeeding, as well as the mild grade of dependence and motivation for quit smoking. As we can realise, more studies in this field are important not only regarding public health, but also acting as primary prevention tools.

PC 021

HEMOPTISYS IN AN YOUNG ADULT: A CASE REPORT

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Key-words: Pulmonary sequestration, hemoptisys, recurrent pneumonia

Introduction: Hemoptisys can be seen in many non-traumatic pulmonary diseases, the most common being lung cancer, pulmonary tuberculosis, bronchiectasis, pneumonia and acute or chronic bronchitis.
In young adults it must come to mind other less common causes such as pulmonary sequestration.
Pulmonary sequestration is a rare congenital lung anomaly in which a portion of lung tissue obtains its blood supply from a systematic artery, usually the aorta, rather than a pulmonary arterial branch.
We present a case of pulmonary sequestration presented by recurrent hemoptisys and history of "recurrent pneumonia".
Case Report: A 25 year old non-smoker female, without major environmental exposures, history of tuberculosis or trauma, presented with moderate hemoptysis. No other symptoms were associated, such as respiratory, constitutional or fever. It was determined that she had recurrent mild hemoptysis since she was 20 years old, recurrent left pneumonia (SIC) and recurrent left pielonefritis since her infancy.
At presentation she was hemodynamically stable, rhonchi were present on the lower left base at pulmonary auscultation and she had no respiratory insufficiency. She had no laboratory findings (normal haemoglobin, leukocytes, d-dimer, c-reactive protein, renal function, urinalysis) and her lung x-ray showed a homogeneous opacity in the lower left lobe.
She was admitted for aetiologic investigation and to control hemoptysis.
The hemoptysis were easily controlled with rest, cough prevention and cold diet during hospital admission.
Autoimmune study was negative and her respiratory function tests were normal, having 86% in DLCO and 76% in DLCO/VA.
She performed a thoracic CT that revealed an intralobar pulmonary sequestration, with the arterial supply from an aortic branch and venous drainage through pulmonary veins.
She was referred to thoracic surgery and underwent a video-assisted thoracoscopic inferior lobectomy, with no complications.
Conclusion: Pulmonary sequestrion represents 0,15-6,4% of all congenital pulmonary malformations.
It's low incidence in the young adults lead the authors to present this case of intralobar sequestration to alert for its possibility in patients with recurrent hemoptysis and recurrent pneumonia and to allow a definite treatment for this lung anomaly.

PC 022

PERICARDIAL CYST: A CASE REPORT

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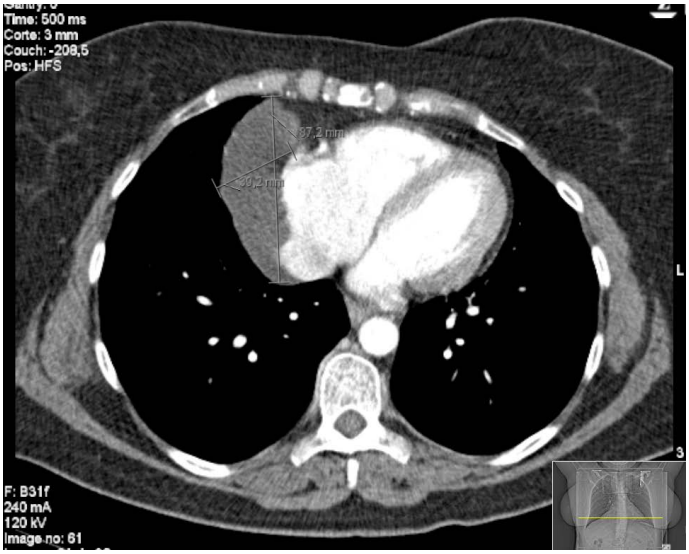
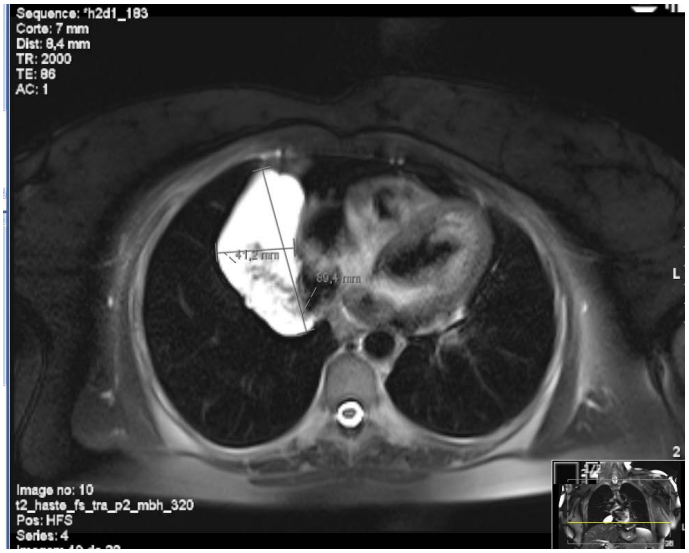
Key-words: Pericardial cyst, Computed tomography, Magnetic resonance

Introduction: Pericardial cysts are rare and benign congenital malformations (incidence 1/100000), usually located at the cardiophrenic angle (right in 70%; left in 22%). Most pericardial cysts (50-75%) are asymptomatic and accidentally diagnosed in imaging tests. Management of asymptomatic cysts is usually conservative.
Clinical Case: A 55 years-old woman, former smoker (35 UMA), presented with a 6-month history of progressive dyspnoea on exertion (mMRC 2), right intermittent chest pain and one episode of small volume hemoptysis. Physical examination was normal and she did not have respiratory failure at rest (pO2 90.9 mmHg). Analytical work-up, including cardiac and autoimmune markers was normal. There was no eosinophilia. Electrocardiogram and pulmonary functional evaluation were normal. Bronchoscopic examination did not revealed significant abnormalities. No microbiological isolates were found. Chest X-ray demonstrated a density at the right cardiophrenic angle. Thoracic computed tomography scan revealed a cystic formation with 33x87x40mm in the right cardiophrenic angle suggestive of pericardial cyst. Transthoracic echocardiogram was normal. Magnetic resonance imaging confirmed a presence of a cystic formation at the right cardiophrenic angle compatible with the diagnosis of pericardial cyst. The patient was referred to thoracic surgery for excision of the pericardial cyst.
Discussion: Although usually asymptomatic, pericardial cysts may present with dyspnea, chest pain, palpitations, persistent cough and more rarely with hemoptysis, fever or pneumothorax. If the patient is symptomatic, cyst resection has been the most favored approach





PC 023

CONSERVATIVE APPROACH OF IATROGENIC TRACHEAL RUPTURE IN ELECTIVE SURGERY

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Key-words: tracheal rupture, conservative approach, orotracheal intubation

Iatrogenic tracheal rupture is a rare potentially fatal condition, when the diagnosis is delayed. In the last decade, the incidence of post-intubation tracheal rupture was between 0.05% and 0.37%.
We report the clinical case of a 77-year-old woman who underwent elective laparoscopic cholecystectomy and presents with extensive subcutaneous emphysema and pneumomediastinum after 2 days. Chest CT-scan revealed a 3 cm tracheal laceration and the bronchoscopy confirmed a rupture of the membranous part of the trachea and esophageal protrusion.
The patient remained clinically stable and conservative treatment was chosen, with empirical antibiotic therapy, because of the risk of mediastinitis, feeding via nasogastric tube, and surveillance, with complete tracheal healing after 1 month.
As a complication of laparoscopic cholecystectomy, the patient developed evisceration of the small bowel through the umbilical port. There was a need for surgical intervention for segmental enterectomy, performed under local anesthesia, in order to avoid a new orotracheal intubation.
Although surgical and endotracheal treatment are important approaches, conservative treatment is a valid and effective option even in the case of extensive tracheal laceration in clinically stable patients.

PC 024

PULMONARY AMYLOIDOSIS AS A DIFFERENTIAL DIAGNOSIS OF ADVANCED LUNG CANCER: A CLINICAL CASE

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Key-words: Pulmonary amyloidosis, differential diagnosis, surgical biopsy

Pulmonary amyloidosis is a rare form of amyloidosis, accounting for about 20% of cases. Pulmonary involvement can occur in the diffuse tracheobronchial, nodular or alveolar-septal form. Nodular amyloidosis is usually localized, being the second most frequent form of pulmonary presentation, usually characterized by a solitary pulmonary nodule, more frequent in men up from 60 years of age.
We describe the case of a 76-year-old man, former smoker, with high blood pressure and diabetes, asymptomatic, who was diagnosed, by routine chest radiography, with several bilateral lung lesions. The CT scan confirmed the presence of multiple lung and pleural masses, the largest with 5 cm, in addition to mediastinal lymphadenopathy, suspected to be metastatic lung cancer.
It was performed bronchofibroscopy, with transbronchial biopsies, which were inconclusive, as well as transthoracic lung biopsy of the upper right lobe mass, which revealed necrotic tissue. The patient underwent EBUS with aspiration cytology of the 4R and 4L lymphadenopathy, which anatomopathological examination only revealed alterations compatible with reactive lymph nodes. Thus, the patient was sent to the Thoracic Surgery Department for surgical biopsy. He was submitted to upper right lobe mass biopsy by right subaxillary minithoracotomy. The anatomopathological examination confirmed pulmonary amyloidosis.
The differential diagnosis between lung cancer and other pathologies, such as the rarer conditions like pulmonary amyloidosis, are fundamental for the correct treatment of the patient. Histological confirmation should be imperative after a presumptive diagnosis of end stage lung cancer, since nodular pulmonary amyloidosis is a benign condition with an excellent long-term prognosis.

PC 025

LUNG MUCINOUS ADENOCARCINOMA WITH ENTERIC IMMUNOPHENOTYPE IN CYSTIC ADENOMATOID MALFORMATION

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Key-words: Adenocarcinoma, cystic adenomatoid malformation, enteric immunophenotype

Congenital cystic adenomatoid malformations of the lung are rare lesions, however, they present potential for malignant transformation and are diagnosed mainly in the prenatal or childhood period, however, when complications are present, diagnoses in adulthood are described in the literature.
The present clinical case presents a patient with 44-year-old female who, due to complaints of dry cough, associated with asthenia and exertional dyspnea with a few months of evolution, recurred to the medical care, where a study was requested, in which the thoracic CT describes a lesion with soft tissue density inserted into the epicenter of the right lower lobe of the lung, spiculated with heterogeneous contrast uptake, with a volume of 53x45x37 mm, without mediastinum-hilar adenopathies.
The patient did a bronchofibroscopy with endobronchial biopsies, in which anatomopathological result was suspected hamartoma. He then performed PET-CT, which showed hypercaptation at right lower lobe mass, with an SUV of 7.1, without another anomalous uptake. There were no changes in ventilatory function tests. In view of these findings, it was decided to proceed to surgical biopsy of the lesion.
The patient was submitted to excisional biopsy of the lesion with extemporaneous examination, in which the result was a probable mucinous adenocarcinoma. Therefore, it was decided to perform the right lower lobectomy with mediastinal lymphadenectomy.
The definitive diagnosis revealed a mucinous adenocarcinoma with acinar pattern and predominantly lepidic, with enteric immunophenotype, whith apparent developement in continuity with the respiratory epithelium observed in the hilum. In continuity with the described adenocarcinoma, there were cavities lined by pseudostratified ciliated epithelium, placing the hypothesis of tumor development from a type 1 cystic adenomatoid malformation of Stocker.
The neoplasic cells expressed CK7, CK20 and CDx2, which reinforces the possibility of development of hilar / bronchial cystic adenomatoid malformation with enteric immunophenotype. The hilar and mediastinal lymph nodes had no metastasis. The patient was in the pT2aN0M0 stage.
The present case shows a congenital pathology with rare late diagnosis associated with an adenocarcinoma with few cases described until the moment, in which the association of these two pathologies is not yet described.

PC 026

GIANT BUBBLE AND VANISHING RIGHT LUNG – BULLECTOMY OR PNEUMECTOMY? - CASE REPORT

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Key-words: Giant bubble; Emphysema; Pneumectomy; Bulectomy; Thoracic Surgery

Pulmonary emphysema is a disease characterized by abnormal and definitive distal airway enlargement with loss of elastic recoil a alveolar destruction forming parenchymal bubbles.
Recent studies show an association between emphysema severity and respiratory and cardiovascular mortality.
We report the case of a 41 years old man, former smoker, with surgery for resection of lung emphysema bubbles on the left side 6 years before, that kept being followed in Pneumology being referred to lung transplantation evaluation due to progressive imagological deterioration, with complete hipotransparence of the right lung on chest X-ray (Image 1), and deterioration of lung function tests, although the patient kept asymptomatic.
Complementary studies with chest CT showed a giant emphysema with no viable lung parenchyma in all right hemithorax. Ventilation/Perfusion scintigraphy showed an almost complete functional exclusion of the right lung.
The patient did not fulfill the criteria for lung transplantation and was proposed for right pneumectomy.
The surgery was performed by a right thoracotomy and intra-operatively was identified a giant bubble occupying mainly superior lobe, with reminiscent lung compressed to the base. Bullectomy was performed using reinforced ***duet*** EndoGIA staplers and after lung recruitment a successful expansion of the lung was achieved, identifying the inferior, middle and reminiscent superior lobes, and the pneumectomy was not performed.
On the post-operative the patient kept a significate air leak, with lung collapse on passive aspiration, requiring continuous active aspiration during almost the entire in-hospital stay, during 38 days. On the 30th day, the air leak stopped, and a pneumonia process was diagnosed with favorable evolution with antibiotic Piperacillin+Tazobactam for 7 days.
At post-operative evaluation, the patient was asymptomatic with complete lung expansion (Image 2) with improvement of lung function testing comparing to the pre-operative values.
Concluding, we report this case for the rarity of the presentation and to show the role of bullectomy preserving healthy lung parenchyma in the severe emphysema. Pneumectomy could have been performed with a shorter in-hospital post-operative period, however with a higher morbidity on the lung term and a higher risk for end-stage pulmonary failure and need for lung transplantation.

PC 027

SOLITARY PULMONARY NODULE IN PATIENTS WITH PREVIOUS HISTORY OF CANCER: PRIMARY OR METASTATIC PULMONARY CANCER?

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Key-words: Solitary Pulmonary Nodule; lung cancer; Surgical

Background: A solitary pulmonary nodule (SPN) is a common and increasing clinical problem. Differential diagnosis is broad and often challenging. The process of selecting the right strategy must address a probability of malignancy that is based on radiographic findings and clinical details, such as a history of cancer.
Aim: Analyse the characteristics of SPN in patients with previous cancer(s). Compare metastatic and primary lung cancer lesions.
Methods: We retrospectively reviewed patients with SPN and a history of cancer who underwent surgical resections between January 2015 and March 2017 at Hospital da Luz – Lisboa. All patients had chest CT scans, PET-CT and lung function tests. Patients were evaluated at a multidisciplinary lung cancer tumour board team meeting. We characterised demographic, clinical and radiological features, surgical procedure and histology. We excluded patients with skin basal cell carcinoma diagnosis.
Results: Of the 73 patients with SPN who underwent surgical resection, 25 (34.2%) had previous history of cancer: 8 colorectal, 8 breast, 4 lung, 4 genitourinary and 1 sarcoma. Sixty percent were female, 56% current or former smokers; mean age was 70.0±8.9 (range 50-88). Twenty-one nodules (6-30mm) were solid and the remaining 4 were subsolid nodules (9-17mm with a solid component: range 2-6mm).
Primary lung cancer was diagnosed in 14 patients (56%) - 11 adenocarcinoma (ADC), 2 squamous cell and 1 typical carcinoid; metastasis in 9 (36%) - 6 colorectal, 1 genitorectal, 1 atypical lung carcinoid and 1 sarcoma; and benign lesions in 2 - hamartoma and granulomatous lesion. Of the patients with a history of lung cancer and a second primary lung cancer, one had a different histology, one ADC in situ and the other minimally invasive ADC. No patient with a history of breast cancer had metastatic lesions. Based on lesion location, size or clinical suspicion, surgery was the diagnosis procedure in 21 patients (84%) – 15 with frozen section. Only 4 patients had a definitive histological result before the surgical intervention.
There were no significant differences in gender, age and smoking history of the nodules between primary and metastatic neoplastic lesions. All subsolid nodules were primary lung cancer (3 ADC in situ and 1 minimally invasive ADC). Of the solid nodules, 10 were primary lung cancer and 9 metastatic pulmonary lesions, but there was no difference in diameters (18.4±5.9 mm and 14.8±8.1mm, respectively). Parenchymal-sparing resections were more common in metastatic lesions comparing to primary lung cancer lesions (2 lobectomy and 7 anatomic segmentectomy or wedge resections *versus* 9 lobectomy and 5 anatomic segmentectomies or wedge resection) although not statistically significant (p=0.089).
Conclusion: Integrated into a multidisciplinary approach, surgery is an important strategy in the diagnosis and treatment of SPN in patients with a history of cancer. Primary lung cancer was the most common diagnosis in this group of patients. There were no clinical differences between primary and metastatic pulmonary nodules. All subsolide nodules were primary ADC lung cancer.

