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PE 001. QUALITY WORK: ASSESSMENT OF FOLLOW-UP TO SMOKING PATIENTS IN A FAMILY HEALTH UNIT

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Introduction: According to who in Europe, smoking is responsible for the deaths of 1.2 million people a year, while tobacco consumption is also considered a disease. There is a high morbidity and mortality associated with tobacco consumption due to the higher incidence of neoplasms (lung, larynx, pharynx, mouth), cardiovascular diseases and COPD. Follow-up of these patients should involve regular surveillance to encourage smoking cessation and control risk factors.
Objectives: To evaluate the quality of follow-up of smokers enrolled in a family health unit in two periods (2020 and 2022).
Methods: Descriptive, cross-sectional and analytical observational study. Data were collected using the SClínico and MIM@UF. Population: users who smoke a Family Health Unit in March 2020 and March 2022. A simple, representative random sample was calculated in both evaluations. Exclusion criteria: non-regular users in the year prior to the evaluation. Variables analyzed: age; gender; smoking load has been recorded in the last 3 years; brief intervention records in the last 3 years; spirometry in smokers with > 40 years in the last 5 years; presence of comortities: HTA, DM, COPD, neoplasms, obesity, AME and stroke. Data processing: Microsoft Excel®.
Results: Samples were obtained from 150 users in both evaluations. In this second evaluation, 68% were male and 32% female with a mean age of 48.2 (value of the first evaluation (vpa) of 43.7). Smoking load registration: 26.67% without registration (vpa of 27.3%) and 73.33% with registration. Brief intervention record: 19.33% registered (vpa 15.33%) and 80.67% without registration. Of smokers over 40 years of age, 14.71% (vpa 6.09) had a spirometry in the last 5 years. Comorability: 54.67% had no record of comorability (vpa 63.33%); 22.67% had a comorability (pva of 6.66%); 16.67% two comortities (vpa of 11.33%) and 6% three or more comors (vpa of 8%).
Conclusions: From the data of the second evaluation we highlight the high percentage of patients without short intervention in the last 3 years and the low percentage of smokers over 40 years with spirometry. It should also be noted the low percentage of smoking load registration which is a useful tool for assessing the evolution of the user's smoking habits over the years. Thus, the authors consider that there is scope for progression to improve clinical follow-up to the smoking patient, and it is essential to discuss attitudes that enable this improvement.

Keywords: *Smoking. Follow-up.*

PE 002. KATAYAMA FEVER: A CASE OF ACUTE SCHISTOSOMIASIS PRESENTING AS ACUTE EOSINOPHILIC PNEUMONIA

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Introduction: Acute schistosomiasis (Katayama fever) is an immunologically mediated syndrome affecting non-immune individuals traveling to endemic areas. First reported in Japan, it commonly presents with fever, headache, malaise, myalgia, cough, hepatomegaly, splenomegaly, and peripheral eosinophilia.
Case report: The authors present the case of a 36-year-old man, from Brazil (Minas Gerais), living in Portugal for three years, non-smoker, car mechanic. Past medical history of allergic rhinitis. No chronic medication. Allergic to penicillin and NSAIDs. He kept regular contact with two dewormed dogs. The patient was evaluated in the Emergency Room due to non-productive cough, dyspnea, fever, and malaise in the last three days. He was tachypneic, SpO2 94% while breathing room air, tachycardic, with bilateral wheezing and rhonchi and bilateral crackles in pulmonary auscultation, no lymphadenopathy. Laboratory tests: Hb 13.2 g/dL; Eosinophils 1,700/uL; ESR 62 mm; CRP 4.32 mg/dL; total serum IgE 542 U/mL; negative Phadiatop; negative *Aspergillus*-specific IgEs. The viral serologies for HIV, hepatitis B and C were negative. Cryptococcal serum antigen was negative. Autoimmune study was negative. Stool ova and parasite test was negative. A study of parasitological serologies was performed but was still pending at the time of hospital discharge. Arterial blood gases (FiO2 0.21): pH 7.420; PaCO2 36.9 mmHg; PaO2 63.0 mmHg; SaO2 93.8%. CT of the thorax: bilateral ground glass opacities, with peri-hilar and bronchocentric distribution. Due to bronchospasm, the patient was medicated with hydrocortisone 200 mg and dexamethasone 6

mg. The flexible bronchoscopy showed hyperemia of the bronchial mucosa bilaterally. Cytological exam of bronchoalveolar lavage (BAL): 138 cells/uL; predominance of erythrocytes; CD4/CD8 1; no eosinophilia. Microbiological exams were negative. The histopathological exam of the bronchial biopsies presented an inflammatory infiltrate of the submucosa with eosinophilic predominance, supporting the diagnosis of eosinophilic pneumonia. The patient was medicated with prednisolone 0.75 mg/kg/day, inhaled corticotherapy and bronchodilators, with clinical and gasometrical improvement, and he was subsequently discharged with a plan to taper systemic corticotherapy in six months. At one-month follow-up, he was under prednisolone 20 mg/day and presented no respiratory or systemic complains. Pulmonary function tests and six-minute walk test were normal. At five-month follow-up, the patient was medicated with prednisolone 5 mg/day and complained of increasing dyspnea, non-productive cough, wheezing, and urticaria in the torso. Prednisolone was increased to 20 mg/day, inhaled therapy was optimized, and he was given an antihistamine, with clinical improvement. At six-month follow-up, the parasitological serologies were available and confirmed a positive Schistosoma serology test (ELISA and Cercarien Hullen Reaction), and the patient was medicated with praziquantel 40 mg/kg, with clinical improvement and remission of the respiratory symptoms, allowing glucocorticoid tapering followed by its suspension.
Discussion: This case aims to highlight the diagnosis of parasitic infections associated with lung eosinophilia in the differential diagnosis of eosinophilic pneumonia and patients presenting symptoms mimicking difficult-to-treat asthma, due to the different treatment approach these patients require. Schistosomiasis can be successfully treated with a short course of praziquantel. Parasitic infections, such as schistosomiasis, should be carefully evaluated in patients who have traveled or resided in endemic areas.

Keywords: *Schistosomiasis. Eosinophilic pneumonia. Pulmonary eosinophilia. Katayama fever.*

PE 003. SUPERIOR VENA CAVA SYNDROME: A VERY UNUSUAL SUSPECT

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Introduction: The superior vena cava syndrome (SVCS) is an iatrogenic complication of pacemaker placement that is rarely described, although it can be potentially serious and debilitating. It can occur immediately or a few years after its placement. The diagnosis should be confirmed using CT angiography and the etiological study should try to exclude alternative causes, like local malignancy, paraneoplastic syndrome or coagulation disorders.
Case report: We present the case of a 74 year old male patient, previously autonomous, that was admitted to the emergency department because of edema of the face and neck, dysphonia, cervical pain and dizziness while standing with 1 week of duration and progressive worsening. He denied weight loss, anorexia, night sweats, fever, dyspnea, hematuria or gastrointestinal changes. Past medical history was remarkable for glaucoma, arterial hypertension, moderate aortic stenosis, chronic renal disease and pacemaker placement (2 years ago). On admission, the patient was vigil and oriented, acyanotic and anicteric, presenting evident edema of the neck and face, venous ingurgitation of the peripheral circulation on both arms and ipsilateral telangiectasias on the cervical trapezius. He was hemodynamically stable, apiretic and had no breathing difficulties. Laboratory analysis only pointed out a D-dimer value of 3,028 ng/mL, showing no alterations of other parameters (including C-reactive protein and troponin). The patient was submitted to a chest CT angiography that revealed a pacemaker with electrode ends in the right atrium and ventricle and signs of extensive thrombosis affecting the superior vena cava in its pre-azygos course; both venous brachiocephalic trunks; the left subclavian and axillary veins and both internal jugular veins. No mediastinal or lung parenchymal masses were identified. These findings were suggestive of iatrogenic SVCS due to pacemaker. However, as iatrogenic SVCS is a diagnosis of exclusion, it was necessary to exclude other differential diagnosis, namely local malignancy, paraneoplastic syndrome and coagulation disorders. Imagiological and laboratorial investigation showed normal fibrinogen level, negative anticardiolipin and anti-beta-2-glycoprotein antibodies and negative tumoral markers (CA 125, CA 19.9 and PSA). Cranioencephalic and thoracoabdominal-pelvic CT and MRI revealed no alterations suggestive of a primary tumor and a presumptive diagnosis of SVCS associated with pacemaker was assumed. The patient maintained clinical and imaging surveillance for definitive exclusion of paraneoplastic syndrome and started on enoxaparin during internment, with posterior switch to edoxaban, remaining clinically stable.
Discussion: In summary, this case demonstrates not only the importance of considering pacemaker as a potential cause of SVCS, but also the need to carry out an extensive study to exclude other common causes of SVCS, especially malignancy and paraneoplastic syndrome. Treatment has to be considered on a case-by-case basis and it includes anticoagulation and local intervention procedures (stent placement or angioplasty).

Keywords: *Superior vena cava syndrome. Pacemaker. Paraneoplastic syndrome.*

PE 004. BRONCHIAL ATRESIA PRESENTING WITH TWO BRONCHOCELES: A CLINICAL CASE REPORT

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Introduction: Bronchial atresia is a rare congenital abnormality characterized by the focal obliteration of the bronchial lumen, on a lobar, segmentary (most frequently) or subsegmentary level, usually associated with peripheral mucus impaction (bronchocele or mucocele). It presents with adjacent segmentary or lobar hyperinflation, and reduction of vascularization of the involved segment or lobe.
Case report: A 66-year-old Caucasian man, former smoker (40 pack-years), with past medical history of arterial hypertension, type 2 diabetes mellitus, dyslipidemia, and obstructive sleep apnea was evaluated due to snoring and insomnia. He had no additional respiratory or systemic symptoms. The physical examination was unremarkable. Laboratory tests: Hb 14.2 g/dL; Leucocytes 7,500/uL; Neutrophils 4,580/uL; Platelets 132,000; INR 1.10; glucose 178 mg/dL; urea 72 mg/dL; creatinine 1.31 mg/dL; sodium 139 mmol/L; potassium 4.6 mmol/L; total bilirubin 0.48 mg/dL; AST 16 U/L; ALT 22 U/L; alkaline phosphatase47 U/L; GGT 17 U/L; CPR 0.49 mg/dL. The serum alpha 1 antitrypsin level was normal. Pulmonary function tests: Mild bronchiolar obstruction, with no compromise of the diffusing capacity for carbon monoxide. Arterial blood gases (FiO2 0.21): pH 7,423; PaCO2 32,6 mmHg; PaO2 90,7 mmHg; SaO2 96,9%; HCO3- 20,8 mmol/L. The computed tomography of the chest depicted, at the superior segment of the left lower lobe, hyperinflation and hyperlucent lung parenchyma, with a tubular-shaped opacity corresponding to a bronchocele, with no communication with the adjacent bronchial tree. The upper segment of the main fissure, on the left, was incomplete with the apical-posterior segment of the left upper lobe. There was also a second focal bronchocele on the basal anterior segment of the left lower lobe, with a focal oligoemic area of the adjacent parenchyma. This was consistent with bronchial atresia presenting with two bronchoceles of the superior and basal anterior segments of the left lower lobe.

Discussion: This case aims to highlight the diagnosis of bronchial atresia as a rare developmental abnormality usually presenting as an incidental finding on imaging. The presentation with two bronchoceles is uncommon. Although it may be associated with recurrent infections in 20% of the cases, most of the patients are young and asymptomatic and have no abnormalities on physical examination or laboratory tests. Computed tomography of the chest is the preferred modality for diagnosing bronchial atresia. Treatment is conservative in asymptomatic patients. When there is suspicion of underlying malignancy as the cause of obstruction, segmental resection may be done.

Keywords: *Bronchial atresia. Bronchocele. Mucocele. Congenital abnormality. Segmentary hyperinflation.*

PE 005. PROGNOSTIC FACTORS IN PATIENTS WITH LUNG CANCER

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Introduction: There are several prognostic factors described in lung cancer patients, including the albumin/total protein ratio, pretreatment lactic dehydrogenase, and the patient's baseline nutritional status.
Objectives: Understanding how parameters as accessible as body mass index (BMI), albumin, proteins and lactic dehydrogenase can help predict the response to treatment in a sample of patients followed in a Oncologic Pneumology appointment.
Methods: We collected anthropometric (weight and height) and analytical (albumin, total proteins and lactic dehydrogenase) data from a randomized group of patients with advanced stage lung cancer before and after first-line treatment. A binary logistic regression was performed to verify whether these data and the ratios between them are predictors of treatment response. A subgroup analysis was also performed, taking into account the treatment given.
Results: We collected data from 100 patients, 68% male, mean age at diagnosis of 64.07 ± 9.98 years. 67% smokers or ex-smokers. At diagnosis, 36% had a normal BMI, 33% were overweight or obese (grades I and II). The most frequent diagnosis was adenocarcinoma in 58% of patients, followed by squamous cell carcinoma (17%) and small cell carcinoma (16%). The first line of therapy was chemotherapy in 61% of patients, immunotherapy in 20% and the remaining were initially treated with targeted therapies, taking into account the identified molecular mutation. 64% had a partial response in the first evaluation, 23% progressed and the rest showed stability. We found that the initial value of albumin, proteins and lactic dehydrogenase correlated with the respective values at the date of the first imaging reassessment (ro = 0.378, ro = 0.433, ro = 0.563, respectively). In our sample, the higher the lactic dehydrogenase at diagnosis, the lower the albumin value at reassessment (ro = -0.276) and the lower the protein value at reassessment (ro = -0.296). The higher the initial LDH, the lower the response to treatment (χ^2 9.11, p < 0.05, R2NegelKerke = 0.131; OR = 0.993, 95%CI 0.988-0.999), regardless of histological type and treatment. The authors also point out that the lactic dehydrogenase/albumin ratio, both at baseline and at the re-evaluation date, was a predictor of the overall response to treatment. (χ^2 7.88, p < 0.05, R2NegelKerke = 0.106; OR = 0.977, 95%CI 0.958-0.996), (χ^2 7.32, p < 0.05, R2NegelKerke = 0.106; OR = 0.985, 95%CI 0.97-1).
Conclusions: With this work, the authors reinforce the importance of data such as lactic dehydrogenase at baseline and the lactic dehydrogenase/albumin ratio as simple and complementary ways of evaluating and stratifying this population.

Keywords: *Lung cancer. BMI. Albumin. Total proteins. Lactic dehydrogenase. Prognosis.*

PE 006. WHEN THE CAUSE OF CENTRAL SLEEP APNEA IS IN THE THERAPY: A CASE REPORT

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Introduction: Central sleep apnea syndromes, less common than OSAS, are, in most cases, secondary to other pathologies or drugs, and idiopathic cases are rare. Most cases of central apnea are associated with the Cheyne-stokes breathing pattern as it arises in the context of very prevalent pathologies such as heart failure. Although opioids are the main drugs responsible for the development of central apnea, there are many other potential drugs responsible.
Case report: We present the case of a 63-year-old former smoker (CT 20UMA) with a known medical history of arterial hypertension, dyslipidemia, hyperuricemia and moderate OSAS (AHI 27.4/h, with IAC 4.3/h) diagnosed 6 years on polysomnography (level II) and under treatment with autoCPAP 6-12 cmH_2O, with good adherence and residual AHI of 1.8/h. Usually medicated with acetylsalicylic acid, simvastatin, allopurinol and amlodipine. He is admitted to the cardiology service for an acute myocardial infarction at the level of the anterior wall, requiring coronary stent placement, with a transthoracic echocardiogram at discharge showing segmental hypokinesia of the anterior wall, but with preserved global systolic function of the left ventricle. (F. Ejection 55%). In the Pulmonology reassessment consultation, he reported complaints of asthenia and excessive daytime hypersomnolence (Epworth 11/24) for 2 months. The ventilation therapy report showed good adherence, with the same established pressures, controlled escape, but with a significant increase in the AHI to 28.3/h, mainly at the expense of central apneas (26.4/h). After reviewing the usual medication, it was found that the patient had started ticagrelor precisely 2 months ago, at the time of the acute myocardial infarction. After reviewing the literature, it was decided, after discussion with a cardiologist, to replace ticagrelor with clopidogrel and a brief reassessment one month later, maintaining the same parameters of autoCPAP. At the reassessment visit, the patient reported a significant improvement in sleepiness (Epworth 3/24) and the ventilation therapy report showed good adherence and a significant improvement in the AHI (3.2/h).
Discussion: In this case, the development of central sleep apnea secondary to therapy with ticagrelor, which is an antiplatelet drug (P2Y12 receptor antagonist), is reported. There are several reports in the literature of central sleep apnea secondary to ticagrelor and the pathophysiological mechanisms are not fully understood, but seem to be related to the stimulation of C fibers at the pulmonary level, causing respiratory instability and leading to central apneas. This case highlights the importance of reviewing the usual therapy in patients with central sleep apnea.

Keywords: *Central apnea. Ticagrelor.*

PE 007. TRACHEOBRONCHOMEGALY OR MOUNIER-KUHN SYNDROME – A CASE REPORT

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Introduction: Mounier-Kuhn syndrome is a rare entity, also known as tracheobronchomegaly, which usually appears in men between the 3rd and 5th decade of life. More often, it manifests with cough, dyspnea and recurrent infections. It is a sporadic pathology that results from the atrophy of the muscular, elastic and cartilaginous tissues of the tracheobronchial tree, leading to its enlargement during inspiration and expiratory collapse, and reduction of mucociliary clearance. Concomitantly, tracheal diverticula and bronchiectasis may be observed, predisposing to stasis and infection.

Case report: Male, 35 years old, ex-smoker (15 pack-years), with morning productive cough and easy tiredness, with 5-6 years of evolution. He presents to the Emergency Department with dyspnea, cough with mucous sputum and anorexia, and analytically presents leukocytosis (23 × 10^3/uL), with neutrophilia and monocytosis, and CRP 242 mg/L. Chest radiograph shows tracheobronchomegaly, lucent areas of rounded and tubular morphology, suggestive of bronchiectasis, and an area of hypotransparency at right perihilar region. There was clinical improvement after antibiotic therapy. Subsequently, a dynamic computed tomography (CT) scan was performed, which revealed, during inspiration, ectasia of the trachea (32 mm) and main bronchi, with a bossed appearance, and collapse during expiration, having also identified posterior tracheal diverticula and cystic bronchiectasis.
Discussion: Mounier-Kuhn Syndrome is a rare and underdiagnosed disease, with a clinical presentation that is often nonspecific, whose diagnosis is essentially radiological. Thus, it is essential to recognize the most revealing imaging findings of this pathology.

Keywords: *Congenital airway diseases. Bronchiectasis. Chronic respiratory infections.*

PE 008. INFLAMMATORY MYOFIBROBLASTIC TUMOR OF THE LUNG: A CASE-REPORT

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Introduction: The myofibroblastic tumor is composed of myofibroblastic spindle cells accompanied by an inflammatory infiltrate of plasma cells, lymphocytes, and eosinophils that most frequently develops in the lung. It may be benign, invade surrounding structures, undergo malignant transformation, recur, or may even metastasize. It has, indeed, a great variability of presentation, histology findings, evolution and prognosis. It is estimated that is represents 0,04-1,2% of all lung tumors, with the higher incidence being in adolescents and young adults.
Case report: The authors present the case of a young and asymptomatic 36-year-old man, ex-smoker, with a recent diagnosis of testicular seminoma and submitted to an orchiectomy. For the staging of the testicular seminoma, the patient did a thoracic TC, which revealed a pulmonary nodule of 17 × 10 mm with the left lower lung. The patient then underwent positron emission tomography, revealing mild glycolytic hypermetabolism in the pulmonary lesion. The patient was proposed to CT-guided lung biopsy and the histology was compatible with myofibroblastic tumor of the lung. The chosen treatment approach was surgery and the pathology of the surgical specimen was compatible with inflammatory myofibroblastic tumor of the lung, with no invasion od nearby structures or surgical margins.
Discussion: The authors intend to highlight the rarity of this diagnosis, the imaging findings, the diagnostic steps to a faster diagnosis and, if feasible, the need for a surgical approach, given the changes of recurrence, local invasion and even metastization.

Keywords: *Myofibroblastic tumor. Lung.*

PE 009. RARE PLEURAL MANIFESTATION OF AN UNCOMMON SYSTEMIC DISEASE

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Introduction: Chylothorax occurs due to the accumulation of lipid-rich lymph, or chyle, in the pleural space, and amounts to 2-3% of all pleural effusions, with bilateral involvement in 17% of cases. Its etiology can be traumatic (for instance, thoracic duct section during surgery) or non-traumatic (in most cases, solid tumors or hematological malignancies).
Case report: The authors present the case of a 63-year-old, Caucasian, male patient, smoker of 52 pack-years, who presented to the Emergency Department (ED) in June of 2021 with dyspnea and bilateral pleuritic chest pain. He also mentioned recent weight loss and night sweating, but denied fever or productive cough. Physical examination was relevant for ankle edema and abolished lung sounds bilaterally. Blood tests revealed microcytic hypochromic anemia, lymphocytosis and normal NT-proBNP levels. The chest radiograph showed bilateral pleural effusion. In the Internal Medicine ward, a full-body CT scan revealed lymphadenopathy in all lymph node groups, with large mediastinal conglomerates. Further investigations included protein electrophoresis with a spike in the gamma region and serum immunofixation showing elevated IgM and kappa light chain levels. Due to suspicion of a lymphoproliferative disease, bone marrow and cervical lymph node biopsies were performed, establishing the diagnosis of Waldenström's macroglobulinemia. Since the pleural effusion improved with diuretics, thoracentesis was not performed and the patient was discharged to Hematology clinic. In September, after starting chemotherapy, he returned to the ED due to recurrent pleural effusion, and underwent thoracentesis. The pleural fluid was exudative, microbiology was negative and cytology showed no malignant cells. After symptomatic relief, the patient was discharged. He presented again to the ED a month later, and a Pulmonology consult was requested to manage the rapidly relapsing effusion. Right-side thoracentesis was performed, revealing thick, yellowish pleural fluid. Analysis showed an exudative effusion, with lymphocytosis, pH 7.41, glucose 250 mg/dL, cholesterol 92 mg/dL and triglycerides 209 mg/dL. These findings were compatible with chylothorax, and the patient was admitted to the Pulmonology ward. A chest tube was placed on the right side and later on the left as well, since the left effusion shared the same characteristics. To reduce chyle secretion, the patient was started on octreotide and placed on a low-fat diet, rich in medium-chain fatty acids. These measures were effective, as evidenced by progressively lower daily drainage volumes. Talc slurry pleurodesis was performed through the right chest tube, which resulted in subsequent empyema requiring antibiotic therapy. After consulting with Thoracic Surgery, surgical decortication was deferred in order to prioritize the treatment of the underlying lymphoproliferative disease. Therefore, after three weeks of antibiotics, both chest tubes were removed and the patient resumed chemotherapy. Clinical response was favorable and the chylothorax did not recur.
Discussion: Waldenström's macroglobulinemia is a rare, indolent lymphoproliferative disease, characterized by monoclonal IgM gammopathy. The occurrence of chylothorax in Waldenström's macroglobulinemia is extremely rare, even more so as the initial manifestation, as is the case in our patient. Clinicians should include this entity in the differential diagnosis of pleural effusion, particularly in patients with suspected or confirmed lymphoproliferative disease.

Keywords: *Chylothorax. Waldenström's macroglobulinemia.*

PE 010. PNEUMONIA REQUIRING ECMO RESCUE: A VERY ATYPICAL CAUSE

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Introduction: Etiological investigation of pneumonia, even in Intensive Care during the COVID-19 pandemic, can play a decisive role in the treatment of some patients.
Case report: The authors present the case of a 45-year-old male Caucasian patient, with a history of anabolic steroid abuse and no vaccination against COVID-19. He presented to the Emergency Department with dyspnea, dry cough and fever, which had started

three days earlier. The patient was febrile and physical exam was relevant for cyanosis, tachypnea, and SpO2 60% (FiO2 21%). Due to persistent hypoxemia after supplemental oxygen and a trial of non-invasive ventilation, the patient was intubated and mechanical invasive ventilation was instituted. Blood tests showed leukocytosis, elevated C-reactive protein (350 mg/L) and d-dimer levels (32,232μg/L). The chest radiograph showed bilateral consolidations. Urinary antigen tests for *Streptococcus pneumoniae* e *Legionella* spp. and PCR test for SARS-CoV-2 were negative. CT pulmonary angiography showed no signs of pulmonary embolism, only bilateral consolidations predominantly in the lower lobes. The patient was started on empirical antibiotics and transferred to an Intensive Care Unit. Further microbiological investigation was inconclusive, including a second PCR for SARS-CoV-2, PCR for respiratory viruses, tracheobronchial aspirate culture and blood cultures. Since hypoxemia was refractory to mechanical ventilation, neuromuscular blockade and alveolar recruitment maneuvers, the patient was accepted for extracorporeal membrane oxygenation (ECMO) rescue. Cannulation of the right internal jugular vein and right femoral vein was successful and the patient was placed on venovenous ECMO. Flexible bronchoscopy was performed, and bronchoalveolar lavage sent for analysis. Culture for bacteria and fungi, galactomannan antigen, acid-fast bacilli smear and PCR for respiratory viruses were all negative. However, PCR for atypical pneumonia agents was positive for *Chlamydia psittaci*. Epidemiological context was obtained from the patient's family: he fed pigeons regularly and, one week before admission, he had wiped pigeon droppings from his windshield with a paper tissue, which he then kept inside his car. Bedside echocardiogram showed myocardial infiltration and pericardial effusion with a hyperechoic pericardium. These findings, along with an elevated troponin (maximum 3725ng/mL) and no signs of ischemia in the EKG, were highly suggestive of myopericarditis due to psittacosis. Cardiac MRI, performed later on, confirmed this diagnosis. The patient also presented bilateral conjunctivitis, attributable to the same etiology. Therefore, a diagnosis of psittacosis with pulmonary, cardiac and ocular involvement was established. After switching to doxycycline, the patient's condition steadily improved. He was weaned off ventilation and extubated successfully on the 11th day. On the 13th day, he was taken off ECMO. Doxycycline was maintained for 21 days and he was discharged one month after admission.

Discussion: Psittacosis is a zoonosis acquired from birds and chiefly presents as pneumonia, although several other organs can be affected due to hematogenous spread of the causative agent. Progression to critical respiratory failure is rare and, to our knowledge, only one other case of ECMO rescue due to psittacosis has been reported. Clinical awareness of this agent, in the appropriate epidemiological context, allows earlier diagnosis and institution of adequate antibiotic therapy, thereby improving outcomes for these patients.

***Keywords**: Pneumonia. ECMO. Psittacosis.*

PE 011. ALPHA 1-ANTITRYPSIN DEFICIT – A SCENARIO TO THINK ABOUT, MEASURE AND ADDRESS. ABOUT TWO CLINICAL CASES

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Introduction: Due to its antielastolytic activity, alpha 1-antitrypsin protein (α1-At) deficiency is related to early development of Pulmonary Emphysema and Liver disease and should be considered in certain contexts. Despite the different risk profiles associated with the various serpina-1 mutations (highlighting the importance of its genotyping), there are characteristics commonly present among patients with α1-TA deficit – as illustrated in the following 2 clinical cases.