PC 028

HIGH FLOW NASAL CANNULA IN ACUTE HYPOXEMIC RESPIRATORY FAILURE – OUR EXPERIENCE IN AN INTENSIVE CARE UNIT

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Key-words: acute respiratory failure, high flow nasal cannula

Introduction: High-flow nasal cannula oxygen therapy (HFNC) delivers heated and humidified oxygen at higher rates. It helps reduce anatomical dead space, increase positive end expiratory pressure, reduce work of breathing and improve airway clearence with better comfort. Available data shows that HFNC is an effective modality in treating acute hypoxemic respiratory failure (AHRF) of various causes.
Objective: To assess our experience in treating AHRF with HFNC in Intensive Care Unit (ICU) patients.
Methods: A retrospective study of all patients admitted in our ICU in the last 2 years (2014-2016) with AHRF treated with HFNC.
Results: We identified 24 patients, with a mean age of 54,7y, predominantly males (70,8%) and 45,8% of the patients had previous pulmonary disease. The reason for AHRF was pneumonia in 45,8% (11) of the cases followed by exacerbation of interstitial lung disease (ILD) (7), pulmonary hypertension (PH) (4), post-extubation after thoracic surgery (1) and pulmonary lymphangiosis (1). The mean PO2/FiO2 at baseline was 94,7. HFNC was useful in 50% of the patients. 63,6% of pneumonia patients were discharged without necessity of IMV. From eleven patients that had HFNC as maximal interventional treatment, nine were deceased with an overall mortality rate of 37,5%. Five patients (20,8%) proceeded to invasive mechanic ventilation (IMV).
Conclusions: In our study even in patients with a mean PO2/FiO2 of 94,7, HFNC was useful mainly in pneumonia cases preventing IMV so it proved to be an alternative or an adition to non invasive ventilation. However, further studies are needed to validate our data and implement use criteria.

PC 029

NON-INVASIVE VENTILATION IN VENTILATORY WEANING

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Key-words: invasive mechanical ventilation, noninvasive ventilation

Introduction: difficult weaning from mechanical ventilation (MV) occurs in 25% of patients in the Intensive Care Unit (ICU), which increases if the patients who have chronic respiratory diseases. Re-intubation may be necessary in 5 to 25% the cases. Noninvasive ventilation (NIV) has emerged as a ventilatory weaning technique in patients intolerant to conventional methods, in patients with acute respiratory failure (ARF) 48 hours after extubation or as a prophylactic measure after extubation of patients at risk of ARF. Over the past years NIV has been consolidated as a weaning method, allowing the reduction of duration of intubation and associated complications.
Objectives: evaluate the use of NIV for ventilatory weaning in an ICU.
Material and methods: this is a cross-sectional and retrospective study. The sample was collected using the SAM® and PICIS® software and statically treated with IBM®SPSS®22. Patients requiring MV with NIV use in the weaning period, NIV of a palliative nature was excluded. Statistical tests used: U of Mann-Whitney, Wilcoxon and Kruskal-wallis.
Results: the sample consisted of 32 patients, 62.5% men, with a mean age of 71 years. The ICU lenght of stay was in average 18 days (up to 28 of hospitalization). Seven patients (22.6%) died (2 in the ICU). The main reasons for admission were acute exacerbation of COPD (25%), respiratory septic shock (18.8%) and community acquired pneumonia (15.6%). About 75% had hypertension, 50% had type 2 diabetes mellitus and 50% had heart failure. The respiratory disease accounts mostly for 34.4% with COPD and 25% whit OSAS. About 37.5% had chronic respiratory insufficiency: 12.5% used NIV at home and 12.5% had long-term oxygen therapy. The severity scores at entry were: APACHE II 22 (40.7%) and SAPS II 51 (48.2%).
The mean duration of VMI was 11.6 days. The main type of weaning was the combination of pressure support periods with spontaneous ventilation, weaning duration prior to NIV was 6.94 days. The duration of the NIV was on average 5.38 days (78.1% preventively instituted). Eight patients (25%) were reintubated, half of them had pneumonia, two had neuromuscular disease (one with ARDS) and one had iatrogenic pneumothorax. Approximately 52.4% of patients were discharged with NIV and 28.6% with had long-term oxygen therapy.
The reasons for hospitalization and the comorbidities did not significantly influence the number of MV or weaning days prior to NIV. The number of days of weaning prior to NIV was greater than that of days after institution of NIV; this difference was statistically significant (p 0.034).
Conclusion: the respiratory diseases/comorbidities in this sample were more prevalent. Some patients already performed NIV at home, facilitating their adaptation. In this sample there is a benefit in the institution of NIV in the ventilatory weaning demonstrated by the smaller number of days in weaning after institution of NIV; however this may be due to the improvement of the patients. In order to better assess the benefit of NIV, case-control studies are necessary to compare NIV vs. non NIV groups.

PC 030

GRAPH R/V, APPLICATION IN DAILY CLINICAL PRACTICE

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Key-words: Respiratory Function Testing, Total Body Plethysmography, Airway Resistance, Lung Volumes

Introduction: Total Body Plethysmography (TBP) is currently one of the most widely used methods in lung function laboratories for the evaluation of airway resistance (R_{aw}) and pulmonary volumes, essential principles for the understanding of respiratory pathology and non-measurable through simple spirometry.
However, although there is a close relationship between these parameters, they are not usually represented and interpreted together.
In this sense, the graph Resistance-Volume (R/V) was created, in which it is possible to interpret and evaluate in greater detail the variations of R_{aw} and pulmonary volumes during the respiratory cycle, through the R/V loop.
Objectives: To determine the impact of the use of the graph R/V and its parameters in clinical practice and its correlation with the other values obtained through the lung function tests (LFT).
Methods and Materials: Fifty adult patients who underwent LFT with bronchodilatation test and with consequente graph R/V evaluation were included in the retrospective study.
Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS) version 20.
Results: The mean age was 60 ± 16 years, 42% were male, with a mean BMI of 28.4 ± 5.9 kg/m^2, of which 18% were overweight and 52% were obese.
The mean value of baseline FEV_1/FVC was 0.67 ± 0.13, and 66% of the population had an obstructive ventilatory disorder, according to the FEV_1/FVC<0.70 criteria.
After administration of a short-acting bronchodilator, 28% of the patients presented a significant response, according to the ATS/ERS criteria.
The following table summarizes the parameters with statistically significant differences between the exposed categories:

	Classic LFT prameters	R/V loop
Obstrutive ventilatory disorder (FEV_1/FVC<0,70)	FEV_1/FVC; FEV_1; PEF; $MEF_{75/25\%}$; $MEF_{50\%}$; ITGV; RV; sR_{tot}	Diff RexM RinM; AreaR/V; Peak to peak; SBE
Overweight/ Obesity	FEV_1; FVC; VC; PEF; $MEF_{75/25\%}$; $MEF_{50\%}$; ITGV; TLC; R_{tot}; sR_{tot}	Rex Max; Rex Mean; Rin Max; Rin Mean; AreaR/V; Peak to peak; REFmax; RIFmax; SBE

After administration of the bronchodilator, the parameters Rex Max, Rex Mean, REF max, RIF max, Rin Max demonstrated statistically significant differences.
Discussion/Conclusion: The initial approach involving the analysis of the R/V graph and its parameters allowed to verify that there is a possible predictive value of some patterns for the detection of obstructive airway pathology and the justification of ventilatory difficulty in obese patients. It was also possible to identify the R/V loop differences in the reversibility of the expiratory (and inspiratory) flow limitation in response to the bronchodilator.
This method of TBP analysis and interpretation, although promising, requires a greater number of studies, especially focused on the R/V loop pattern.

PC 031

TRACHEOSTOMY WHEN? STILL A QUESTION UNDER DEBATE - 2-YEAR EXPERIENCE IN A TERTIARY ICU

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Key-words: Traqueostdmy, ventilator-associated pneumonia

Tracheostomy is an invasive procedure, which is indicated in patients with respiratory failure who need prolonged mechanical ventilation.[1,2]909 adult patients breathing with the aid of mechanical ventilation for less than 4 days and identified by the treating physician as likely to require at least 7 more days of mechanical ventilation. Interventions Patients were randomized 1:1 to early tracheostomy (within 4 days An elective tracheostomy may be inserted as a percutaneous or open surgical technique.
Tracheostomy has gained increasing importance in Intensive Care Units (ICU), because it facilitates pulmonary toilette allowing drainage of bronchial secretions; it improves patient comfort with lower doses of sedation and reduces the length of ventilatory weaning. These benefits allow shortening the average stay in the ICU [1 3].
The optimal timing of tracheostomy is still under debate. Previous guidelines recommended tracheostomy when there was an anticipated duration of MV of more than 21 days. Subsequently, several heterogeneous small clinical trials have attempted to elucidate whether there was any difference in mortality or nosocomial pneumonia, with an early or late procedure (less or more than 10 days).[3]
The authors performed a retrospective epidemiological cohort study. Patients were admitted in a tertiary ICU in Porto, between January 2015 and December 2016, and submitted to tracheostomy during the stay in this unit.
Demographic data was analysed, as well as the indications for tracheostomy, timing of the procedure, length of mechanical ventilation (MV), ICU and hospital stay. The incidence of respiratory infections pre and post-procedure, ventilatory support at ICU discharge and mortality rate were also studied.
The study includes thirty-eight patients, 68,4% male, aged 62.4 ± 13.7 years. Before tracheostomy, they were under mechanical ventilation during 15.5 days – median (ranging from 2-32 days). For most of them (63%) the procedure was performed after the 10th day of ventilator support, between the 11th and 20th day.
In a significant number of patients (n = 9), the main reason for the procedure was the need of airway protection. These were neurocritical patients, with moderate to severe neurological lesions/status (Glasgow Coma Scale < 8).
The incidence of infection was approximately 50%; there were 20 cases of ventilator-associated pneumonia (VAP) pre (52,6%) and 11 post-procedure (28,9%).
The length of ICU stay post procedure was 9.8 days. 26 patients were discharged on spontaneous ventilation and 6 on assisted ventilator settings. The overall mortality rate was 28.9%, 8 deaths out of 11 occurring in the ICU (the remaining in the ward or Intermediate Care Unit).

According to the literature, performing tracheostomy allowed progress in ventilatory weaning of these patients. This is reflected by the significant number of patients on spontaneous ventilation at ICU discharge. Consequently there was a reduction in respiratory tract infections. The authors also concluded that ICU patients who are identified to require long-term (more than 10 days) MV might be those who most likely benefit from early tracheostomy as an attempt to reduce nosocomial infection.

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PC 032

COMPARISON OF THE FEV1 VALUE FROM FIVE REFERENCE EQUATIONS: ECSC 71|83|93, NHANES AND GLI

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Key-words: lung function testing, spirometry

Introduction: Spirometry plays a fundamental role in the evaluation of pulmonary function. In 2012, with the publication of the Global Lungs Initiative (GLI) reference equations, the discussion of the equations chosen by each laboratory was once again in the spotlight.
Aim: The aim was to compare the FEV1 value from different reference equations available, namely the European Community for Steel and Coal (ECSC) 71|83|93, the National Health and Nutrition Examination Survey (NHANES) III and GLI.
Methods: We retrospectively selected spirometries from 30 individuals (63% men), aged between 51 and 82 years, who met the criteria of acceptability and reproducibility. We calculated the percentage of the predicted forced expiratory volume in 1 second (FEV1) using all the mentioned equations. In order to standardize the sample, only patients with bronchial obstruction were chosen (FEV1/FVC ratio<0,7).
Results: Only the results for GLI and ECSC 71 are not significantly different (pairwise t-tests, p<0,05), when the five equations are compared. We found that the results between ECSC 83 and 93 to be very similar, when comparing the severity of obstruction classified according to the percentage of predicted obstruction (ATS/ERS guideline 2005). However, both were statistically different from GLI (pairwise Wilcoxon tests). There was no significant differences between NHANES III and the other methodologies.
Discussion: As the equations produce significantly different values for predicted FEV1, the resulting classification of the obstruction will also be different. Therefore, it is critical that all reports clearly state the equation used, until laboratories agree on the standard equation to use.

PC 033

MISUSE OF INHALER DEVICES IN COPD: PATIENT--RELATED DETERMINANTS

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Key-words: COPD; inhalation technique

Introduction: In COPD patients, the correct use of inhalers is one of the most important issues for therapeutic success. Gender, age, education level and severity of the disease are patient-related determinants of a correct technique.
Objectives: To evaluate if demographic, clinical or functional characteristics can predict a correct inhalation technique.
Methods: COPD out-patients over 40 years old diagnosed according to GOLD criteria were recruited consecutively.We defined for each IDfive steps for a correct inhalation technique and twoessential steps and critical errors, which are likely to make therapy useless. A demographic and clinical survey was applied. Patients were asked to demonstrate the use of their prescribed inhalationdevices, just as he or she does it at home. A statistics analysis was performed, using IBM SPSS Statistics for Windows, Version 22.0.
Results: We studied 295 subjects (mean age= 67.7 years, SD=10.33, 76.9% males) performing a total of 510inhalation maneuvers. Ten types of IDs wereevaluated, and 47.5% of inhalations had at least one step incorrectly performed. In 149 (29.2%) demonstrations critical errors were observed: 52.9% with pMDIs, 23.3% with sDPIs, 26.2% with mDPIsand 27.5% with the soft-mist inhaler. In mDPI group, critical errors ranged from 16.1% with Ellipta® to 35.1% with Turbohaler®. Misuse was related to priming/loading in 6.9%, to inhalation in 13.1% and both in 9.2%. No significant relationship was found between total number of correct steps or correct performance of key maneuvers and income, typology of area of residence (TIPAU 2014), FEV_1, CAT score, mMRC grade and GOLD 2017 stage and classification. However, we found a significant relationship between total number of correct steps and age (p=.032), gender (p=.005), education level (p=.002) and Graffar score (p=.030). We found also a significant relationship between correct performance of key maneuvers and age (p=.023) or gender (p=.000). Younger patients, males, those with more education lever or better socioeconomic status demonstrated a better inhalation technique.
Conclusions: Despite significant developments in device engineering in the last years, inhalers mishandling remains an important clinical issue. Teaching and inhalation technique' follow-up should be reinforced in women, in elderly patients and in those with lower education level or lower socioeconomic status.

PC 034

CHRONIC OBSTRUCTIVE LUNG DISEASE: A NON--ADHERENT PHENOTYPE?

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Key-words: COPD; adherence; inhaled medication

Background and objectives: Poor adherence to medication is currently considered a major health problem. The adherence to inhaled therapy prescribed in COPD is unknown in our country, and its characterization is the aim of this study.
Methods: COPD out-patients over 40 years and diagnosed according to GOLD criteria were included. A survey of demographic and clinical data were applied, and assessment of symptoms were done using COPD Assessment Test (CAT) and the Medical Research Council Dyspnoea Questionnaire (mMRC). The Measure of Treatment Adherence (MTA) and the Beliefs about Medicines Questionnaire (BMQ) werealso applied. A statistics analysis was then performed, using IBM SPSS Statistics for Windows, Version 22.0.
Results: Of the314 participants (mean age=67.7 years, 78% males), 79.6% live in predominantly urban spaces, 88.1% referred low education level (≤ 6 years of school) and 65.3% low income (≤ 530€). Were considered non-adherent to inhaled therapy 16.3% of patients. Age, gender, education level, income and Graffar social classification were not statistically related to adherence. There was also no association between adherence and number of reported exacerbations. We found a statistical significant association between airflow limitation (FEV_1%) and adherence to medication (the higher airflow limitation, the higher adherence, p= .000). Adherence is also related to GOLD stage, being higher from GOLD 1 to 4 (p=.001). The association between adherence and ABCD groups, GOLD 2017, was under statistical significance. However, an association with statistical significance was found between adherence and current smoking status (25% of smokers and 14.6 % of ex-smokers or never-smokers were non-adherents, p = .040). Binary logistic regression indicates an odds-ratio of 2.4 times more risk of non-adherence for current smokers, when controlling for age, gender, education level, mMRC and FEV_1. The mean BMQ Necessity score was higher in adherent patients (20.59/15.58, p=.000), being the mean Concern score similar (10.80/10.63, p=.825).
Conclusions: Adherence is related to the perception of the necessity and to the functional severity of the disease. The non-adherent patient is usually a current smoker with lower degree of airflow limitation and lower perception of medication' necessity.