Case reports: Case 1) Man, 30 years old, commercial salesman, autonomous in ADLs, without smoking or other consumption, without pathological history of relief and without usual medication, who resorted to the emergency service (SU) by right anterior toracalgia, sudden onset and pleuretic characteristics, with irradiation to the homolateral shoulder, without a history of previous trauma. On objective examination, long-iline biotype, with marked decrease in vesicular murmur (MV) throughout the right hemithorax to pulmonary auscultation and with identification, in Rx-Thorax, of voluminous pneumothorax on the right. Approached in the S UWith chest drainage (maintained in active aspiration in hospital admission), there was resolution of pneumothorax and pulmonary extension to the right on the 4th day of hospitalization. At the same time, a phase-up of α1-At and immunoglobulins was performed, α1-At and IgM deficit was detected, so the patient was discharged, maintaining follow-up in a pulmonology consultation and with α1-TA genotyping in progress. Case 2) Male, 27 years old, unemployed as a mechanic, non-smoker or consumer of inward drugs, with a history of recurrent pneumothorax on the left, surgically approached 5 years before, who resorted to the SU by 2 days of evolution, of pletutic backpain on the right, with sudden onset and progressive worsening, accompanied by stress dyspnea and dry cough. On objective examination, longylíneo biotype, micrognatia and pectus excavatum. Taquipneic at rest, with SatO2 (FiO2 21%) 91% and abolition of MV in the upper 2/3 of the right hemithorax. On X-ray and Chest CT, extensive pneumothorax confirmed on the right – approached with the placement of thoracic drainage in active aspiration and, later, with surgical Pleurodesis – with total pulmonary expansion. After hospital discharge, the patient remained in respiratory rehabilitation program and under follow-up in a pulmonology consultation. A ventilatory functional study (normal, except slight decrease in DLCO) and a slight determination of α1-TA, with a slight deficit, was carried out, so a slight deficit was advanced for genotyping. After the use of heterozygous mutations for the SERPINA 1 PI*SZ gene, the patient was proposed for α1-AT replacement in order to stabilize lung disease.

Discussion: Clinical cases are presented because α1-TA deficiency is, nevertheless, an infrequent diagnosis, but with potential for non-devaluable clinical damage, reinforcing the importance of its systematic research in diagnostic evaluation. In addition, it is intended to warn that, in the face of certain phenotypes associated with a higher risk of lung disease, it is of particular interest to the timely replacement of the missing protein, in order to avoid major complications.

***Keywords**: Alpha 1-Antitrypsin Deficit. Serpina. Pneumothorax.*

PE 012. PATIENT PROFILE AND TREATMENT PATTERNS IN STAGE I-III NON-SMALL CELL LUNG CANCER IN PORTUGAL – RATIONALE AND DESIGN OF THE CHARACTERIZE STUDY

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Merck Sharp & Dohme (MSD).

Introduction: The importance of obtaining real-world evidence in lung cancer trends and the need to harmonize referral, diagnostic and therapeutic strategies has consistently been recognized. Epidemiological studies on early/locally advanced stage Non-Small Cell Lung Cancer (NSCLC) are very limited in Portugal. There is also a paucity of information regarding healthcare resource utilization and total costs of NSCLC care in Portugal. Thus, although the economic burden is assumed to be high, representative real-world data are lacking in Portugal.

Objectives: To describe resectable stage I-III NSCLC patients' characteristics in terms of demographics, tumor biology and treatment patterns. Secondary and Exploratory objectives include characterization of real-world healthcare resource use and describe Overall Survival by stage of diagnosis at study inclusion.

Methods: Observational, retrospective, and multicenter study. The clinical records of adult patients (aged ≥ 18 years) diagnosed with stage I-III NSCLC between 1st July 2016 and 31st December 2017 will be reviewed. Patients with early unresectable stage of NSCLC will not be included. The study will include a 4.5-year follow-up period after diagnosis for each patient enrolled (through June 2022). Sociodemographic data, treatment patterns, clinical characterization and the use of healthcare resources will be collected. A waiver for the Informed Consent will be requested since the data will be analyzed in an aggregated way. Sample calculation was performed based on clinical and epidemiological estimates and a total of 500 patients is anticipated. Descriptive analysis of the collected variables and exploratory inference will be performed according to subgroups such stage at diagnosis and by initial and subsequent treatment. All statistical tests will be two-sided and with a significance level of 5%.
Results: After identifying the centers to be included, based on their distribution throughout the mainland national territory and epidemiology, they were invited to participate starting July 2022. After acceptance, the study protocol will be submitted to the respective ethics committees and administration boards of institutions. After approval and subsequent initiation visits, sites will have 3 months for data collection.
Conclusions: This study will provide real world data regarding patient characteristics, diagnosis, and treatment patterns as well as data regarding economic burden associated with resectable stage I-III NSCLC in Portugal. A better understanding of the diagnosis process, as well as treatment patterns in this group of cancer patients in Portugal, will allow the Oncology community to identify critical gaps to be addressed to improve lung cancer outcomes in Portugal.

Keywords: *Lung cancer. Early stages. Real World Data.*

PE 013. NURSING AND EUS-B-FNA: CLINICAL CASE ANALYSIS

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Introduction: The combination of EBUS with EUS-B-FNA is suggested by some accredited centers, with promising results (Bugalho *et al.*, 2018), in the diagnosis and staging of lung cancer. There is a need for a multidisciplinary team trained for increasingly differentiated endoscopic procedures. The adaptation of the Nursing team to the technical evolution of the procedures ensures that the safety of the user is a premise in the guarantee of health care.
Objectives: Describe and analyze a clinical case of a user submitted to EUS-B-FNA. Describe the interventions of nurses in the pre, intra and post endoscopic procedure.
Identify aspects of improvement to ensure quality of care.
Methods: Retrospective, exploratory and descriptive study based on the proposals of an informal case study. The ethical assumptions inherent to the nature of the investigation were fulfilled.
Results: 39-year-old single woman who turns to the attending physician for right dorsal pain with a cough with 1 month of evolution. After chest X-ray and subsequent TAC, paraesophageal right upper lobe injury was observed, oriented to diagnosis by EUS-B FNA under conscious sedation. Introduction: depression. Pre procedure: Eve: Telephone contact by the nurse, with indications of the time to attend, the type of examination and sedation to be performed, fasting of at least 6 hours, need to be accompanied. Information about the usual medication (referred to as taking the SOS medication) was collected. Exam day: Reception in the service by the nurse who makes the previous phone call. Reinforced teachings about the procedure and clarified doubts to the user and companion. Preparation of the user and material for the procedure. Intra procedure: in addition to the pulmonologist are two nurses in the room, one dedicated to the technique and the other to sedation. During the intervention the user initiates an episode of nausea and vomiting, presents secretions in moderate amount. The nurse supporting sedation requests pause in the procedure, performs aspiration of secretions and biliary content. After stabilization of the user, the user is explained breathing technique that allows to finish the examination. Post procedure: after recollecting anesthetic, the nurse provides teaching to the user and companion about the care after examination: fasting 2 hours after the end of the procedure, ingestion of cold foods; avoid driving or using machines; not to make decisions or sign important documents; warning signs (bleeding, dyspnea or chest pain).
Conclusions: The presence of two nurses in the room, recommended by the Order of Nurses (Regulamento 743/2019, Diário da República, 2019) recommended by national and international experts in the specific field of intervention pulmonology (Bugalho *et al.*, 2022), presented itself as crucial to the success of the procedure. The teachings performed before and after an examination to the user and companion were, according to the user, important for the successful performance of the procedure. The standardization of care, the assessment of anxiety before the procedure, as well as the realization of a satisfaction questionnaire after it, seem to be points to consider to lead to increasingly higher quality standards.

Keywords: *EUS-B-FNA. Safety. Nursing.*

PE 014. PULMONARY NODULES: A RARE ETIOLOGY FOR A COMMON FINDING

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Introduction: Lung neuroendocrine tumors (NETs) account for 1-2% of all lung malignancies in adults and approximately 20-30% of all NETs. The incidence is higher in females and in whites. The average age of an adult diagnosed with a lung NET is 45 years. Typical lung NETs, more common than the atypical variants, are low-grade tumors with a low mitotic rate. Patients with typical lung NETs may present foci of diffuse idiopathic pulmonary neuroendocrine cell hyperplasia (DIPNECH) and tumorlets (DIPNECH conglomerates with a diameter < 5 mm), that may appear as nodular lesions in conventional radiologic exams.
Case report: We present the case of a 68 year old female with a medical history of asthma, passive smoking, obesity, arterial hypertension and diabetes mellitus who developed exertional dyspnea, dry cough, anorexia and involuntary loss of 3 kg of body weight over a period of 3 months. Physical examination showed no revelant findings. The investigation led to a chest CT scan that showed multiple bilateral nodular lesions, the biggest with 8 mm, suggesting a cancer of unknown origin with pulmonary metastasis. The 6 month control CT scan showed growth of the nodular lesions, which led to a PET-CT that showed no hypercaptating lesions. A videobronchoscopy was performed, which showed no endoscopic lesions, followed by a transthoracic needle aspiration of an infracentimetric nodule which histology revealed a spindle-cell tumor with small monotonous cells, no evidence of mitosis or necrosis. Imunohistochemistry was positive for CK AE1/AE3, CD56 and synaptophysin, negative for TTF-1, with Ki-67 < 5%, findings that suggest a lung carcinoid tumor. A 68Ga-DOTA-NOC PET CT was performed and revealed no captating nodules, which small dimensions made them hard to characterize. In a multidisciplinary reunion, the consensual diagnosis was a lung carcinoid tumor with tumorlets, with indication for radiologic re-evaluation every 6 months. The patient remained stable with no worsening of respiratory symptoms.
Discussion: This case highlights the importance of a thorough differential diagnosis of multiple pulmonary nodular lesions, with findings that were initially suggestive of lung metastasis of a cancer of unknown origin, which further investigation led to a diagnosis of

lung carcinoid tumor with tumorlets. In this case, given disease stability, clinical and radiologic vigilance were suggested.

Keywords: *Nodules. Cancer. Carcinoid. Tumorlets.*

PE 015. ADVERSE EFFECT OF INHALED CORTICOTHERAPY

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Introduction: Central serous chorioretinopathy (CSC) is characterized by a serous detachment of the neurosensory retina in the central macular region. CSC usually affects only one eye and can cause visual acuity decreased, central vision loss or distortion (metamorphopsia), perception of objects being smaller than they actually are (micropsia), and scotoma. Although the exact mechanism is unknown, several risk factors have been identified, including corticosteroid use, Cushing's syndrome, and pregnancy.
Case report: A 64-year-old female patient was followed in a Pulmonology appointment for a diagnosis of asthma since childhood and bronchiectasis sequelae to pulmonary tuberculosis. She had a history of inhaled therapy non-compliance. In early 2021, due to symptoms of uncontrolled asthma and frequent flares-ups, she began treatment with inhaled steroids through a spacer chamber, with good therapeutic adherence. After about 8 months of treatment, the patient began to experience bilateral visual acuity changes. She went to the Ophthalmology appointment where accumulation of subretinal fluid were evidenced in both eyes and the diagnosis of CSC was made. Intravitreal injections with anti-Vascular Endothelial Growth Factor (VEGF) antibody - bevacizumab were then prescribed, in addition to the recommendation to avoid inhaled corticosteroids. In the following months of follow-up at the Ophthalmology appointment, there was an initial slight improvement, followed by a new clinical worsening. To date, the patient has almost total vision loss in the left eye and a significant decrease in visual acuity in the right eye.
Discussion: CSC is a rare side effect that can occur with the use of corticosteroids in all formulations (inhalational, intranasal, epidural, intra-articular, topic and periocular). Although inhaled corticosteroids play an important role in Pulmonology, they should not be used indiscriminately as adverse effects, although rare, can be serious.

Keywords: *Central serous chorioretinopathy. Inhaled corticosteroid. Asthma.*

PE 016. RECURRENT PLEURAL SOLITARY FIBROUS TUMOR – A CLINICAL CASE REPORT

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Introduction: Solitary Fibrous Tumor represents a spectrum of mesenchymal tumors, which are classified as having intermediate biological potential (rarely metastasizing) in the 2020 World Health Organization (WHO) classification. Pleura is the most common site of occurrence. However, there's a possibility for malignant histologic characteristics or acquisition of these characteristics when there is recurrence or metastization (dedifferentiation). There are some factors described in literature associated with recurrence and metastization risk, that ought to be taken into account, such as patient's age, mitoses/mm^2, tumor size and percentage of tumor necrosis.
Case report: A 62-year-old teacher and non-smoker woman, with a past medical history of multinodular toxic goiter, viral meningitis with hospital admission in 2004 and a past history of left pleural effusion in 2012, with self-resolution, presented to her private doctor at the beginning of 2021 with dyspnea and asthenia, with decreased vesicular murmur on her left side. Lung function test revealed severe restrictive disorder and chest CT showed a large mass filling in about two thirds of the left pleural cavity, with 19 cm of longitudinal biggest axis and 18.5 × 12.3 cm on axial plane. Tansthoracic needle biopsy (TTNB) was performed and revealed a pleural solitary fibrous tumor. Positron emission tomography-computed tomography (PET-CT) showed mild FDG uptake by the known mass, no other changes. The patient was submitted to a left thoracotomy and a 2.5 kg mass was removed. Histology confirmed the diagnosis, with clear resection margins, necrosis area < 10% and low mitosis index (intermediate metastization risk by WHO 2020). Two months after surgery the patient showed clinical improvement, lung function tests normalization and chest CT scan with no suspicious lesions. Image reevaluation at 6 months after surgery revealed a 10 × 7 cm pleural nodule at the costophrenic recess. After Multidisciplinary Tumor Board discussion TTNB was performed and confirmed pleural solitary fibrous tumor recurrence. At this point, the patient is on waiting list for surgery.
Discussion: Despite WHO classification as intermediate risk (rarely metastasizing), it is important to keep in mind that solitary fibrous tumor still has recurrence and metastization potential risk, as well as histological dedifferentiation. This clinical case highlights the importance of risk stratification in each patient, to best define reevaluation timing and methods (weighting pros and cons), follow-up and management in these patients, so that recurrences may be detected and treated as soon as possible.

Keywords: *Pleural solitary fibrous tumor. Recorrence.*

PE 017. SEVERE ASTHMA – THE EXPERIENCE OF THE RESPIRATORY ALLERGOLOGY CONSULTATION

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Introduction: Severe asthma, despite representing a small percentage of the asthmatic population, has a significant impact on morbidity, mortality, and health costs.
Methods: Retrospective and descriptive study of patients with severe asthma treated with biologics, followed by respiratory allergology consultation at Centro Hospitalar do Oeste, between 2014 and 2020.
Results: We analyzed a sample of 29 patients, 79.3% (n = 23) were female. About 55.2% (n = 16) of the patients had the diagnosis of asthma established at adult age, and 44.8% (n = 13) in childhood or adolescence. The median age at diagnosis was 18 years (IQR 24). Women at diagnosis were older than men (20 *vs.* 7 years old) (p = 0.026). Patients started treatment at a mean age of 50 years old (min. 19; max. 73 years). About 48.2% (n = 14) of patients didn't have a family history of allergic respiratory disease. Concerning smoking habits, 20.7% (n = 6) were ex-smokers, 75.9% (n = 22) were non-smokers and 3.4% (n = 1) were smokers. In most patients, 60% (n 20) were overweight or obese. 10.2% (n = 3) of the obese asthmatics (n = 15) had grade III – morbid obesity. About 41.4% (n = 12) of the patients had non-allergic comorbidities, the most frequent were hypertension (n = 13), dyslipidemia (n = 7), and sleep apnea syndrome (n = 5). Of the patients with allergic manifestations (n = 21), half (n = 12) had two or more allergic manifestations. It was found that 62.1% (n = 18) had allergic rhinitis, 23.8% (n = 5) nasal polyposis, 14.3% (n = 3) urticaria and 23.8% (n = 5) atopic dermatitis. About 13.8% (n = 4) of the patients had negative skin tests for all the allergens tested. Most of our patients, 72.4% (n = 21), had a positive skin test for mites and 17.2% (n = 5) for fungi. At the beginning of treatment, patients presented a median value of total IgE of 285 UI/mL (IQR 526), and 310 cells/μL (IQR 425) of blood eosinophils. Classifying patients by phenotype, 72.4% (n = 21) had allergic asthma, and 27.6% (n = 8) had eosinophilic asthma. Most patients were treated with omalizumab (72.4%, n = 21), followed by mepo-

lizumab (20.7%, n = 6) and benralizumab (6.9%, n = 2). Therapeutic substitution occurred in 2 due to lack of response. Two patients complained of arthralgia and therefore discontinued therapy.
Conclusions: Our experience, reported over the last six years, shows that our population is mostly female, with a diagnosis established in adulthood. Most patients had a phenotype of allergic asthma and were treated with omalizumab.

Keywords: *Asthma. Severe asthma. Respiratory allergology.*

PE 018. MADELUNG'S DISEASE - A RARE CAUSE OF OSA: A CASE REPORT

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Introduction: Madelung's disease is a rare metabolic pathology that is clinically characterized by the deposition of multiple symmetrical masses of unencapsulated adipose tissue in the upper chest and cervical region. More common among men between the 3rd and 6th decade of life. Chronic alcoholism is strongly associated in about 90% of cases. We present below a case of Madelung's disease in an inpatient with severe COVID-19 pneumonia under non-invasive mechanical ventilation, whose evolution from the respiratory point of view was limited by the dysmorphia caused by Madelung's disease. In the literature, a case was described that confirms the association between diffuse lipomatosis and obstructive sleep apnea syndrome, due to cervical and tracheal involvement.
Case report: Male, 70 years old, currently retired (previous activity as a factory worker). Personal history of Madelung's disease (already with excision of four lipomas), dyslipidemia, peripheral arterial disease and muscle-invasive bladder carcinoma (submitted to neoadjuvant chemotherapy followed by surgery in 2015, with no signs of recurrence). No history of respiratory pathology. Currently abstinent from alcohol for 6 years (consumption above 70 units per week) and from tobacco for 6 months (55UMA). He was admitted to the emergency department with dry cough and dyspnea at rest with 24 hours of evolution. On physical examination, cervical dysmorphia with very exuberant enlargement of the cervical perimeter, peripheral saturation (Sat)O2 80% in room air, with signs of respiratory difficulty and pulmonary auscultation with bilateral snoring. Analytical and radiological study compatible with severe bilateral COVID-19 pneumonia with bacterial superinfection. From the respiratory point of view, due to severe partial respiratory failure, he was under non-invasive mechanical ventilation, with evolution conditioned by weaning from ventilation that was difficult to manage. A chest-CT (computed tomography) was performed, which revealed bilateral pulmonary consolidations compatible with bilateral pneumonia in the resolution phase. It should be noted that the patient had snoring with marked nocturnal desaturation and recovery during the day. Thus, during hospitalization, a cardio-respiratory sleep study was carried out, which revealed the presence of a moderate obstructive sleep apnea syndrome with an apnea-hypopnea index of 26events/hour, without postural worsening, conditioning nocturnal desaturation marked with Sat O2 minimum of 65%, and about 45% of the time with SatO2 below 90%. During hospitalization, home ventilation therapy was adapted with auto-CPAP 6 to 12 cmH_2O, with clinical and gasometric improvement and correction of respiratory events. He was discharged home, with follow-up in a Pulmonology consultation.
Discussion: The treatment of Madelung's disease may involve lipectomy or liposuction, however limited by the difficulty of complete excision of the tumors. Although weight reduction and alcohol abstinence appear to have no effect on disease progression, if these strategies are combined with surgery, they can decrease the recurrence rate. In the present case, lipomas caused cervical dysmorphia with enlargement of the cervical perimeter and reduction of the diameter of the trachea. Thus, the patient's respiratory dysfunction, in addition to the etiology of bilateral pneumonia due to COVID-19, was conditioned by the sleep breathing disorder, with implications for the ventilatory strategy and its clinical evolution.

Keywords: *OSA sleep. NIV respiratory insufficiency. COVID-19.*

PE 019. EVOLUTION OF SMALL AIRWAYS OBSTRUCTION OVER 5 YEARS

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Introduction: Assessment of respiratory function is the cornerstone of the diagnosis of obstructive respiratory pathology. The Forced Expiratory Flow 25-75% (FEF 25-75%) of Forced Vital Capacity (FVC) is one of the elements that may play a role in its diagnosis. The utility of these values remains in discussion: FEF25-75% values are highly dependent on the FVC maneuver; this may be the only alteration found in asthmatic patients and seems to precede the development of obstructive pulmonary disease.
Methods: Patients with small airway obstruction in spirometry of 2016 and with a spirometry after 5 years were selected. Values above the lower limit of normality were considered normal, except for FEF25-75% values, considered normal above 60%. The diagnosis of COPD was made considering the GOLD guidelines: FEV1/FVC post bronchodilation < 70%.
Results: Of a total of 1076, 50 patients were included, 66% (n = 33) were female. Mean age was 63 (± 12) years, BMI was 31 (± 8) kg/m^2. Half of the patients presented smoking habits: 28% (n = 14) were smokers and 22% (n = 11) former smokers. The mean smoking load was 39 pack-year. The main reason for requesting the initial respiratory lung function was COPD in 32% (n = 16), followed by study of asthma in 30% (n = 15). Reassessment spirometry was performed 5 years after the first one: 28% (n = 14) showed normalization of lung function, 48% (n = 24) remained with small airway obstruction, 20% (10) had obstruction and 4% (2) restriction. Those who remained with small airway obstruction presented with the new diagnosis of COPD 4 (17%) according to GOLD. The group of patients with obstruction included 4 (40%) smokers without COPD GOLD criteria, one (10%) with COPD, 2 (20%) with interstitial lung disease, and 2 (20%) with heart disease. Age had a significant correlation with FEV1 (p = 0.001). FEV1 didn't correlate with BMI (p = 0.236) or with smoking load (0.319). Average fall of FEV1 was over 114 mL over the 5 years. In patients with COPD FEV1 dropped a mean of 254 mL.
Conclusions: Of the patients with small airways obstruction 20% evolved to obstruction after 5 years. Five patients (10%), with smoking habits, were diagnosed with COPD. These patients presented a greater decrease in FEV1. The FEF25-75% could be useful in assessing risk for developing COPD when associated with the clinical context. Most patients with small airway obstruction didn't not presented worsening of lung function after 5 years. The sample size and the follow-up time limit the interpretation of the present study. The expansion of the study may contribute to determine the role of FEF25-75% values in the diagnostic and preventive process.

Keywords: *Small airway obstruction. Forced expiratory flow 25-75%. Chronic obstructive pulmonary disease. Spirometry.*

PE 020. ADENOCARCINOMA ARISING FROM PULMONARY SEQUESTRATION

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Introduction: Pulmonary sequestration belong to the group of bronchopulmonary malformations of the foregut. It consists of a portion of non-functioning lung tissue without connection to the bronchial tree, with systemic arterial blood supply, usually a branch of the

aorta. It can be divided into the variants intralobar and extralobar, depending whether it is surrounded by its own visceral pleura and has venous drainage by systemic veins - extralobar sequestration - or if it is surrounded by the normal visceral pleura of the lung and has drainage through the pulmonary veins – intralobar sequestration. Although sequestrations are usually identified early in life, approximately 15% may not be recognized until adolescence or adulthood. In this situation, patients may present with haemoptysis, symptoms associated with mass effects or signs of infection. Reports of pulmonary sequestrations associated with lung cancer are extremely rare, with few cases described in the literature. We present a case of lung adenocarcinoma originating from an intralobar sequestration.
Case report: A 49-year-old female, ex-smoker (6 pack-years), with a personal history of asthma, presents at consultation due to fatigue and dyspnoea on exertion (mMRC 1) with one month of evolution, and sporadic wheezing. On examination, breath sounds are diminished at the right lung base and blood analysis is significant for a CA125 of 349. A thoracic computed tomography (CT) is performed, that reveals a heterogeneous mass in the right inferior lobe with 9 x 6 cm, right pleural effusion and mediastinal adenopathies. The lesion in the right inferior lobe has systemic arterial vascularization by a branch of the aorta, arising upstream of the celiac trunk, and venous drainage by the pulmonary veins, consistent with intralobar sequestration. Biopsy of this mass reveals tissue infiltrated by well-differentiated lung adenocarcinoma (TTF1+, CK7+, CK20-), with PD-L1 5-10%; and deletion in exon 19 of EGFR gene. Staging CT and PET-CT also revealed a right adrenal gland lesion and bone metastasis (stage IVB; T4N2M1c). Therapy with Osimertinib is initiated, with partial response at follow-up.
Conclusions: Pulmonary sequestration is a rare condition, responsible for 0.15% to 6.4% of congenital bronchopulmonary malformations. Intralobar pulmonary sequestration is more frequent, usually detected in the first years of life. It is frequently asymptomatic, but may be associated with recurring pulmonary infections. The association with lung cancer, especially adenocarcinoma, is rare. Chest radiography can be used as a first diagnostic tool. However, for diagnosis in the adult population, CT is necessary for the identification, localization and characterization of pulmonary sequestration and, in most cases, allows the identification of aberrant arterial supply. CT, in conjunction with angiography, demonstrates vascular supply and may assist in the surgical approach. This case demonstrates that the hypothesis of pulmonary sequestration - associated or not with other pathologies - should be kept in the list of differential diagnoses, when evaluating mass-like opacities, even in the adult population, namely in the lower lobes, where sequestration occurs more frequently.

Keywords: *Pulmonary sequestration. Lung neoplasm. Bronchopulmonary malformations.*

PE 021. ACUTE SEVERE ASTHMA (STATUS ASTHMATICUS) IN PERI-OPERATIVE TIME: ABOUT A CLINICAL CASE

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Introduction: Asthma is a chronic and heterogeneous airway disease, generally characterized by variable airflow obstruction, airway inflammation and bronchial hyperreactivity. Acute severe asthma or status asthmaticus is a severe form of asthma, life-threatening for the individual, which can be triggered by various stimuli, among which are stimuli related to the operative context (e.g., drugs, mechanical devices or alteration of the vasovagal tone), although they are infrequent as a cause of exacerbation. The preoperative anesthesiology consultation should prepare an anesthetic plan and identify possible complications with the surgical procedure, allowing to reduce additional risks related to Asthma.
Case report: We describe the clinical case of a 45-year-old woman, with a history of uncontrolled asthma medicated only with Salbutamol in SOS, morbid obesity (BMI 47 Kg/m^2) and active smoking (8 UMA), who was admitted electively to the operating room for arthroscopy, without prior evaluation by Anesthesiology. During anesthetic induction for the procedure, intubation was difficult, requiring multiple intubation attempts and a different device use. She developed asthma exacerbation in the form of severe acute asthma, being admitted to the Intensive Care Unit with the diagnosis of Status Asthmaticus under Invasive Mechanical Ventilation associated with airway manipulation, with very severe bronchospasm, global respiratory failure and respiratory acidosis. After ventilatory adaptation with pressure control and correction of gas exchange, there was a rapid improvement with extubation at the end of 26 hours and stabilization was maintained, without bronchospasm, under medical therapy. The patient was transferred 24 hours after extubation to a Pulmonology ward.
Discussion: It is important that all patients have good asthma control, especially in life-threatening contexts such as the programmed perioperative context. Patients should be evaluated and their therapy optimized prior to the procedure, in order to avoid additional life risks. Despite being a potentially triggering factor for exacerbation of asthma, invasive mechanical ventilation is also indispensable for the resolution of the most serious situations, being usually considered in this context as one of the biggest challenges of this therapeutic intervention.

Keywords: *Acute severe asthma. Perioperative time. Invasive mechanical ventilation.*

PE 022. NIGHT NOISES, IS IT ALWAYS SNORING? – CLINICAL CASE

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Introduction: Catathrenia is considered a sleep disorder of the parasomnias group, being a phenomenon of nocturnal vocalization, frequently during REM sleep, unperceived by the patient. These sounds occur at short intervals and can be repeated several times during the night. Usually, a deep breath is taken, the patient holds his breath and then lets out an immediate and prolonged groan.
Case report: Woman, 32 years, IMC: 21.2 kg/m^2, Neck circumference: 34 cm. The first appointment for sleep medicine in March 2022 for nocturnal noises of the cyclical grunting type, very noticeable to family members and cohabitants, bruxism, without somniloquies or parasomnias, excessive daytime tiredness, restorative sleep, and morning headaches. No relevant previous history and she was not taking any medication. Sleep habits: no history of shift work or insomnia. ES: 11 and a STAP-BANG: 3. Family history: father with OSAS and mother with asthma. On objective examination, she was eupneic in room air, without signs of respiratory distress and digital hypocrites. SpO2: 99%. Polysomnography was preformed, where the audio channel was specifically requested: Total sleep time was 09h02m, with a sleep efficiency of 953%. 7.1 minutes for N1 and 71.1 minutes for REM. Slow N3 sleep (22%) and REM paradoxical sleep (29.8%). Sleep macrostructure with 6 sleep cycles, 4 complete. Supine position was predominant (49.6%), with no evidence of snoring and AHI: 1.7/h. 27 clusters of catathrenia registered, the longest of which was 7 episodes and lasted 2m25s; they are typical episodes with a more profound inspiration followed by a prolonged expiration and a moan-like vocalization were in REM sleep or the transition from or to REM.
Discussion: There is evidence of a relationship between catathrenia and sleep apnea, and audio channel polysomnography is needed to distinguish catathrenia from other sleep-disordered breathing. During the polysomnography analyses, there may be episodes that appear to be central REM-predominant apneas, but these, when properly analyzed, show that the respiratory movement is different:

there is a slightly deeper inspiration, followed by a prolonged expiration, and when the sound is played, a moan-like vocalization is heard, making the polysomnograph's sound device (audio) a key element in this definitive diagnosis. Thus, given the clinical situation's relevance, considering the difficulty in diagnosing it concerning other differential diagnoses and the respective therapeutic referral, we present this clinical case to highlight the need to carry out a specific examination (personalized medicine) for each patient which meets the clinical history of each one, so that we can optimize the examination to be carried out, because if it is standardized, we run the risk of missing these diagnosis.

Keywords: *Parasomnias. Catathrenia.*

PE 023. A RARE CASE OF PLEURAL EMPYEMA CAUSED BY CAMPYLOBACTER RECTUS

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Introduction: *Campylobacter rectus*, formerly named *Wolinella recta*, is one of the campylobacteria considered periodontal pathogens. Intraoral organisms, such as streptococci and anaerobes, are major causes of pleural infection, especially in community-acquired cases. However, recovery of C. rectus has rarely been reported in materials from lower respiratory tract infections or other extraoral specimens.
Case report: A 37-year-old woman was admitted to the Pulmonology Ward due to persistent fever, acute respiratory failure and evidence of a loculated pleural effusion on chest computed tomography (CT). Treatment with piperacillin plus tazobactam was initiated in the ED, admitting community-acquired pneumonia. She had a past medical history of measles encephalitis with major neurologic and motor sequela (Total Dependency on Barthel Score). Thoracic ultrasound evidenced a multiloculated complex pleural effusion. A 14Fr chest tube was inserted in the left thoracic cavity, through which purulent effusion was drained. Anaerobic culture of the pleural effusion revealed a *Campylobacter rectus* infection. The stomatology department performed periodontal probing and curettage with evidence of periodontitis disease but no *C. rectus* isolation. Given the degree of dependence, only dental cleansing was initiated. Due to the rarity of the agent, there were no tests for antimicrobial susceptibility available. Intravenous (IV) administration of piperacillin/tazobactam was continued and intrathoracic irrigation with normal saline through the chest tube was initiated. Analytical and imaging improvement was observed. On day 13, the chest tube was removed (no discharge over the last 24h). Uncontrolled focus with worsening empyema was admitted upon recrudescence of symptoms and elevation of inflammatory parameters under empirical antibiotic therapy, six days after chest tube removal. Chest-CT showed increased pleural loculated effusion and pleural thickening. Since the patient was not a surgical candidate, a second chest tube (24 Fr) was placed and empirical antibiotic therapy was escalated to Meropenem (2 gm IV q8h). In order to enhance drainage and lyse loculations, intrapleural fibrinolysis was attempted with Alteplase and Deoxyribonuclease (DNase). The treatment was stopped after two administrations due to a hypersensitivity reaction with severe bronchospasm. The chest tube was removed on day 37 and the IV antibiotic was switched to oral Clindamicyn (300 mg po q6h) and Amoxicillin/Clavulanic acid (875 mg/125 mg po bid) on day 41 in the attempt to discharge the patient home. On that same day, the patient developed severe febrile neutropenia, broad-spectrum antibiotic treatment was restarted with piperacillin-tazobactam (4.5 gm IV q8h) until day 52. A follow-up CT scan showed a residual collection.
Discussion: To our knowledge, eleven cases of extraoral C. rectus infection have been reported in the literature. In approximately two-thirds of the cases, sterile organs were involved without preceding injury. In the present case, we speculate that the causative organism was transmitted to the pleural space via contiguous dissemination because the patient had a history of multiple aspiration pneumonia and periodontitis disease. There are no standardized antibiotic regimens, but β-lactam antibiotics and clindamycin were commonly used with success in adjunct to surgical drainage. Drainage of infected fluid is key to successful treatment.

Keywords: *Empyema.* Campylobacter rectus.

PE 024. THE ROLLING STONES

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Introduction: Broncholiths generally originate as calcified material in mediastinal lymph nodes that subsequently erode into adjacent airways, often as a result of prior granulomatous infection. Erosion of a broncholith into the airway is thought to result from the repeated physical contact of a calcified lymph node with an adjacent bronchus during normal respiratory motion.
Case report: 73 year old male presented to the Emergency Department with hemoptysis over a 3 day period. He reported subjective fever, productive cough, night sweats and general malaise associated with his symptoms. He had a a history of pulmonary tuberculosis (1980) with pulmonary sequel in the right apex and complaints of recurrent episodes of productive cough over the years. Review of his chest CT upon presentation to the hospital showed "a large pulmonary cavitating lesion with air-fluid level that affected the external segment of the middle bronchial lobe. Architectural distortion of the lung parenchyma of the right upper lobe, with cylindrical and traction varicose bronchiectasis and associated calcifications. Infracentimetric mediastinal lymph nodes, some of which were calcified". He had three negative sputum smear microscopy (Ziel-Neelsen staining), Negative NAAT and negative Mycobacterial solid and liquid culture. Serology for HIV 1+2, HCV and were also negative. Flexible bronchoscopy revealed mucopurolent discharge from the upper lobe segment and an exophytic lesion of rigid consistency, partially embedded at the level of one of the right upper lobar segmental bronchus. The adjacent airway mucosa was granulated, inflamed and friable. A bronchial biopsy was done at this level. Middle lobar bronchus collapse was visualized, which prevented broncoscope progression. Broncoalveolar lavage was performed with no microorganism identified. Histopathological evaluation showed fibrin-granulocyte exudate and calcified material with no evidence of neoplasm tissue. Diagnosis of broncholithiasis caused by extrusion of calcified peribronchial lymph nodes was made. Rigid bronchoscopy was preformed to fragment and extract the calcified stone. Partial repermeabilization of B2 was obtained.
Discussion: Bronchoscopy is considered the most important diagnostic test for broncholithiasis. Indications for bronchoscopic or surgical intervention include symptoms related to intractable cough, recurrent pulmonary infections, symptomatic bronchiectasis, hemoptysis, and fistula formation

Keywords: *Broncholithiasis. Bronchiectasis. Pulmonary tuberculosis.*

PE 025. CATAMENIAL PNEUMOTHORAX: A CASE REPORT

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Introduction: Endometriosis affects approximately 10% of women of reproductive age, and about 30-50% of women with infertility

and/or pelvic pain. It is defined by the presence of endometrial glands and stroma in an extrauterine location, which induces a chronic inflammatory reaction in the affected tissues. The spectrum of presentation of endometriosis is variable which often leads to error or delay in diagnosis.
Case report: We present a clinical case of a 32-year-old woman with a personal history of primary infertility associated with pelvic endometriosis. She had chronic complaints of dyspnea and asthenia associated with her menstruation, undervalued by her since it did not cause major functional limitations. In 2021, after ovulation induction in an attempt to become pregnant, she presented to the Emergency Department 7 days after the start of menstruation due to menorrhagia, abdominal pain and dyspnea. The symptoms had started 1 day after the onset of menstruation and were progressively worsening. The complaints were interpreted as a result of her endometriosis. Analgesic therapy was given and she was discharged. In an ultrasound evaluation 11 days after the start of menstruation, an increase in her endometrioma was observed. She was started on a continuous pill and reassessed 6 days later. On assessment, she was dyspneic and had an abolition of the vesicular murmur in the lower 2/3 of the right hemithorax. On chest X-ray, she had evidence of pneumothorax (> 2 cm distance between the chest wall and the lung at the hilar level). The patient was transferred to the Pulmonology Department for follow-up and placement of chest drainage. Due to the suspicion of a catamenial pneumothorax, an analytical evaluation was requested with CA 125 and CA19.9 markers - which were elevated (192.8 U/mL and 59 U/mL) - and a CT chest that revealed a 4mm subpleural micronodule in the anterior basal segment of the right lower lobe. She was proposed for VATS where a "lung with apical adhesions, apical dysplasia, small diaphragmatic fenestrae and a pedicled lesion of diaphragmatic origin" was observed. An atypical resection of the right upper lobe, talc pleurodesis, apical pleurectomy and biopsy of the diaphragmatic implant were performed. The histopathological evaluation of the biopsy specimen revealed a "visceral pleura with marked fibrosis, vascular proliferation with congestion and hyperplasia of mesothelial cells, a glandular structure of cylindrical epithelium positive for estrogen receptors and with scarce surrounding fusiform stroma positive for CD10, corresponding to a focus of endometriosis".
Discussion: Menstrual symptoms are often undervalued given the associated stigma. Thoracic endometriosis is a rare entity, but it is also believed to be underdiagnosed. It should be noted that this patient had an apical pneumothorax in 2017 on a preoperative radiograph, which was not acknowledged. The treatment of catamenial pneumothorax is based on the suppression of ectopic endometrial tissue through the interruption of estrogen secretion by the ovaries. Surgical treatment should be considered in the event of medical treatment failure or if the patient wishes to become pregnant, however, there are no specific guidelines for the management of these patients.

***Keywords**: Catamenial pneumothorax. Endometriosis.*

PE 026. HYPOVOLEMIC SHOCK DUE TO PLEURAL EFFUSION SECONDARY TO LYMPHOPROLIFERATIVE DISEASE: A CLINICAL CASE

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Hospital Prof. Dr. Fernando Fonseca.

Introduction: Follicular lymphoma is the second most common subtype of non-Hodgkin lymphoma, defined as a germinal center B-cell lymphoma, is the most common clinically indolent NHL. Secondary involvement of the pleura in this pathology is common, occurring in about 20% of cases. It results from the extension of the lymphoma to the pleura, infection, obstruction of the lymphatic return or by hypoproteinemia, constituting a poor prognostic factor, normally associated with an advanced stage of the disease, already with extensive adenopathies and cytopenia. Although still off-label, case reports have shown the therapeutic role of intrapleural instillation of rituximab, not only in controlling stroke in patients with low-grade CD20+ NHL, but also in controlling the disease, improving quality of life and of disease progression-free survival.
Case report: The case described portrays a man, 35 years old, with no personal history, hospitalized on 05/2022 with generalized adenopathies with a year of evolution, associated with dyspnea for small efforts of sudden onset and progressive worsening in the days preceding the internment. The initial study found anemia, thrombocytopenia and a lymphocytosis of 17,460, associated with PRI due to a large bilateral pleural effusion identified on chest X-ray and ct, which additionally showed multiple pathological supra- and infradiaphragmatic adenopathies and hepatosplenomegaly. During hospitalization in Hematology, the diagnosis of Follicular Lymphoma in stage IV, FLIPI-4, initially suspected by: FISH of peripheral blood with identification of t(14;18); myelogram with 73% lymphocyte infiltration and characteristic B lymphocyte immunophenotyping; and BMB with infiltration signals compatible with LNH-B, of small cells; and later confirmed by excisional biopsy of inguinal adenopathy compatible with Grade 1-2 Follicular Lymphoma. Additionally, it was found that PE was secondary to lymphoproliferative disease through its immunophenotyping, initiating treatment with R-CHOP. During hospitalization, there was a clinical deterioration with persistent worsening of the PE and RPI with an increase in O2, need for repeat evacuating thoracentesis and placement of TD on the left, which drained about 3L in the first shift, culminating in hypovolemic shock. requiring vasopressor support and AKI of pre-renal etiology, transferring the patient to the respiratory intensive care unit. During his stay at the ICU, he placed a right TD, maintaining daily bilateral drainages of approximately 5L/day for 16 days, with the need for aminergic support, volume replacement and albumin. After the 2nd cycle of R-CHOP, there was a progressive improvement in the flow of pleural drainage, with the possibility of weaning from oxygen therapy and resolution of the shock, making it possible to remove the right TD without PE recurrence. Due to maintenance of the PE on the left with flow rates greater than 500 ml/day, after authorization by the CFT and patient consent, 100 mg of Rituximab were instilled intrapleurally, with vestigial drainage after the procedure. He had the TD removed the next day, eventually being discharged against medical advice on the same day, continuing to be followed up at the Hematology Day Hospital for continued treatment of the lymphoproliferative pathology, with no recent signs of PD recurrence.

***Keywords**: Pleural effusion. Follicular lymphoma. Hypovolemic shock.*

PE 027. A ABOUT A CLINICAL CASE OF LOFNER SYNDROME

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Introduction: Sarcoidosis is a disease of unknown etiology, however, it is pathologically characterized by the presence of non-caseating granulomas in Organs affected. This pathology presents itself in the form of Löfgren's Syndrome (LS), pathology can be due to the pathology erythema nodosadenopathies or bilateral and polyarthralgias or polyarthritis.
Case report: A 61-year-old female emigrated to Canada, currently residing in Portugal, is sent for an outpatient consultation due to supraclavicular adenopathies. In consultation, noticing the episodes of repetition and polyarthralgias of inflammatory rhythm, symmetrical, which mainly affected the knees, feet and sacroiliac joint. On objective examination of erythema nodosum, there were no other significant changes. Analytically, sedimentation rate increased 22 mm/h and

angioserum converting enzyme enhancement 415 U/L. A computerized examination revealed a nodular pattern with peribronchovascular distribution, evident in the upper lobes, similarly to the middle lobe, with different, more diverse fibroretractile striae and mediastinal lymphadenopathy, more evident in the regions. She also presented hyperventation in operation, without a functional study. It was decided to perform bronchoalveolar lavage cytometry, which revealed a cell count with intense lymphocytes and neutrophilia, so the study of lymphocyte subpopulations by flow showed a much higher CD4/CD8 ratio (8.96). Corticosteroid therapy with prednisolone 30 mg/day was started, with improvement of cures, as well as pain complaints.
Discussion: For the diagnosis of LS, the presence of 2 of the 3 criteria is necessary: erythema nodosum, bilateral hilar lymphadenopathy and arthralgias/arthritis. Although the SL considers a variant of sarcoidosis, the distinction between these entities is of imperative importance for not predicting and treating.

Keywords: *Supraclavicular and mediastinal adenopathies. Erythema nodosum. Polyarthralgias.*

PE 028. 3-YEAR FOLLOW-UP OF PATIENTS WITH OSAS ON TELEMONITORING AT HOSPITAL DA LUZ GUIMARÃES

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Introduction: Obstructive Sleep Apnea Syndrome (OSAS) is a highly prevalent respiratory disease. In the subgroup of OSAS patients on Positive Airway Pressure (PAP), telemonitoring for CPAP (Continuous Positive Airway Pressure)/Auto-CPAP (Automatic Continuous Positive Airway Pressure) therapies have emerged as follow-up option to monitor and detect poor compliance to treatment early on. We aimed to understand whether telemonitoring is an independent factor in the therapeutic adherence of OSAS patients followed in the Sleep Medicine Consultation.
Methods: A retrospective assessment was carried out in patients followed in the Sleep Medicine consultation for OSAS between March 2019 and June 2022. A total of 312 patients with Resmed® model S10 CPAP devices with residual apnea detection algorithm, mean therapy pressure, and the number of hours of daily use was included. Patients who accepted telemonitoring and signed the consent form were included. After placement of the PAP equipment over telemonitoring, patients were reassessed by consultation at 3, 6, 12, 24 and 36 months of therapy.
Results: A total of 312 patients were evaluated, 203 men and 109 women, with a mean daily use of 6 hours and 43 minutes (min: 0 and max: 10), with a standard deviation of 1 hour and 52 minutes. The residual AHI of patients on therapy averaged 2.58/hour (min: 0 and max; 17.5). In June 2022, 30 patients were included at 3 months, 30 at 6 months, 41 at 12 months, 84 at 24 months and 127 at 36 months, with a mean daily use of respectively: 4.29 (median 5.17), 4.33 (median 4.44), 3.52 (median 4.45), 5.05 (median 5.59) and 4.40 hours (median (5.28), with no statistical significance and adherence being similar from the first trimester, as well as in the divisions of patients per group. ($p = 0.003$ analysing at 3 months for 6, 12, 24, and 36 months and $p = 0.098$ in patient divisions by groups at 6 months, up to 12 months, up to 24 months or up to 36 months). This analysis shows that adherence did not decrease over the months of telemonitoring, which may mean that patients felt permanently monitored and that therapeutic adjustment was well achieved. The mean residual AHI was respectively: 4.64, 2.08, 2.33, 2.33 and 2.37/hour, which shows that the average residual AHI tends to be higher in the first three months of therapy, but over the three years if monotherapy, we found that the disease remained controlled and without much variation. We obtained an excellent adaptation to therapy in 262 patients (84%), and 16% (50 patients) abandoned therapy, either because they did not adapt to the type of treatment or because their primary condition improved.
Conclusions: In patients with a confirmed diagnosis of OSAS treated by PAP, telemonitoring has proven to be a helpful tool for a better follow-up and therapeutic adjustment, promoting ideal compliance to therapy, which is effective as early as the first three months.

Keywords: *Telemonitoring. OSAS.*

PE 029. THORACIC EMPYEMA ASSOCIATED WITH COLONIC MALIGNANCY: A CASE REPORT

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Introduction: *Streptococci* belonging to the previously designated *Streptococcus bovis* group are organisms that have been considered opportunistic pathogens in humans. Bacteremia and endocarditis caused by the S. *gallolyticus* group of organisms have been highly associated with the presence of colonic malignancy. Pleural empyema due to *Enterococcus* species is an uncommon entity and usually found in patients with underlying immune system impairments.
Case report: We present a clinical case of a 76-year-old man, partially dependent on ADLs with a personal history of valvular heart disease who underwent aortic valve replacement (biological prosthesis) in 2020. The surgery was complicated with a bilateral pleural effusion which was followed up-up in a Pulmonology consultation. He presented to the Emergency Department with fever, a productive cough and left chest pain with 10 days of evolution. On physical examination, he was dyspneic with a spO2 of 90% and decreased breath sounds in the lower left third on pulmonary auscultation. Analytically, he had increased inflammatory parameters (Leu 16 150, N 88%, CRP 393) and on the chest Angio CT he presented "a small volume right pleural effusion and an encysted pleural effusion in the lower two-thirds of the left hemithorax, with a maximum thickness of 6 cm, with septations inside and thickening of the pleural leaflets". A chest tube was placed with drainage of purulent content and empirical antibiotic therapy with Piperacillin/tazobactam was started. From the microbiological tests performed, the bacterium *Streptococcus gallolyticus* was isolated in the pleural fluid and the two pairs of blood cultures. Given the of the association of endocarditis and bacteremia of this agent, an echocardiogram was requested, which confirmed the presence of vegetations in the mitral valve. Gentamicin was added for 2 weeks and the total duration of antibiotic therapy was increased to 6 weeks. During hospitalization, the patient presented anemia requiring blood transfusion, initially without visible blood loss. PSOF was collected and the result was positive. Considering the association of this agent with gastrointestinal lesions, especially colorectal cancer, a colonoscopy was requested, which revealed an 18 mm polypoid lesion in the cecum that occupied 50% of its circumference. The histological result revealed fragments of tubular adenoma with low-grade dysplasia, however, since the lesion had a solid nodular component with probable deep invasion, surgical resection was scheduled, which the patient is awaiting.
Discussion: The knowledge of the bacteriology of thoracic empyema is central to patient care. In this case, identification of the pathogen was crucial for the administration of appropriate antibiotics and early identification of invasive diseases.

Keywords: *Empyema. Streptococcus gallolyticus. Colonic malignancy. Endocarditis.*

PE 030. THE SCENARIO BEHIND CHRONIC COUGH

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Introduction: Chronic cough is a common problem with significant impact on quality of life. Its etiology often becomes a diagnostic

challenge. Foreign body aspiration (FBA) is part of the etiological spectrum of chronic cough, however, it is a rare situation in adults that has as risk factors advanced age (> 75 years), neurological disorders and alcohol or sedative consumption.
Case report: We describe a case of a 68-year-old woman, retired (teacher), ex-smoker (35 pack years), with a medical history of Chronic Obstructive Pulmonary Disease GOLD 2A medicated with triple inhalation therapy and HIV infection under ART. She was referred to the pulmonology consultation for a long-standing chronic cough accompanied by complaints of dyspnea on exertion (mmRC 1) and occasional wheezing. Physical exam with nothing to highlight. From the etiological study, the chest teleradiography showed no alterations and the respiratory functional study revealed moderately severe obstructive ventilatory alteration, negative bronchodilation test and moderate DLCO defect. Gastrointestinal and nasosinusal pathology were excluded. Due to persistence of symptoms, she underwent chest computed tomography which showed diffuse panlobular emphysema and showed apparent filling by exogenous material at the level of the intermediate trunk. The patient denied known episodes of choking/aspiration and was scheduled for fiberoptic bronchoscopy for inspection. A foreign body of hard consistency was identified, causing significant luminal occlusion (greater than 50%) of the intermediate trunk, which could not be passed through the bronchoscope. After removal with the biopsy forceps, it was possible to observe maintenance of reduction in the caliber of the intermediate trunk due to apparent granulation tissue, but transposable and without endoscopic changes downstream. The procedure was uneventful. She was treated with empiric antibiotics and corticosteroids and a short-term endoscopic review was scheduled.
Discussion: FBA in adults can remain hidden for long periods, since the clinical presentation is often subtle. It is not always possible to extract through bronchoscopy, and in many cases rigid bronchoscopy is necessary. Thus, the authors intend to emphasize that the diagnosis of FBA is not always easy, especially in adult patients without recognition of an aspiration episode and with various pathologies that can contribute to the symptomatology, as well as to reflect on the necessary steps for its diagnosis and timely treatment.

***Keywords**: Foreign body aspiration. Foreign body. Chronic cough.*

PE 031. SCROFULA: CASE REPORT

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Introduction: Tuberculosis is ninth cause of death globally and the first infectious cause. It's caused by *Mycobacterium tuberculosis* bacteria, and usually has a pulmonary focus, however it's dissemination may cause extrapulmonary forms such as lymphatic, pleural, bone and gastrointestinal.
Case report: The authors present a case of a 22 years old male, with Indian nationality, that goes to the emergency department with complaints of swelling in the right supraclavicular region and the right dorsal region with indolent growth in the last four weeks. He presented weight loss of 8 kg in the last 4 weeks, night sweats and anorexia with 5 months of evolution and denied coughing, sputum, dyspnea and hemoptysis. He denied contact with people with known tuberculosis, drug use or risky sexual behavior. Physical examination showed a right supraclavicular swelling and another in the right scapular region, both floating, with liquid density, not adherent to deep planes. There were no palpable cervical adenopathies. Neck and chest CT presented a multiloculated fluid collection from the posterolateral aspect of the upper third of the right hemithorax measuring 9.2 × 4.2 cm. A pigtail was placed in the right scapular region with drainage of 50 cc of translucent fluid, which showed a direct BK and cultural examination as well. Bronchoscopy with no evidence of endobronchial lesions and bronchial aspirate and mini bronchoalveolar lavage were performed, both with positive *Mycobacterium tuberculosis* DNA (although in low titer), not resistant to rifampicin, positive direct exam and cultural exam of mycobacteria with AFB development. An empirical antibacillary regimen with isoniazid, rifmapicin, pyrazinamide and ethambutol were started. It continued to follow up at the CDP in Viseu.
Discussion: This is a case of pulmonary and lymph node tuberculosis in a patient from a country with a high incidence of tuberculosis. The cytology of the drained fluid was negative for neoplastic cells, as well as the cytology of bronchial aspirate and bronchoalveolar lavage.

***Keywords**: Tuberculosis. Adenopathy. Ganglionar tuberculosis.*

PE 032. DIPNECH: WHEN THE PERSISTENCE OF SYMPTOMS LEADS US TO ALTERNATIVE DIAGNOSIS

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Introduction: Diffuse idiopathic pulmonary neuroendocrine cell hyperplasia (DIPNECH) is a rare pulmonary condition characterized by diffuse proliferation of neuroendocrine cells in the bronchial epithelium without basement membrane breakthrough. It is a pre-invasive lesion that can evolve to tumorlets or carcinoid tumors. The patients may be asymptomatic or may present with symptoms mimicking COPD or asthma. There is an average delay in its diagnosis of 10 years. Therefore, it is imperative to be vigilant to the possibility of this diagnosis in patients who present persistent symptoms and diffuse pulmonary nodules.
Case report: Woman, 51 years old, with a personal history of gastroesophageal reflux and ex-smoker (45 pack-years). She was referred to the Pulmonology clinic of the Hospital Santa Maria due to a 3 year evolution of chronic bronchitis, dyspnea and wheezing. Lung function showed a moderately severe obstructive ventilatory pattern (FEV1 after BD 54%) with reversibility after bronchodilation and hyperinflation. She was medicated with LABA + ICS and LAMA in separate devices. A diagnosis of COPD was made. The patient maintained symptoms after optimization of bronchodilator therapy at 6 months of follow-up. A chest CT-scan was ordered, which documented: several solid nodular images, with a well delimited rounded morphology in both lungs, with a predominantly peribronchovascular distribution. The largest nodule on the left was located in the anterior segment of the upper lobe (8 mm). The largest nodule on the right was located in the middle lobe (8 mm). Concomitantly, it showed a mosaic pattern with areas of greater transparency alternating with others of conserved density, and in the former there was air retention in the study during expiration. These imaging aspects supported the diagnostic hypothesis of DIPNECH. The patient underwent surgical biopsy with atypical resection of several lesions in different lobes, whose anatomopathological results documented: RML nodule measuring 7 mm and corresponding to Typical Carcinoid (KI67 < 5%); RUL nodules: 2 nodules of 4 mm - Tumorlets; RLL nodule (2 mm) - Tumorlet. In the remaining parenchyma resected, there were multiple foci of neuroendocrine cell hyperplasia. The typical carcinoid tumor was staged as IA1 (T1aN0M0) and the diagnosis of DIPNECH was established. The case was discussed in the Pulmonary Oncology multidisciplinary meeting and it was decided to keep the patient under clinical and imaging follow-up, with no indication for systemic therapy. She is currently in the 3rd year post-surgery with significant improvement of symptoms and stabilization of pulmonary function. There is a global dimensional stability of the remaining nodules, with an increase of less than 2 cm in some of them.
Discussion: The diagnosis of DIPNECH is suggested by characteristic imaging presentations: alteration of lung parenchyma density with attenuation mosaic due to constrictive bronchiolitis and the pres-

ence of multiple pulmonary nodules smaller than 5 mm with random distribution. However, the definitive diagnosis is given by the anatomopathological confirmation of diffuse neuroendocrine cell hyperplasia. The prognosis is variable and is mainly correlated with the severity of the ventilatory obstruction. Most patients present with stable or slowly progressive disease. Progression to respiratory failure has been documented.