PC 035

HOSPITALIZATIONS FOR ACUTE COPD IN THE PULMONOLOGY AND INTERNAL MEDICINE DEPARTMENT – BRAGA HOSPITAL

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Key-words: Acute COPD, Comorbidities, Hospitalization, Mortality.

Introduction: COPD exacerbations are important events in disease control, as they negatively affect not only health status, hospitalization and rehospitalization rates, but they also contribute to the disease progression.
Purpose: Compare the patient's profile with COPD hospitalized for acute exacerbations in the Pulmonology and in the Internal Medicine Department.
Methods: Retrospective analysis of patients who were hospitalized for acute exacerbations of COPD in Pulmonology and Internal Medicine Department at Hospital of Braga in 2016.
Results: From the total of 113 patients hospitalized because of acute COPD, 61 (54%) were allocated to the Pulmonology Department and 52 (46%) to the Internal Medicine Department. The mean age of patients admitted to the Pulmonology Department was significantly lower than the patients admitted to Internal Medicine (71,5±12,6 vs 80,3±7,3; p<0,001), with male predominance in Pulmonology (77%) and Internal Medicine (57,7%) Department.
Within the patients hospitalized in the Pulmonology Department, 68.9% had a diagnosis of COPD confirmed by spirometry while in Internal Medicine Department only 55.8% of the patients had spirometry confirming the diagnosis. The most common comorbidities identified in patients admitted to the Pulmonology Department were bronchiectasis (54,1%), heart failure (47,5%), diabetes mellitus (26,2%), neoplasms (16,4%), chronic kidney disease (13,1%) and obstructive sleep apnea syndrome (11,5%). In the Internal Medicine Department the most common was the heart failure (67,3%), followed by bronchiectasis (23,1%), diabetes mellitus (21,1%), chronic kidney disease (17,3%), neoplasms (13,4%) and asthma (11,5%).
78,7% of patients hospitalized in Pulmonology Department were medicated with triple-therapy (inhaled corticosteroid, long-acting b2 agonist and long-acting anticholinergic) and 65,6% had chronic respiratory failure. In the Internal Medicine Department 30,8% of the patients were medicated with triple therapy and 25% had chronic respiratory insufficiency. There is a statistically significant association between the presence of chronic respiratory failure and the department they were hospitalized (p <0,001).
Concerning the exacerbations, 40 (65.6%) patients hospitalized in Pulmonology Department had at least one exacerbation in the previous year, of which 30 (80%) had required hospitalization. In Internal Medicine Department, 30 (57,7%) had at least one exacerbation in the previous year, with 15 (53,6%) needing hospitalization. In the Pulmonology Department, the mean hospitalization time was 12,03 days and the inhospital mortality was 4.9%, while in Internal Medicine Department the mean hospitalization time was 8,94 days with an inhospital mortality of 9.6%. There is not a statistically significant association between these two services in the mean hospitalization time (p=0.147) and in the inhospital mortality (p=0.332).
Conclusions: The patient profile hospitalized for COPD exacerbations in both services is distinct, although the differences found were not statistically significant in the mortality and hospitalization time parameters. The global mortality of these patients is in accordance with the literature expectations. The existence of spirometry in these patients is less than desirable.

PC 036

HOSPITALIZATIONS DUE TO EXACERBATION OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Key-words: Chronic obstructive pulmonary disease, exacerbations, comorbidities, microbiological findings

Introduction: Chronic obstructive pulmonary disease (COPD) has a significant impact on morbidity and mortality, and its exacerbation is a frequent cause of admission to the Emergency Department and hospitalization. COPD is a pathology that accompanies other comorbidities that contribute to the overall severity of the disease.
Goals: The authors sought to characterize retrospectively the hospitalizations in the group of patients with COPD exacerbations who went to the Emergency Departement of Hospital de Lisboa Ocidental (CHLO) during the first semester of 2015.
Material and methods: The data were collected through the HCIS (Health Care Information Systems) and SAM (Medical Support System) platforms. Patients with COPD diagnoses admitted with clinical exacerbation that requiered hospitalization were include. The following variables were assessed: demographic data (sex and age), spirometry performed at CHLO during follow-up and GOLD classification, oxygen therapy and/or chronic ventilation, comorbidities (arterial hypertension, atrial fibrillation, heart failure, ischemic heart disease, diabetes mellitus, chronic kidney disease, alcoholism) and exacerbation data (antibiotic therapy, systemic corticosteroid therapy, initial blood gas values, microbiological results of sputum)
Results: We obtained a total of 110 patients, 19 were hospitalized (17.3%): 3 in the Intensive Care Unit (ICU), 6 in the Pulmonology Department and the remaining in the Internal Medicine Department. Aged between 43-89 years (70 ± 12 years); 73.7% of males.
Spirometric results were obtained in 73.7%: GOLD2: 35.9%; GOLD3: 42.5%; GOLD4: 21.6%. 31.6% with oxygen therapy and 15.7% with oxygen therapy and chronic ventilation.
Regarding the comorbidities analysis, 36.8% had 3 or more comorbidities, namely: hypertension 68.4%; atrial fibrillation 15.8%; heart failure 15.8%; ischemic heart disease 10.5%; alcoholism 26.3%; chronic kidney disease 15.8%, diabetes mellitus 5.2%.
Antibiotic therapy was prescribed in 89.5% and systemic corticosteroid treatment in 68.4%. A microbiological examination of the sputum was performed in 52.6%, with a positive result in 15.8% of these, with *Haemophilus influenza* and *Streptococcus pneumoniae* being the most frequent. 52.4% had hypoxemia (age adjusted), 20.9% pCO2> 45mmHg and 15.7% pH <7.34.
Conclusion: Analysis of the study population reveals that, despite the small sample size, the majority of hospitalized patients had a FEV1 <50%. A significant number of patients had 3 or more comorbidities, contributing to the overall severity of the disease. Cardiovascular disease, chronic kidney disease and alcoholism are the most prevalent in the analyzed group, and these pathologies may be associated with a greater need for hospitalization. Most of the exacerbations were infectious, however, a microbiological examination of the sputum was carried out in only about half of the patients. A significant percentage of patients were not treated with systemic corticosteroid therapy, which deserves some reflection given the current recommendations. These data should be corroborated with larger groups, which is part of the authors' objective.

PC 037

EXACERBATIONS OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN THE EMERGENCY DEPARTMENT - DO WE HAVE SOMETHING TO LEARN FROM REALITY?

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Key-words: Chronic obstructive pulmonary disease, exacerbations, emergency department, maintenance therapy, exacerbation therapy

Introduction: Exacerbations of chronic obstructive pulmonary disease (COPD) are frequent and associated with a degradation of the basal state, representing an important consumption of health resources. The characterization of the exacerbations that motivated the use of the Emergency Department (ED) allows to reflect on the clinical practice.
Objective: The authors sought to characterize retrospectively the exacerbations of COPD in patients who went to the ED of Centro Hospitalar Lisboa Ocidental (CHLO) in the first semester of 2015.
Material and methods: The data were collected through the HCIS(Health Care Information Systems) and SAM(Medical Support System) platforms. Patients with COPD diagnosis admitted with clinical exacerbation were included.
Methods: We evaluated demographic data (sex and age), spirometry performed at CHLO during follow-up and GOLD classification, maintenance therapy, oxygen therapy and/or ventilation, comorbidities and exacerbation data (antibiotic therapy, steroid therapy, initial gasometric values, microbiological results of sputum and mortality).
Results: Included 110 patients, aged 43 to 94 years (72 ± 12 years), 61.8% of males.
Spirometric results obtained in 57.3%: GOLD1: 11.1%; GOLD2: 41.3%; GOLD3: 31.7%; GOLD4: 15.9%. Maintenance therapy: 45.5% LAMA + LABA + ICS, 21% ICS + LAMA, 19.1% LABA + LAMA, 7.2% LAMA, 3.6% LABA, 3.6% did not undergo pharmacological therapy; 30% with oxygen therapy and 10.9% with ventilation and oxygen therapy. Regarding the comorbidities, 32.6% had 3 or more, with the most frequent being arterial hypertension 46.4%, atrial fibrillation 9.1%, heart failure 12.7%, ischemic heart disease 15.5%, diabetes mellitus 15.5%; chronic kidney disease 5.5%, alcoholism 7.3%.
Antibiotic therapy was prescribed in 59.1% of patients and systemic corticosteroid therapy in 48.2%. Microbiological examination of the sputum was performed in 18.2%; of these, 45% had a positive result, *Haemophilus influenza* being the most frequent.
In the initial blood gas analysis, 52.7% presented hypoxemia (age adjusted), 45.5% pCO2> 45mmHg and 14.4% pH <7.34. 17.3% were hospitalized (3 in Intensive Care Unit); 2.7% of deaths during hospitalization.
Conclusions: Advanced age seems to be a factor associated with the use of ED. FEV1 does not appear to be directly related to the occurrence of exacerbations that motivate the use of the ED. Maintenance therapy, including ICS in 66.5% of patients, could effectively correspond to a group of exacerbators and be in accordance with current recommendations. The fact that the therapy with LABA+LAMA association was not yet generalized at the time of data collection should be taken into account in the analysis of the study. The high number of patients under oxygen therapy and ventilation confirms the severity of COPD.

Most patients had criteria for hospital discharge, which allows speculating that a system of home monitoring or primary health care for COPD patients could be adequate, reducing the visits to ED. A considerable number of patients required hospitalization (17.3%), being close to what is available in the literature (16%).
Exacerbations correspond to an event with an impact on COPD mortality; the authors consider that is important to reflect on the aspects of daily clinical practice in order to improve their prevention and treatment.

PC 038

ROLE OF EBUS-TBNA IN LUNG CANCER - EXPERIENCE IN A BRONCHOLOGY UNIT

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Key-words: lung cancer, mediastinical masses

Introduction: Endobronchial ultrasound-transbronchial needle aspiration (EBUS-TBNA) is a minimally invasive tool mainly used for diagnosis and staging of lung cancer (LC), but also to investigate unexplained enlarged mediastinal lymph nodes or masses. Our aim was to characterize all patients submitted to EBUS-TBNA in our Unit in the last 4.5 years.
Methods: retrospective review of patients submitted to EBUS-TBNA in our Unit between january 2012 and june 2016. Criteria for performing EBUS-TBNA were enlarged (>10mm) mediastinal lymph nodes on CT scan, positron emission tomography -positive mediastinal lymph nodes or mediastinal masses.
Results: 141 patients were submitted to EBUS-TBNA. Patients were pedominantly male (66.7%). Mean age was 62.6 y. EBUS-TBNA was positive in 70 patients: 49 non-small cell LC, 7 carcinomas of unknown origin, 4 sarcoidosis, 3 small cell LC, 1 tuberculosis, 1 typical carcinoid tumor, 1 mesothelioma and 4 metastasis of extra-pulmonary origin. Average number of passages was 3.7. Most frequently sampled stations were 7 (42,9%) and 4R (29,2%). 22 patients had lymph nodes <10 mm diameter, 27.2% of those had a positive diagnosis. The diagnostic yield of mediastinal masses was 62,5%. Fifteen patients underwent mediastinoscopy or surgery. Of those, 5 had the same result, 7 were false-positives and 3 were false-negatives.
Conclusions: EBUS-TBNA remains a safe, valuable diagnostic and staging tool in LC. False-positive results may be explained by neoadjuvant chemotherapy, indicated in most patients with N2 disease before surgery. Lymph nodes <10mm were positive in 27.2% of patients, which suggests that puncturing smaller lymph nodes could be usefull.

PC 039

THE IMPORTANCE OF BRONCHOALVEOLAR LAVAGE IN MICROBIAL IDENTIFICATION

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Key-words: Bronchoalveolar lavage, microbial

Introduction: Bronchoalveolar lavage (BAL) is a procedure performed through bronchoscopy, which allows to obtain samples of the distal airways. The clinical usefulness of the BAL study has been a constant source of controversy, largely due to difficulties in standardization of the method, however its usefulness is now recognized not only in research but in clinical practice.
Goals: *Primary end point*: to identify microbial agents in patients bronchoscopy with bronchoalveolar lavage.
Secondary endpoints: Identify the predominant microbial class; Correlation between the results obtained in LBA and in the microbiological examination of the bronchial secretions;
Method: A descriptive study was carried out based on the analysis of the content of clinical files for the period between January 2015 and December 2016. The sample included oncological and non-oncological patients with clinical and radiologically documented infectious intercurrence, which were proposed for Bronchoscopy with BAL
Results: A total of 132 bronchoscopies were performed with BAL. Of the 132 patients, 84 (63.7%) had hematologic neoplasia, predominantly lymphoma. The predominant radiological changes were condensation (n = 42, 32%) and pulmonary infiltrate (n = 49, 37%). Regarding the endoscopic findings, the majority had an examination without alterations (n = 48, 36%), followed by tracheobronchial tree hyperemia (n = 32, 24%). In the LBA there was a predominance of virus identification, with isolation of more than one viral agent. Microbiological examination of bronchial secretions reported that most of the isolated agents belonged to the fungi class, followed by bacteria, with a minimum virus isolation.In only 25 isolates (42%) there was agreement between the results obtained in BAL and in the microbiological examination of the bronchial secretions.
Conclusion: This study demonstrates the importance of bronchoalveolar lavage, in addition to the cultural examination of bronchial secretions, in the identification of the microbial population, with a predominance of virus isolation, thus allowing the institution of targeted therapy.

PC 040

BRONCHOALVEOLAR LAVAGE: USEFULNESS IN DIFFUSE LUNG DISEASES DIAGNOSIS - 10 YEARS RETROSPECTIVE STUDY

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Key-words: Bronchoalveolar lavage; Diffuse lung diseases.

Bronchoalveolar lavage (BAL) is a procedure performed during bronchoscopy in which sterile saline is introduced into one lung distal segments, with subsequent collection and final lower airways cellular and non-cellular components analysis. It gives information about inflammation mechanism involved in several pathologies and may help in in diffuse lung diseases (DLD) diagnosis.
Objective: To verify the BALs diagnostic performance in patients with suspected DLD who underwent endoscopic examination with transbronchial lung biopsy (TBLB).
Methods: Retrospective study with clinical files consultation and appraisal of demographic data, imaging exams, endoscopic reports, laboratory exams, microbiological and anatomopathological results of patients with suspected DLD submitted to BAL and TBLB between 2007 January and 2017 May.
Results: 144 patients was included in the study, with a 58 years mean age and with 72 patients of each gender (50% female and 50% male). Most patients (77%) were non-smokers and only 21 patients (14.6%) had a risk exposure history. Were performed 144 flexible bronchoscopies. The majority of patients did not present endoscopic alterations and the preferred site for BAL performance was in the middle lobe (84%). In the majority of cases (89.6%) were instilled 150 ml of sterile heated saline solution (3 times 50 ml) with a mean recovery of 82 ml. In 7 patients (4.8%), BAL performance was impossible or 30 ml recovery was not achieved. Samples were sent sequentially for microbiological, cytology examination and for lymphocyte populations study. In 32 patients (22.2%) TBLB allowed the final diagnosis. In these patients, BAL was consistent with the diagnosis in 13 patients (40.6%), with CD4 / CD8 ratio higher than 3.5 in half of patients with a final sarcoidosis diagnosis (6 of 12 patients). In patients whose TBLB was insufficient or inconclusive (112 patients), BAL was able to make the final diagnosis in 5 patients (4.5%). In 2 patients ILD was confirmed and in the remaining 3 patients, infectious disease was identified. Thus, the final BAL rentability in DLD diagnosis was 12.5%. In this patient sample, the 3 most diagnosed DLDs were in descending order: Sarcoidosis, Organizing Cryptogenic Pneumonia and Non-specific Interstitial Pneumonia (NSIP).
Conclusion: In this group of patients BAL rentability was low being higher when associated with TBLB diagnostic. However, BAL and TBLB should be the first diagnostic test besides its lower rentability. Thus, it should be performed in DLDs clinical scenario as it is also useful in differential diagnosis, particularly with infectious or neoplastic diseases.