Keywords: *DIPNECH. Neuroendocrine tumors. Rare diseases.*

PE 033. CONVENTIONAL LYMPH NODE NEEDLE ASPIRATION. THE EXPERIENCE OF A PERIPHERAL HOSPITAL

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Introduction: With the emergence of endobronchial ultrasound (EBUS), conventional trans-bronchial (C-TBNA) and transtracheal needle aspiration (C-TTNA) have been declining. However, this technique, besides being cost-effective, has a small learning curve and remains relevant, especially in hospitals where EBUS is not available.
Methods: A retrospective descriptive study of all C-PATB and C-PATT performed in the Techniques Unit of the Pulmonology department of the Centro Hospitalar Médio Tejo in the year 2021 was performed. Data on age, gender, reason for examination, punctured sites, and anatomicopathological result were collected.
Results: During the year 2021, 214 bronchoscopies were performed. In 19 of these examinations, conventional aspiration punctures were performed. The patients were mostly male (74%), and the mean age was 66 years (min: 47 years; max: 88 years). The reasons for the exams were mostly suspected tumours (16) and suspected sarcoidosis (3). The total number of conventional aspiration punctures was 29, of which 20 were C-PATB and 9 were C-PATT. The ganglion groups punctured were: 7 (17 punctures), 4R (6 punctures), 4L (3 punctures), 10L (1 puncture), 10R (1 puncture), and 11R (1 puncture). The cytological results of these punctures were inconclusive in 3, negative in 10 and positive in 6 punctures. Of the positive punctures, 3 were suggestive of non-small cell carcinoma (1 suggestive of squamous cell carcinoma), 2 had atypical epithelioid cells of undetermined significance, and 1 was suggestive of small cell carcinoma.
Conclusions: Although conventional aspiration punctures cannot replace complete mediastinal staging in lung cancer patients, these conventional punctures remain relevant, especially in our hospital center where we do not have EBUS or mediastinocospy. Thus, given the faster access to flexible bronchoscopy (up to one week), the acquisition of material by C-PATB and C-PATT is an added value for the diagnosis and staging of lung cancer patients. In patients with suspected sarcoidosis with adenopathies, these punctures may be useful for diagnosis, although in our sample we did not have any cases.

Keywords: *Conventional trans-bronchial needle aspiration. Conventional transtracheal needle aspiration and endobronchial ultrasound.*

PE 034. AN ECTOPIC HEAVY WEIGHT UNDER THE SHOULDERS

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Introduction: The presence of a pleural borne thoracic mass constitutes a plethora of different pathologies. Mesothelioma, lymphoma, metastatic pathology or solitary pleural tumor are among the differential diagnosis. In this clinical case, the authors describe an uncommon etiology of a thoracic pleural mass.
Case report: Female, 73 years old, personal history of hypothyroidism and osteoporosis. Non-smoker, no previous history of lung disease or significant occupational exposure. The patient was referred to our external pulmonology consultation due to a clinical presentation of dyspnea on moderate effort (mMRC 2), orthopnea, asthenia, and a 22% body weight loss. Upon objective examination, no signs of respiratory distress were noted with peripheral oxygen saturation of 97%, in room air. Lung auscultation revealed asymmetry with decreased breath sounds in the right hemithorax. Chest X-ray demonstrated pulmonary opacity with stemming from right pleura, leading to a contralateral deviation of the trachea with no other alterations. These findings were not present on 2,009 radiographs. Chest CT was subsequently performed, demonstrating a globular mass in the right hemithorax, measuring 172 × 120 × 100 mm stemming from pleura, with scattered areas of lower density, outlining granulomatous calcification on the posterior side. No mediastinal adenopathies or other significant changes were found. PET-Scan documented hypermetabolic activity of this lesion (Q.SUVmax: 5.8), while excluding other foci of anomalous FDG uptake. Cranial CT excluded cerebral metastasis. An echo-guided biopsy of the lesion was then performed. Pathological study showed an abundant population of lymphocytes with immature T cells and occasional epithelial cells (Cam 5.2+/p63+). Upon immunohistochemical examination, positive staining for CD2, CD3, CD5 and TdT was described. These findings were compatible with type B1 thymoma. After a multidisciplinary thoracic tumour group reunion, complete surgical resection was proposed. The surgery occurred without complications. Pathological anatomy of the surgical specimen was compatible with type B1 thymoma, pT3 (AJCC), stage III. Postoperative radiotherapy was not performed due to the size of the base of the lesion.
Discussion: Upon considering the clinical aspects of this case, a solitary fibrous tumour of the pleura seemed, at first, the most likely diagnosis. This diagnosis was, however, excluded by histological exam. This patient was diagnosed with an ectopic, pleural type B1 thymoma, a rare presentation of this neoplasm. We intend with this case to highlight the importance of combining imaging, histology and immunohistochemical studies to establish the diagnosis of a chest mass.

Keywords: *Neoplasm. Thymoma. Pleural mass. Solitary tumor of the pleura. T-cell lymphoblastic lymphoma.*

PE 035. DIFFERENT CRITERIA TO DEFINE OBSTRUCTION IN COPD DIAGNOSIS: IS THIS IMPORTANT?

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Introduction: Documentation of persistent airflow limitation by spirometry is required to confirm the clinical susception of COPD. According to international GOLD guidelines, persistent airflow limitation is defined as postbronchodilator FEV1/FVC < 0.70. However, ERS/ATS orientations suggest FEV1/FVC < lower limit of normal (LLN) to define airflow limitation and do not recommend a fixed ratio. GLI-2012 reference equations include ethnic specific equations and a wide age range; therefore, they were more suitable than previous reference equations.
Objectives: In a sample of CODP patients (according to GOLD guidelines), we compared individuals with airflow obstruction according to LLN – GLI-2012 reference equations (FEV1/FVC < LLN) with those without airflow limitation according to LLN (FEV1/FVC ≥ LLN).
Methods: COPD patients assessed in a Pulmonology appointment in Hospital da Luz Lisboa between January and December of 2021 were included. We excluded patients without spirometry with GLI-2012 reference equations and those who performed lung resection. De-

mographic, clinical and functional data were collected through the clinical process. More recent (less than 36 months) lung function and 6-minute walk test (6MWT) were assessed. We compared individuals with postbronchodilator FEV1/FVC ≥ LLN *vs.* < LLN (GLI-2012 reference equations) through appropriate statistical tests.
Results: We included 86 patients, 30 (34.9%) with ratio FEV1/FVC ≥ LLN and < 0.70.
Comparing individuals with FEV1/FVC ≥ LLN *vs.* < LLN, we did not documented differences regarding age (72.2 ± 9.1 *vs.* 69.2 ± 10.3, p = 0.182), gender (male: 17-56.7% *vs.* 31-55.7%, p = 0.907), as well as smoking history in pack years (41.7 ± 17.4 *vs.* 47.3 ± 24.3, p = 0.272). Considering GOLD group (ABCD), most of the patients were A or B group (82-95.3%) and we did not find differences (A and B) between individuals with FEV1/FVC ≥ LLN *vs.* < LLN (p = 0.218). The body mass index was higher in FEV1/FVC ≥ LLN group (28.3 ± 4.9 *vs.* 25.4 ± 5.2, p = 0.014). The postbronchodilator FEV1 (%) was higher in FEV1/FVC ≥ LLN group (*vs.* < LLN): 86.7 ± 19.6 (*vs.* 61.5 ± 21.1%, p = 0.00), as well as the DLCO: 69.8 ± 19.8 (*vs.* 54.1 ± 20.7%, p = 0.002) and KCO: 85.9 ± 23.9 (*vs.* 64.3 ± 20.1, p = 0.000). The RV, TLC and RV/TLC ratio were lower in FEV1/FVC ≥ LLN group (109.3 ± 24.5 *vs.* 151.4 ± 38.4%, p = 0.000; 101.8 ± 14.1 *vs.* 115.5 ± 21.0%, p = 0.000; 43.9 ± 10.5 *vs.* 54.6 ± 17.4%, p = 0.002, respectively). Fifty patients performed 6MWT, without differences between the two groups regarding to distance covered (FEV1/FVC ≥ LLN *vs.* < LLN: 394.8 ± 99.1 *vs.* 383.8 ± 130.1, p = 0.762). Considering the BODE index, 82.7% (14/17) and 63.6% (21/33) of patients with FEV1/FVC ≥ LLN and < LLN, respectively, had 80% predicted survival at 4 years. Comparing patients with FEV1/FVC ≥ LLN and < LLN, there was no differences considering the cut-of 80% predicted survival at 4 years (p = 0.171).
Conclusions: In this sample of COPD patients, according to GOLD criteria, about one third (34.9%) did not have airflow limitation considering LLN GLI-2012 reference equations. This group had lower impact in lung volumes, DLCO and KCO, however, without significant differences regarding to clinic-demographic features, functional capacity assessed thought 6MWT and predicted survival according BODE index.

Keywords: *COPD. Spirometry. GLI-2012 Reference equations.*

PE 036. REMDESIVIR IN COVID-19: WHEN IT DOESN'T RUN AS EXPECTED

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Introduction: Remdesivir is an antiviral that works by blocking the synthesis of RNA by the RNA polymerase of viruses, including the Coronavirus. Its effectiveness has been demonstrated for COVID-19, thus making it an important tool in the treatment of hospitalized patients with severe SARS-CoV-2 pneumonia. Given its large-scale use, it is important to assess its safety profile, with a particular focus on side effects. The authors present a clinical case of transient bradycardia induced by Remdesivir, thus reminding the importance of monitoring these patients.
Case report: A 57-year-old man, a history of treated hepatitis C, a consumer of hashish and ethanol, chronically medicated with buprenorphine and diazepam. He goes to the emergency department for fatigue and anorexia with 7 days of evolution, associated with unquantified weight loss. At the first evaluation, he was very thin, hypotensive and slightly polypneic, with peripheral O2 saturation of 96%, with no other evident changes on physical examination. Analytically, with acute kidney injury and elevation of inflammatory parameters. In arterial blood gas analysis he presented hypoxemic respiratory failure (pO2 55 mmHg and pCO2 39) requiring oxygen therapy at 2 L/min by nasal cannula for correction. Chest radiography revealed suspected bilateral peripheral parenchymal infiltrates of SARS-CoV-2, later confirmed by molecular testing for nucleic acid amplification (PCR). The patient was admitted to a COVID unit for continued care. During hospitalization, it was necessary to escalate oxygen therapy up to a 60% venturi mask. Antibiotic therapy with ertapenem was started for Klebsiella pneumoniae isolated in the bacteriological examination of the sputum. Faced with severe COVID-19 infection with hypoxemic respiratory failure, dexamethasone was started at a dose of 6 mg and remdesivir at an initial dose of 200 mg followed by 100 mg. On the 2nd day of treatment, the patient presented asymptomatic bradycardia, with a heart rate of 35 bpm, and a regular, rhythmic pulse. An electrocardiogram was performed, which showed sinus bradycardia, with normal QTc and no changes suggestive of an acute ischemic event. After therapeutic review, no other drugs potentially causing bradycardia were detected and analytically no changes were identified in the ionogram. After multidisciplinary dialogue, it was decided to suspend Remdesivir, maintaining electrocardiographic monitoring. The patient remained asymptomatic, with normal heart rate after 2 days of discontinuation of the drug, without the need for additional interventions during hospitalization. He was discharged clinically stable, with correction of respiratory failure and no recurrence of bradycardia.
Discussion: The onset of bradycardia on the second day of treatment with remdesivir and its immediate resolution after discontinuation are highly suggestive that this was the triggering factor. The mechanism by which this drug promotes bradycardia is still under study, but it is thought to be related to the resulting mitochondrial dysfunction. Thus, the importance of performing electrocardiography prior to the start of treatment, as well as cardiac monitoring in patients with a history of cardiac disease and/or medicated with beta-blockers, is highlighted.

Keywords: *COVID-19. Remdesivir. Bradycardia.*

PE 037. CONGENITAL PULMONARY MALFORMATION: WHEN COMPLICATIONS ARE THE KEY TO DIAGNOSIS

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Introduction: Congenital lung and airway malformation (MCPVA) is a rare entity characterized by dysplastic growth of the terminal airways with formation of cysts that prevent surrounding alveolar growth. It is usually detected in the prenatal or neonatal period, and diagnosis in adulthood is rare. Adults with MCPVA can be asymptomatic, so the diagnosis is largely associated with the appearance of complications.
Case report: A 65-year-old man, smoker, with no relevant personal history, went to the emergency department for dyspnea with 15 days of evolution and left chest pain. On admission, he was hypotensive and tachycardic (130 bpm), with low peripheral saturation (88%). A chest X-ray (CXR) was performed, which showed findings suggestive of left pleural effusion and parenchymal infiltrate in the upper floor of the ipsilateral hemithorax with apparent cavitation. Analytically, there was an increase in inflammatory markers (CRP 27.26 mg/dL) and d-dimers. In this context, a computed tomography angiography (CT angiography) was performed, which confirmed the presence of a large pleural effusion on the left, suggestive of empyema, and also multiple cavitations surrounding an area of consolidation in the left upper lobe (LSE) in probable relationship with necrotizing pneumonia. In the larger cavitated area, an image compatible with a foreign body was visible. A chest tube with purulent content was placed, empiric antibiotic therapy was started and the patient was hospitalized for etiological investigation. In the pleural fluid, *Prevotella* intermedia and *Provetella buccae* were isolated. The patient presented clinical worsening with desaturation up to 92%, having performed RxT that revealed right pneumothorax requiring placement of a chest tube. On the 5th day of hospitalization, exuberant inflamma-

tory signs appeared that extended from the drain insertion site to the lateral aspect of the left thigh, compatible with severe dermopiodermatitis conditioning sepsis. Chest CT was repeated, which showed extensive left emphysema that extended from the chest wall to the pelvic excavation, in addition to moderate pneumomediastinum. There was improvement in emphysema after placement of the drain in active suction at -20 cmH_20. Later, he developed chylothorax, with doubts about the etiology, considering as hypotheses to be iatrogenic by placement of central venous catheter *vs.* hematological disease given the context of monoclonal protein in protein electrophoresis. Due to the evolution and, taking into account the time of conservative treatment, the patient was referred for thoracic surgery, having been submitted to LSE lobectomy and decortication. The anatomopathological result allowed the diagnosis of organizing pneumonia in CPAM - Congenital Malformation of the Lung and Airway Type II. The patient continues to be followed up in a Pulmonology consultation, without any relevant symptoms or complaints and without new complications.
Discussion: CPAM is a rare entity in adults and, when present, usually presents with recurrent infections and/or pneumothorax. CPAM is classified according to the region of the lung affected, from proximal to distal, and type II consists of bronchiolar involvement with multiple small cysts (< 2 cm). Resection is generally recommended because of the risk of malignant transformation, so it is important that a timely diagnosis is made.

Keywords: *Congenital pulmonary malformation. Necrotizing pneumonia. Chylothorax.*

PE 038. PULMONARY MANIFESTATIONS OF NEUROFIBROMATOSIS – TWO CASE REPORTS

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Introduction: Neurofibromatosis is a rare autosomal dominant genetic disorder, with an incidence of 1:3,000 individuals, with two subtypes: type 1 (NF1), more frequent, and type 2. The most common manifestations are cutaneous, osteoarticular and peripheral nervous system (PNS) and central. The most frequent pulmonary manifestations are emphysema and cystic disease, which occur in up to 10%. Other abnormalities are restriction due to chest wall deformities, neurogenic tumors of lung, pulmonary hypertension (PH) and pulmonary fibrosis.
Case reports: Case report 1. A 72-year-old female diagnosed with NF1 at age 14, former smoker (20 pack-year), with history of breast cancer operated at 55 years-old. She presented to a Pulmonology consultation with 6 months of progressive dyspnea, mMRC 3 and non-productive cough. Due to severe hypoxemia, she was referred to the Emergency Department (ED) and hospitalized for investigation. On presentation, patient had multiple cafe-au-lait skin lesions and basal crackles. Complementary exams confirmed severe type 1 respiratory failure. Thoracic CT with angiography excluded PE and revealed extensive confluent centrilobular emphysema predominantly in the upper lobes and cysts in the lower lobes. Echocardiogram showed normal left cavities, estimated PASP of 43 mmHg and dilated right cavities. Investigation excluded infectious, chronic thromboembolic, autoimmune and pharmacological causes. Lung function tests were normal, except for severe decrease in DLCO (20, DLCO/VA 24). Patient was discharged with 6L/min oxygen at rest and 8L/min during exertion, referred to HP center, where right catheterization showed precapillary HP (mPAP 32 mmHg). Case report 2. A 47-year-old male, non-smoker, diagnosed with NF2 in childhood, with no other medical history, presented to the ER for sudden-onset pleuritic right chest pain at rest, 3 hours earlier, without trauma. He presented hemodynamic stability, SpO2 100% with FiO2 21%, 1.3 g/dL drop in hemoglobin compared to baseline and chest X-ray with right pleural effusion, evaluated by ultrasound (small non-septate pleural effusion). Patient performed thoracic CT with angiography, which excluded pulmonary embolism and revealed rupture of the right subclavian artery with active hemorrhage, aspects suggestive of hemothorax and a solid right paravertebral nodular lesion, with soft tissue density. He underwent endovascular treatment with stent placement followed by thoracoscopy with lavage and clot removal. Patient had a favorable evolution and underwent EBUS, which showed a right paratracheal mass at 2R level with 15.3 mm (anatomopathological examination in progress).
Discussion: We present two cases with rare thoracic manifestations of neurofibromatosis. In the first one, parenchymal and pulmonary vascular disease, with severe type 1 respiratory failure. PH in neurofibromatosis is classified in group V for its multifactorial mechanisms, in 2/3 associated with parenchymal disease, and is considered one of the most severe NF1 manifestations. In the second one, a hemothorax due to spontaneous rupture of an artery. NF pleural manifestations described are primary or secondary pneumothorax, pleural neurofibromas and pleural effusions associated or not with PNS tumors. When approaching patients with NF, it is important to remember that they may have pulmonary or pleural alterations with an atypical presentation that, although rare, cannot be forgotten.

Keywords: *Neurofibromatosis. Cystic disease. Pulmonary hypertension. Hemothorax.*

PE 039. BETWEEN A TUMOR AND A CYST – REGARDING A MEDIASTINAL MASS

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Introduction: Mediastinal masses are a frequent challenge in clinical practice due to their complex differential diagnosis. The anatomical location and anatomopathological characterization are fundamental in the differential diagnosis and exclusion of malignant pathology. In the posterior compartment, most findings are benign (70 to 80%), which includes tumors and cystic lesions. In some cases, due to the location and characteristics of the lesion, a definitive diagnosis is only possible after a surgical approach.
Case report: We present the case of a 61-year-old male patient, smoker (45 pack-year), with occupational exposure to asbestos for 10 years. He had a known medical history of hypertension, dyslipidemia, syphilis (previously treated) and heavy alcohol habits. He was referred to the Pulmonology consultation due to right chest pain, without pleuritic characteristics, associated with exertion and sporadic blood-tinged sputum in a small amount, with months of evolution. He denied other symptoms, such as weight loss or cough. The chest computed tomography (CT) scan revealed a large solid mass posteriorly located (59 × 46 mm), without a clear cleavage plane with the lower lobe of the right lung (RLL), of heterogeneous content, suspicious of atypia. To better characterize this finding, a chest ultrasound was performed, which showed a heterogeneous mass adjacent to the pleura, with areas of lower density and others suggestive of liquid content, indicative of a cystic lesion. A 18F-FDG positron emission tomography integrated with CT (18F-FDG PET/CT) was performed, which revealed high subpleural lung lesion uptake (SUV 5.2), without other abnormal uptake changes. Due to the size of the lesion and associated symptoms, the patient was referred to a thoracic surgical consultation and underwent diagnostic videothoracoscopy where an extra-pulmonary mass with characteristics compatible with a neurinoma was identified and completely resected. There was no invasion of other structures. The anatomopathological examination of the surgical specimen was consistent with a posterior mediastinal schwannoma, with no signs of malignancy. The postoperative pe-

riod had no intercurrences and respiratory rehabilitation was started and subsequently maintained in an outpatient clinic. Currently, 4 years after surgery, the patient is stable, without symptoms, metastasis, or recurrence of the lesion.
Discussion: Neurogenic mediastinal tumors, which originate from the peripheral nerve sheath or from sympathetic ganglia, represent 10% to 25% of all mediastinal masses, and only 5% correspond to schwannomas. On medical imaging techniques, they may present as cystic lesions, with a tendency to follow the path of the thoracic nervous structures that give rise to them. Although they are often benign, they have the potential for malignancy, so surgical treatment with complete excision is indicated, with a favorable long-term prognosis.

Keywords: *Mass. Posterior mediastinum. Neurogenic tumors. Schwannoma.*

PE 040. FROM THE BREAST OR FROM THE LUNG: THAT IS THE QUESTION. ABOUT A RARE CASE OF BREAST METASTASIS DUE TO LUNG CANCER

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Introduction: Breast metastases are extremely rare in most solid neoplasms, with an estimated incidence between 0.2 and 2.7%. Metastases from primary lung neoplasms are even less common and most are ipsilateral.
Case report: Male, 72 years old, personal history of arterial hypertension and dyslipidemia, former smoker with a smoking history greater than 50 pack-units-year. No family history of neoplasms. Under follow-up at the General and Family Medicine doctor due to right breast discomfort for a few months and generalized bone pain. A chest X-ray was performed, which showed hypotransparency in the left upper lobe. Computed tomography of the chest revealed a central pulmonary mass in the left upper lobe, 4 cm in diameter. He was referred to a Rapid Diagnosis Pulmonology Consultation. Physical examination revealed a solid mass adherent to the deep planes and with a stony consistency at the level of the supero-external quadrant of the right breast. Bronchofibroscopy revealed enlargement of the division spurs of the left main bronchus and left upper lobar bronchus (LULB) and complete occlusion of the apico-posterior and anterior bronchial segments of the LULB by mucosal infiltration by a hypervascularized, easily friable and bleeding lesion. Biopsies were performed at the level of the lesion and the result was adenocarcinoma inconclusive of pulmonary origin. Immunohistochemistry did not allow to affirm the lung as the primary location (TTF1 negative). The breast biopsy revealed that it was an adenocarcinoma with an immunohistochemical profile similar to that of the lung biopsy, not allowing, however, the distinction between breast and pulmonary origin. Positron emission tomography with 18F-fluorodeoxyglucose was performed, which showed intense anomalous hypermetabolism in the right breast (with a focal lesion in the upper-outer quadrant), in a densification close to the hilar region of the left lung, as well as hypermetabolic lesions in the lymph node (aorto- pulmonary and right pulmonary hilum), and extensive bone involvement (on D5-D10, sternum, rib cage, shoulder blades, right humerus and right and left femurs). Taking into account the risk factors, immunohistochemical profile and gender. the final diagnosis made at the Multidisciplinary Meeting of Pulmonology Oncology was primitive adenocarcinoma of the lung (T2bN3M1c, stage IVB), with contralateral breast metastasis. The patient was proposed for chemotherapy and radiotherapy.
Discussion: The treatment of lung and breast neoplasms differs considerably and entails different clinical prognoses, so their differentiation is extremely important. This unusual case reinforces the importance of a complete objective examination including breast evaluation (even in men) and the unavoidable role of multidisciplinary in the diagnostic and therapeutic approach of oncological pathology, encompassing the presence of a Pulmonologist, Oncologist, Anatomopathologist and Radiotherapist.

Keywords: *Neoplasm. Lung. Breast. Differential diagnosis.*

PE 041. CONTINUOUS QUALITY IMPROVEMENT PROJECT IN SMOKING CESSATION PROMOTION

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Introduction: Smoking is the leading preventable cause of chronic non-communicable diseases, remaining a global public health problem despite all the measures already adopted. The intervention of brief/very brief smoking cessation counseling is an essential tool in Family Medicine to combat smoking.
Objectives: Between March'21 and February'22, provide at least one brief or very brief smoking cessation intervention to at least 22% of the smoker users enrolled in a Family Health Unit (FHU) with 15 or more years old, in a face-to-face medical or nursing appointment. Accompany target population in smoking cessation. Raising professionals' awareness to the evaluation of smoking habits and its correct registration in the SClinic tools. Achieve the maximum score (score 2) of indicator 397 of the Identity Card for Primary Health Care (BI-CSP) - "Proportion of smokers with brief or very brief intervention during 1 year" - in the FHU under study.
Methods: Project of continuous quality improvement through internal and retrospective evaluation, with a time horizon initially established from March'21 to February'22. Patients aged 15 years or older, actively enrolled in the study FHU and coded with ICPC-2 rubric P17 (Tobacco Abuse) or with a record of smoking >0 cigarettes/day, in a face-to-face medical or nursing consultation in the 12 months prior to the date of the indicator were included. Data was obtained by analyzing indicator 397 in the BI-CSP portal. In month 0 the project was introduced. In the first month initial data was collected and a training session for professionals was conducted. From the 2nd month onwards, several strategies were applied: to the professionals, monthly reminder emails were sent and physical alerts were placed on their computers; to the users, information was disseminated digitally on the facebook® page, and in the FHU's waiting room through leaflets and posters. The World No Tobacco Day on 31 May'22 was promoted as an awareness-raising strategy. Intermediate data was collected in the 6th month, but due to the detection of a computer system error in the BI-CSP portal, the project was extended for another 5 months, presenting the final results and concluding at 16th month (July'22).
Results: In month 0 it was found that smoking cessation interventions had been provided to 1.142% of users (score 0). In the analysis of intermediate results (6th month), when the computer error was detected, it was found that 1.965% of users had been subject to intervention (score 0). After correction of this error in November'21 (month 8) and extension of the project for another 5 months (until July'22), the final results at this date showed that interventions were performed to 22.72% of users (score 2).
Conclusions: This project aimed to raise awareness among professionals about the importance of routinely performing smoking cessation interventions in Primary Health Cares. After the strategies applied, aimed at professionals and users, the objectives were achieved, and at least one brief or very brief smoking cessation intervention was carried out to at least 22% of the defined target population. The indicator 397 reached the minimum expected.

Keywords: *Quality improvement. Intervention. Smoking cessation.*

PE 042. LUNG CARCINOID AS AN INCIDENTAL FINDING - A CLINICAL CASE

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Introduction: Lung carcinoids are rare neuroendocrine tumors (1-2% of all lung cancer), while typical are more common than atypical. Most cases are incidental findings, although those that are more centrally located can cause symptoms related to structure compression. We present a clinical case of a patient who, during the evaluation and diagnosis of Hypersensitivity pneumonitis (HP), was simultaneously diagnosed with a typical carcinoid.
Case report: Female, 74 years, former smoker (100 packs per year), with active exposition to birds for 15 years. She had medical history of obstructive hypertrophic cardiomyopathy and breast cancer when she was 28 years old (submitted to radical mastectomy). In March 2021 the patient was admitted to the hospital due to SARS-CoV-2 infection and partial respiratory failure and was referred to the Pneumology appointment at time of discharge. There, she referred fatigue, productive cough and weight lost two years before the hospital admission. At physical examination, the patient had no respiratory distress, with SpO2 95% at FiO2 21%, and presented bilateral crackles at pulmonary auscultation. In the thoracic CT scan (May 2021) there were bilateral reticular opacities that supported HP diagnosis. Blood samples revealed positive bird precipitins white the auto immunity was negative. Lung function test showed moderate decrease of DLCO, without any changes in ventilatory mechanic. Bronchofibroscopy (BF) was conducted in June 2021 and bronchoalveolar lavage showed lymphocytosis (49% with normal CD4/CD8 relation) plus 20% neutrophiles. The microbiological exams were negative. While performing the systematic evaluation of the traqueobronchial tree, an irregular, hyperemic and friable lesion was detected in the emergency of lingular bronchus, whose anatomopathological result was a typical carcinoid, Ki67 < 1%. Dotanoc PET confirmed a central hilar lesion with max SUV 22. Due to her medical history, the patient was considered high risk for surgery and was submitted in September 2021 to endoscopic debulking of the tumor. At the same time, she started systemic corticosteroids for her HP. There haven't been any signs of tumor recurrence, and the patient is improving clinically since.
Discussion: This clinical case shows the importance of a systematic review of all the traqueobronchial tree while performing any BF, as lesions that are not seen in CT scans can be approached. Endoscopic therapeutic can be an option when there are contra indications to surgery.

Keywords: *Typical carcinoid. Hypersensitivity pneumonitis. Endoscopic finding. Endoscopic therapeutic.*

PE 043. NOT ALL CAVITATION IS TUBERCULOSIS

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Introduction: Pulmonary cavitations are rare in imaging tests. Its differential diagnosis is vast and includes infections, autoimmune diseases, primary and metastatic cancer, among others.
Case report: Female, 88 years old, partially dependent in activities of daily living. Active smoker (estimated smoking history at 90 UMA). With a history of peripheral arterial disease, arterial hypertension, iron deficiency anemia, chronic atrophic gastritis and SARS-CoV-2 infection as of March 2022. Medicated with warfarin 5 mg, atorvastatin 40 mg, pregabalin 50 mg and trazodone 100 mg. She went to the Emergency Department on 04/14/2022, referred by the Family Doctor due to hyponatremia. Upon observation, she was eupneic on room air, with a peripheral oxygen saturation of 97%, and on pulmonary auscultation, the vesicular murmur was maintained and symmetrical, with crackling fevers in the left base. Analytically, with increased inflammatory parameters (leucocytes 14,900/μL; N 87.1%; CRP 19.6 mg/dL) and hyponatremia (Na+ 129 mmol/L). A chest X-ray showed cavitation in the upper third of the left hemithorax. For clarification, a computed tomography (CT) scan of the chest was performed, which showed "(...) low-volume cavitation at the lung apex, with a 14 mm medial spiculated nodule at the apex of the right lung, with parenchymal distortion and linear adhesion to the pleura. Cavitation of 42 mm thick walls in the apical segments of the left lower lobe (LEL), with enveloping consolidation that continues into the upper lobe". Thus, necrotizing/cavitated pneumonia was assumed and empirically initiated amoxicillin-clavulanic acid. She was admitted to the Pulmonology Service for the continuation of the study. Bronchoscopy was performed with collection of microbiology products, which was negative, including for mycobacteria; presented mucosal infiltration in the left upper lobar bronchus. Biopsies were performed which were negative for neoplasia, as well as cytology of bronchial secretions and bronchoalveolar lavage, which were negative for neoplastic cells. After completing three weeks of antibiotic therapy, a CT scan of the chest was repeated (05/02/2022) which revealed "With regard to the cavitated lesion observed in the apical segment of the LEL, a slight dimensional increase is observed, measuring 37 × 32 mm in the axial plane (average 35 × 29 mm in the previous exam), identifying a slight increase in the solid component observed in a posterior location on its wall, and continuing with a grossly nodular image that involves the apical segment of the left lower lobe, and presenting a comparatively dimensional increase with the previous exam, it currently measures 21 × 20 mm (average in the previous exam 20 × 17 mm)". In view of the growth of the lesion, it was decided to perform a transthoracic biopsy, which was diagnostic for poorly differentiated squamous cell carcinoma. Thus, she was discharged and referred to a Pulmonology Oncology consultation to start treatment.
Discussion: With this clinical case, we intend to draw attention to the differential diagnosis of pulmonary cavitation, because despite tuberculosis being a frequent diagnosis, when this is excluded, we must proceed with the diagnostic process, never forgetting, despite being less frequent, the cancer, so as not to delay treatment.

Keywords: *Pulmonary cavitation. Differential diagnosis. Lung cancer.*

PE 044. THE MYSTERY OF ELEVATED PROCALCITONIN

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Introduction: In medical care, in general, and in intensive care, in particular, the success of medical intervention is directly related to the ability to identify, as early as possible, and accurately, any intercurrence. Continuous monitoring of vital signs and other parameters, using invasive and non-invasive methods, as well as seriated laboratory and imaging reassessments, are of particular importance in the approach to critically ill patients where speed of action is essential.
Case report: 75 years old, female, nun, non-smoker. Previous history of atypical lung resection due to a left upper lobe (LUL) nodule in September 2015 with histological diagnosis of atypical adenomatous hyperplasia. Patient underwent iterative upper left lobectomy with arterial sleeve in July 2022 due to growth of a nodular outline next to the scar from previous resection in the LUL, surgical intervention was complicated by pulmonary artery rupture with estimated losses of 2,100 mL, polytransfused. Favorable postoperative evolution, with no evidence of blood loss, chest X-ray at discharge without significant pleural effusion. Due to episodes of atrial fibril-

lation, she was discharged medicated with therapeutic dose enoxaparin. One week after discharge, she was admitted to the emergency department with asthenia, adynamia, marked mucocutaneous pallor and abolition of left vesicular murmur, with hemodynamic stability. Chest X-ray with "white lung" on the left side, lab results showed severe normochromic/normocytic anemia of 4g/dL hemoglobin and elevation of C-reactive protein (CRP) 52.9 mg/dL and procalcitonin 3.53 ng/mL (normal < 0.5 ng/mL). Transferred to the Intensive Care Unit (ICU), transfused until hemoglobin values > 8 g/dL and reintervened for hemostasis review. Drained 1,500 mL of blood and clots without identifying a hemorrhagic focus and started empirical antibiotic therapy with Piperacillin/Tazobactan for suspected infected hemothorax. Patient returned to the ICU after the surgery, remaining hemodynamically stable, without significant blood loss, without fever (under analgesia with paracetamol and metamizole in a fixed regimen) and with radiological evolution as expected. Stable hemoglobin and decrease in CRP to 3 mg/dL, but with a progressive increase in procalcitonin to 80.7 ng/mL. Considering this finding, a chest CT was performed to investigate postoperative complications, which showed a multiloculated hydropneumothorax in a basal location (below the thoracic drainage holes) which was partially hidden by the cardiac silhouette on previous chest radiographs. After drainage repositioning and adjusting the antibiotic therapy by adding Linezolid to the current therapy, there was sustained radiological and analytical improvement with normalization of the inflammatory parameters and without the need for new surgical intervention.
Discussion: One of the most repeated aphorisms in the teaching of medicine tells us that the doctor should treat the patients and not the blood tests, however, in the presence of significant laboratory alterations with little or non-existent clinical findings, these cannot be devalued without first making all the necessary efforts. to identify causes and possible factors that may justify the dissociation between clinic and exams. The information from this early warning system (exams and monitoring) must always be valued and integrated, seeking to act in anticipation, since in these situations the most effective way to solve any problem is before it manifests itself.

***Keywords**: Intensive care. Thoracic surgery. Hemotorax. Infection. Procalcitonin.*

PE 045. AN UNEXPECTED AGENT IN A TYPICAL PNEUMONIA PRESENTATION

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Introduction: Tuberculosis is an ancient infectious disease, but no less current. It can present in different ways and affect any organ, although pulmonary involvement is the most frequent. It presents mainly as an insidious infection, with dry cough, fever and radiologically with alveolar opacities with a tendency to confluence and cavitation. Acute tuberculous pneumonia presents clinically and radiologically very similar to typical bacterial pneumonia and is more common in children or immunocompromised patients.
Case report: Male, 25 years old, non-smoker, healthy. Hospitalized for fever, dry cough and hypoxemia. Chest radiography with pulmonary consolidation in the left lower lobe. Nasopharyngeal exudate positive for Influenza A, without other isolations in the remaining microbiological tests performed. therefore, he was treated with Oseltamivir and levofloxacin, on suspicion of superinfection with bacterial pneumonia. Favorable evolution with discharge after 1 week of hospitalization. Two weeks after discharge, he was readmitted due to fever, dry cough, weight loss, elevation of inflammatory parameters and worsening of the radiographic image. Empirically medicated with Piperacillin/Tazobactan and performed chest CT which revealed heterogeneous opacification in the left lower lobe with cavitation without bronchial communication. Multiple adenopathies. Bronchoscopy with isolation of *Mycobacterium tuberculosis* in the direct and cultural examination of bronchial secretions, sensitive to first-line therapy. HIV negative. He started treatment with Isoniazid, Rifampicin, Pyrazinamide and Ethambutol with clinical, imaging and laboratory improvement.
Discussion: We emphasize the need for a high index of suspicion for the diagnosis of *M. tuberculosis* infection, even in the absence of known previous contact and immunosuppression. We also emphasize the importance of researching etiological agents in respiratory infections and clinical and imaging reassessment in post-pneumonia patients. This infection, still so frequent in Portugal, can be masked by treatment with quinolones.

***Keywords**: Respiratory infection. Acute tuberculous pneumonia.*

PE 046. AN INFREQUENT CAUSE OF COUGH

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Introduction: Pulmonary hamartomas are rare benign tumors, with an incidence of about 0.25%. They are made up of different proportions of cartilage, fat, fibrous tissue and respiratory epithelium. Most of the time they are asymptomatic but depending on the location they can cause symptoms such as cough, dyspnea, hemoptysis, etc. Only 10% of hamartomas occur endobronchially, which can cause irritation of the bronchial mucosa and consequently cough.
Case report: 58-year-old female, non-smoker. History of depressive syndrome, obesity and gastritis, medicated with proton pump inhibitor, trazodone and olanzapine. The patient had complaints of irritating cough since early 2021, denying wheezing, dyspnea or nasal symptoms. Spirometry and chest radiograph were normal. Bronchodilator therapy with ICS/LABA was initiated, without improvement, and a chest CT was performed in August 2021, with identification of a nodular lesion at the left upper lobe (LUL), associated with retraction of the parietal pleura and the great fissure, with a ground glass halo at the periphery, infra-centimetric nodes in the aortopulmonary window and inferior paratracheal, and a subcarinal adenopathy with 18 × 10 mm. She was referred to a Pulmonology consultation and underwent PET-FDG in September 2021, with focal capture in the LUL nodule (initial maximum SUV 3.5 - late 5.3), without capture in other locations. A bronchoscopy was performed (September 2021), and a hypervascularized "cauliflower-shaped" polypoid lesion was visualized at the lingula level, and bronchial biopsies were performed, which were inconclusive and the bronchial aspirate was negative for malignant cells. Subsequently, rigid bronchoscopy was performed in November 2021, with performance of biopsies and excision of the lingular endobronchial lesion, whose histology revealed chondroid hamartoma. The chest CT after rigid bronchoscopy showed significant imaging improvement, with the maintenance of a 10 mm nodule in the LUL, with regular contours. The patient reported a significant improvement in symptoms A new bronchoscopy was performed in March 2022, with no evidence of endobronchial lesions. After discussion with thoracic surgery, the patient was proposed for surgical intervention, and was submitted to an upper lobe left lobectomy by VATS in April 2022. The histology of the operative specimen did not reveal any signs of malignancy, and a post-surgical reassessment thoracic CT did not show complications or emergence of new lesions.
Discussion: Pulmonary hamartomas are rare benign tumors whose symptoms depend on their location. Patients with peripheral tumors are often asymptomatic and their diagnosis is incidental. Endobronchial hamartomas can cause persistent coughing, as was the case of our patient, in addition to causing bronchial obstruction with complications such as post-obstructive pneumonia/atelectasis. Therapeutic strategies include bronchoscopic interventions and surgery.

***Keywords**: Pulmonary hamartoma. Cough. Lung cancer.*

PE 047. PREDICTORS OF EXCESSIVE RESIDUAL SLEEPINESS

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Introduction: Excessive residual sleepiness (ERS) in patients with OSA refers to the presence of excessive daytime sleepiness (EDS) even when ventilation and oxygenation parameters during sleep are normalized with therapy. However, this entity is not universally accepted, as some experts believe that the prevalence of EDS in patients with successfully treated OSA reflects a prevalent complaint in the general population. The pathogenesis of ERS is multifactorial, with some risk factors described: severe EDS at the time of diagnosis; age < 55 years; reduced time of non-invasive ventilation (NIV) use per night and/or side effects associated with its use; shift work; alcohol consumption; concomitant therapy; obesity; cardiovascular (CV) pathology; psychiatric disorders; Parkinson's; Alzheimer's; hypothyroidism, chronic kidney disease; hepatic encephalopathy.
Objectives: To evaluate predictors of excessive daytime sleepiness in patients with OSA who adhere to NIV therapy.
Methods: Retrospective study, through consultation of polysomnographic sleep exams performed between 2017 and 2022. Inclusion criteria: diagnosis of OSA with criteria for NIV under treatment for at least 6 months. Variables evaluated: sociodemographic, smoking, alcohol habits, BMI, cervical circumference (CC), personal medical history, usual medication, Epworth (before and after treatment), AHI at the time of diagnosis and ventilator data (adherence, mean time of use and residual AHI). 2 groups were created - Group I: Epworth after NIV ≤ 10; Group II: Epworth after NIV > 10.
Results: During the mentioned period, 353 OSA were diagnosed. Of these, 267 (75.6%) met the criteria for NIV treatment. Exclusion of 33 (12.3%) patients because they had been under NIV for less than 6 months. Group I (n = 229): patients were mostly male (174; 76.0%), with a mean age of 60.1 years. Average BMI of 33.3 and average CC of 42.5 cm. Smoking history in 108 patients (47.2%). On average, Epworth at diagnosis of 8.3 and AHI of 48.4. NIV (means): adherence of 91.3%, residual AHI of 2.0 and time of use of 6.8h. Group II (n = 3): all male and with severe OSA. Mean age of 65.0 years. Mean BMI of 31.3. Average CC of 40.1 cm. On average, Epworth at diagnosis of 13.3 and AHI of 61.0. NIV (means): adherence of 87.0%, residual AHI of 1.8, and time of use of 7.0h. The presence of hypertension in all patients and the presence of CV pathology, DM and stroke in 1 stand out.
Conclusions: In this sample, the percentage of patients with excessive residual sleepiness was low, with a small number of patients with NIV adherence criteria and Epworth after treatment greater than 10. This group was found to have more severe and symptomatic pathology, with higher values of initial Epworth and AHI compared to group I, but significant conclusions cannot be drawn due to the small size of this group. More studies are needed, with a larger and more representative sample, in order to understand the real impact not only of the severity of the pathology, but also of other comorbidities and ongoing therapy, on the development of excessive residual sleepiness in these patients.

Keywords: *OSA. Excessive residual sleepiness.*

PE 048. EFFECTS OF SARCOPENIA IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

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Introduction: Sarcopenia, defined by the European Working Group of Sarcopenia in Older People (EWGSOP), includes measurements of (1) muscle strength, (2) muscle mass and (3) physical performance. A large variability in prevalence estimates of sarcopenia in COPD has been observed due to different choice of criteria, often evaluating only one aspect of sarcopenia.
Objectives: To study the prevalence of sarcopenia in COPD patients and its impact in symptoms, pulmonary function tests and exercise capacity.
Methods: Patients diagnosed with COPD observed in a Pulmonology appointment were prospectively analysed. EWGSOP criteria for sarcopenia diagnosis were used: (1) muscle strength, evaluated by performing 5-times-sit-to-stand-test (reference value < 15 sec); (2) muscle mass, measured with bioimpedance scale (reference value of appendicular muscle mass in men > 20 Kg and women > 15 Kg); and (3) physical performance by 6-minute-walking-test (6MWT) (reference value > 400 m). Sarcopenia was diagnosed by impaired muscle strength and muscle mass, and severe sarcopenia by sarcopenia with impaired physical performance. We excluded patients with diagnosis of asthma, diffuse lung disease or neuromuscular disease; with active neoplastic disease and skeletal-muscular limitations.
Results: Our sample consisted of 35 COPD patients, 82,9% male, with a mean age of 71,7 ± 9,7 years. Patients were classified as COPD GOLD group A (14,3%), group B (37,1%), group C (5,7%) and group D (42,9%). Mean predicted FEV1 was 49,2 ± 14,5% and DLCO 63,9 ± 19,4%. Symptoms were evaluated with CAT scale (median of 18, IQR of 7) and mMRC dyspnea scale (median of 2, IQR of 2). Mean weight was 72,2 ± 16,8 Kg and mean BMI 25,9 ± 5,2 Kg/m^2. Nine patients were considered obese (25,7%) and 3 had low body weight (8,6%). Median percentage of body fat was "below average" in men (26,2 ± 7,9%) and "average" in women (29,5 ± 11,2%) considering reference values of American College of Sports Medicine (ACSM) for age > 60 years old. Low muscle strength was observed in 11 patients (31,4%) and low muscle mass in 11 patients (31,4%). Six patients presented both criteria and sarcopenia was diagnosed (17,1%), with no difference between sexes (17,2 *vs.* 16,7%, p = 0,973), or age (p = 0,183). Severe sarcopenia was observed in 5 patients (14,3%). No sarcopenic patients were noted in less symptomatic GOLD groups A or C, 1 patient was group B and 5 patients group D. Sarcopenic patients did not have more symptoms evaluated by mMRC or CAT scores. Mean predicted FEV1 was lower and mean predicted RV higher in sarcopenic patients with no statistically significant difference. Most patients presented low physical performance (62,9%) and mean 6MWT was lower in sarcopenic patients (p = 0,166).
Conclusions: Sarcopenia prevalence was 17,1% (severe sarcopenia 14,3%) in our sample of COPD patients. Sarcopenia should be evaluated with well-defined criteria and not only by weight or BMI since these may overestimate muscle mass and cannot assess muscle strength. All sarcopenic patients were classified as GOLD group B and D although mean mMRC and CAT scores were not higher and there was no statistically significant difference regarding pulmonary function, probably due to small sample size, a limitation of our study. We noticed a lower exercise capacity in sarcopenic patients (p = 0,166).

Keywords: *Sarcopenia. DPOC.*

PE 049. JAW-DROPPING: COMPLICATIONS OF A SPIROMETRY

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Introduction: Acute non-traumatic anterior temporomandibular joint luxation is an uncommon presentation to the emergency department, representing three percent of all dislocated joints. The majority presents spontaneously and are precipitated by laughing, yawning, chewing, or convulsions. Some have been reported after endotracheal intubation, laryngeal mask airway insertion, fiberoptic bronchoscopy, and anesthetic induction. Predisposing factors

include poor joint capsule integrity, weak articular eminence morphology and muscle hypotonicity.
Case report: We present the case of an 83-year-old female who was unable to occlude her mouth and complained of left preauricular pain and swelling immediately after pulmonary function testing using a standard mouthpiece. The patient had no significant medical history other than bronchiectasis. There was no history of temporomandibular joint problems. She was transferred to the emergency department where the diagnosis of left anterior temporomandibular joint luxation was suspected on clinical examination and confirmed on face CT scan, that showed anterior dislocation of left condylar process of the mandible, that lied anterior to the articular eminence of temporal bone. After administration of diazepam 5 mg, closed reduction was performed. The procedure was well tolerated, and the reduction was successful. There were no immediate complications, and the patient was discharged from emergency department, and there were no further episodes of temporomandibular joint dislocation.
Discussion: Healthcare professionals must be aware of this unusual complication so that timely management can be achieved.

***Keywords**: Temporomandibular joint. Dislocation. Spirometry.*

PE 050. DYSPHONIA AFTER VIRAL INFECTION AS AN INITIAL PRESENTATION OF AMYOTROPHIC LATERAL SCLEROSIS

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Introduction: Amyotrophic Lateral Sclerosis (ALS) is a progressive motor neuron disease with upper and lower motor neuron dysfunction. Bulbar involvement may appear as an initial manifestation in about 25% of cases, usually presenting with marked dysarthria. However, there are cases in which this involvement is manifested only by dysphonia due to muscle weakness in the abduction of the vocal cords.
Case report: The authors present the case of a 73-year-old woman with only a history of Arterial Hypertension. In November/2021, a dry cough, odynophagia and dysphonia started, and a diagnosis of viral infection of the upper airways was assumed, symptomatically medicated and with improvement of symptoms after 5 days, with the exception of dysphonia. In this sense, she was referred to the Otorhinolaryngology consultation in February/2022 and underwent Nasopharyngolaryngoscopy which showed weakness in the abduction of the vocal cords and also evaluated swallowing with dysphagia for solids. Sent to the Neurology consultation in April/2022 due to suspected neuromuscular disease, having performed an Electromyography that revealed motor neuronopathy with involvement of the bulbar, cervical and thoracic segments, as well as phrenic neurography with low-amplitude potentials bilaterally. Thus, the diagnosis of ALS was made, starting Riluzole and rehabilitation, and a Pulmonology evaluation was requested. In July/2022, the first evaluation was carried out in Pulmonology with marked dysarthria, dysphagia for solids and liquids controlled with thickener and dyspnea for minor efforts, however without motor deficits at observation. Functionally with FVC of 39% and CPT of 71%, however not meeting acceptability and reproducibility criteria. Cough was evaluated with Peak Cough Flow (PCF) of 60L/min, not tolerating "air-stacking" maneuvers. Gasometrically with hypercapnia (pCO2 56) but without hypoxemia. Therefore, non-invasive ventilation in Bi-Level S/T mode was started with IPAP 18/EPAP 8/RR 18/Fi 21% with a minimal contact mask, with indication to use during the night and daytime periods, since she did not tolerate mouthpiece. Also adapted to mechanical in-exsufflator with +30 cmH_2O Inspiration pressure/-40 cmH_2O Exhalation pressure/Inspiratory time 2.0 s/Expiratory time 3.0 s/CoughTrak on, with indication to perform at least 3 cycles during the day. PEG placement was also recommended, which the patient refused. In the last assessment in August/2022, the patient was still able to walk independently and there was excellent ventilatory adaptation with an average use of 11h/day, median tidal volume of 380 mL, residual AHI of 4/hour and corrected nocturnal hypercapnia (maximum TcCO2 of 44 mmHg) without hypoxemia (T < 90% of 6%). Regarding cough, it has regular use of cough-assist with a generated PCF of 260 L/min. For new episodes of choking, PEG placement was again recommended, which the patient accepted and is currently fed by this route.
Discussion: The authors highlight the case of dysphonia as the initial symptom, and nasopharyngolaryngoscopy was extremely important in the detection of muscle weakness in the abduction of the vocal cords, raising the diagnostic suspicion. Despite the inevitable progression of the disease, adequate use of non-invasive ventilation and cough-assist prolongs survival time and improves quality of life.

***Keywords**: Dysphonia. Amyotrophic lateral sclerosis. Bulbar. Non invasive ventilation.*

PE 051. SKIN METASTASES AS A PRESENTATION OF LUNG CANCER – A CASE SERIES

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Introduction: Skin metastases are detected in 1-12% of lung cancers, with adenocarcinoma being the most frequent subtype. They are usually manifested by cutaneous nodules. In 0.8% of cases, lung cancer and cutaneous metastasis diagnosis occur simultaneously. We report 3 cases of cutaneous metastases from lung cancer.
Case reports: Case report 1: a 78-year-old male, ex-smoker (25 pack-year), went to the Emergency Department (ED) for swelling in the right cervical region, edema in the right upper limb, and violaceous lesions on the chest. He had a 10% weight loss in the previous 5 months. The observation highlighted the presence of papular, violet, towel-like, raised, non-painful skin lesions in the anterior and posterior region of the right hemithorax and the right inferolateral region of the neck. A computed tomography (CT) scan of the body showed moderate pleural effusion and identified subpleural densification with irregular contours in the left lower lobe, as well as multiple lymphadenopathies in cervical, mediastinal, abdominal and pelvic stations. A thoracentesis revealed pleural fluid compatible with exudate with a predominance of monocytes, without microbiological isolation, and blind plural biopsies revealed nonspecific pleuritis. Biopsy of one cervical adenopathy and of one skin lesion confirmed the diagnosis of lung adenocarcinoma. Carboplatin and paclitaxel were administrated with improvement of the skin lesions, which became flat and brownish. Case report 2: a 73-year-old male, an active smoker (100 pack-year), was referred to the ED for multiple subcutaneous nodular lesions with 3 months of evolution. Simultaneously, he presented anorexia, 25% weight loss, and asthenia. On observation, he presented 4 hard, slightly painful, erythematous-violaceous nodular lesions on the abdomen and back, digital clubbing, and hypoxemia. Chest CT revealed subcutaneous lesions in the left upper lobe of the lung and a fracture of the ipsilateral 4^{th} costal arch. He underwent video bronchofibroscopy showing no endoscopic changes and bronchial secretions were negative for neoplastic cells. Abdominal CT revealed lesions suggestive of metastasis of the adrenal glands and peritoneum. The diagnosis of squamous cell lung cancer was made by biopsy of one of the skin lesions. Before starting anti-tumor therapy, the patient died of hospital-acquired pneumonia. Case report 3: a 79-year-old male, ex-smoker (100 pack-year), with a history of chronic obstructive pulmonary disease was referred to a pulmonology appointment due to a chest CT, which identified a solid lesion in the right upper lobe.

Upon observation, he presented an erythematous and painless nodular lesion in the right shoulder region. He underwent video bronchofibroscopy, whitout alterations, and bronchial secretions were negative for neoplastic cells. Skin biopsy revealed adenocarcinoma of the lung. Subsequently, a body CT was performed, which revealed brain and right adrenal metastasis.
Discussion: These three cases exemplify two distinct presentations of cutaneous metastasis, a rare manifestation of lung cancer, particularly at the time of diagnosis. The skin lesions in Case report 1 are an atypical presentation. Biopsy of skin lesions was essential for the diagnosis of lung cancer. Lung adenocarcinoma was the most frequent histological subtype.