PC 041

POST BRONCHOSCOPY FEVER - A PROSPECTIVE STUDY

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Key-words: Fever; Bronchoscopy

Introduction: Bronchoscopy is an essential tool in diagnostic and therapy of respiratory diseases. The occurrence of post bronchoscopy fever is one of the described complications, especially after bronchoalveolar lavage (BAL).
Objective: Determine the incidence of fever and bacteriemia in the 24 hours after bronchoscopy and identify precipitating factors.
Methods: Prospective study of 50 outpatients and 17 patients hospitalized at the Pulmonology Service of the General Hospital (Hospital and University Center of Coimbra) in the 24 hours after bronchoscopy, regarding the onset of fever (T> 38º C). All outpatients who had experienced fever within 48 hours prior to the procedure, who had documented lower respiratory tract infection, antibiotic therapy and / or corticosteroid therapy were excluded from the study.
The data was treated in Microsoft Excel.
Results: Outcomes presented will consider outpatients vs. inpatients. Thus, 37.3% vs 16.4% were men and had a mean age of 63 years vs 67 years. 34.3% vs 11.9% denied previous respiratory diseases and only 3% vs 1.5% were smokers.
Post bronchoscopy fever was observed in 3% of outpatients and in 3% of in-patients. There was no isolation of microorganisms from blood cultures taken from the patients concerned. And in the hospitalized patients, there was not even a rise in leukocytes higher than 50% of the previous count.
Ambulatory patients with fever experienced BAL during bronchoscopy. Inpatients were over 60 years of age and one of them was a former smoker.
In all patients (n = 14) who developed fever, it was transient complication, of limited duration (few hours) and easily resolved with antipyretic medication.
Conclusion: A low percentage of patients (6%) developed fever after bronchoscopy and all of them had negative blood cultures, which supports the hypothesis of transient rise in body temperature due to the release of pro-inflammatory mediators.

PC 042

PULMONARY CRYOBIOPSY: A 2-YEAR EXPERIENCE IN THE PULMONARY TECHNIQUES UNIT OF THE GARCIA DE ORTA HOSPITAL

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Key-words: cryobiopsy; profitability; complications

Introduction: Pulmonary cryobiopsy is a recent endoscopic technique, less invasive than pulmonary surgical biopsy in the diagnosis of pulmonary interstitial pathology. In June of 2015 was implemented in the Service of Pulmonology of the Garcia de Orta Hospital. The authors aim to characterize the group of patients submitted to cryobiopsy, diagnostic profitability and complications associated with the technique.
Methods: Retrospective observational study to analyze the results of the cryobiopsies performed between June 2015 and July 2017. The procedure was performing under rigid bronchoscopy with general anesthesia and "jet-assisted" ventilation. It was used the ERBOKRYO CA cryosurgery system and a cryoprobe (diameter 2.4 mm and 780 mm length). The samples were analyzed by anatomopathological study.
Results: 9 patients were submitted to pulmonary cryobiopsy. Of these, 55.5% were female (n = 5), with a mean age of 55.8 years (standard deviation 11.6 years). The main imaging patterns were non-specific interstitial fibrosis (NSIP) and the pattern of usual interstitial pneumonia (UIP). The diagnostic yield was 66.7% (n = 6), not related to the sample size . It was collected a mean of 2.1 (± 1.3) samples per patient with an average size of 0.75 (± 0.2) cm. The cryobiopsy was the initial diagnostic technique in most patients (only 1 was submitted to previous lung biopsy by another technique). The rate of immediate complications was 33.3% (1 pneumothorax, 2 moderate haemorrhages) and the rate of late complications was 33.3% (3 cases of hemoptysis maintenance). The mean duration of hospitalization was 3.13 (± 1.9) days. The mortality rate at 6 months after the procedure was 0%. Regarding the histological diagnosis, the authors highlight 1 case of UIP, 1 case of UIP-like pattern with lymphocytic infiltrate in favor of Chronic Hypersensitivity Pneumonitis (n= 1) and 1 case of non-necrotizing granulomatosis consistent with Sarcoidosis (n= 1). Still one report 2 cases of non-characterized Fibrosis and 1 case of nonspecific inflammatory infiltrate. In 2 cases, the histological appearance was normal and 1 case in which the sample was insufficient for diagnosis. In a multidisciplinary consensus meeting of Interstitial pulmonar pathology, after integration of the histological, radiological and clinical results it was possible a definitive diagnosis in all cases.
Conclusions: In spite of the small size of the population, given the recent implementation of the technique in the Pulmonary Techniques Unit of Garcia de Orta Hospital, this study highlighted the growing importance of pulmonary cryobiopsy in the diagnosis of Interstitial pulmonary pathology. In fact, in addition to allowing the collection of samples of sufficient quality for diagnosis, cryobiopsy has been shown to be a safe technique and it was associated with a low rate of complications.

PC 043

BRONCHOSCOPY WITH TRANSBRONCHIAL LUNG BIOPSY: RETROSPECTIVE STUDY IN A PULMONOLOGY DEPARTMENT IN THE LAST 10 YEARS

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Key-words: Bronchoscopy, Diagnostic yield, Transbronchial biopsy

Background: Transbronchial lung biopsy (TBLB) represents an accessory endoscopic technique that aims to collect representative material from the distal airways. This technique has expanded in recent years, allowing the diagnosis of various lung diseases, reducing the need for thoracotomy lung biopsies.
Objective: Evaluate the diagnostic yield (DY) of TBLB in patients with suggestive signs and symptoms of *diffuse* parenchymal *lung disease* (DPLD), infectious disease (ID) or suspected lung cancer (LC), with abnormalities observed on chest X-ray and / or Thorax CT scan.
Materials and methods: Retrospective analysis of clinical records, including demographic data, imaging studies, endoscopic reports and anatomopathological results of patients undergoing TBLB between January 2007 and May 2017.
Results: A total of 224 patients were included in the study, 120 (53%) male and 104 (46%) female, with a mean age of 58 years. In the 224 patients, 144 (64%) underwent the examination for suspected DPLD, 48 (21%) for suspected ID and 32 (14%) for suspected LC.
The majority of patients (137; 61%) were referred from the pulmonology department and consultation. In total, 200 flexible bronchoscopies and 24 rigid bronchoscopies were performed, with 3 to 6 transbronchial pulmonary biopsies done in each patient. The majority did not present endoscopic alterations, and the chosen place for the TBLB was in the lower lobes. In patients who underwent TBLB due to suspicion of DPLD, 32 (22%) allowed the final diagnosis, 40 (28%) showed no alterations, 39 (27%) were inconclusive, 26 (18%) did not have enough material for the diagnosis and 7 (4%) revealed other pathologies.
The most frequent diagnosed pathologies, in descending order, were: Sarcoidosis (n = 10; 6%); Cryptogenic Organizing Pneumonia (n = 8; 5%) and Non-specific Interstitial Pneumonia (NSIP) (n = 5; 3%).
In patients who make the exam due to the suspicion of ID, only 9 results (18%) were positive, and the most isolated agents were Mycobacterium *tuberculosis* (n = 4; 8%) and Pneumocystis *jirovecii* (n = 3; 6%).
Finally, in patients suspected of LC, TBLB allowed the diagnosis in 14 patients (43%), with Lung Adenocarcinoma (n = 5; 16%) and Non Small Cell Lung Carcinoma (n = 3; 9%) the most common histologies found.
The DY of the TBLB for the different groups was 22% in the DDP, 18% in the ID and 43% in the LC, with an overall diagnostic yield of 24%.
Conclusion: The present study allowed to evaluate the DY of TBLB in the different clinical situations. The overall yield was 24%. A relatively low percentage, which is a consequence of limitations of the technique: sample size and crushing artefacts of the pulmonary parenchyma, and in many cases it is necessary to perform cryobiopsis or thoracoscopy for diagnosis because they allow the observation of a larger sample of tissue.

PC 044

SYMPTOMS DURING FLEXIBLE BRONCHOSCOPY: 3 POINTS OF VIEW – THE PATIENT, THE DOCTOR AND THE NURSE

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Key-words: Flexible Bronchoscopy, Symptoms, Patient, Doctor, Nurse.

Introduction: Flexible bronchoscopy (FB) is an invasive, diagnostic procedure. Cough, choking sensation, nausea and pain are symptoms frequently experienced by the patient. We all experience and/or observe these symptoms in different ways, influenced by innumerable factors, not always directly related to the bronchoscopic technique.
This study tried to understand if the characterization of the symptoms by the patient during FB corresponded to the perception that the doctor and the nurse, who attend the procedure, had.
Patients and methods: A cross-sectional observational study of 148 patients who performed FB in the CHUC-HG, Pulmonology B Department, between February 2016 and June 2017, without a previous history of bronchoscopic procedures.
Demographic data were collected and the presence of psychiatric pathology was registered. The reason for FB was recorded as well as if the patient was aware of this reason.
The patient used a Visual Analogic Scale to characterize the symptoms (cough, pain, nausea, choking sensation and discomfort), and was questioned about the degree of acceptance to repeat the procedure, if necessary. The same questionnaire was performed by the doctor and the nurse who attend the procedure, for them to answer according to what they observed in the patient.
Statistical analysis was performed with IBM®SPSS®Statistics, version 23.
Results: 62.2% males, median age 64.5 years. The main reasons for FB were: suspected lung cancer (16.7%) or interstitial pathology (16.0%). 54.1% were aware of what motivated the exam.
FB had an average duration of 16.2 minutes. 63.5% performed only one endoscopic procedure. The most frequent endoscopic procedures were: bronchial aspirate (36.9%), BAL (28.2%) and bronchial biopsies (14,6%).
Cough (73%) and pain (58,1%) were the symptoms most frequently described.
79.7% of patients would repeat the procedure, if necessary.
We found that symptoms were not statistically related to gender, age, literacy or psychiatric pathology.
A statistically significant difference was observed between all the symptoms reported by the patient, and those perceived by the nurse and/or doctor (see Table 1).

Table 1 - Wilcoxon test (paired t-test) used to compare study groups: Patient, Nurse and Physician (IBM®SPSS®Statitics)

Symptoms	Related groups	*Z score*	*p-value*
Cough	Nurse-Patient	-2,783	0,005
	Doctor-Patient	NS	NS
	Doctor-Nurse	NS	NS
Pain	Nurse-Patient	-4,376	<0,001
	Doctor-Patient	-2,819	0,005
	Doctor-Nurse	NS	NS
Nausea	Nurse-Patient	-5,164	<0,001
	Doctor-Patient	NS	NS
	Doctor-Nurse	-5,924	<0,001
Choking sensation	Nurse-Patient	-4,091	<0,001
	Doctor-Patient	-3,628	<0,001
	Doctor-Nurse	-7,321	<0,001
Discomfort	Nurse-Patient	NS	NS
	Doctor-Patient	-2,894	0,004
	Doctor-Nurse	-3,291	<0,001
Degree of acceptance to repeat the procedure	Nurse-Patient	NS	NS
	Doctor-Patient	-3,045	0,002
	Doctor-Nurse	-2,815	0,005

Statistically lower values were obtained for: 1) cough in the nurse's scores (p = 0.005), 2) pain in the doctor's and nurse's scores (p=0,005 and p <0.001, respectively), 3) nausea in the–nurse's scores (p <0.001) and 4) choking sensation in the of nurses' nurse's scores (p <0.001).
Higher, statistically significant, values for choking sensation and discomfort were found in the doctor's and nurse's scores, (the doctor had higher values than the patient and the nurse).
Regarding the acceptance to repeat the procedure, there was a statistically significant difference between the doctor and the patient, with the doctor reporting a higher grade of acceptance (p = 0.002).
Conclusion: There is a big difference between how patients feel the symptoms and how health professionals perceive them. There is a tendency for the doctor and/or nurse to underestimate the patient's symptoms and there is the notion that the patient would repeat the procedure (if necessary), more surely than the patients themselves.

PC 045

DIAGNOSTIC VALUE OF ENDOBRONCHIAL ULTRA-SOUND-GUIDED TRANSBRONCHIAL NEEDLE (EBUS-TB-NA) IN THE MEDIASTINAL LYMPH NODE EVALUATION OF PATIENTS WITH EXTRATHORACIC MALIGNANCIES

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Key-words: EBUS, extrathoracic malignacy, mediastinum

Introduction: The lung represents a frequent metastatic site in extrathoracic malignancies. Mediastinal lymph node involvement, can change therapeutic strategy and prognosis, being therefore histological confirmation essential.
Goals: Evaluate the importance of EBUS-TBNA in patients with suspected mediastinal lymph node involvement due to extrathoracic malignancies.
Materials and methods: Observational retrospective study, with consultation of the clinical files of patients submitted to EBUS-TBNA for suspicion of mediastinal lymph node involvement of concomitant or previously treated extrathoracic malignancies, between February 2014 and December 2016. In case of a negative citology patients were submitted to surgical biopsy or clinical and radiological follow-up of at least 6 months.
Results: 69 patients were evaluated (41 men and 28 women, mean age 62.3 ± 11 years [32-83]). At the time of diagnosis 18.8% of the patients (n = 13) had intrathoracic findings (mediastinal or mediastinal and pulmonary). Intrathoracic findings appeared during follow-up with an average time since treatment of 4.7 years (3 months to 16 years) in 81.2% of the patients (n=56). Most patients had a previous diagnosis of primitive head and neck malignancy (n=21, 30.4%), followed by gastrointestinal tract (n=16, 23.2%), genito-urinary tract 14, 20.3%) and breast (n=13, 18.8%). 45 patients (65.2%) only had mediastinal lymph nodes and 24 patients (34.8%) had pulmonary nodules associated with lymph nodes. A total of 114 lymph nodes were punctured in 60% of the cases of the right inferior paratracheal and subcarinal stations. The main diagnoses were: malignant nodal involvement in 19 patients (27.5%), sarcoidosis in 5 (7.2%), primitive lung tumour in 3 (4.3%) and cystic lymphangioma in 1 (1.4 %). Punctures were negative in 41 cases (59.4%). Of these, 9 (21.9%) underwent surgical biopsy, with metastatic disease being confirmed in 4 cases and sarcoidosis in 2 patients. The remaining patients (n = 32) continued clinical and radiologic follow-up, without progression. The sensitivity, negative predictive value and overall accuracy were 84.6%, 92.8% and 91.3% respectively. No complications were reported.
Conclusions: EBUS-TBNA is a simple, safe and highly sensitive technique in the diagnosis of lymph node involvement due to concomitant or previous extrathoracic malignancy. Our data are similar to the literature leading to recommend EBUS-TBNA as the first line investigation in this group of patients.

PC 046

ASPECTS OF THE FLEXIBLE BRONCHOSCOPY TECHNIQUE THAT INFLUENCE SYMPTOMS DURING THE PROCEDURE

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Key-words: Flexible Bronchoscopy, Symptoms, Patient, Sedation, Local anesthesia

Introduction: Flexible bronchoscopy (FB) is an invasive procedure, useful in the investigation of respiratory pathologies, nevertheless causing some symptoms to the patient, not always related to technical aspect. In an attempt to lighten them, sedation and/or topical anesthesia is used.
This study meant to understand the association between the intensity of patient complaints and the various technical aspects of FB.
Patients and methods: A cross-sectional observational study of 148 patients who performed BF in the CHUC-HG, Pulmonology B Department, between February 2016 and June 2017.
Demographic data were collected and the reason for BF was recorded.
The patient used a Visual Analogic Scale to characterize the symptoms (cough, pain, nausea, choking sensation and discomfort), and was questioned about the degree of acceptance to repeat the procedure, if necessary.
The FB duration, the number, type and location of procedures, and the use of sedation and topical anesthesia were recorded.
Statistical analysis was performed with IBM®SPSS®Statistics, version 23.
Results: 62.2% males, median age 64.5 years. The main reasons for FB were: suspected lung cancer (16.7%) or interstitial pathology (16.0%).
8.8% received pre-procedure sedation, mainly diazepam p.o..
It was used an average of 10.7mg lidocaine gel 2%, 38.7mg of lidocaine liquid solution 2% and 40mg of lidocaine spray 40%, in a total of 48.9mg.
FB had an average duration of 16.2 minutes.
64,4% performed only one endoscopic procedure. The most frequent endoscopic procedures were bronchial aspirate (36.9%) e BAL (28.2%).
The most common sites were the upper lobe (27.1%) and the middle lobe (23.9%).
Cough (73%) and pain (58,1%) were the symptoms most frequently described.
79.7% of patients would repeat the procedure, if necessary.
There was no statistically significant difference between the symptoms and the administration of sedation prior to FB or its duration.
There was a difference between the amount of lidocaine solution and the degree of discomfort ($p = 0.015$) and the amount of lidocaine gel and the degree of pain reported by the patient ($p = 0.006$), with more amount of anesthetic in the higher patient's score. Throw out the total amount of lidocaine used analyses (gel and solution), there is a difference in the acceptance to repeat the procedure ($p = 0.015$): the lower the degree of acceptance, more of lidocaine was used
Conclusion: The type of procedure, and not its location or the duration of FB, led to more symptoms. The use of premedication was not determinant in the symptoms of the patient. Although coughing is the most frequent symptom, pain and discomfort, as well as the number of procedures, have led to the a higher amount of anesthetic administration.