Keywords: *Skin nodule. Skin metastasis. Lung cancer.*

PE 052. RADIATION RECALL PNEUMONITIS: ABOUT A CLINICAL CASE

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Introduction: Radiation recall pneumonitis is an unpredictable, rare, and poorly understood inflammatory reaction in a previously irradiated area of pulmonary tissue after administration of a precipitating systemic agent (chemotherapy and molecular-target agents). The pathophysiological mechanism remains unclear: when radiation therapy is followed by a systemic agent, subclinical damage from irradiation can be unmasked and manifested as a radiation recall phenomenon. Many agents have been reported to be responsible for this reaction but taxanes and anthracyclines are the most common. This phenomenon can occur even after a long time from the previous radiotherapy or after several administrations of systemic agents.
Case report: 67-year-old male, nonsmoker, with a history of squamous cell carcinoma of the lung (right superior lobe), stage IV (T1c-N0M1a – single bone metastasis), previously treated with four cycles of carboplatin and paclitaxel, followed by thoracic radiotherapy (that ended in august 2020). Due to local progression, he began treatment with gemcitabine in June 2021, which was stopped after the development of thrombocytopenia. Immunotherapy (nivolumab) was started in August 2021. In September 2021, the patient presented dyspnea, dry cough, fatigue, anorexia, and excessive sweating for the past 4 weeks with progressive worsening. No fever, hemoptysis, weight loss, or other symptoms were experienced. Laboratory work showed a high level of C reactive protein, with no respiratory failure or further abnormalities. The patient performed a chest computed tomography scan with contrast that showed multiple areas of ground glass opacities adjacent to the tumor (right superior lobe) and a few areas of thickening of the interlobular interstitium at the pleuropulmonary interface in the superior and inferior lobes of the right lung. Antibiotic therapy with amoxicillin/clavulanic acid was started with no improvements seen in this patient, thus requiring further investigation. The patient underwent bronchoscopy for examination of bronchoalveolar lavage that revealed increased lymphocytes (38%) and elevated CD4/CD8 ratio (4.5), without isolation of microorganisms. Corticotherapy with 60 mg of prednisolone was initiated with progressive clinical and analytical improvement of the patient.
Discussion: The diagnosis of radiation recall pneumonitis is established by a history of administration of a systemic agent after thoracic radiotherapy associated with typical symptoms and radiographic abnormalities, after exclusion of other etiologies. The symptoms are dry cough, fever, dyspnea, and chest pain. The typical radiologic changes include ground-glass opacity in the previously irradiated lung. Treatment includes the withdrawal of the precipitating agent, application of corticosteroids, and supportive care. We present this case because of the few previously reported cases and to draw attention to the potential toxicity after a long time interval from the previous irradiation.

Keywords: *Radiation recall pneumonitis. Thoracic radiotherapy. Systemic treatment.*

PE 053. EXPERIENCE OF BIOLOGICAL THERAPY IN PATIENTS WITH SEVERE ASTHMA

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Introduction: Severe asthma comprises many distinct phenotypes and endotypes. Biological therapies have played a significant role in its treatment. Patients may be eligible for treatment with anti-IL5, anti-IL4, and anti-IgE drugs. The study aimed to evaluate the experience in treating severe asthma patients with biological drugs approved by the hospital.
Methods: Retrospective analysis of patients with severe asthma treated with benralizumab, mepolizumab, and omalizumab since 2016 was made. Sociodemographic variables, smoking history, comorbidities, total IgE or eosinophils, sensitization pattern, asthma control test (ACT), number of exacerbations, daily dose of inhaled corticosteroids, forced expiratory volume in 1 second (FEV1), duration of treatment and adverse effects were analyzed.
Results: A sample of 28 patients on biological drug therapy was obtained: 12 patients with omalizumab, 9 with benralizumab, and 7 with mepolizumab. Most patients were female (75%), with a mean age of 56 years, and non-smokers, having been diagnosed in adulthood. The mean body mass index was 27 kg/m^2 and the most frequent comorbidities were rhinitis, followed by nasal polyposis. The mean peripheral blood eosinophil count at the start of treatment was 933 and 1,000 cells in patients with benralizumab and mepolizumab therapy, respectively. In patients receiving omalizumab, there was an average total IgE value of 464 kU/L, and the sensitization pattern presented by these patients was, in descending order: mites, pollens, grasses, and weeds. Clinical and functional improvement was observed in all patients, with a reduction in the number of exacerbations and an increase in ACT (from 15 to 21), and a gradual increase in FEV1 (from 64% to 78%). The first patient started treatment in 2016 and 19 patients started therapy with biological drugs in the last 3 years. The mean duration of treatment was 31 months, with patients treated with omalizumab being those who had been on therapy for the longest time, followed by mepolizumab and benralizumab. Most patients did not experience any side effects associated with the drugs, but therapy was discontinued in 1 patient. Two patients experienced nausea and vomiting.
Conclusions: The experience with biological treatment in patients with asthma has been increasing in recent years, but it is still small for what is expected in an asthma consultation at a group II hospital. In this sample, it was not possible to compare the clinical characteristics and eligibility criteria between the various treatments. It was found that all patients benefited from the treatment, with improved control of asthma, respiratory function, and exacerbations, increasing the quality of life of these patients. The occurrence of adverse effects was rare, and the treatment is considered safe.

Keywords: *Severe asthma. Biological treatment.*

PE 054. AFATINIB RESPONSE IN STAGE IV LUNG ADENOCARCINOMA WITH EGFR EXON 18 DELE709_T710INSD MUTATION – A RARE CASE

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Introduction: Epidermal growth factor receptor (EGFR) mutations changed the reality of non-small cell lung cancer (NSCLC) treatment

in advanced stages, the most common being the ones in exon 19 and 21, in which the response to therapy with tyrosine-cinase inhibitors (TKIs) is well documented. On other hand, exon 18 mutations are extremely rare, and delE709_T710insD corresponds to around 0,1% when occurring as a sole mutation. It is potentially sensible to target therapy, although the clinical relevance of these mutations is still uncertain. There is also little information in literature in regard to the development of resistance mechanisms to TKIs in this population.
Case report: The authors report the case of a 76-year-old female patient, nonsmoker, with clinical history of hypertension, dyslipidemia, chronic gastritis, and chronic rhinitis. In September 2020, she started to experience fatigue, involuntary weight loss, and right trepopnea. She underwent a CT (computed tomography) thoracic scan that showed a large volume right pleural effusion. A diagnostic thoracocentesis was performed, and the diagnosis of lung adenocarcinoma was made. Immunohistochemistry results showed a PD-L1 of 90% and the Next-Generation Sequencing (NGS) showed the existence of an exon 18 18delE709_T710insD EGFR mutation. Due to the severity of the patient's symptoms, she was started on systemic treatment with carboplatin plus pemetrexed, up to a total of 4 cycles. Follow-up CT scan showed partial response, with reduction of the pleural effusion. The patient then started maintenance treatment with pemetrexed in January 2021, that was stopped after 9 cycles due hematologic toxicity and slight progression signs in the follow-up CT scan. In September 2021 the patient initiated treatment with Afatinib 40 mg daily. Due to dermatologic toxicity, transient suspension of treatment was necessary, and later it was reintroduced with dosage reduction to 20 mg daily, that was well tolerated. The follow-up CT scan in March 2022 showed disease stability, although 3 months later, slight progression signs were evident (without fulfilling RECIST 1.1. criteria). She then underwent liquid biopsy for new molecular study, which showed the presence of EGFR exon 20 T790M resistance mutation. Osimertinib treatment was proposed, and approval is now pending.
Discussion: There is scarcity in literature concerning the response of EGFR exon 18 mutations such as delE709_T710insD to EGFR-TKIs treatment, due to its rarity. Some studies seem to point to a preferential *in vitro* response to second generation TKIs, such as Afatinib. The authors report a case of tumor response/stability to Afatinib in a patient with advanced stage NSCLC with a rare exon 18 mutation, as well as the resistance mechanism to TKI treatment. The description of similar cases in literature is necessary, due to the impact it may have in decision-making in regard to therapy approach in patients with rare EGFR mutations.

Keywords: *Non-small cell lung cancer. Tyrosine-cinase inhibitor. EGFR. Exon 18. dele709_t710insD. Afatinib.*

PE 055. BEHIND A BACK PAIN...

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Case report: The authors present the case of a 47-year-old male patient, born in Guinea-Bissau and living in Portugal for 10 years. He had a history of sickle cell disease and was being studied by his family doctor for back pain with 10 months of evolution, with multiple visits to the ER for this reason. The lumbar spine CT (October/2021) showed diffuse disc prolapse of L4-L5 and L5-S1. As the pain complaints got worse, a new lumbar spine CT scan was performed in June/2022, which showed osteolytic lesions of L5 and S1, with radiologic signs of a probable secondary nature. In July/2022, he went to the ER for neck pain for 3 days, with no other symptoms, namely neurological, systemic or respiratory. He performed a cervical CT which showed osteolytic lesions at the level of C6 and C7. Due to the suspicion of vertebral metastasis, he was admitted for study and pain control. In the complementary study, he performed a chest CT which showed a diffuse micronodular pattern in both lungs. Therefore, videobronchoscopy with bronchoalveolar lavage was performed, resulting in the diagnosis of Pulmonary Tuberculosis. Spinal MRI confirmed the presence of multiple osteolytic lesions, heterogeneously, with necrotic areas and, additionally, 2 paravertebral abscesses at C6 and D10, which were compatible with the diagnosis of Pott's Disease. The patient started anti-bacillary drugs (Isoniazid, Rifampicin, Pyrazinamide and Ethambutol) and combined analgesic therapy, with good clinical evolution. He was evaluated by Orthopedics, with the indication for the use of dorsolombostat and surveillance, as an urgent surgical approach was not considered, and the patient is waiting evaluation in a neurosurgical consultation.
Discussion: Tuberculous spondylodiscitis or Pott's disease is a disease with a nonspecific and often insidious clinical presentation, so a high level of suspicion is necessary for its diagnosis. The incidence of extrapulmonary tuberculosis is low, around 3% of cases, and the osteoarticular manifestations of tuberculosis are responsible for 10% of these cases, being the third most frequent presentation of extrapulmonary disease. The axial skeleton is the most affected site (50%), most often the thoracolumbar junction. Cervical involvement, as in this case, is even rarer (2 to 5% of cases).

Keywords: *Pott's disease. Extrapulmonary tuberculosis.*

PE 056. IS PULMONARY FUNCTION TESTING SAFE IN PATIENTS WITH AORTIC ANEURYSMS?

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Introduction: Evaluation with pulmonary function tests (PFT) in the preoperative period of aortic aneurysms is a common practice in several centres, aiming to reduce the morbidity and mortality associated with the surgery. The 1996 guidelines of the American Association of Respiratory Care include aortic aneurysms as relative contraindications to the performance of forced expiratory manoeuvres. However, there is little evidence regarding the risk of aneurysmal rupture after these manoeuvres, with an increasing number of international studies suggesting its safety, especially in aneurysms with a diameter of less than 6 cm.
Objectives: To document aneurysm-related complications after performing PFT (defined as going to the emergency department with symptoms compatible with aneurysm rupture; hospital admission or urgent surgery in the context of an aneurysm rupture in the month after PFT); as well as the description of the population regarding demographic data, comorbidities and pulmonary function.
Methods: Observational study in which were included adults proposed for aortic aneurysm repair that underwent preoperative pulmonary function tests in our laboratory, between March 2016 and February 2022. Data were collected from the hospital clinical files, according to the principle of pseudo-anonymization, and analysed using Excel.
Results: One hundred and five patients were included, with a mean age of 70 (51-91) years, 91% of whom were men. Fifty-four percent ex-smokers, 31% active smokers and 15% non-smokers. Most had some comorbidity: 78% had arterial hypertension, 33% heart failure, 26% coronary heart disease, 20% COPD, 16% diabetes mellitus and 12% cerebrovascular disease. The mean diameter of the aneurysms was 5.8 (3-12) cm, 23% of which were larger than 6 cm, with a maximum diameter of 12 cm. The majority (77%) were located in the infrarenal abdominal aorta, followed by the adrenal, descending thoracic (14%), renal abdominal and ascending thoracic aorta (2%). Ninety-nine percent of patients underwent spirometry, 54% plethysmography and 13% DLCO. Considering the PFT that met acceptability criteria (81%), 25%, 11% and 2% of patients had FEV1, FVC and TLC values, respectively, lower than 80% of the predicted value. Fourteen percent, 6% and 5% had FEV1, TLC and FVC values,

respectively, below the lower limit of normal. The most prevalent pulmonary functional alteration was obstruction (46%), followed by DLCO reduction (36%) and restriction (6%). Only 1 patient, hospitalized for a 6.1cm infrarenal abdominal aortic aneurysm, developed abdominal pain and hypotension 8 days after performing PFT, and underwent resection of the aneurysm by laparotomy the following day. He had only performed spirometry, with normal values. No other patient had any complication.
Conclusions: This study is in line with the literature that advocates the safety of PFT in patients with aortic aneurysm. Despite the safety limits established by expert consensus, the evaluation by PFT seems to be safe even for larger aneurysmal dimensions, despite the less robust data due to the lower percentage of patients with these characteristics in the analysed sample.

Keywords: *Spirometry. Plethysmography. Aneurysm. Aortic.*

PE 057. A CASE OF POSSIBLE DISSEMINATED TUBERCULOSIS

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Introduction: According to the 2021 Global TB Report, there is a gap of about 40% between new TB cases (9.9 million) and reported cases (5.8 million). Thus, a high clinical suspicion is essential to detect this pathology, which is of significant public health importance.
Case report: 32-year-old man, born in Cape Verde, residing in Portugal since 2009 (but frequent flyer), cooker, with some socio-economic precariousness. No relevant personal history or usual medication. No smoking or ethanol habits. Presented to the ER for a 2-week course of left chest pain with pleuritic features and dry cough. He denied dyspnea, asthenia, sweating, fever, or weight loss. His laboratory results showed an elevation of CRP. Chest radiography revealed left pleural effusion. A chest CT was performed, which showed a left pleural effusion, causing a passive collapse of the lower lobe; small mediastinal ganglia; no relevant changes in the parenchyma; and splenic heterogeneity, conditioned by the presence of a heterogeneous hypodense mass, with 7 cm of the greatest axial axis. During hospitalization, he performed thoracentesis with a total output of 4,300 ml of fluid, with exudate characteristics, with cytochemical examination showing lymphocytosis and elevation of ADA (45). Cytological examination with lymphocytes. Pleural biopsy without granulomas. Mycobacteriological test negative. A bronchoscopy was performed, which showed a regular endoscopic examination with a direct, cultural, and molecular examination negative for *M. tuberculosis*. Abdominal MRI was repeated, which confirmed a voluminous hypodense and low-uptake nodular lesion, measuring approximately 7.5 cm in the upper half of the spleen. Laboratory investigation was carried out to exclude other pathologies subject to differential diagnosis, namely: B2 microglobulin, serum immunoglobulins, protein electrophoresis, ACE – without significant alterations; HIV 1/2, anti-HTLV-I/II, and negative hepatitis B, C and E serology; CMV and E-Barr – IgG positive and IgM negative. The case was discussed with Hematology, considering the hypothesis of lymphoma to be of low probability. Thus, we assumed the diagnosis of a possible case of left pleural tuberculosis with probable splenic dissemination (due to probable direct dissemination by contiguity (or possibly hematogenous) given the clinical and suggestive complementary exams and exclusion of other etiologies. We chose not to perform a biopsy spleen, given the high risk of hemorrhage. He then started a regimen with isoniazid, rifampicin, pyrazinamide, and ethambutol, having been discharged and referred to the CDP for further follow-up. Abdominal MRI was repeated after one month, which revealed a slight dimensional reduction of the large complex cystic lesion in the spleen.
Discussion: Tuberculosis is an infectious disease of extreme importance, not only at an individual level but also at a community level. Therefore, it is essential to suspect this pathology not only when the mycobacterium is detected at the direct/cultural/molecular examination level but also when there is high clinical and imaging suspicion, despite these negative tests. This case is intended to exemplify a less linear situation, but given the high clinical suspicion, we assume a possible case and proceed with the treatment that proved to be effective.

Keywords: *Pleural tuberculosis. Splenic abscess. Possible case of tuberculosis. Thoracentesis.*

PE 058. SPONTANEOUS PNEUMOTHORAX SECONDARY TO RADIOTHERAPY

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Introduction: Radiotherapy plays a key role as part of the treatment of various neoplasms, namely lung cancer. The most common pulmonary complication is radiation pneumonitis with possible progression to fibrosis, and pneumothorax is a rare complication. The diagnosis and treatment of Pneumothorax should be performed as early as possible due to the high risk of mortality.
Case report: Male, 75 years old, former smoker (55 pack-year) with a history of Arterial Hypertension and Hemorrhoidal Pathology. Referred to the Pulmonology consultation in April/2022 due to suspected lung cancer. A Chest CT was performed with condensation of the apicoposterior segment of the left upper lobe (ULL) measuring 6 × 3.9 cm and was submitted to bronchoscopy, which documented irregular and hypervascularized mucosa causing the reduction of the lumen of the anterior and apicoposterior divisions of the ULL. Biopsies were performed and histological result revealed invasive squamous cell carcinoma with PDL1 of 1%. From the staging performed, PET-Scan highlighted two lesions in the sigmoid colon and rectum suggestive of metastasis, as well as central hypermetabolic prostatic pathology. The Cranial MRI documents a single expansive lesion compatible with a secondary deposit of the lung cancer, being cystic-necrotic, measuring 12 × 19 × 13 mm and conditioning a slight mass effect. Considering the colic lesions, he was submitted to Colonoscopy whose subsidiary exams revealed adenomas, thus excluding secondary lesions. Thus, stage IV lung squamous cell carcinoma was diagnosed and, after discussion in a multidisciplinary reunion, proposed for cranioencephalic radiosurgery and concomitant pulmonary chemoradiotherapy. Chemotherapy with Carboplatin + Paclitaxel was started on May 30th and radiotherapy on July 11th, with doses of 30 Gy. On August 3rd, he was admitted to the ED due to sudden dyspnea and chest pain. On admission with tachycardia (130 bpm), normotensive (115/70 mmHg) and on pulmonary auscultation with abolished VM in the left hemithorax. Analytically with Thrombocytopenia and Leukopenia, with Neutrophilia 89%. X-ray revealed a left pneumothorax. An 18 Fr chest tube was placed in the 5th left intercostal space, anterior axillary line without intercurrences, the drainage was oscillating and bubbling, with symptomatic relief and improvement in heart rate. After reviewing the CT-Thorax of the radiotherapy, which documents a cavitated lesion in the ULL and communicating with the bronchial tree, the case was discussed with Thoracic Surgery, assuming that the pneumothorax corresponded to a post-radiotherapy fistula of the lesion. Considering the severe thrombocytopenia and the high surgical risk, it was decided to maintain conservative treatment and the patient initially showed clinical and imaging improvement. At the end of 6 days of placement of the chest tube, due to non-expansion of total lung and non-functioning drainage, the patient was transferred to the Thoracic Surgery Service awaiting surgical resolution.
Discussion: The authors emphasize the case for the rarity of this complication secondary to radiotherapy, where there are only a few cases described in the literature. Although the patient underwent

conventional radiotherapy with low doses (< 40 Gy), the cavitated lesion brought an increased risk for the occurrence of this complication. Its detection is crucial as it is a potentially fatal situation requiring urgent intervention.

***Keywords**: Pneumothorax. Radiotherapy. Squamous cell carcinoma.*

PE 059. THE STRIDOR BEHIND BRONCHOSPASM: INAUGURAL DIAGNOSIS OF CHARCOT-MARIE-TOOTH DISEASE

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Introduction: Charcot-Marie-Tooth disease (CMT) is a slowly progressive inherited disorder of the peripheral nervous system and is clinically and genetically heterogeneous. It causes weakness and distal sensory loss of the limbs. Although relatively rare, some patients with CMT can have vocal cord paralysis and/or involvement of the respiratory muscles, particularly the diaphragm. We present the case of a woman with stridor as the inaugural manifestation of CMT disease.
Case report: 57 year-old female, non-smoker. Relevant medical history included asthma, arterial hypertension and type 2 diabetes. The patient came to the Emergency Department with worsening dyspnea over the last 3 days, associated with cough with mucous sputum. She denied fever or other symptoms. On observation she was polypneic, with intercostal and supraclavicular retraction and marked bronchospasm. Medical therapy was initiated, without significant improvement. There were no relevant findings neither in the lab tests nor lung scans. Despite treatment directed to asthma exacerbation, the patient continued to deteriorate with respiratory distress, severe respiratory alkalemia and hyperlactatemia, ultimately leading to orotracheal intubation and invasive mechanical ventilation. The diagnosis of severe asthma exacerbation was assumed and the patient was admitted to our Respiratory ICU, however, clinical improvememt was remarkably fast. There was an episode of self-extubation with immediate onset of stridor. At that time, bilateral vocal cord paralysis was documented and the patient was reintubated. An EMG was performed, which revealed moderate sensory-motor polyneuropathy with predominant sensory and axonal involvement, compatible with CMT type II hereditary neuropathy. A tracheostomy was performed, with the possibility of decannulation two weeks later. The patient was transferred from the Intensive Care Unit to the ward, and was later discharged without respiratory failure, under a physical and respiratory rehabilitation program. Currently, she still complaints of fatigue on medium efforts, attributable to the neuropathy, with asthma under control. At the moment the results of the genetic study to identify the mutation and subtype of CMT are pending.
Conclusions: Among CMT associated complications, vocal cord paralysis is still an underestimated diagnosis. Bilateral vocal cord paralysis can result in stridor and difficulty breathing and, although rare, progression to respiratory failure. It may be overlooked or misdiagnosed as asthma. The finding of bilateral vocal cord paralysis due to an unknown cause should prompt an investigation for a neuromuscular disorder, particularly an hereditary neuropathy.

***Keywords**: Charcot-Marie-Tooth. Stridor.*

PE 060. CRITICAL PATIENT WITH SEVERE COVID – LONG EVOLUTION

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Introduction: COVID-19 pandemic presented a big challenge in the diagnosis and treatment of patients. In the approach to pneumonia, one of the biggest challenges is the determination of etiologic agent and adequation of treatment. When the progression of viral infection deteriorates, the problematics of nosocomial infections becomes more relevant.
Case report: A 59-year-old man, with unremarkable medical history, nonsmoker, zero SARS-CoV-2 vaccine doses, presents to Emergency Department for evaluation of 1 week cough and fever. At admission the had a severe respiratory insufficiency, rapidly worsening and that lead to mechanical ventilation. From the initial assessment there was increased inflammatory markers and SARS-CoV-2 positive test. In the imaging findings predominates bilateral ground glass. The patient was put on remdesivir, dexamethasone and baricitinib. During hospitalization and due to the worsening of the clinical status, the patient underwent to chest computed tomography that showed lung abscesses, bilateral pleural effusion, areas of consolidation and ground glass. This finding raised the possibility of bacterial superinfection of nosocomial origin. The thoracocentesis excluded empyema. In the microbial exams was isolate a *Klebsiella aerogenes* in bronchial secretions and the patient was started on piperacillin/tazobactam. Despite the sensitivity to the prescribed antibiotic therapy, the patient couldn't be wean off the ventilator and kept the before mention changes in lung parenchyma. The patient underwent a new microbiological screening with the isolation of the same agent but increase resistance to antibiotics. The patient was treated with piperacillin/tazobactam, meropenem and later with ceftazidime/avibactam. On the 3rd course of target antibiotic therapy there was an improvement of the patient. Even after the clinical improvement of the patient, he kept the need of oxygen therapy and in the imaging tests there was visible lung damage. The patient was discharged from the hospital with oxygen and on physical and respiratory rehabilitation program. After 3 months the patient was reassessed in the clinic and underwent a new chest computed tomography that showed a huge improvement without lung abscesses nor pleural effusion.
Discussion: The case demonstrates the therapeutical hardships when treating critical ill patients. The development of multiple infection with rising resistances to antibiotic therapy creates growing barriers in the treatment of patients. The authors report this case to highlights the importance of target antimicrobial therapy and careful selection of the correct antibiotic to prevent the emergency of resistances.

***Keywords**: Bacterial superinfection. Antibiotic resistance. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).*

PE 061. SWYER-JAMES-MACLEOD SYNDROME IN THE DIFFERENTIAL DIAGNOSIS OF HYPERLUCENT LUNG

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Introduction: Swyer-James-MacLeod Syndrome (SJS) is a rare condition characterized by unilateral hyperlucency of part or all the lung secondary to bronchiolitis obliterans in childhood. There is often a history of recurrent respiratory infections at an early age that compromise normal lung development, leading to vasculature hypoplasia and emphysema.
Case report: We present the case of an independent 59-year-old male, non-smoker, with a history of moderate obstructive sleep apnea, previous episode of PTE, bronchiectasis, type 2 chronic respiratory failure under long-term oxygen therapy and pulmonary hypertension. Functionally, a very severe obstructive ventilatory disorder is documented. Analytically, no significant changes, namely normal alpha-1-antitrypsin assay. He had an episode of emergency use due to worsening dyspnea and was hospitalized for acute respiratory failure with acidemia in the context of infected bronchiectasis. Chest radiography showed hyperlucency and broncho-

vascular marks attenuation in the left lung field. CT angiography allowed the exclusion of PTE and confirmed the presence of a hyperlucent left lung, with volume loss and reduction of ipsilateral vasculature, with signs of paraseptal emphysema. Extensive bilateral bronchiectasis were also observed, more exuberant on the left. The imaging findings presented were consistent with a diagnosis of SJS, supported by a clinical history of lung disease in childhood. After this episode of severe respiratory failure requiring ventilatory support, the patient was followed up with guidance for a pre-lung transplant consultation. Functional respiratory reassessment documented a severe obstructive ventilatory disorder, with an increase in the RV% TLC ratio and total lung capacity, suggesting hyperinflation and decreased DLCO/SB and DLCO/VA, suggesting parenchymal pathology. The patient had an echocardiogram with evidence of moderate pulmonary hypertension and severe tricuspid regurgitation with signs of right overload, of probable pulmonary etiology. He performed ventilation/perfusion scan, which documented a marked defect covering almost the entirety of the left lower lobe, practically superimposable on the ventilation and perfusion images. The evaluation determined a right lung receiving 77.5% of the perfusion, while the left only 22.5%. The patient is currently awaiting evaluation for possible lung transplantation.
Discussion: This case aims to highlight the importance of recognizing SJS in the differential diagnosis of unilateral hyperlucent lung, a rare and frequently underdiagnosed condition, as well as its potential association with bronchiectasis and risk of developing pulmonary hypertension, largely conditioning its clinical evolution and prognosis, in this case with an unusual extent of disease progression.

Keywords: *Swyer-James-Macleod syndrome. Hyperlucent lung. Bronchiectasis. Pulmonary hypertension.*

PE 062. LUNG FUNCTION INTERPRETIVE STRATEGIES – NEW VS OLD GUIDELINES

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Introduction: In 2021, the American Thoracic Society (ATS) and the European Respiratory Society (ERS) jointly adopted the new technical standards on interpretive strategies for routine lung function tests, replacing the latest recommendations from 2015. The new guidelines reinforced the non-use of fixed values as normality, but a lower limit of normal and z-score through the Global Lung Function Initiative (GLI) reference equations. In addition, they brought a new formula and a new positivity criterion for the bronchodilation test and new criteria for stratification of severity in z-scores. The aim of this study was to characterize the population of patients who carried out a respiratory functional study according to the new guidelines, evaluating how some results obtained differ from previous standards.
Methods: Retrospective observational study of all patients who underwent functional respiratory testing in July 2022 at the Pathophysiology Laboratory of Leiria Hospital Center. In this period, the new criteria recommended by the ERS/ATS were already being used. Patients' demographic characteristics, lung function data and the new and old reference values and equations were analyzed. Statistical analysis was performed using IBM SPSS Statistics 27®.
Results: The study included 208 patients, 108 (51.9%) men, with a median age 57.5 years. All patients performed spirometry and 122 also plethysmography. In all patients with spirometric abnormalities (n = 73, 35.1%), severity was classified according to the new and old guidelines, with only 22 (30.1%) of patients achieving the same classification. The results of bronchodilator reversibility test were also obtained for the old and new guidelines, with more positive responses in the latter (29 *vs.* 18, $p < 0.001$).
Conclusions: Lung function tests are widely used in the diagnosis of many diseases. In our study, suspicion/monitoring of obstructive diseases were the most frequent indication for testing. Although most of the functional studies performed were normal, it was possible to identify 77 with abnormalities, most of which showed obstructive pattern. It was found that there were significant differences between the bronchodilation test and the severity classification when comparing the old and new guidelines, which reinforces the importance of the update.

Keywords: *Lung function test. Spirometry. Plethysmography. Bronchodilator reversibility test. Severity criteria.*

PE 063. SEVERE ASTHMA TYPE 2: PHENOTYPES AND PRECISION TREATMENT – CASE REPORT

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Introduction: Severe asthma is a heterogeneous syndrome that encompasses different clinical phenotypes and patterns of inflammation. Early-onset allergic asthma is characterized by eosinophilic airway inflammation mediated by aeroallergens and is often accompanied by other allergic diseases. In contrast, other phenotypes of asthma or upper airway diseases such as chronic rhinosinusitis with nasal polyposis have a late onset and are characterized by eosinophilia. With the growing use of biological therapy, there has been a transformation in the treatment of these diseases, since a more direct and targeted action allows for more systemic and aggressive therapies.
Case report: 45-year-old male, non-smoker, truck driver, with a history of atopic dermatitis with frequent exacerbations, asthma and rhinoconjunctivitis since childhood. At the age of 20, he moved to the region of Aveiro and started follow-up in dermatology for severe atopic eczema that led to treatment with daily systemic corticosteroids (deflazacort 15 mg/day), phototherapy and immunosuppression (cyclosporine). Subsequently, he was referred to immunoallergology, where the studies revealed eosinophilia 0.49×10^9/L, total IgE 2,713 UI/mL, prick skin tests with polysensitization to mites, pollens, animal and fungal epithelia and spirometry with severe fixed obstruction: FEV1 43.8% of predicted, FEV1/FVC post-bronchodilation (BD) 50.2 and negative BD test. CT of the paranasal sinuses showed left septal deviation, bone spur on the left and nasal polyp on the right which led to observation by otolaryngologist, having undergone septoplasty and turbinectomy in 2016, without evidence of polyposis. In 2018, he begins desensitization treatment with immunotherapy with allergens for a mixture of mites and grasses, for only 1 year, without clinical benefit. Due to clinical (persistent and progressively more extensive skin lesions with lichenification and asthma exacerbations requiring multiple courses of corticosteroid therapy), analytical (eosinophilia 0.86×10^9/L and total IgE 9,823 IU/mL) and functional (FEV1 31% of predicted) worsening, it is decided to start biological therapy. In January 2019, he started dupilumab 300 mg every 2 weeks, with marked improvement in the skin, asthma control and slight functional improvement (FEV1 37% of predicted), with resolution of eosinophilia. However, he had severe conjunctivitis as an adverse effect, which was incompatible with professional practice, so the patient asked for the drug to be discontinued. Subsequently, due to worsening of asthma, skin lesions and reappearance of eosinophilia, it was decided, multidisciplinary, to start mepolizumab 100 mg every 4 weeks. There was a respiratory improvement, however it also led to progressive worsening of atopic dermatitis. Given the impact of dermatitis on the patient's quality of life, he agreed to restart dupilumab despite the possible adverse effects.
Discussion: In severe type 2 asthma, correct phenotyping plays a crucial role in the therapeutic approach of these patients. Precision treatment involves identifying the specific pathways of type 2 inflammation shared in different diseases, as well as the integration of biomarkers and deciding on the initial biological therapy. With this case we intend to show the importance of a precise clinical

phenotyping in order to select the best therapeutic option, resulting in better symptomatic control.

Keywords: *Severe asthma. Biological therapy.*

PE 064. SPONTANEOUS HEMOPNEUMOTHORAX - AN UNRECOGNIZED CLINICAL ENTITY

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Introduction: Spontaneous hemopneumothorax (SHP) is an unusual presentation in clinical practice. It is often mistaken for an iatrogenic hemothorax resultant of a spontaneous pneumothorax drainage. It can be life threatening, so a prompt diagnosis and therapeutic intervention are required.
Case report: We report a case of a 25 years-old, healthy and non-smoker patient, presenting at the emergency room with a sudden episode of chest pleuritic pain and dyspnea, with no previous evidence of trauma. On admission, the patient revealed no signs of hemodynamic instability and chest X-ray showed a left hydropneumothorax on the left hemithorax; then, thoracic drainage revealed the presence of air and blood, then chest tube was placed with an initial drainage of 500 ml of blood. The patient was referred to a tertiary cardiopulmonary service, and considering the absence of continuous bleeding and of persistent air leak, the patient was successful managed conservatively with thoracic tube until later discharge. A thoracic CT after lung expansion and pleural fluid drainage revealed discrete paraseptal emphysema in apical regions, predominantly in the left lung, with no signs of bullae. After discharge the patient registered two new episodes of recurrence with spontaneous pneumothorax with no adjacent bleeding, and was later submitted to video -assisted thoracoscopy surgery for pleurodesis. Although this entity is well described with several case series, its physiopathologic mechanism is still debatable considering the lack of consistent intraoperative findings and varying surgical methods. A torn adhesion between the parietal and visceral pleurae, a rupture of vascularized bullae and underlying lung parenchyma or torn congenital aberrant vessels branching from the pleural cupola and distributed in and around the bulla in the apex of the lung may be one of the responsible mechanisms for bleeding as a result of a pneumothorax.
Discussion: There are no specific guidelines for the management of SHP, and its clinical features may be dramatic and depend on the volume of blood loss and the amount of air leakage. Debate still surges between conservative tube placement and emergent surgical approach, with factors like hemodynamically stability, no persistent air leaks, no continuous bleeding, and no impaired lung expansion after tube placement being decisive for conservative therapy with tube thoracostomy alone. Interestingly, unlike our case with a 1-year relapse, no recurrence rates with SP after SHP were described in 9 series reports containing 201 patients, independently of the conservative or surgical approach. A possible mechanism of additional pleurodesis promoted by the presence of blood clots in the pleural space may cause a protection mechanism for subsequent recurrence, which failed to happen to this patient.

Keywords: *Spontaneous hemopneumothorax.*

PE 065. INCIDENTALOMA IN THE CONTEXT OF COVID-19 PANDEMIC- DIAGNOSIS OF A NEUROFIBROMA

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Case report: A 54-year-old woman, apparently healthy, without usual medication, underwent, in the context of the COVID-19 pandemic, a chest CT that revealed an extra-pulmonary and extra-pleural nodular lesion in the left paravertebral space, epicentered in the posterior mediastinum, suggestive of a neurogenic lesion (schwannoma/neurofibroma), with differential diagnosis of solitary fibrous tumor of the pleura. An echocardiogram and routine blood work were also performed, both without alterations. No previous complaints of dyspnea, chest pain, cough or sputum. Without anorexia or weight loss. Given the changes described in chest CT, the patient was referred for a pulmonology consultation. Subsequently, PET-CT (maximum SUV 8.07 in its most central portion, without other metabolically active lesions), PFR (slight decrease in DLCO) and consequently BATT were performed. After biopsy, tissue sample examination shows compatible aspects with neuronal neoplasia, without evidence of malignancy, suggestive of neurofibroma. Patient is awaiting surgical intervention.
Discussion: Mediastinal masses encompass a wide variety of benign and malignant lesions, which are sometimes incidentally identified on imaging tests. Neurofibroma is more frequent in the posterior mediastinum, usually as a single lesion, asymptomatic, with a rare incidence and variable prognosis. About 10% are malignant, and, in most cases, surgical treatment is indicated. In this case, the patient was diagnosed incidentally, without associated respiratory symptoms, as seen in most of these cases. In benign neurogenic tumors, PET CT has limited specificity due to a high rate of false positives, as in the case described. In this pandemic context, a greater use of chest CT was observed for the evaluation of bronchopulmonary and thoracic vascular changes, leading to superior catch up and/or diagnosis of incidentalomas.

Keywords: *Incidentaloma. Neurofibroma. COVID-19.*

PE 066. CAUSE AND CONSEQUENCES – SLEEP DISORDERS & STROKE

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Introduction: Obstructive sleep apnea (OSA) is a known risk factor for stroke, and the risk associated with other sleep disorders is not yet fully understood. In turn, stroke patients have a higher risk of developing sleep disorders, such as OSA and central sleep apnea (CSA). Similar to what is observed in the general population, OSA is more common than CSA in stroke patients. CSA can occur especially in the first days after the neurological event and some patients with CSA progress to OSA. Many patients may have undiagnosed pre-stroke sleep disturbances. Comorbidities such as high blood pressure and obesity increase the risk of developing sleep disorders after stroke. Central sleep apnea with Cheyne-Stokes breathing (CSA-CS) is characterized by recurrent central apneas and hypopneas alternating with periods of increasing and decreasing respiratory flow with a duration of at least 40 seconds. Although heart failure is the main cause of CSA-CS, some studies suggest that it can happen after a stroke. The presence of sleep disorders after stroke has been shown to be associated with a worse prognosis. Some studies have demonstrated significant improvements in functional recovery after the event with the treatment of sleep disorders with positive pressure ventilation.
Case report: We present the case of a 66 years old male patient, retired mechanical engineer. Former smoker for 10 years with a smoking load of 25 pack year. Personal history of arterial hypertension, dyslipidemia and benign prostatic hypertrophy. Complaints of long-term snoring, without other symptoms, with overweight. Hospitalization due to dysarthria and left hemiparesis, with brachiofacial predominance. Cranial computed tomography revealed right putamen parenchymal hematoma with perilesional vasogenic edema. During the period of hospitalization with partial improvement of the neurologic condition, having been registered snoring, apneas and excessive daytime sleepiness. At discharge, he was referred to the Pulmonology consultation for study. He had a classification of 13 on the Epworth scale, overweight with a body mass index at the upper limit of normality (25 Kg/m^2), class II Mallampati, abdominal

circumference of 95 cm and neck circumference of 40 cm. Respiratory function tests, arterial blood gas analysis and echocardiogram showed no alterations. Polysomnography was performed about 1 week after the event, which revealed CSS-CS, with an apnea-hypopnea index of 25.5/h. The study, without ventilation, was repeated at 1 year and 5 years post-stroke, maintaining central events.
Discussion: Sleep disorders can be considered a risk factor and consequence of stroke, influencing the prognosis of the disease. Although OSA is the most frequently observed sleep disorder, CSA may also be present, and it is important to investigate, diagnose and adapt the treatment.

***Keywords**: Stroke. Obstructive sleep apnea. Central sleep apnea.*

PE 067. MYOTONIC DYSTROPHY TYPE 1 – BENEFITS OF RESPIRATORY REHABILITATION

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Introduction: Myotonic Dystrophy type 1 (DM1) is an autosomal dominant degenerative neuromuscular disease. It has a multisystemic involvement and causes muscle weakness, myotonia and muscle atrophy. It often leads to restrictive ventilatory impairment, evolving to diaphragmatic dysfunction. Respiratory failure is the most common cause of death among these patients. There are reports of the benefits of physical training in delaying the progression of the disease.
Case report: We present the case of a 20-year-old female with congenital DM1 and intellectual impairment attending Pulmonology/Ventilotherapy consultations. She had myotonia of the hands, with no interference in her daily activities, and no complaints of dyspnoea or daytime sleepiness. Her follow-up in Pulmonology started in 2020, at the age of 18, exhibiting at the time cough peak flow (CPF) and peak expiratory flow (PEF) of 270 and a normal spirometry in sitting and supine positions. One year later her pulmonary function had worsened, already with diaphragmatic dysfunction with a fall of the forced vital capacity (FVC) value in dorsal decubitus of 22% (96% sitting; 74% dorsal decubitus). She had a restrictive ventilatory impairment in supine position, defined by spirometric parameters, without criteria for initiating ventilatory support. By that time, she also showed an important decrease in CPF (180), with recommendation for air stacking and assisted cough manoeuvres, as well as respiratory rehabilitation with respiratory muscle strengthening exercises. In 2022, after respiratory rehabilitation, her pulmonary function was normalized (FVC sitting 92%, FVC supine 88%) and there was an improvement of PEF (340) and CPF (300).
Discussion: This case of a young patient with congenital DM1 highlights the benefits of inspiratory muscle training as it allowed her to totally recover from her functional alterations, namely diaphragmatic dysfunction. As this is the most frequent cause of death in these patients, this case reinforces the importance of an early reference for respiratory rehabilitation in order to delay the progression of the disease.

***Keywords**: Myotonic dystrophy. Diaphragmatic dysfunction. Rehabilitation.*

PE 068. EXTENSIVE ERYTHEMATOUS LESIONS IN THE CONTEXT OF CUTANEOUS TOXICITY TO PEMETREXED – A CASE REPORT

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Introduction: Pemetrexed is an approved antifolate for the treatment of NSCLC and has an overall favorable toxicity profile. The main associated toxicities are asthenia, nausea, diarrhea, myelosuppression and rash. Skin toxicities are frequently reported, especially when in association with platinum. Prophylactic corticosteroid therapy reduces severe toxicities and is administered systematically. There are few case reports of cutaneous toxicity to pemetrexed, the most common being: facial/periorbital edema and limb edema.
Case report: Female, 68 years old, non-smoker. History of diabetes mellitus and ocular tumor lesion in follow-up at an ophthalmology consultation. Diagnosis of pulmonary adenocarcinoma in April 2012, with EGFR mutation, stage IB at diagnosis. She underwent right upper lobectomy in May 2012 - pT1bN0Mx with free margins, without pleural, lymphatic or venous invasion; having maintained surveillance. In December 2012, PET-FDG showing right perihilar hypereruptake suggestive of recurrence; ocular lesion submitted to cytology and biopsy that confirmed ocular metastasis of pulmonary adenocarcinoma, having been decided on radiotherapy directed to the left orbit and treatment with carboplatin and pemetrexed (1 cycle). The patient progressed to second-line Gefitinib, with stable disease until January 2017, when he started to experience acute confusional syndrome and gait alteration in the context of cerebellar metastasis - holocraneal radiotherapy was performed. Simultaneously, a bone lesion was identified on D12, which a biopsy confirmed to be a metastasis, and radiotherapy was also performed in this location. Negative T790m mutation screening so Gefitinib was maintained. In July 2020, new cerebral progression, now with multiple scattered lesions, which radionology considered not to be able to be safely irradiated effectively, so palliative systemic treatment was started with carboplatin and pemetrexed. After 2 cycles the disease remained stable, so completed 6 doublet cycles and continued pemetrexed in maintenance. After 6 maintenance cycles with Pemetrexed, recourse to the emergency department for marked erythema and edema of the lower limbs that extended from the toes, involving the lower 2/3 of the legs, with hardened skin mainly on the sole of the foot and associated with itching. Functional impotence due to cutaneous involvement. Erythematous lesions also on the upper limbs. Analytically, anemia 11 g/dL, neutropenia 1,102 cells/uL, thrombocytopenia 67,000/ul platelets and elevated C-reactive protein 9.2 mg/dL. She is then admitted to the hospital for suspected cutaneous adverse reaction and concomitant hematologic toxicity. As an infectious cause could not be excluded from the start, so empirical antibiotic therapy with Ceftriaxone was given. She also took a course of systemic corticosteroid therapy. During hospitalization, there was a progressive improvement of the erythema and edema of the upper and lower limbs; at discharge with distal scaly lesions but no inflammatory signs. There was also improvement in chemotherapy-associated pancytopenia. In April 2020, liquid biopsy had identified the T790m mutation, so post-hospitalization Osimertinib was started, which she still maintains today, with disease stability.
Discussion: We report a rare form of cutaneous toxicity of pemetrexed. Discontinuation of treatment is not routinely recommended but depends on the benefit-risk balance of each individual case.

***Keywords**: Skin toxicity to pemetrexed. Lung cancer.*

PE 069. A TYPICAL CASE OF LUNG CANCER OR NOT?

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Introduction: In the initial approach to suspected lung cancer, other differential diagnoses should not be forgotten, namely in non-smoking patients with known exposure to biomass. Non-oncological diagnoses such as pulmonary tuberculosis, bacterial or fungal pneumonia, sarcoidosis, pneumoconiosis or other rarer diagnoses, such

as bronchial anthracofibrosis, should be considered during the diagnostic process.
Case report: 61-year-old female, resident in Angola. Non-smoking. Resident in housing with wood oven, since childhood, with massive exposure to biomass. Referred to the Pulmonology Consultation due to dry cough with one month of evolution. On physical exam, bibasal crackles were highlighted. Chest x-ray showed right parahilar opacity with superior hilum deviation. Computed tomography scan (CT) of the chest revealed a volumetric reduction of the right upper lobe and a perihilar hyperdensity of 30 mm, matching mass *versus* pulmonary atelectasis. She underwent two videobronchofibroscopies, which revealed infiltrative signs in the right upper lobar bronchus, causing segmental bronchial obstruction in 90% and foci of anthracosis in the right bronchial tree. Brush cytology and bronchial biopsies were negative for neoplasia, bronchial washings were negative for neoplasia and infectious etiology. Given the diagnostic hypothesis of neoplasia, PET-CT was requested, which revealed abnormal uptake of FDG in the right lung mass (SUVmax 11) and supra and infradiaphragmatic adenopathies (SUVmax 5-13), suggestive of metabolically active neoplastic tissue. She underwent two transthoracic needle aspirations, the first inconclusive, the second revealed fibrosis, inflammatory infiltrate and small epithelioid granulomas, without necrosis, with multinucleated giant cells. Other diagnostic hypotheses were considered: pulmonary/disseminated tuberculosis or sarcoidosis. A VATS lymph node biopsy was then proposed, whose histology revealed multiple areas of hyalinized fibrosis and extensive histiocytosis in relation to fibrosis and with abundant anthracotic pigment. No evidence of granulomas or neoplasia were found. Analytically no changes and normal angiotensin converting enzyme; sputum mycobacteriology was negative. Subsequently, for further investigation of left pleural effusion, she was submitted to a new VBF with similar endoscopic findings and with a culture of mycobacteriological examination of bronchial lavage positive for *Mycobacterium tuberculosis* (7 colonies/tube). The final diagnoses of bronchial anthracofibrosis in association with confirmed pulmonary tuberculosis and possible pleural tuberculosis were assumed. The patient was referred to the Pneumological Diagnosis Center of Setúbal to start antitubercular therapy. She was also treated symptomatically with bronchodilators.
Discussion: Bronchial anthracofibrosis is a pathology characterized by anthrachotic pigmentation of the bronchial mucosa, associated with inflammation and fibrosis with bronchial distortion and narrowing, being an endoscopic diagnosis. Exposure to biomass fuel smoke is a recognized risk factor as the disease most often affects elderly housewives in developing countries who live in a rural area and who regularly cook using biomass fuel in a poorly ventilated kitchen. It is a pathology often associated with chronic obstructive pulmonary disease, tuberculosis and lung cancer (given the risk factor they share). In short, it is a diagnosis of exclusion that requires an exhaustive and assertive diagnostic process.

***Keywords**: Bronchial anthracofibrosis. Biomass. Pulmonary tuberculosis.*

PE 070. AMYOTROPHIC LATERAL SCLEROSIS: CHARACTERIZATION OF THE MULTIDISCIPLINARY UNIT OF A DISTRICTAL HOSPITAL

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Introduction: Amyotrophic lateral sclerosis (ALS) is a rare and progressive neurodegenerative disease characterized by progressive voluntary muscle weakness. The median survival is 2 to 5 years, with respiratory insufficiency being the leading cause of morbimortality. Given the complex needs of these patients and their families, a multidisciplinary approach to care is paramount and has demonstrated that can improve survival and quality of life in these patients, with emphasis to effective non-invasive ventilatory support (NIV).
Objectives: To describe the ALS Multidisciplinary Unit of Hospital Prof. Dr. Fernando Fonseca (HFF) and characterize the patients treated in terms of clinical, functional and ventilatory support data.
Methods: Retrospective study of the patients with ALS treated at the multidisciplinary unit of HFF. The clinical data were obtained through consultation of the computerized medical records.
Results: The ALS Multidisciplinary Unit of HFF, established in January 2022, involves Neurology, Pulmonology, Physical Medicine and Rehabilitation, Palliative Care, Nutrition, Speech Therapy and Psychology. The patients have periodic pneumological evaluations every 3 months, with respiratory function tests (spirometry in the seated and supine position, respiratory muscle strength, arterial blood gas, nasal sniff and peak cough flow), and clinical assessment for symptoms of hypoventilation, ineffective cough and dysphagia. Percutaneous endoscopic gastrostomy (PEG) placement is discussed with Gastroenterology and, if needed, can be done in patients with NIV with the support of a Pulmonologist. This unit currently follows 20 patients, with a median age of 68 years and an equitable distribution of genders. Most patients have nasal sniff < 40 cmH_2O (90%). Half of the patients have low peak cough flow < 160 mL. Only 20% of patients have a fall of > 25% of the forced vital capacity when in the supine position compared to basal values. The majority of patients have bi-level NIV support (85%), and 2 of them require life support ventilation > 16h. To optimize cough and secretions management 80% use cough assist devices. Five of the patients had PEG and another 3 are waiting for its placement.
Conclusions: ALS patients follow-up in a multidisciplinary unit optimizes their clinical and functional evaluation and consequently the therapeutic management, both pharmacologic and non-pharmacologic. The periodic respiratory function and nutritional assessment allows for an early detection of functional deterioration and timely initiation of NIV, cough-assist devices and PEG placement, which are associated with the improvement of quality of life of these patients.

***Keywords**: Amyotrophic lateral sclerosis. Multidisciplinary care. Non-invasive ventilation.*

PE 071. RECHALLENGE – WHEN IMMUNOTHERAPY CONTINUES TO SEEM LIKE THE BEST MEDICINE

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Introduction: Immunotherapy represented a major advance in the treatment of several types of cancer, namely advanced non-small cell lung cancer. It is generally a well-tolerated treatment, but it has the potential to deregulate the immune system at various levels and generate immune-mediated adverse events (ImAE). The approach and management of these differs according to their severity, knowing that a re-exposure implies the risk of recurrence or development of new ImAE. Rechallenge is a hypothesis after an ImAE of moderate severity and in some severe cases, but there are few studies that support clinical practice, as it is still based mainly on individual risk-benefit analysis, given the available therapeutic alternatives.
Case report: The case of a man, 65A, ex-smoker (80 UMA) is presented. Diagnosis of lung adenocarcinoma, cT3N0M0 - IIB in May 2018. No EGFR mutations or ALK rearrangement, 0% PDL1 expression. Thoracic radiotherapy was performed as initial treatment with disease stability. At 13 months post-radiotherapy, chest CT shows local (T4) and lymph node (N1) tumor progression; proposed rebiopsy but refusal of BTT by the patient in view of the associated risk. Liquid biopsy was performed (without identification of therapeutic targets) and chemotherapy was started with carboplatin and peme-

trexed, 4 cycles, with stable disease. At 4 months of surveillance, chest CT shows new local tumor progression and Docetaxel was initiated and maintained for 6 cycles, with stability. At 4 weeks after the last cycle, evidence of tumor reduction of the main mass but new focus of sclerosis in the body of D10, scintigraphy showing intense osteoblastic hyperactivity suggestive of metastasis. Treatment with Nivolumab proposed. At 2 months of treatment, analytical control showing de novo thyrotoxicosis (TSH 0.01 mIU/L, T4L 24 pml/L) with elevated TRABs 3.2 U/L; and 2 weeks later elevated transaminases compatible with hepatitis CTCAE G2. Nivolumab was discontinued but due to analytical worsening (AST 189, ALT 282 IU/mL), prednisolone 60 mg/day was started with gradual improvement of the changes and allowing a reduction in the corticosteroid dose. Chest CT 3 weeks after discontinuation showing partial response. In view of the response and resolution of toxicity, it was decided to rechallenge with Nivolumab under close monitoring. At 10 months post-reintroduction, chest CT again showing peritumoral ground glass of uncertain etiology. In view of the suspicion of pneumonitis, immunotherapy was suspended again. Bronchoscopy, bronchial biopsies and aspirate were performed. A course of antibiotic therapy was performed and prednisolone was started again. No microbiological isolations. Reassessment CT 6 weeks after discontinuation of treatment showing peritumoral ground glass resolution. The case was re-discussed in a multidisciplinary meeting and in the absence of new therapeutic targets, a new rechallenge was decided. At the time of submission, the patient was on Nivolumab once more, for 5 weeks and systemic corticosteroid therapy was discontinued. The decision to reintroduce immunotherapy after a non-mild ImAE is especially challenging given the lack of clear scientific-based guidelines to support it, especially when during follow-up it is not possible to identify new therapeutic targets and having already carried out several lines of systemic treatment.

Keywords: *Immunotherapy. Immune-mediated adverse effects. Lung cancer.*

PE 072. POTT'S DISEASE - A GROWING PROBLEM IN THE 21ST CENTURY?

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Introduction: musculoskeletal tuberculosis comprises bone and joint tuberculosis. Worldwide, this constitutes 10-35% of all cases of extrapulmonary tuberculosis. A higher incidence is found in immigrants from endemic areas. The most common presentation is in the form of Pott's disease, where the spinal column is affected. The authors present 2 cases of Pott's disease.
Case reports: 44 year-old female patient, from São Tomé, with approximately 3 years of evolution of lumbar pain, weight loss of 6 kg and night sweats. In this context, a dorsolumbar CT was carried out, which revealed spondylodiscitis of D3, D4, D5 and D6, with acquired arthrodesis, and also of D10 to L2 and S1 to S4 and a collection near the right psoas, suggesting probable infectious/neoplastic etiology. She was hospitalized for investigation. Percutaneous drainage of the collection was performed and culture revealed *Mycobacterium tuberculosis* (MTB). Evaluated by Neurosurgery without surgical indication. The patient was discharged and referred to the Center for Pneumological Diagnosis (CDP). During follow-up at the CDP due to worsening of pain complaints, she was reassessed by Pain Medicine and Neurosurgery, maintaining conservative treatment. The second case report is a 65-year-old female, migrant from Angola, admitted after being brought to the emergency department for prostration in the context of hypoglycemia, with fever and consumptive symptoms - asthenia, weight loss of 10 kg in 2 months and anorexia. Fever was attributed to a urinary tract infection due to 1-month evolution dysuria. She performed a thoraco-abdomino-pelvic CT with evidence of left perihilar neoformation of neoplastic suggestion, mediastinal adenopathies, bilateral pulmonary nodules and secondary lesion of the 10th costal arch to the left. She started antibiotic therapy directed at *Staphylococcus capitis* (blood culture) and *Klebsiella aeruginosa* (urine culture), with linezolide and piperacillin/tazobactam, 10 and 6 days, respectively. A bronchofibroscopy was performed to biopsy the lesion, which was not possible due to proximity of the great vessels and increased iatrogenic risk in this context. Bronchoalveolar lavage was done and the products were sent for study (PCR and mycobacteriology). An echo-guided biopsy of the hypoechoic lesion of the 10th rib was carried out. Mycobacteriological result was positive for MTB and histology of the bone biopsy showed a granulomatous lesion. Thus, the patient was referred to the CDP and initiated first line antibacillaries. Due to clinical worsening she was referred again to the ER with the need for hospitalization. Due to uncontrolled pain complaints, a dorsolumbar MRI was performed with evidence of involvement of the dorsolumbar spinal rachis by tuberculosis with D12 spondylitis. Evaluated by Neurosurgery with indication for bed rest and lifting with Jewett brace. Later on, due to worsening of pain complaints, a new MRI was repeated, which showed worsening of the vertebral lesion, with surgical indication.
Discussion: This paper describes two cases of bone tuberculosis, which have become more frequent in our clinical practice with globalization. It is important to emphasize the high degree of suspicion in patients with a long-lasting clinical presentation of low back pain, with no previous study and no accompanying consumptive symptoms.