PC 047

PNEUMOTHORAX IN A DISTRICT HOSPITAL – OUR EXPERIENCE

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Key-words: pneumothorax, etiology, treatment

Introduction and Objectives: Pneumothorax has an estimated prevalence ranging from 1,2 to 37 per 100,000 inhabitants. We aim to characterize patients admitted with pneumothorax regarding demographic data, risk factors, etiology, clinical presentation and therapeutic choices and compare our results with those described in the literature.
Material and methods: Retrospective study of the group of patients admitted with pneumothorax in Hospital Beatriz Ângelo, between January 2012 and May 2017. Data was collected from patients' clinical files and statistically analysed in *Microsoft Office Excel*.
Results: A total of 152 patients (190 cases) were analysed. Males were more commonly affected (78%). The pneumothorax was classified as primary spontaneous (PSP) in 48% of cases (n=91), as secondary spontaneous (SSP) in 28% (n=54), iatrogenic in 18% (n=35) of which 17 happened after transthoracic biopsy, and traumatic in 5% (n=10). We found that 149 cases occurred as a first episode and 41 as recurrence (33 patients). The recurrence rate in PSP patients was 26% and in SSP patients was 13%.
At the time of the episode, mean age was 44,3 years old (± 21,6). Smoking was refferred in over half of patients (55%). Among the most frequent respiratory comorbidities were COPD (12%), asthma (6%), interstitial lung disease (5%), lung cancer (4%) and pulmonary tuberculosis sequelae (4%); 63% of patients presented with no comorbidities. Mean BMI was 22,1 kg/m^2 (± 3,8). The most commonly obtained abnormalities on chest CT (performed in 110 patients) were emphysema (25% of patients), blebs (15%), consolidation (11,8%) and lung mass (9%).
In most cases (82%), patients underwent thoracic drainage, with the mean drainage time being 7,2 days (± 4,8). The verified technique complications were subcutaneous emphysema (7% of cases), thoracic chest tube acidental extraction (2%), skin infection in one case and pulmonary reexpansion edema in another.
Mean hospital length of stay amongst patients admitted primarily with pneumothorax was 7,8 days (± 10,6) in PSP patients (n=90) and 9,6 days (± 13,1) in SSP patients (n=45).
Refferal of patients to Cardiothoracic Surgery was done in 42 cases (22%) and in 33 (17%) of these, patients underwent surgery in a mean time of 5,3 days (± 3,6) after refferal. Chemical pleurodesis was performed in 7 cases (4%).
Conclusion: Gender, age groups, risk factors and the most frequently found comorbidities, with highlight for smoking and obstructive airway disease that was found in accordance to what is stated in the literature. Treatment approach was also similar to what is believed to be best practise. Hospital length of stay was higher than that found in other studies. Unlike what is described, we obtained a higher rate of recurrence amongst patients with PSP than those with SSP, which can be justified by the considerably high amount of patients that continued smoking, and also by the fact that patients with SSP were the ones who underwent surgery more often.

PC 048

CLIMATIC CONDITIONS AND SPONTANEOUS PNEUMOTHORAX - ANY INFLUENCE?

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Key-words: Climatic conditions; Spontaneous Pneumothorax.

Introduction: Climatic conditions may influence the development of spontaneous pneumothorax (SP). However, consensus does not exist about this topic.
Objective: Evaluate the possible correlation between climatic conditions and the development of SP (primary and secondary).
Methods: The authors performed a retrospective study evaluating the patients with SP who required hospital admission at a pulmonary department between January 2014 and December 2016. The climatic parameters evaluated were: atmospheric pressure (AP), temperature, relative humidity, wind velocity and precipitation.
Results: A total of 104 hospital admissions corresponding to 91 patients with a male predominance (80.8%) and an average age of 37.6 years (standard deviation 17,2 years) were evaluated. The majority had primary SP (69.2%) and the predominant occurrence of this pathology was observed in summer (32.7%) and winter (26.9%). The values of the meteorological parameters analysed were compared between the pneumothorax days and the days without pneumothorax. The mean values found and the difference to the previous day were identical between the 2 groups, with no statistically significant difference. However, when the subtypes of pneumothorax (primary versus secondary) were analysed, the authors verified higher mean AP values on secondary pneumothorax days (1020.6 versus 1018.8 hPa), as well as a higher difference from the previous day (3.2 versus 1.9 hPA), although no statistically difference.
Conclusions: Contrary to what was found in other studies, the authors did not found correlation between climatic conditions and the development of SP. Even so, they found higher values and more significant differences of AP on secondary SP days.

PC 049

PRIMARY SPONTANEOUS PNEUMOTHORAX – ONE-YEAR ANALYSIS

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Key-words: Primary spontaneous pneumothorax, thoracic surgery, Heimlich valve

Introduction: Primary spontaneous pneumothorax (PSP) is a common disease, frequently causing emergency department visits and hospital admission. However, current guidelines are not consensual, leading to a great variability in its approach at different centers.
Objective: To analyze the treatment and outcome of episodes of PSP patients admitted at a our hospital.
Methods: The clinical records of patients hospitalized with the diagnosis of PSP during the year 2015 were reviewed. Demographic, clinical and outcome data were collected at 30 days and one year. Patients hospitalized for elective surgery were excluded. Statistical analysis was performed using Epi Info ™ 7.
Results: Thirty-one patients were hospitalized, 82.3% (n=34) were males, with a median age of 24 years (min 15 - max 43). The majority (75.6%; n=31) had history of smoking. Pneumothorax was on the right side in 53.7% (n=22) of the cases. They were classified as great volume (70.7%, n=29) or small volume (19.5%, n=8), there wasn't any case described as hypertensive. In 68.3% (n=28) of the cases, it was a first episode of PSP; and in the remaining cases it was a relapse (ipsilateral in 11 cases and contralateral in 2). In the patients with first episode of PSP, the initial treatment consisted of observation (7.1%, n=2), small caliber drainage (7.1%, n=2) and conventional thoracic drainage (85.6%, n=24). In patients with recurrence, the initial treatment consisted of conventional thoracic drainage (76.9%; n=10) or VATS (23.1%; n=3).
In addition, during hospital stay VATS was required in 41.5% (n=17) of the cases, and in 65% (n=11) it was the first episode. In these cases, the most frequent surgical indication was prolonged air leak (n=12). The majority of patients were admitted at the thoracic surgery ward (48.9%; n=20) and general surgery ward (36.6%; n=15). The median days of hospitalization were 6 days (min 2 - max 39), similar in the first episode and relapse, but more prolonged in the patients admitted at the thoracic surgery ward compared to the others (12 vs 4.5 days, p = 0.0046). All patients were discharged home, one with a portable drainage system.
At 30 days 9.8% (n=4) had relapsed and 75% (n=3) of them required intervention. At the end of one year, the majority (63.4%, n=26) had abandoned follow-up, 29.3% (n=12) remained without relapse and 7.3% (n=3) had undergone elective surgery.
Conclusions: In most cases the initial approach was conventional chest drainage, and chest surgery was required in almost half of the patients. Recurrence was frequent, therefore we should think in which timing the surgical option should be offered. Other approaches such as the use of small drains with Heimlich valve may allow the management of a significant number of cases in the outpatient clinic.

PC 050

INDWELLING PLEURAL CATHETERS- THE INITIAL EXPERIENCE OF THE PNEUMOLOGY SERVICE

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Key-words: Indwelling pleural catheter, Malignant pleural effusion

Introduction: Indwelling pleural catheters have become a new approach to relapsing pleural effusions. Most of these effusions are malignant, with lung cancer being the most common cause in men and breast cancer in women (together they account for 50-60% of malignant pleural effusions). The need for repeated procedures to control these effusions not only affects patients quality of life but also entails high costs for health systems. Placement of long-term indwelling catheter is advocated for recurrent malignant pleural effusions where chemical pleurodesis was ineffective, in cases where the lung is incarcerated or when life expectancy is low and we want to minimize the use of emergency room (ER) admissions or hospitalization.
Results: In our department we have placed indwelling pleural catheters (Rocket Medical IPC®) in 6 patients, 5 women and 1 man, with a mean age of 77 years. The first catheter was placed in 2016 with hospital admission for 24 hours, all others were managed in an outpatient setting. All catheters were placed in cases of recurrent malignant pleural effusion: pulmonary adenocarcinoma (n=2), pleural mesothelioma (n=1), peritoneal mesothelioma (n=1), gastric adenocarcinoma (n=1) and renal carcinoma (n=1).
The mean duration of the indwelling pleural catheter was 3.8 months (1-10 months). The reason for removal was patient death (n=2), absence of drainage by spontaneous pleurodesis (n=2) and non-functioning catheter due to displacement (n=1). The most recent, placed about 2 months ago, still holds. Two complications were recorded: 1 empyema (without need of removal) and 1 catheter displacement.
It was observed symptomatic improvement with less need of ER admissions or invasive techniques such as repetitive thoracentesis.
Conclusion: In our experience, the placement of the indwelling pleural catheters was a good option for recurrent symptomatic malignant effusions. There was a symptomatic improvement, less ER and ward admissions. It is a safe technique with few complications and feasible on an outpatient setting. However, it is necessary to take into account the patient's social context and good family support.

PC 051

REVIEW OF THE HOSPITALIZATIONS FOR SPONTANEOUS PNEUMOTHORAX IN A PULMONARY DEPARTMENT

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Key-words: pneumothorax; primary spontaneous pneumothorax; secondary spontaneous pneumothorax

Introduction: There are several etiologies for pneumothorax.
Methods: Retrospective study of hospitalizations for spontaneous pneumothorax in a pulmonary department from 2010 to 2016. Clinical and demographic data were analyzed using *SPSS 24 software*. The iatrogenic and traumatic etiologies were not considered.
Discussion: There were included 67 patients, 72.6% were men and the median age [Q1; Q3] was 35 [21; 44] years. The average±SD days of hospitalization was 6±3.4 days. Regarding the etiology of pneumothorax, 64.4% were primary spontaneous pneumothorax (PSP) and 35.6% were secondary spontaneous pneumothorax (SSP). The median age of patients with PSP was 28 years and with SSP was 44.5 years ($p < 0.05$ - Mann Whitney U test). Within the SSP group, 65.4% of the patients had COPD, 23.1% asthma, 7.7% pulmonary tuberculosis. The main complaints that motivated the admission to the emergency department were thoracalgia (94.5%), dyspnea (17.8%) and cough (6.8%). For both PSP e SSP, the main symptom at admission was thoracalgia. In the PSP group, 68.1% were smokers and 12.7% consumed inhaled drugs. Concerning the laterality of the pneumothorax, the majority occurred on the left side. Regarding the seasonality of the pneumothorax, 54.8% of the cases occurred in the spring and summer. There were no differences between seasonality and PSP or SSP ($p = 0.11$). There were 6.8% of recurrences of pneumothorax. In the therapeutic approach, thoracic drainage was performed in 97.3% of cases and conservative therapy was chosen in 2.7%. In patients with drainage, 35.2% required surgical intervention. There were no statistically significant differences in treatment between PSP and SSP ($p = 0.67$). The mean number of days of thoracic drainage was 5.7 days. No statistically significant differences were observed respecting to gender, in patients submitted or not to surgery. There were 13.7% of cases of hypertensive pneumothorax and there were no deaths in the hospitalization period.
Conclusion: In this study, the majority of hospitalized patients were male and PSP were more frequent than SSP, which is acording to the published data. The main cause of SSP was COPD and SSP occurred in older patients than PSP. The majority of cases of pneumothorax occurred in summer and spring. It should be noted that there were no deaths during the hospitalization. In this review, surgery was not the first therapeutic choice in any patient, and it was only performed in cases in which the thoracic drainage did not resolve the initial situation.

PC 052

PNEUMOTHORAX: 5-YEAR REVIEW IN A PERIPHERAL HOSPITAL

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Key-words: Pneumothorax

Introduction: Pneumothorax is defined by the presence of air in the pleural space, resulting in partial or total lung collapse. These may be spontaneous (primary or secondary), traumatic or iatrogenic. They are a frequent finding in the Emergency Room (ER) and may become a medical emergency. Both diagnosis and treatment should be done as quickly as possible.
Objectives: Identify and characterize the population of patients with pneumothorax.
Methods: Retrospective study of patients diagnosed with pneumothorax admitted to the ER and hospitalized at the Sousa Martins's Hospital in the period between 1/1/2012 and 31/12/2016. Patients with concomitant haemothorax were excluded.
Results: There were identified 88 clinical processes, being excluded 39 patients with hemopneumothorax. Analyzed 49 patients, 69,4% (n=34) of the masculine gender, mean age of 42,78 (SD±21,73) years old. The most common clinical presentation was thoracalgia in 59,6% (n=28) of the patients. The smoking history was present in 32,7% (n=16), 24,5% (n=12) smokers, 8,2% (n=4) former smokers, 32,7% (n=16) were non-smokers and there were no smoking records in 34,7% (n=17). There was a history of pneumothorax in 25,5% (n=12) of patients, which the most frequent where ipsilateral recurrence in 14,9% (n=7). A total of 65,6% (n=32) had spontaneous pneumothorax, 42,9% (n=21) primary and 22,4% (n=11) secondary, with the most common associated pathology being asthma in 10,6% (n=10). Likewise, it was possible to calculate 28,6% (n=14) with traumatic pneumothorax and 6,1% (n=3) iatrogenic. Regarding the location, it was unilateral in all patients, with a predominance of the right side in 53,1% (n=26). The treatment was with chest drainage in 69,4% (n=34), conservative in 26,5% (n=13) and aspiration with intra-pleural needle in 4,1% (n=2). The mean gauge of the drain was 21,75 (SD±2.52) Fr. The mean number of days of hospitalization for pneumothorax was 6,7 (SD±4,43). Treatment with pleurodesis was performed in 40,4% (n=19) of the patients. In 97,9% (n=46) there was resolution of the pneumothorax, in 2,1% (n=1) there was death due to causes other than pneumothorax. Follow up was performed in 47 patients and 15,5% (n=12) presented pneumothorax relapse.
Conclusion: The majority of patients presented primary spontaneous pneumothorax, occurring mainly in young men and smokers. Asthma was the comorbidity most often associated with secondary spontaneous pneumothorax. In most cases chest drainage was performed, with a significant number of patients requiring pleurodesis. There was a moderate rate of pneumothorax recurrence.

PC 053

INVASIVE ASPERGILLOSIS IN A PATIENT WITH MYASTHENIA GRAVIS

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Key-words: invasive aspergillosis, myasthenia gravis, galactomannan antigen

Invasive aspergillosis has a high mortality rate in immunosuppressed patients (74-92%). In view of the low specificity of its clinical presentation, the delay to establish its diagnosis and treatment worsens the prognosis. The authors present a case of invasive aspergillosis in an immunosuppressed patient due to corticotherapy and mycophenolate mofetil, admitted to the Medicine ward, whose diagnosis was established by bronchofibroscopy. The authors also discuss the role of serum Galactomannan antigen on the diagnosis of invasive aspergillosis.
Case of a 73-year-old Caucasian man, non-smoker, with generalized myasthenia gravis (anti-AChR antibodies) under corticotherapy and mycophenolate mofetil, cortico-induced diabetes and myopathy, atrial fibrillation, obstructive sleep apnea treated with nocturnal auto-CPAP, leukocytoclastic vasculitis, toxic hepatitis attributed to azathioprine and arterial hypertension.
He was admitted to the Medicine ward in January 2017 with fever, myalgia, worsening dyspnea and mucopurulent sputum over the previous two weeks.
Physical examination: febrile (TT 38,5ºC); tachypneic, with use of accessory muscles, SpO_2 86% (FiO_2 0,21); BP 157/102 mmHg, HR 107/min; cardiac auscultation: complete arrhythmia; pulmonary auscultation: bilateral rhonchi, wheezes and rales.
Arterial blood gas test (FiO_2 0,21): pH 7,500; $PaCO_2$ 29,3 mmHg; PaO_2 48,8 mmHg; HCO_3^- 27,1 mmol/L; lactate 17 mg/dL. Laboratory tests: Hb 12,4 g/dL; neutrophilic leukocytosis; CRP 23,86 mg/dL; normal kidney function; NT-proBNP 3611 pg/mL.
The chest radiography showed diffuse alveolar consolidation in both lung fields.
Assuming bilateral pneumonia in an immunosuppressed patient and taken blood cultures and nasopharynx swab for Influenza virus, the patient was treated with empirical piperacillin/tazobactam and oseltamivir 150 mg bid. Mycophenolate mofetil was suspended and bi-level non-invasive ventilation was started.
All cultural specimens, including blood, urine and sputum cultures, *Streptococcus pneumoniae* and *Legionella* urinary antigens, and sputum test for *Pneumocystis jirovecii* were negative. The serum Galactomannan antigen was negative.
Despite the antibiotics and optimization of all medical treatment, there was no significant clinical or radiologic improvement, with a chest computed tomography confirming persistent alveolar consolidation involving all lobes of both lungs fields.
A bronchofibroscopy was made, with subsequent isolation of *Aspergillus fumigatus* from bronchial washing culture. The bronchoalveolar lavage wasn't made due to hypoxemia during the procedure.
Established the diagnosis of invasive aspergillosis, voriconazol was started, with subsequent clinical, gasometrical and radiological improvement. The patient was discharged with a plan to continue voriconazol (minimum 12 weeks), taper corticotherapy and suspend mycophenolate mofetil, remaining free of myasthenic symptoms. After discharge, the patient maintains clinical improvement and follow-up in outpatient clinic.

The serum Galactomannan antigen is an established screening and diagnostic tool in selected neutropenic, hematologic patients and post bone marrow transplant. However, it is less sensitive in other groups of immunosuppressed patients, such as in critical care or post solid organ transplant. The serum Galactomannan antigen levels in non-neutropenic patients are less accurate, since its clearance depends on circulating neutrophils. Therefore, the diagnosis of invasive aspergillosis in the non-neutropenic patient with risk factors, as the one presented, should be based in clinical grounds and microbiologic isolations.

PC 054

NOCARDIA – AN OUNDERCOVER AGENT IN A PULMONARY CAVITY

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Key-words: Nocardiosis; Pulmonary cavitation; immunocompromised patients

Introduction: In immunocompromised patients there's an increased risk of infection by uncommon agents. The rarity of this agents causes some diagnostic challenges, frequently conducting to some delay in therapy beginning leading to worse outcomes. A high index of suspicion and use of invasive exams is often necessary to achieve etiologic agent identification and an early establishment of therapy.

Case report: 58 years old male, diabetic, with history of liver transplant in 2003, under immunosuppressive therapy with mycophenolate mofetil and cyclosporine. Hospitalized for study of asthenia and fever with 15 days of evolution, associated with leukocytosis with neutrophilia and elevation of inflammatory markers. Urine and blood culture without pathogen *identification*. In the study performed to detect infectious focus, computed tomography (CT) of the chest documented an extensive cavitary lesion of the right upper lobe.

Transferred to the Pulmonology department for etiological investigation and exclusion of pulmonary tuberculosis.

New septic scan and bronchofibroscopy were performed and empirical antibiotic therapy was established with imipenem, voriconazole and cotrimoxazole. Isolation of *Nocardia paucivorans* on tracheobronchial secretions with the identification of the same agent in the bronchoalveolar lavage (BAL). Negative Ziehl-Neelsen and molecular detection of the Mycobacterium tuberculosis complex. Cerebral, abdominal and pelvic CT, blood cultures and transthoracic and transesophageal echocardiography exclude disseminated nocardiosis.

Antibiotic therapy with imipenem and amikacin has been maintained, and sustained apyrexia was observed since the second day of antibiotic therapy, associated with analytic normalization. After three weeks of effective antibiotic therapy, CT scanning reassessment documented dimensional reduction of cavitation and disappearance of liquefaction areas.

Discussion: Bacteria of the genus Nocardia have the capacity to cause suppurative, localized or systemic disease, predominantly in immunosuppressed patients.

Pulmonary infection represents the majority of the described cases of nocardiosis, with possible dissemination to almost any organ, particularly the central nervous system. Since this agent is not usually found in the respiratory tract, isolation in secretions is almost always indicative of infection.

There are no pathognomonic signs or symptoms of Nocardia infection, and the clinic of fever, hypersudoresis, fatigue and weight loss is non-specific. Pulmonary nocardiosis may also present clinical symptoms suggestive of exacerbation of chronic lung disease or pneumonia.

The imaging study leads to a multiplicity of patterns, from interstitial infiltrates to masses, with or without cavitation, forcing the exclusion of other differential diagnoses.

The correct diagnosis of *Nocardia* infection implies the isolation of the agent in biological samples, and invasive exams are often necessary.

In this case, the patient has important risk factors for nocardiosis. The isolation of the agent in tracheobronchial secretions, corroborated in BAL, allowed the establishment of a diagnosis and early institution of directed therapy, minimizing the risk dissemination.

PC 055

PULMONARY ASPERGILLOSIS – FROM COLONIZATION TO INFECTION

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Key-words: aspergilus, aspergillosis

Introduction: Aspergillus is an ubiquitous genus of fungi. Its range of action in humans varies between colonization, allergy and infection. Chronic pulmonary aspergillosis includes several manifestations, including: aspergilloma, aspergillary nodules, chronic cavitated pulmonary aspergillosis, and chronic fibrosing pulmonary aspergillosis. Invasive subacute aspergillosis is found in the spectrum between the acute and chronic forms. It usually occurs in patients with diabetes mellitus, alcoholism, prolonged use of corticosteroids, radiotherapy, among others.
Clinical case: 53-year-old woman, unemployed clerk, former smoker with smoking load estimated at 32 UMA. Clinical history of lung adenocarcinoma (initial stage IIIA - T4N0Mx), submitted to right inferior lobectomy and atypical recession of nodule in the middle lobe in May 2013, followed by adjuvant chemotherapy + radiotherapy. Successive reevaluations in the following four years did not present evidence of relapse of the disease. She was hospitalized at the Pulmonology Department after consultation with Oncologic Pulmonology for cough with purulent expectoration, asthenia and fever (not quantified) with about 3 days of evolution. At the physical exam she had weight loss, was pale, tachycardic (135 bpm) and feverish (TT 38.1ºC). Pulmonary auscultation showed an overall decrease in the vesicular murmur on the right, side without adventitious sounds. Chest X-ray did not present evolutionary characteristics in relation to the last one. Analytically: Hb 9.9 g/dL, Leukocytes 11.9 x10^9 /L, Neutrophils 86%, Reactive C-protein 41 mg/dL. Arterial blood gases showed respiratory alkalemia without hypoxemia. She performed thoracic CT that showed: "inferior lobectomy to the right, marked radiation alterations in the residual right lung. Deviated mediastinum to the right - retractable phenomena. In the left inferior lobe there is a small focus of nodular condensation (1.9x0.8cm) of poorly defined limits with adjacent interstitial densification and a more peripheral micronodular pattern, and there are two other off-center nodular foci in the anterior location, of inflammatory nature. In the left upper lobe there are some subpleural micronodules at the threshold of visibility. " We started her on empirical antibiotic therapy with Piperacillin-tazobactam after collection of cultures (blood cultures and expectoration). After 7 days of antibiotic therapy, she presented persistence of infection laboratorial parameters and maintained purulence of the secretions. She underwent bronchofibroscopy with bronchoalveolar lavage (BAL). An abundance of purulent secretions from the right main bronchus was observed. Bacteriological examination of bronchial secretions isolated *Aspergillus fumigatus species complex* only sensitive to amphotericin B. Galactomannan antigen was positive in BAL - 4.64. Serum Galactomannan antigen was negative. She initiated therapy with Amphotericin B, observing a gradual, albeit slow, improvement in the clinical situation. Upon reassessment by bronchofibroscopy, after 3 months of treatment, the Galactomannan antigen was negative (0.7).
Conclusion: We present this clinical case to emphasize the role of fungal infections that, although less frequent (when compared to bacterial infections), should not be underestimated in patients with risk factors. The critical role of clinical suspicion and LBA outcome is highlighted here since a significant fraction of the patients have galactomannan negative antigen in the blood, but positive in BAL

PC 056

ASPERGILLUS: THE AGENT NOT ALWAYS EXPECTED - CLINICAL CASE

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Key-words: *Aspergillus*, allergic bronchopulmonary aspergillosis, bronchiectasis.

Introduction: Pulmonary aspergillosis represents an infection by the fungus *Aspergillus* and comprises various forms of clinical manifestation that depends on the patient's immune status and their comorbidities.
Clinical case: Male, 44-year old, caucasian, active smoker (30 PYU), allergic to penicillin. He had no previous diagnosis of pulmonary diseases. He was referred to the Pulmonology Consultation by the Emergency Department for clinical symptoms of dyspnea and cough with two weeks of evolution, with no other complaints. The physical examination was normal, despite an hypoxemia (pO_2 65mmHg, FiO_2 21%) and with normal findings in the laboratory study and in the chest X-ray. He was discharged with inhaled budesonide / formoterol. In the consultation, despite mentioning improvement of the symptoms of dyspnea, he had in the pulmonary auscultation discrete bibasal wheezing. The functional respiratory study showed a moderate obstructive ventilatory alteration (FEV_1 2310mL, 66%, FEV_1 / FVC 62.56%) with pulmonary insufflation and a low response to the bronchodilator.
He repeated the chest X-ray that showed a pattern of bilateral micronodular infiltrate, which led to thoracic CT showing several areas of parenchymal consolidation, with right predominance and with multiple micronodules with tree-in-bud pattern, as well as some mild bronchiectasis with bronchial thickening and multiple reactive nodes suggestive of inflammatory / infectious disease. We begun an empirical cycle of antibiotherapy with cefuroxim and azytromicin. From the blood analyses, we found peripheral eosinophilia of 14.4% (1090/cel), an elevated IgE (7233 KUI/L), autoimmune and viral serologies were negative. He underwent bronchofibroscopy (BFC), whose microbiological, mycological and mycobacteriological examination of bronchoalveolar lavage (BAL) was negative, as well as the cytology of the BAL only described "rare eosinophils". At the end of 2 months after doing the antibiotic treatment, although less expressive, he maintained the parenchymal alterations in the thoracic CT. With the imagiological changes and the analytical findings, we admitted to be in the presence of an allergic bronchopulmonary aspergillosis (ABPA). The quantification of specific IgE for *Aspergillus fumigatus* in the serum was positive (64.4 U / kL), as well as the skin tests for *Aspergillus*; the quantification of precipitins for *Aspergillus* is still ongoing. He started treatment with corticosteroids and voriconazole, awaiting imaging and analytical re-evaluation at 8 weeks. From the clinical point of view, the patient was always asymptomatic regarding respiratory complaints and without new infectious intercurrences.
Conclusions: ABPA is the result from a hypersensitivity reaction to *Aspergillus*. As this is the case of an asymptomatic patient, smoker and with unknown pulmonary disease, the diagnosis, besides unexpected, enhances the multifaceted aspect of this agent.

PC 057

ASPERGILLOSIS: DOUBLE AGENT

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Key-words: Aspergillosis, bronchiectasis, COPD

Infections caused by Aspergilus species are complex and their presentation is dependente on the interaction between Aspergillus and the imune system. We bring the case of an active 76 year photographer who was admitted following a 4 week history of weight loss, fever, haemoptisis and productive cough. He was under current treatment for Allergic Bronchopulmonary Aspergillosis with prednisolone and itraconazol. This had been diagnosed 3 months before his admission and he had initially responded well. His past medical history included a 45PY smoking history, COPD stage 4C and, bronchiectasis and severe psoriasis. Following his admission his initial and current diagnosis is questioned. The authores review a complex case that ilustrates the multiple presentations of Aspergillosis as well as its risk factores and prognostic features.

PC 058

CHRONIC PULMONARY ASPERGILLOSIS – THREE CASE STUDIES

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Key-words: Aspergillus, Chronic Pulmonary Aspergillosis, Sarcoidosis, Pulmonary Tuberculosis

Introduction: Chronic Pulmonary Aspergillosis (CPA) encompasses a spectrum of chronic Aspergillus infections. Chronic lung disease and immunosuppression are known risk factors. The presentation is wide, the diagnosis is not always easy and the treatment is not consensual.
Case 1: 38 year-old male, history of Pulmonary Tuberculosis (PTB) treated in 2001, with sequelary bronchiectasis and cavitations on the right upper lobe. In March 2017 he was admitted in the emergency department with hemoptysis and a 2-month history of weight loss. CT revealed right apical alterations compatible with aspergillomas associated with adjacent parenchymal densification. Due to the analytical repercussion and hemorrhagic risk, bronchial embolization was performed. Considering isolation of *Aspergillus fumigatus* in mycological examination of bronchoalveolar lavage (BAL), imaging findings and clinical evolution, the patient started Voriconazole. Hemoptysis recurred so embolization was repeated. Because of fistulization risk with infection dissemination and sustained clinical stability, antifungal treatment alone was preferred and the surgery was postponed. To date, Voriconazole has been maintained, with periodic imaging control and no clinical relapse.
Case 2: 70 year-old male, with chronic autoimmune and alcoholic hepatitis, diabetes, PTB in 2011 with sequelary cavitation in the left lower lobe (LLL) was sent to the pulmonology outpatient care in August 2016 because of aspergilloma in the LLL. The study revealed specific serum IgG for Aspergillus. In September 2016 he was hospitalized for worsened respiratory symptoms after bronchofibroscopy (BFC). During hospital stay, he underwent splenectomy for persistent pancytopenia and suspected lymphoproliferative disease, which was not confirmed. In March 2017, he was hospitalized again due to respiratory infection – because of clinical, imaging and analytical deterioration despite broad spectrum antibiotic therapy, the condition was interpreted as progression of APC. Voriconazole was initiated and is maintained today, with clinical and imagiological stability.
Case 3: 37 year-old male, undergoing therapy with Rifampicin, Ethambutol and Isoniazid due to mycobacterial infection suspicion (PTB vs non-tuberculous mycobacteriosis), started in November 2013 (pulmonary biopsy with epithelioid granulomas without necrosis with acid-fast bacilli). In February 2014, he was admitted in the emergency department due to the presence, on thoracic CT, of cavitation on the lower left lobe with air-fluid level and adjacent pulmonary consolidations, hepatosplenomegaly with multiple splenic nodules and several adenopathies in the mediastinal, splenic, retroperitoneal and retrocural spaces. For lack of response to broad-spectrum antibiotic therapy, BFC was performed and *Aspergillus fumigatus* was isolated in the BAL. CPA was assumed and the patient started Voriconazole. Concomitant diagnosis of stage IV Sarcoidosis was made considering radiological evolution, absence of previous antibiotic response and high dose of Angiotensin Converting Enzyme. In August 2014 the

patient started treatment for Sarcoidosis with corticosteroid and later, in November 2015, with Methotrexate. Currently, he maintains antifungal and immunosuppressive therapy.
Discussion: In all cases presented the patients had a history of pulmonary disease, namely, prior cavitary PTB and Sarcoidosis, associated with some degree of immunosuppression (diabetes, alcoholism, splenectomy). Suspicion of infection with other pathologic agents is a diagnostic challenge, which makes microbiological findings important.

PC 059

IGG4-RELATED DISEASE AND PULMONARY TUBERCULOSIS: REPORT OF A CLINICAL CASE

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Key-words: tuberculosis; IgG4; Granuloma;

Introduction: IgG4-associated disease consists of a fibro-inflammatory condition with specific characteristics, which it is increasingly recognized and reported. It can be primary or secondary and affects only one or several organs. Pulmonary involvement is occasionally reported.
Clinical case: 52 yeard old woman, non - smoker, with a personal history of rheumatoid arthritis, hepatic hemagioma, hysterectomy with annexectomy and cholecystectomy. Family history of intestinal and breast cancer. Medicated with sulfasalazine 500 mg 2id, prednisolone 2.5mg, diazepam 5mg, escitalopram 20mg and ibuprofen in SOS. Did ultrassound for control of hepatic hemangioma and alterations in liver tests. Following the study, she underwent abdominal CT scan showing 26x11 mm adenopathy in the hepatic hilum and pulmonary alterations, so Pulmonology Consultation was requested. Subsequent CT-thorax showed a solid nodule in the RLL, with irregular contours, pleural tail and surrounding ground-glass opacity, 22 mm; 12mm nodule in the LLL, regular limits; several subpleural micronodules. No respiratory complaints. Objective examination without change. Analytically highlight for ALP 800 IU / L, GGT 120 IU / L, anti-CCP positive. Videobroncofibroscopy without endobronchial lesions. Microbiology, micro and mycobacteriology of mini-BAL and negative bronchial aspirate. Normal respiratory function tests. PET-CT with uptake in the RLL node (SUV max 2.5) and in right bronchohilar adenopathies. Transthoracic nodule biopsy revealed fibrosis and lymphoplasmacytic infiltrate, with immunohistochemistry and morphology suggestive of IgG4-related lung disease (on 20 plasma cells by HPF), but malignancy couldn't be excluded. RLL nodule resection was performed, whose anatomopathological result was of granuloma with caseous necrosis (posterior isolation of MBTc) and suspected lymphangioleiomyomatosis with nodular variant. Initiated anti-bacillary treatment, awaiting high resolution CT-Thorax, clinical and analytical reassessment.
Conclusion: The presence of granulomas generally excludes the diagnosis of IgG4-related disease, except when a typical clinical history of IgG4 disease coexists in the background. The clinical evolution will clarify the diagnostic doubts.

PC 060

ISONIAZID: A RARE SIDE EFFECT

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Key-words: Tuberculosis, antitubercular treatment, neurotoxicity, isoniazid, toxic encephalopathy

Isoniazid is being widely used as first line treatment of tuberculosis. However, it may be associated to some side effects, like hepatotoxicity and neurotoxicity, as peripheral neuropathy, toxic encephalopathy, optic neuritis and atrophy, cerebellar ataxia, psychiatric symptoms (as psychosis) and even death. Patients with renal insufficiency are more susceptible to this toxicity. In nondialized patients the most frequent neurotoxicity consists of psychosis.
The authors present a clinical case of a patient, male, 72 years old, caucasian, retired (ex-driver), non-smoker, history of arterial hypertension, stroke without sequelae and bilateral thrombophlebitis, who went to the Emergency Room because of hemoptysis in moderate amount with 1 day of evolution, without other symptoms. Chest radiography showed an hypotransparency in the left upper lobe (LUL). After that, the hemoptysis got worse, and he start having fever. We started to think about the possibility of pulmonary tuberculosis, because of that the patient was in respiratory isolation. He did a CT- angiography with cavitation on the LUL, associated to a condensation. The smear mycobacteriologic exam of sputum and bronchial secretions was negative, and because of that we asked for nucleic acid amplification test on bronchial secretions, which was positive for *Mycobacterium tuberculosis*. He started treatment with isoniazid 300mg/day, rifampicin 600mg/day, pyrazinamide 1500mg/day and ethambutol 1200mg/day, associated to pyridoxine 40mg/day, with symptoms improvement. 2 weeks after treatment initiation he presented with decrease of motor strength and increase of spasticity on the right side of the body. Head CT-scan didn't show any acute lesions. He started to have a depressive humor and started mirtazapine. Four days later, he was more prostrated, reason why we stopped mirtazapine, assuming a possible side effect of this drug. Nevertheless, there was a worsening of the symptoms. Analytically, AST was 6 times the upper limit of normal, ALT and GGT were 3 times the upper limit of normal. Because he kept the neurological deterioration he was observed by the neurologist who asked for an electroencephalogram, which was inconclusive, ammonia concentration in blood (normal), and lumbar puncture, also normal, excluding meningeal tuberculosis. 43 days after treatment beginning we decided to stop the antitubercular drugs, because of the hypothesis of toxic encephalopathy induced by isoniazid. He had a brain-MRI, which showed no signs of acute lesions, and we increased pyridoxine dose to 100mg/day associated to thiamine (for 3 days). Two weeks after drugs withdrawal the patient started to experience a progressive improvement of his neurological status. He started again rifampicin in gradual increasing dose until full dose, pyrazinamide and ethambutol. At this moment he's on the 162nd day of antitubercular treatment, with clinical improvement and normalization of neurological examination, as well as his liver enzymes.
Summarizing, despite prophylactic treatment with pyridoxine and normal renal function, when there are neurological changes in patients taking isoniazid, it's important to be aware of the possibility of isoniazid induced encephalopathy, although rare, especially in vulnerable patients (as older age, renal or hepatic insufficiency, and so on). This way, we can early withdraw the drug on time for a full recovery.

PC 061

TUBERCULOSIS AS DIFFERENTIAL DIAGNOSIS OF PULMONARY MASS IN PRE-SCHOOL

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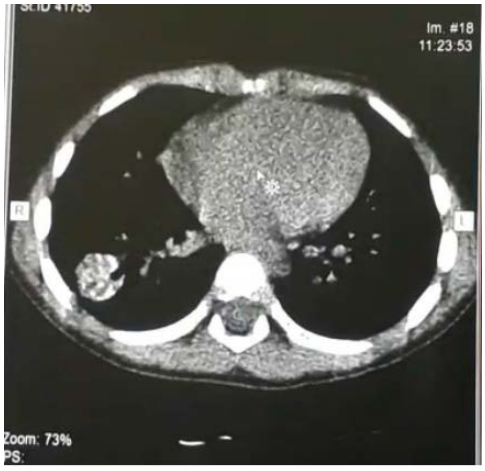
Key-words: Tuberculosis; pulmonar mass

A 2-year, 5-month-old patient was admitted to the tertiary department of the Pediatric Pulmonology Unit of the Hospital Universitario Antônio Pedro (HUAP) / UFF with a history of rounded lung imaging maintained in the lower third of the right lung. Image was initially visualized on chest radiography when the patient was 1 year and 5 months old and had cough sintom, being afebrile. Were performed empiric home treatment for community-acquired pneumonia (amoxicillin 50mg / kg / day for 10 days). Due to the maintenance of the image during patient investigation, empiric venous antibiotic therapy for common germs was given (amoxicillin and clavulanate 90mg / kg / day for 10 days), also with image maintenance.
Also already had immunoglobulin and anti-HIV collections, both normal.
In the HUAP, a chest computed tomography was performed, which revealed a rounded lesion measuring approximately 6 cm in its largest diameter, with several calcifications in the lower part of the midium right lobe region, also evidenced perihilar lymph node enlargement, with some calcified in the interior.
Although she did not present a medical history of home contacts with tuberculosis at the time, the mother of the patient who had custody of the pacient until the first year of life was emaciated and drug addicted.
Considering the possibility of tuberculosis due to social and epidemiological issues, a bronchoscopy with bronchoalveolar lavage (BAL) was performed, which showed enlargement of the main carina and of the lobes of the division of the lobes; BAL forwarded to microbiological for common germs and tuberculosis, cytochemistry (Ziehl-Nilsen and Ppanicolau) and Gene-Xpert.
Final diagnosis confirmed by Gene-Xpert positive for Mycobacterium tuberculosis sensitive to rifampicin, initiated treatment with triple scheme (rimfampicin + isoniazid + pyrazinamide), with good clinical evolution. Although the patient was initially eutrophic, without spontaneous complaint by the family about weight gain, it gained 3kg (22% of initial weight) in 3 months of treatment.



PC 062

OBSTRUCTIVE SLEEP APNEA AND MALIGNANT MELANOMA

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Key-words: Intermittent Hypoxia, Malignant Melanoma, Obstructive Sleep Apnea

Introduction: Obstructive sleep apnea (OSA) is a well-known public health problem owing to its high prevalence and the numerous consequences of the disorder, including excessive daytime somnolence, cognitive impairment and consequently traffic accidents. Metastatic cutaneous melanoma accounts for the majority of skin cancer deaths due to its aggressiveness and high resistance to current therapies.The link between OSA and intermittent hypoxia (IH) with cancer development has been very recently discovered. Most experimental data have been obtained using melanoma tumour models. IH is likely to be associated with an increase in growth rate, incidence, progression and mortality of cancer.
Clinical-case: Male, 60 years-old. Former smoker. A history of obesity, high blood pressure, depression and OSA diagnosed in 2015, under continuous positive airway pressure (CPAP), with good adherence. Patient described the appearance of a cutaneous lesion in the left shoulder at the posterior level, beginning in 2014. It was excised in October 2015. It was a BRAF positive ulcerated malignant melanoma (MM). Patient lost follow-up. Three months later (January 2016) he returned for continuation of the study having been staged. On suspicion of left-sided laterocervical secondary lesions, in March 2016, the surgical margin was enlarged and subcutaneous nodules of the clavicular (negative for malignancy) and juxtaclavicular regions were excised showing 2 malignant melanoma metastases in the lymph nodes. Therefore it was performed left cervical removal in May 2016, which confirmed metastization. Initiated treatment with anti-BRAF/anti-MEK agentes (vemurafenib and Cobimetinib). In November 2016, homolateral cervical and axillary recurrence were observed, presenting a massive cervical mass that caused bulging of the region. Patient with pain complaints at the cervical level and movement limitation with difficulty in nocturnal adhesion to CPAP (1-2 hours per night). In December 2016, total cervical removal, left parotidectomy and left axillary removal were performed, all ganglia massively metastasized. Due to progression under anti-BRAF/anti-MEK therapy, immunotherapy with nivolumab was initiated. Limited to comply with CPAP since November 2016. In February 2017, there was rapid progression of the disease with the appearance of a massive, fast-growing contralateral cervical mass. The patient died in April 2017.
Discussion: An increased cancer aggressiveness and mortality have been recently reported among patients with OSA. IH, a hallmark of OSA, enhances melanoma growth and metastasis in mice. In this case it was a patient with evidence of MM prior to the diagnosis of OSA, with cervical and axillary progression despite good adhesion to CPAP. He suspended CPAP therapy during the course of the disease, with the disease massively metastasized to the contralateral cervical chain within 3 months. Since IH is related to the progression of neoplasias, we believe that discontinuation of CPAP treatment may be related to a more rapid and aggressive progression of melanoma, despite poor prior prognosis. The authors question the pertinence of the dermatologic screening of patients with SAS as well as the screening of SAS in patients with a diagnosis of melanoma.

PC 063

EASY SLEEP APNOEA PREDICTOR - A NEW SCREENING TOOL FOR OBSTRUCTIVE SLEEP APNOEA

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Key-words: Obstructive sleep apnea, STOPBang questionnaire, ESAP test

Introduction: Obstructive sleep apnoea (OSA) is a common disorder, with as many as 80% of the patients remaining undiagnosed. The need for simple screening tools for OSA is indisputable. STOPBang questionnaire is one of the most widely used and validated sleep questionnaires.
Aims and Objectives: To evaluate the role of easy sleep apnoea predictor (ESAP) test, a simple neck grasp test previously described by Edmonds PJ and Edmonds LC as a screening tool for OSA and compare its' performance with STOPBang questionnaire.
Methods: Prospective study of patients referred for unattended home sleep study with type 3 portable monitor in a sleep clinic from July/2016 to June/2017. Demographic data, epworth sleepiness scale (ESS), STOPBang questionnaire (SBQ) and easy sleep apnoea predictor (ESAP) test were assessed. A positive ESAP test was defined as the inability to place the hands around the neck and easily encircle the neck completely. We excluded patients with other sleep disorders, chronic respiratory failure and missing data. Contingency tables were used to evaluate screening tests performances.
Results: We evaluated 264 adult patients, 61.4% men, with mean (SD) age of 60.4 (13.0) years, BMI 31.5 (6.1) Kg/m2. Epworth sleepiness scale (ESS) was greater than 10 in 85 (32.2%) patients. Overall OSA prevalence [apnoea/hypopnoea index (AHI) ≥5.0/h] was 76.1% and moderate/severe OSA (AHI≥15.0/h) was 45.1%. ESAP test was positive in 177 (67,0%) patients and SBQ≥3 (intermediate and high risk patients) in 253 (96,2%). For the diagnosis of OSA (AHI≥5.0/h) ESAP positive test and SBQ≥3 showed respectively a sensitivity of 77.1% and 100%, specificity of 65.1% and 15.9%, and a positive predictive value (PPV) of 87,6% and 79.1%. For the diagnosis of moderate/severe OSA (AHI≥15.0/h) ESAP positive test and SBQ≥3 showed respectively a sensitivity of 84.9% and 100%, specificity of 47.6% and 6.9%, and a positive predictive value (PPV) of 57,1% and 46.9%. SBQ and ESAP test performances were similar in subgroups of obese and somnolent (ESS≥10) patients.
Conclusions: ESAP positive test when compared with STOPBang questionnaire cutoff value of 3, showed lower sensitivity but higher specificity and PPV for the diagnosis of OSA and moderate/severe OSA than SBQ. Because of its' simplicity and performance we consider ESAP test a useful tool for OSA screening. Given the limited resources available for the diagnosis of OSA, we consider the high positive predictive value of this test combined with the simplicity of its application valuable in the assessment of patients with suspected OSA, especially in the primary health care setting.

PC 064

IMPACT OF CPAP THERAPY ON WHOLE NIGHT BEAT TO BEAT HEMODYNAMIC PARAMETERS

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Key-words: OSA, hemodynamic parameters, Nexfin HD

Introduction: The obstructive sleep apnoea/hypopnoea syndrome (OSA) is alleged to influence various components of the cardio-vascular system including the hemodynamic parameters (HP) like blood pressure (BP). Most evidence is related to ambulatory blood pressure analysis (MAPA) that only measures BP in intervals between 15 to 60 minutes. Our aim was to investigat-echanges of HP during the total sleep period and the effect of continuous positive pressure therapy (CPAP).

Methods: 6 patients underwent full polysomnographic recording (PSG) before and during CPAP titration. HP were recorded by beat to beat measurement using the Nexfin HD device. HP included: Heart Rate (HR), Systolic (Sys) and Diastolic (Dia) Arterial Pressure, Systolic Volume (SV) and Cardiac Output (CO). In each patient between 19281 and 25037 values of each HP were exported and analysed by SPSS. Results are demonstrated as means +/- standard deviation.

Results:

	Pacient 1		Pacient 2		Pacient 3		Pacient 4		Pacient 5		Pacient 6	
	Before CPAP:	After CPAP:	Before CPAP:	After CPAP:	Before CPAP:	After CPAP:	Before CPAP:	After CPAP:	Before CPAP:	After CPAP:	Before CPAP:	After CPAP:
Respiratory Disturbance Index (RDI)	**65,9**	**4,2**	**41,8**	**5,3**	49,3	**15,3**	**82,6**	**15,3**	37,7	**5,2**	**15,9**	**9,7**
HR	**61,7** (+/- 9,6)	**59,2** (+/-7,2)	**51,4** (+/- 7,3)	**53,8** (+/-8,7)	**72,1** (+/-9,4)	**73,5** (+/- 9,8)	**71,5** (+/-16,1)	**75,1** (+/- 7,3)	**63,7** (+/-18,7)	**62,1** (+/-18,9)	**60,2** (+/-19,2)	**54,3** (+/- 16,1)
(p value)*	**pffi0,000**		**p=0,264**		**pffi0,000**		**pffi0,000**		**p=0,103**		**pffi0,000**	
Sys	**116,7** (+/-13,1)	**119,1** (+/- 9,6)	**108,0** (+/- 10,7)	**95,1** (+/-8,1)	**125,1** (+/-16,6)	**114,2**(+/- 15,4)	**131,4**(+/- 18,9)	**119,6**(+/- 10,7)	**113,8**(+/- 14,5)	**112,2** (+/- 19,0)	**106,7** (+/- 11,3)	**117,9** (+/- 15,5)
(p value)*	**p=0,002**		**pffi0,000**		**pffi0,000**		**p=0,001**		**pffi0,000**		**pffi0,000**	
Dia	**72,8** (+/- 7,6)	**72,6** (+/- 6,4)	**66,1** (+/- 9,8)	**59,8**(+/- 6,7)	**66,5** (+/- 9,2)	**66,0**(+/- 7,4)	**79,4** (+/-13,2)	**72,4**(+/- 7,7)	**68,2** (+/- 9,4)	**69,9** (+/- 14,9)	**65,4** (+/- 6,4)	**68,2** (+/- 9,7)
(p value)*	**p=0,724**		**pffi0,000**		**pffi0,000**		**pffi0,000**		**p=0,197**		**pffi0,000**	
SV	**96,4** (+/- 13,4)	**99,6** (+/- 10,7)	**102,3** (+/- 13,6)	**92.6** (+/-14,1)	**104,4** (+/- 16,7)	**91,9**(+/- 13,7)	**98,3** (+/-18,9)	**98,2**(+/- 9,9)	**94,6** (+/-20,4)	**88,7** (+/- 20,4)	**95,2** (+/- 18,4)	**106,0** (+/- 20,3)
(p value)*	**p=0,010**		**pffi0,000**		**p=0,004**		**p=0,261**		**p=0,778**		**pffi0,000**	
CO	**5,9** (+/- 1,1)	**5,8** (+/- 0,8)	**5,2** (+/- 1,0)	**4,9** (+/-0,9)	**7,5** (+/- 1,5)	**6,7** (+/-1,4)	**6,9** (+/- 1,6)	**7,3** (+/-0,8)	**6,0** (+/- 2,3)	**5,4** (+/- 1,9)	**5,6** (+/- 1,9)	**5,6** (+/-1,8)
(p value)*	**p=0,001**		**pffi0,000**		**pffi0,000**		**p=0,198**		**p=0,743**		**pffi0,000**	

*(p value of difference between means) / **p<0,05 = statistical significance** / **p>0,05 = no statistical significance**

Discussion: Common MAPA analysis evaluates a maximum of 32 measurements in 8 hours of sleep. In this study we investigated more than 19000 measurements for each patient achieving a much more profound investigation of the hemodynamic profile. Although we are not the first to use this method, up to now rarely a whole night recording has been demonstrated and data was restricted to BP measurement. All patients demonstrated a significant reduction in the RDI, but HP evaluation did not correspond uniformly. These preliminary results support an ongoing discussion if MAPA is possibly insufficient to explain all the HP variation during sleep.

PC 065

IMPACT OF OBSTRUCTIVE SLEEP APNEAS ON HEMODYNAMIC PARAMETERS DURING THE WAKE/SLEEP TRANSITION

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Key-words: Sleep, cardiovascular, hypoxia

Introduction: Obstructive sleep apnea (OSA) influences several homeostatic functions of sleep. This includes the physiological reduction in sympathetic tone of the autonomous nervous system (ANS). Hemodynamic parameters (HP) are sensitive to the ANS and might be important to explain the increased mortality in OSA patients.
Methods: 38 participants underwent polysomnographic recording (PSG) and beat-to-beat analysis of the following HP: systolic- (Sys), diastolic- (Dia) and mean blood pressure (MAP), stroke volume (SV) and cardiac output (CO). Analysis was restricted to 5 minutes before and 20 minutes after sleep onset. Controls (C) were defined as participants with a normal/mild increased apnoea/hypopnoea index (AHI) <15/h and OSA with an AHI ≥ 15/h (O). Both groups were compared by the independent student-t test. The evolution of the HP during the wake/sleep transition (WST) was calculated by the correlation of time as independent and the HP as dependent variables. Relevant PSG parameters were identified by the multiple regression test. A significance level of alpha 5% was used for all tests.
Results: Anthropometric data and mean sleep values are listed in table 1:

	Age	BMI	EF [%]	N3 [%]	AI [/h]	AHI [/h]	ODI [/h]	T 90 [%]
C (n:21)	46.52 (10,96) ns	44.01 (7.07) ns	64,24 (15,92)*	10,95 (19,33) ns	20,17 (21,43) *	4,10 (5,70) *	8,33 (17,59) *	2,67 (7,89) ns
O (n: 17)	54,23 (8,05)	44,86 (5,56)	49,12 (20,30)	2.33 (7,22)	73,44 (37,25)	70,24 (33,18)	70.24 (34,62)	13,98 (25,22)

Table 1: Mean values (+/- SD). EF: sleep efficiency, N3: N3 sleep, AI: arousal Index, ODI: desaturation index, T 90 SpO2< 90 %, Results with p<0,05 are indicated with *.

	HR [mmHg]	Sys [mmHg]	Dias [mmHg]	MAP [mmHg]	SV [ml]	CO [L/min]
C	72.83 (18,8)	117.36 (17.8)	67.89 (13.3)	86.81 (14.8)	101.63 (16.7)	7.29 (1.3)
O	76.62 (14.8)	127.26 (20.6)	69.0 (10.9)	85.50 (24.56)	104.83 (13.6)	7.89 (1.53)

Table 2: Mean HP values (+/- SD). All results with p>0,05.

The evolution of the HP during wake/sleep transition demonstrated in table 3.

	HR	Sys	Dias	MAP	SV	CO
C	-0.010 (0.27)	-0.237 (0.34) *	-0.242 (0.34) *	-0.277 (0.32) *	-0.159 (0.30)	-0.179 (0.39)
O	-0.098 (0.20)	0.074 (0.29)	0.037 (0.24)	0.063 (0.39)	0.063 (0.26)	-0.095 (0.296)

Table 3 R coefficient of Pearson correlation time vs. HP values (Pearson) (+/- SD)

The table 3 demonstrates that OSA patients do not reveal the physiological reduction of the HP at the wake/sleep transition. Significant results were detected for Sys, Dias, MAP and SV. Multiple regression analysis between the HP as dependent and AHI, ODI and EF as explaining variables confirmed a significant negative relationship between EF and Sys (B:-0.007; beta -0,357; p=0,034), MAP (B:-0,01; beta -0,51; p=0,002) and SV: (B:-0,006; beta -0,36; p=0,03). No other significant results were detected.
Discussion and Conclusion: In this detailed analysis of the HP evolution during sleep the OSA patients did not reveal the physiological decrease in the HP values we found in controls. However, the impact of OSA was very small and mainly based on the maintenance of sleep.

PC 066

RITUXIMAB USE IN CHRONIC HYPERSENSITIVITY PNEUMONITIS – REPORT OF TWO CASES

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Key-words: Pneumonitis; Hypersensitivity; Rituximab

Introduction: Hypersensitivity pneumonitis is a disease that results from repeated exposure to organic particles. Treatment is based on antigen avoidance, corticosteroids and immunosuppressive drugs, but a minority of patients continue to decline. Rituximab is a B-cell depleting anti-CD20 antibody, used in lymphoma and autoimmune disorders. It has shown benefit in severe, treatment refractory interstitial lung disease, in particular interstitial lung diseases associated with connective tissue diseases.
Case presentation: A 56-year-old male, car upholstery worker, with exposure to glues and textile dyes, and no previous medical history, presented in March 2012 with an one-year history of progressive exertional breathlessness and productive cough. Fine inspiratory crackles in pulmonary auscultation and peripheral oxygen saturation of 93% were found on physical examination and interstitial pattern in chest radiograph led to investigation of interstitial lung disease. A high-resolution CT (HRCT) found features of hypersensitivity pneumonitis (HP) confirmed by surgical lung biopsy. Pulmonary function tests (PFTs) showed a forced vital capacity of 72.4%, total pulmonar capacity of 69.8%, Tiffenau índex of 93.2%, forced expiratory volume in one second of 84.9% and diffusing capacity for carbon monoxide of 49.5% with moderate hypoxemia in arterial blood gas analysis and 6-minute walk saturation of 81%. Deflazacort 0,75 mg/Kg/dia led to initial improvement, with relapse at 10th month of treatment with functional, clinical and HCRT impairment. As the addition of azathioprine showed no benefit, as well as cyclophosphamide, rituximab was initiated (two administrations with a 15-day interval). Compared to pre-rituximab results, there was clinical and functional stability at 12 month follow-up. A 44-year-old male, textile salesman, with exposure to a parakeet and a moist environment at home, and no previous medical history, presented in November 2010 with progressive exertional breathlessness and productive cough. Fine inspiratory crackles in pulmonary auscultation and peripheral oxygen saturation of 96% were found on physical examination. Initial chest radiography with reticular pattern led to additional investigation. PFTs were impaired with 57% of FVC, 62% of FEV1, 64% of TLC, 89% of TLC, 42% of DLCO and 6-minute walk saturation of 81% and HCRT showed ground glass opacities in the lower lobes. A surgical lung biopsy established the diagnosis of HP. Initial treatment with deflazacort with subsequent addition of azathiophrine and cyclophosphamide led to no significant improvements after three years. Rituximab was administered with clinical improvement and HCRT and functional stability at 12 month follow-up.
Conclusions: The authors highlight the need of new therapeutical approaches in interstitial lung disease. Rituximab may have a role as rescue therapy in chronic hypersensitivity pneumonitis.

PC 067

A TOXIC CLOUD - REVISION OF EMERGENCY DEPARTMENT ADMISSIONS AFTER A FIRE IN A FERTILIZER FACTORY

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Key-words: emergency department; inhalation; sulfur dioxide

Introduction: Sulfur is used in agricultural fertilizers and its combustion produces sulfur dioxide. This gas is soluble in water and is pollutant in certain concentrations. The exposition to sulfur dioxide can cause respiratory symptoms. These can be related with the age and previous respiratory pathologies of the patient and also with the duration of the exposition to this gas.
Methods: Retrospective study of the demographic and clinical characteristics of the adults who went to the emergency department (ED) after a fire in a sulfur-based agricultural fertilizer factory. Statistical analysis was made using *SPSS 24*.
Results: There were included 12 patients (58.3% were men, mean age±SD 39.6±12.8 years), 8.3% smokers, 25% with respiratory pathology and 33.3% with other comorbidities. In the scene of the fire, there were 58.3% of the patients and 41.7% were in border areas. The main reasons of admission in the ED were respiratory symptoms (75%) and 55.6% of patients reported dyspnoea, 55.6% cough and 44.4% thoracalgia. Some patients reported headache complaints (50%), dizziness (16.7%) and 33.3% had mild mucocutaneous involvement related to the proximity to fire. None of the patients had altered state of consciousness. In the group of patients who were in the fire scene, 85.7% had respiratory complaints, however in patients who were in furthest areas, these complaints were reported in 40%. In auscultation, wheezing occurred in 66.7% of patients who have respiratory diseases, while in the other patients no changes were observed (p = 0.045). Eight patients (66.7%) underwent chest X-ray, all without alterations. Gasimetry was performed in 10 patients (83.3%), 3 of them with hypoxemia – belonging to patients who were in the scene of the fire. Any patients required mechanical ventilation nor hospitalization. There were no deaths or recurrences to the ED. The majority of patients were treated in ED with intravenous corticosteroids (42%), bronchodilators (33%) and antihistamines (33%). Three patients (25%) were medicated after the discharge.
Conclusions: It was found that the symptoms presented in this sample were mild, being especially respiratory. There was not need for hospitalization or any deaths. It can be related to the fact that this sample was young, most of them without chronic respiratory pathology and the exposure to sulfur dioxide occurred in a short period of time.

PC 068

MESALAZINE-INDUCED PULMONARY DISEASE

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Key-words: mesalazine; interstitial pneumonia; inflammatory bowel disease

Introduction: Mesalazine (5-aminosalicylic acid), the active metabolite of sulfasalazine, is often used in the treatment of Inflammatory Bowel Diseases (IBD). Incidence of systemic toxicity by mesalazine is about 3%, with pulmonary involvement being rare, unlike sulfasalazine.
The authors describe a case illustrative of the clinical, radiological and pathological manifestations of pulmonary toxicity by this drug.
Clinical case: The authors report the case of a 60-year-old female patient, non-smoker, with a personal history of medicated asthma and hypertension.
In the context of bloody diarrhea, she underwent a low endoscopic study and she was diagnosed with Ulcerative Colitis. She started treatment with mesalazine 500 mg 3 times a day, with a marked improvement in her symptoms.
Approximately 2 months after initiation of therapy she was admitted in the emergency department complaning of progressive dyspnea, non-productive cough, asthenia and nocturnal excessive sweating. On physical examination she had signs of respiratory distress, mild cyanosis, and basal inspiratory crackles and expiratory wheezing on auscultation of both lungs. Chest radiograph revealed bilateral diffuse interstitial infiltrate, blood gas analysis showed type 1 respiratory failure and laboratory data showed elevated sedimentation rate and lactate dehydrogenase, with no other relevant findings. The patient was started on antibiotic therapy with Amoxicillin + Clavulanic Acid and Azithromycin in the presumption of atypical pneumonia and she was admitted to the hospital for clinical stabilization and complementary study, without having been discontinued therapy with mesalazine.
A high resolution computed tomography (CT) scan revealed bilateral *ground-glass* opacities and accentuated peribronchovascular septa. Microbiological screening was negative, as was the serological study. The immunological study revealed normal immunoglobulin levels and an elevated p-ANCA (1:320). Pulmonary function tests were compatible with obstruction of the small airways and mild reduction of DLCO. She underwent bronchoalveolar lavage, which showed hypercellularity with predominance of lymphocytes (66%) and CD4/CD8 ratio <1.
Because of progressive clinical worsening, the patient was submitted to a surgical lung biopsy, which showed histological alterations compatible with interstitial pneumonia of probable toxic etiology. Treatment with mesalazine was discontinued and systemic corticosteroid therapy was started, which lasted for about 6 months.
After this period, the patient was asymptomatic and the chest CT did not show any pulmonary parenchymal alterations.
Conclusion: The differential diagnosis of mesalazine-induced pulmonar disease (as well as other drugs used to treat IBD) should include pulmonary involvement due to this type of disease, as well as opportunistic infections, among others.
Histology plays a major role in diagnosis, although clinical improvement secondary to drug suspension is highly suggestive.
Evolution is usually positive after discontinuation of the drug, but systemic corticosteroid therapy may be necessary, with some evidence of a more rapid recovery in terms of both symptoms and lung function.

PC 069

LUNG GRANULOMATOUS DISEASE FOLLOWING CUTANEOUS GRANULOMAS OF THE SKIN 11 YEARS AFTER THE INJECTION OF ARTECOLL®

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Key-words: granulomatous disease, Artecoll

Introduction: granuloma formation and cutaneous sarcoidosis can occur at the site of tatoos or of injection of cosmetic fillers like Artecoll®, a mixture of bovine dermal collagen and polymethyl and methacrylate microspheres.
Case report: female, 66 years old, ex-smoker (50 pack-years), with a history of bilateral recurrent uveitis, Parkinson's disease, depression, alcoholism and multiple plastic surgeries. She had had Artecoll® facial injection in 1994.
She was first evaluated at the pulmonology clinic in 2005 for a 6 month history of productive cough, dyspnea, pleuritic right chest pain and weight loss of 8 Kg. The patient had bibasal inspiratory crackles and HRCT showed mediastinal adenopathies and a micronodular milliary pattern of the upper lobes, ground glass areas and bronquiolectasis. Interstitial fibrosis at the lower lobes.
Functional respiratory assessment showed air trapping (RV 145%) and reduced DLCO (DLCO 42%, DLCO/VA 59%). Auto-immune blood tests, angiotensin conversion enzyme and HIV, HBV, HCV serologies were negative. Broncho-alveolar lavage was lymphocyte predominant (44%, CD4:CD8=14) and bacteriological, mycological and micobacteriological exams were negative.
Transbronchial biopsies revealed non necrotizing granulomas with giant multinucleated cells foreign body *like*.
Respiratory symptoms appeared after an episode of facial cellulites for which the patient was admitted to the Dermatology nursery. She presented with erythema and edema of the face, with tender areas at the inter-ciliary region and naso-genian sulc. Biopsies of these areas were suggestive of granulomatous reaction foreign body-*like* associated with lipidic material (lipogranulomas). She was first treated with antibiotics, topical injection of 5-fluoracil and betamethasone with only partial improvement and the need for surgical debridement. Histological exam of the excised lesion showed chronic inflammatory reaction with multiple lymphocytes, epithelioid histyocites and small rare granulomas with giant multinucleated cells, associated with round multisized vacuoles, predominantly extracellular and non-refringent. These changes were interpreted as foreign body granulomatous reaction to the Artecoll® injected 11 years earlier.
The hypothesis of lung granulomatous disease secondary to Artecoll® was admitted. The filler could have acted as a trigger to the local reaction and subsequently to the systemic reaction.
The patient was started on prednisolone and azatioprin, with clinical improvement. Azatioprin was stopped in 2012 and prednisolone in 2013. The patient was not compliant to the regular follow up at the pulmonology clinic and she was later re-evaluated in 2016. DLCO had further decreased (31%) and she maintained mediastinal adenopathis, coalescent micronodules of the upper lobes, bronchiectasis and fibrosis. Prednisolone was started again (20mg/day) and the patient was referred to the interstitial lung disease clinic. Case was discussed at the multidisciplinary meeting. The diagnosis previously considered was accepted and immunosuppresion was maintained.

Conclusion: granulomatous reaction of the skin to foreign bodies in patients with systemic sarcoidosis have been previously described. However, pulmonary involvement following skin granulomatous reaction is not frequent and pathophysiology is not totally understood. To our knowledge, this is the first case of granulomatous lung disease manifesting after cutaneous granulomatous reaction secondary to Artecoll®.

PC 070

PLEUROPARENCHYMAL FIBROELASTOSIS AND SILICOSIS: AN UNEXPECTED ASSOCIATION

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Key-words: Fibroelastosis, silicosis, lung

Idiopathic upper lobe fibrosis was described in 1992 and characterized by elastotic fibrosis in pleura and subpleural lung parenchyma, with a predilection for the upper lobes. In 2004 Frankel et al applied the term pleuroparenchymal fibroelastosis (PPFE) for the first time, highlighting the pathologic findings of the disease. The latest update of international multidisciplinary classification of idiopathic interstitial pneumonia (IIP) includes PPFE in the section of rare IIP. Despite of being initially thought to represent a specific entity, current literature suggests that PPFE may likely represent a much more common form of chronic lung injury, seen in association with a variety of clinicopathologic conditions, such as infections, drugs, transplantation, autoimmune diseases and usual intersticial pneumonia. The authors present the case of a 47-year-old man with professional exposure to silica who developed chronic cough and weight loss. Computed tomography (CT) of the thorax revealed a diffuse micronodular pattern with random distribution and apical pleural thickening with extension to the pulmonary parenchyma. He underwent transthoracic biopsy guided by CT to the apical lesions, which established the histological diagnosis of PPFE. He maintained a diffuse micronodular pattern on the reevaluation CT and was submitted to transbronchial cryobiopsy that revealed pathologic features of silicosis. Given that this association is not yet established, the authors find their description and presentation relevant.