Keywords: *Tuberculose. Mal de Pott.*

PE 073. KAPOSI SARCOMA WITH EXTENSIVE PULMONARY INVOLVEMENT IN AN IMMUNOCOMPETENT PATIENT

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Introduction: Kaposi sarcoma is an angioproliferative tumor associated with human herpesvirus 8 (HHV-8). There are four variants: classic, endemic, iatrogenic (related to organ transplantation or immunosupressants) or epidemic (associated with human immunodeficiency virus (HIV)). The endemic variant is usually characterized by indolent mucocutaneous disease, though it can have a rapid progression with poor response to treatment. Pulmonary involvement is rare in immunocompetent patients. Systemic chemotherapy is recommended in widespread mucocutaneous or rapidly progressive disease with visceral involvement.
Case report: 67-year-old male patient from Cabo Verde, with no relevant past medical history. He was referred to Dermatology to investigate a cutaneous lesion in the inner left malleolus. Skin biopsy was diagnostic of Kaposi sarcoma and the patient was referred to Medical Oncology. HIV test was negative. Thoracic CT showed bilateral lesions suggestive of pulmonary metastasis and the patient initiated radiation therapy of the skin lesion and systemic chemotherapy with doxorubicin due to lung involvement. After a year of treatment there was evidence of disease progression and second-line paclitaxel was initiated. After completion of the first cycle the patient presented at the Emergency Department with sudden onset dyspnea and left pleuritic chest pain. On physical examination he was alert, tachypneic and required oxygen therapy. On lung examination he presented with abolished breath sounds in the left hemithorax and dispersed rales in the left hemithorax. Chest x-ray revealed large left pneumothorax and ill-defined rounded opacities in the right lung. A left chest tube was inserted and the patient was admitted to the Pulmonology Ward. The thoracic CT showed bilateral lung metastasis, bilateral small pleural effusions, well placed left chest tube with a small homolateral pneumothorax and small right pneumothorax that resolved with conservative management.

The skin lesion was ulcerated and presented with signs of infection, and antibiotic treatment was initiated with amoxicillin/clavulanic acid and altered to ciprofloxacin due to isolation in the pus sample of Pseudomonas aeruginosa. After 19 days of hospitalization the patient had a sudden episode of chest pain, depression of the level of consciousness and bradycardia, progressing to cardiac arrest.
Discussion: This case features a rare presentation of endemic Kaposi sarcoma in an immunocompetent patient, with a very extensive pulmonary involvement complicated by bilateral spontaneous pneumothorax and disease progression after treatment with two lines of systemic chemotherapy.

Keywords: *Kaposi sarcoma. Pulmonary metastasis. Immunocompetent.*

PE 074. LOCALIZED NODULAR PULMONARY AMYLOIDOSIS – A CASE REPORT

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Introduction: Amyloidosis is a rare condition characterized by deposition and accumulation of an abnormal insoluble protein in various tissues and organs, leading to dysfunction and disease that can be primary or secondary and take a systemic or localized form. Amyloidosis of the respiratory system, most commonly of light chains, can manifest as tracheobronchial, diffuse alveolo-septal, pulmonary nodular, mediastinal or pleural ganglionic forms.
Case report: Male, 78 years old. Former smoker (20 A). Personal history of essential hypertension, dyslipidemia, atrial fibrillation, benign prostatic hypertrophy and heterozygosity for beta-thalassemia. He went to primary care for throat disconfort and pharyngeal foreign body sensation. A chest X-ray was performed as part of the investigation, which showed a heterogeneous-looking right parahilar nodule measuring about 4 cm and another smaller right nodule in a retrocardiac position. A chest CT was performed for clarification, in which multiple, bilateral, extensively calcified nodules were observed, the largest in the apical segment of the LID measuring about 46 mm. There were also 4 nodules in the LSD, the largest of these in the anterior segment contacting the mediastinal pleura with a diameter of 29 mm. On the left, 4 nodules stood out, the largest of these in the medial basal segment of the LEL, with approximately 21 mm in diameter. Referral to the pulmonology consultation for study of lung nodules, asymptomatic then. Investigation with PET-FDG continued which showed anomalous but discrete uptake of the nodules (Q SUVmax 3.7, of the largest nodule). Bronchoscopy with no endobronchial lesions. BAL with mild lymphocytosis 33%, CD4/CD8 ratio 1.3. No microbiological isolations. Anatomopathological study of BAL and aspirate negative. Transthoracic biopsy of right lower lobe nodule revealed parenchyma flaps almost completely replaced by acellular eosinophilic amorphous material, at the periphery with discrete mononuclear infiltrate with lymphocytes, well-differentiated plasma cells and rare multinucleated giant cells. Immunohistochemical study with labeling of the plasmacytic population for lambda light chains, absence of labeling for K light chains. Search for amyloid substance by the Congo red technique, with a positive result - concluding that it is a nodular amyloid tumor. The patient was referred to internal medicine consultation for a better assessment of the presence of a systemic form. From the extended investigation: Electrophoresis of serum and urinary proteins without alterations; Elevated serum free light chains but normal ratio; Immunoglobulins within normal parameters; negative ANA, anti-CCP and ANCA screening. Transthoracic echocardiography: Slight degenerative changes of the valve structures without significant hemodynamic compromise. Mild aortic insufficiency. Overall conserved left ventricular systolic function, LVEF 67%. Scintigraphy with DPD-99mTc was performed to clarify that it was not suggestive of cardiac amyloidosis. Normal myelogram. Thus, the diagnosis of localized AL nodular pulmonary amyloidosis was assumed. The patient remains asymptomatic and imaging stable at 15 months of follow-up.
Discussion: Pulmonary amyloidomas without systemic disease are rare, mostly asymptomatic and can resemble lung neoplasms, which is the main differential diagnosis. These are slow-growing lesions, which may calcify or cavitate, and are associated with an excellent prognosis, so most of them do not require targeted treatment.

Keywords: *Pulmonary amyloidoma. Al. Calcified pulmonary nodule.*

PE 075. FIBROEPITHELIAL POLYP OF THE TRACHEA – A CASE OF A BENIGN AIRWAY TUMOR

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Introduction: Most tumors that affect the tracheobronchial tree are malignant, with benign lesions representing < 2% of all cases. Fibroepithelial polyps are benign proliferations that most commonly affect the skin and the genitourinary system; Respiratory system involvement is infrequent and tracheal involvement is especially rare. The pathophysiology of this entity is not clearly known, but it is thought that it may be a type of inflammatory polyp, based on some irritation or inflammation process resulting from smoke inhalation, COPD, asthma or chronic infection. When they involve the bronchi, they present with mild symptoms or symptoms related to pneumonia, with airway obstruction and hemoptysis being rare; however, when the location is tracheal, the picture tends to be more frustrating, leading to a delay in diagnosis.
Case report: We present the case of a 61-year-old woman, smoker (20 UMA). Personal history of psoriatic arthritis, hypertension, depressive syndrome and HBV infection in the past. No history of respiratory disease. Referred to pulmonology consultation due to changes in high resolution chest CT. The patient had no respiratory symptoms or changes on physical examination. On chest CT, she presented with diffuse reticular pattern with interstitial disorganization, areas of predominantly peripheral septal thickening with scant bilateral parahilar cylindrical bronchiectasis and slight cisural thickening. On the wall of the trachea, in the latero-left position, an intraluminal lesion described as nodular with approximately 17 mm was evident. Reviewing previous images, tracheal lesion already present in imaging exams 4 years before and with superimposable appearance. Flexible bronchoscopy was performed, which confirmed the presence of an exophytic lesion on the right anterolateral wall of the trachea, 4 cm from the main carina, with well-defined contours, lobulated, pedunculated, mobile appearance, with signs of neovascularization. Remaining tracheobronchial tree unchanged. BAL was performed for suspected interstitial involvement by rheumatologic disease; immunological study showed macrophagic alveolitis with some macrophages, intracellular inclusions suggestive of smoking habits. Bronchial aspirate without microbiological isolations. Referred to an advanced bronchoscopy center where she underwent complete excision by rigid bronchoscopy with the tracheoscope bevel and direct rigid forceps; diode laser used in the base of the injury. The anatomopathological study described a polypoid lesion measuring 0.8 × 1.2 × 0.6 cm, with a lobulated configuration, lined by respiratory-type epithelium, with squamous metaplasia. Chorion with sclerohyalinized stroma, with small ectatic vessels and very slight inflammation – fibroepithelial polyp of the trachea. Bronchoscopic reassessment 1 and 3 months after resection without signs of recurrence. The patient was followed up and reassessed with thoracic CT and bronchoscopy, currently every 6 months. At 23 months of follow-up, she remained asymptomatic and had no evidence of recurrence. Due to its infrequency, there is

a low level of suspicion for benign tumors of the trachea, which sometimes leads to delay in diagnosis.
Discussion: Considering its benign nature, the need for a surgical approach is rare, and the minimally invasive bronchoscopic approach is the preferred approach. Some authors recommend antibiotic therapy or corticosteroids as an initial approach in small lesions, although cases of recurrence after this approach have been described. Follow-up and reassessment with chest CT and/or bronchoscopy is recommended.

Keywords: *Fibroepithelial polyp. Trachea. Bronchoscopy.*

PE 076. NOT ALL WHEEZING IS ASTHMA

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Introduction: Asthma is a heterogeneous disease characterized by chronic inflammation of the airways. It is defined by a history of respiratory symptoms, namely dyspnoea, wheezing, chest oppression and cough, varying over time and in intensity. Wheezing is a common manifestation of respiratory pathology in adults. Although its presence more frequently indicates airway obstruction in relation to asthma or chronic obstructive pulmonary disease (COPD), its aetiology is related to a wide range of other diseases, to be considered in the differential diagnosis.
Case report: 40-year-old female, born in Angola, non-smoker. This patient was diagnosed with asthma at 20 years of age, following an unexplained respiratory infection. She was treated with dual bronchodilator therapy consisting of corticosteroids and long-acting beta receptor agonists. The patient was referred to a pulmonology appointment due to lack of symptomatic control despite therapeutic compliance. He reported daily respiratory symptoms, including dyspnea on moderate effort, cough, left chest oppression and wheezing mostly at night, leading to awakenings and sleep fragmentation. Pulmonary auscultation identified inspiratory wheezes located in the upper third of the left hemithorax. In order to clarify the medical findings, complementary diagnostic tests were requested. No significant alterations were found in the blood analysis. Arterial blood gas analysis did not identify respiratory insufficiency. Respiratory function tests revealed a moderate obstructive ventilatory disturbance not reversible with fast-acting bronchodilators, with no alterations in the exhaled fraction of nitric oxide. A computed tomography (CT) scan of the chest revealed thoracic asymmetry due to volumetric reduction of the left lower lobe, where an area of condensation and atelectasis of nodular morphology was visible, with a longitudinal axis of 72 millimeters, with associated reduction of the caliber of the left main bronchus and left deviation of the mediastinal structures. The study proceeded with the performance of videobronchofibroscopy, where cicatricial stenosis of the left main bronchus was observed, leading to a significant reduction of the lumen, allowing for progression of the fiberscope only in the initial pathway. No microorganisms were isolated at the microbiological, mycological and mycobacteriological cultural examination of the bronchial and bronchoalveolar lavage. Cytology was negative for neoplastic cells. The clinical, radiological, and functional changes were interpreted in the context of untreated pulmonary tuberculosis sequelae. The clinical case was discussed with thoracic surgery, and no surgical approach was indicated.
Discussion: Although asthma and COPD are the most common causes, the differential diagnosis of wheezing includes multiple etiologies. Pulmonary tuberculosis and potential sequel changes to a previously undiagnosed and consequently untreated infection should be considered, particularly in patients coming from countries where this pathology is prevalent.

Keywords: *Wheezing. Tuberculosis. Asthma.*

PE 077. HYPOXEMIA: WHEN THE CAUSE IS NEITHER ONE OR THE OTHER BUT ALL OF THEM

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Introduction: The etiological investigation of hypoxemia can be challenging, especially in individuals with comorbidities.
Case report: 67-year-old female, non-smoker, with exposure to passive smoking, arterial hypertension, obesity and Obstructive Sleep Apnea Syndrome (OSAS) under treatment with Auto-CPAP, with adherence and efficacy. Referred to Pulmonology consultation, as she reported complaints of non-productive cough and dyspnea on moderate exertion. Complementary diagnostic tests were performed, including: respiratory functional study with moderate bronchial obstruction and moderate decrease in DLCO (FEV1 66%, DLCO/VA 60%); arterial blood gas analysis in room air with hypoxemia (pO2 66 mmHg); 6-minute walking test having walked 400m with a drop in SpO2 of up to 76%. Chest CT performed without contrast showed mosaic attenuation of the lung parenchyma and ventilation/perfusion (V/Q) scintigraphy was of high probability for pulmonary thromboembolism (PTE). Anticoagulation and bronchodilator therapy with aclidinium bromide and formoterol were initiated. After 6 months of hypocoagulation, she maintained marked desaturation in the walking test requiring oxygen supply by a portable concentrator in setting 3. A CT angiography of the pulmonary arteries was performed, showing a chronic organized thrombus isolated in the left lower lobar branch of the pulmonary artery, dilatation of the trunk of the pulmonary artery with 30 mm and suspected patent ductus arteriosus. Resting echocardiogram showed no significant changes. Due to the presence of signs of pulmonary hypertension (PH) on CT angiography and desaturation in the walking test, right heart catheterization was performed, which showed PmAP 25 mmHg, PVR 3.15 UWood and PECP 8 mmHg, with no possibility of performing catheterization under stress. In the case of mild PH at rest, Cardiac Magnetic Resonance was performed, which confirmed a patent ductus arteriosus with left-to-right shunt (Qp:Qs = 0.9), pulmonary artery trunk dilation, and normal biventricular systolic volumes and function. In a multidisciplinary meeting, it was assumed that the marked hypoxemia with physical exertion would have a multifactorial origin in a patient with chronic PTE with isolated thrombus, borderline pulmonary hypertension at rest that could eventually worsen with exertion, patent ductus arteriosus although with reduced shunt fraction, obesity and risk factors for diastolic dysfunction. Therapy was optimized with a diuretic and the patient was referred to a nutrition consultation.
Discussion: In the exposed case, probably none of the causes alone justifies the mild hypoxemia at rest and its marked worsening with physical exertion. It is the sum of different pathologies that, with different pathophysiological mechanisms, contributes to respiratory failure. It should be noted that the prevalence of isolated Patent Arterial Duct is estimated at ½,000 in term newborns, but there are no exact data regarding adulthood, and it is considered very rare. The hemodynamic consequences are variable depending on the relationship between the flow in the pulmonary and systemic circulation (Qp:Qs).

Keywords: *Pulmonary hypertension. Patent arterial duct.*

PE 078. A RARE CASE OF EXTRA-SKELETAL EWING'S SARCOMA

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Introduction: The tumoural lesions with pleural or chest wall origin constitute a rare entity. However, a significant proportion of these

lesions are malignant. Ewing's sarcomas are a family of malignant small round cell tumours of an aggressive nature that occur predominantly in children and young adults. The primary tumour most commonly originates in long bones, with extra-skeletal location being less common.
Case report: 27-year old female, non-smoker, with no relevant medical history. The patient was admitted to the emergency department in February 2022 due to left hemithorax pain with two weeks long, without relief or worsening factors, and dyspnea with three days of evolution. A chest X-ray revealed a mass with well-defined contours in the left lung field and obliteration of the left costophrenic angle, suggestive of pleural effusion. A contrast-enhanced computed tomography (CT) scan of the chest was performed, which confirmed the presence of a hypercaptating mass with dimensions of 9 × 6 centimeters and pleural origin, with slight protrusion through the chest wall between the sixth and seventh left ribs, as well as left moderate volume pleural effusion. Blood test analysis showed no inflammatory parameter elevation. Further etiological study was carried out on an in-patient basis. A transthoracic aspiration puncture of the mass was performed whose histology revealed a small, round and blue cell sarcoma with a morphological and immunophenotypic appearance suggestive of Ewing's sarcoma. Analysis by fluorescent in situ hybridization detected rearrangement of the EWSR1 gene in all the nuclei observed, confirming the diagnosis of extra-skeletal Ewing's sarcoma. A diagnostic and therapeutic thoracentesis was performed, with no identification of neoplastic cells in the cytology of the pleural fluid. Cranioencephalic and abdominal CT did not reveal any suspicious metastasis. Myelogram and bone marrow biopsy did not show evidence of medullary involvement. Positron emission tomography (PET-CT) did not identify any suspicious hypermetabolic alterations other than the known lesion. After multidisciplinary discussion, it was decided to start treatment with Euro Ewing 2012 protocol with neoadjuvant chemotherapy regimen and subsequent surgery.
Discussion: Extra-skeletal Ewing's sarcoma is a rare soft tissue tumour morphologically indistinguishable from bone Ewing's sarcoma. This pathology should be considered in the differential diagnosis of any patient presenting with a mass on the trunk or extremities, particularly adolescents or young adults. The prognosis is based on multiple factors, with the extent of the disease being the most determinant and an important predictor of survival.

Keywords: *Sarcoma. Ewing. Pleura.*

PE 079. DIFFUSE PULMONARY CALCIFICATION: DYSTROPHIC *VERSUS* METASTATIC

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Introduction: Pulmonary calcifications can result mainly by two pathological mechanisms: the metastatic or dystrophic form. Metastatic calcifications are frequently associated to the deposition of calcium in normal lung tissue under conditions, that directly or indirectly, lead to hypercalcemia. On the other hand, dystrophic calcifications occur in damaged lung tissue following an inflammatory process, despite serum calcium levels. Though both types of calcifications have different etiologies, their clinical presentation is known to be very similar which complicates the differential diagnosis.
Case report: A 30-year-old Caucasian woman, non-smoker, was admitted in our hospital with autoimmune hemolytic anemia caused by a possible urinary tract infection. Patient had an unprecedent medical record, without relevant environmental exposure or usual medication. Although blood transfusion and corticosteroid therapy were applied initially, the patient presented a decline of her clinical condition that led to the development of a high-risk acute pulmonary embolism and consequently cardio-respiratory arrest. During cardiopulmonary resuscitation (CPR) the patient was submitted to systemic thrombolytic therapy with Alteplase® and spontaneous blood flow was restored. After CPR, anticoagulant therapy was maintained as well as the need for vasopressor and inotropic support. Due to acute pulmonary hypertension inhaled nitric oxide therapy was used to improve hemodynamic status. Initially the patient presented acute hepatic and renal failure, which required dialysis therapy, both normalised with on-going treatment. Already in a convalescence period the patient presented new findings in the chest X-ray that led to perform a thoracic CT. The latter showed areas of ground glass opacities, bilaterally scattered in the subpleural region, and pulmonary consolidations with air-bronchogram, characterised by its high attenuation without contrast enhancement. For clarification of these lesions a video-bronchofibroscopy was performed and showed the presence of fungal form elements in the bronchoalveolar lavage (BAL). Also, the galactomannan test was negative on BAL and blood tests. Due to the assumption of a fungal respiratory infection, Caspofungine therapy was done for 21 days. Additionally, patient started immunosuppression with Rituximab (anti-CD20) and continued oral corticosteroid therapy with slow withdraw along six months. The patient performed a thoracic CT scan as a twelve-month follow-up, that revealed alveolar high-density consolidations with lobulated contours which persistent since the first diagnosis. The lesions were scattered in both lungs being more predominant in the upper lobes. A new bronchofibroscopy was performed and showed the presence of a mild lymphocytic alveolitis (20% of lymphocytes, CD4/CD8 0.7). No microorganisms were cultured. Pulmonary biopsies revealed numerous alveolar dystrophic calcifications. The case was discussed amongst the team and was determined that the identified pulmonary alterations were dystrophic.
Discussion: Differentiating between the different types of diffuse pulmonary calcifications has significant implications on the management and prognosis of the patients. In this case, although the imaging changes were co-related to areas of pulmonary infarction, the vulnerable acid-base balance and the renal failure, with consequent disturbance of the calcium metabolism, could have promoted the deposition of this ion in the lung. Given the clinical complexity of this case, the diagnosis required an evolutive surveillance and multidisciplinary cooperation in its management.

Keywords: *Pulmonary calcification. Pulmonary embolism. Bone scan.*

PE 080. MEDIASTINAL ABSCESS: COMPLICATION OF EBUS-TBNA

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Introduction: Endobronchial ultrasound-guided transbronchial needle aspiration (EBUS-TBNA) has emerged as a minimally invasive and highly accurate technique for evaluating intrathoracic lymph nodes as well as parenchymal lung lesions. This modality has become the standard for the diagnosis and staging of neoplasms, namely of the lung, as well as respiratory diseases such as sarcoidosis. The safety and efficacy of the procedure has been amply demonstrated, with low complication rates reported. However, there are recent reports that highlight the possibility of infectious complications after EBUS-TBNA, with multiple incidences involving the mediastinum. Mediastinitis is a rare complication of these types of procedures.
Case report: We describe the case of a 53-year-old female patient referred to our Center for diagnostic EBUS-TBNA, where the mediastinal and hilar lymph nodes were explored, and the 7, 4R, 11R and 11L lymph nodes were identified and punctured.. The procedure took place without immediate complications. About two weeks later, the patient started an insidious picture of fever, respiratory

discomfort and a feeling of chest oppression, which motivated her to go to the Emergency Department of the Hospital of residence and immediately perform a computed tomography of the chest (chest CT), evidencing an infracarinal mediastinal abscess. In this context, the patient was transferred to the Thoracic Surgery Service of CHULN – Hospital Pulido Valente for surgical drainage and treatment of the complication.
Discussion: With this case, we emphasize the importance of being aware of the possibility of infectious complications, namely mediastinitis, in patients undergoing EBUS-TBNA, despite rare complications. Fever and respiratory symptoms should lower the threshold to order a chest CT for early detection and treatment.

Keywords: *Endobronchial procedures. EBUS-TBNA. Rare complication.*

PE 081. POLYARTHITIS – THE FIRST SIGN OF MALIGNANCY

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Introduction: Paraneoplastic syndromes include a varied set of symptoms or signs resulting from damage to an organ or tissue (located distant from the primary tumor) and that may arise before, during or after the diagnosis of neoplasia. Polyarthritis is a rare entity, as a primary manifestation of malignancy.
Case report: The authors present a 65-year-old female, leukodermic, active smoker with a history of chronic bronchitis. She presents with a history of increased volume in the distal phalanges of the hands and feet, with distal deformation and downward curved nails for one year, compatible with digital clubbing. In recent months, she also had arthralgias, mainly in the lower limbs, predominantly affecting the knee and tibiotarsal joints, with edema and prolonged joint stiffness. The pain persisted at night and under non-steroidal anti-inflammatory drugs and improved with activity. She denied anorexia, weight loss, chest pain, dyspnea, hemoptoic sputum or worsening of her usual cough and sputum. The physical examination highlighted digital clubbing, hands and wrists without synovitis or deformations. Knee and tibiotarsal joints were swollen and painful on palpation and mobilization. There was pain also on palpation of all metatarsophalangeal joints. Laboratory examinations revealed an elevation of inflammatory parameters (ESR 59 mm/h and CRP 1.76 mg/dL), strong positive ANA and the remaining immunological study was negative. Joint ultrasound confirmed synovitis of both knees, tibiotarsal, subastragaline and all metatarsophalangeal, bilaterally. No erosions, double contour sign or calcifications were detected in the articular cartilage. Assuming that it was a polyarthritis of unknown cause in an active smoker, a thoracic CT was requested, which revealed a spiculated pulmonary nodule measuring 2.5 × 2.5 cm diameter on the right upper lobe (RUL), two adjacent nodules, right hilar adenopathy and at stations 4R and 7. Bronchoscopy showed an endobronchial lesion in the posterior segment of the RULB, where bronchial biopsies were performed. The lesion conditioned its complete occlusion and reduced caliber of B1 and B3. Bronchial biopsy was compatible with lung adenocarcinoma. PET-CT showed a nodule in the RUL (SUV max 12.08), adjacent nodules (SUV max 11.93) and adenopathies in stations 10R (SUV max 11.42), 7 and 4R (SUV max 9.24) – IIIB.
Discussion: The presence of polyarthritis, with involvement of the lower limbs (sparing small joints of the hands and wrists), without evidence of microcrystalline arthritis and negative rheumatoid factor and anti-CCP made other primary rheumatic etiologies less likely. The temporal relationship between the onset of rheumatologic symptoms and the diagnosis of lung cancer supported the diagnosis of paraneoplastic arthritis. The symptoms of paraneoplastic polyarthritis can be confused with primary rheumatic pathology, and approach by Rheumatology is essential for the correct differential diagnosis. The presence of polyarthralgias, with an atypical initial presentation, without an identified cause, with constitutional symptoms should alert the clinician to the need to exclude malignancy. The present clinical case stands out for being a rare initial manifestation of malignancy. The suspicion of possible malignancy and diagnostic confirmation of a paraneoplastic syndrome will allow a faster diagnosis with consequently earlier treatment.

Keywords: *Polyarthritis. Paraneoplastic syndrome. Lung cancer.*

PE 082. SEVERE ASTHMA - THE EXPERIENCE OF A PERIPHERAL HOSPITAL

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Introduction: Severe asthma represents 5 to 10% of patients with asthma. The specialist consultation for severe asthma provides a systematic approach to the disease allowing for the correct diagnosis and phenotyping, management of comorbidities and optimization of therapy.
Objectives: Clinical, phenotypic and response to treatment characterization of patients with severe asthma under biological therapy, in the Severe Asthma consultation at Centro Hospitalar do Oeste.
Methods: Cross-sectional study (2nd quarter of 2022) based on the assessment of sociodemographic factors, phenotypes, laboratory values, drug and treatment time, number of exacerbations and disease control scores.
Results: A total of 34 patients were evaluated, 75% of which were female with a mean age of 55 years. The mean BMI was 29 (53.1% with BMI ≥ 30). Smoking was uncommon (6%). The diagnosis in childhood/adolescence was the most frequent (55.9%) although 44.1% had onset of the disease in adulthood. Among the comorbidities associated with asthma, 64% had allergic rhinitis, 44% had sinusitis and 12% had atopic eczema. Atopic asthma (AA) is the most frequent phenotype (N = 19, 57.6%) followed by eosinophilic (AE), (N = 11, 33.3%) and non-atopic non-eosinophilic (N/N). Only 1/5 of patients with AA underwent immunotherapy. In the evaluation of biomarkers, the median IgE was 206 kU/L and that of the initial eosinophils (Eos) was 560/mm^3. Regarding the drugs and their duration, 21 were on Omalizumab (48 months), 10 were on Mepolizumab (27 months) and 2 were on Benralizumab (14 months). In total, 82 exacerbations were documented, 11 visits to the emergency department and 1 hospitalization after starting biologicals. At 12 months of treatment the mean number of exacerbations per year was 1 for omalizumab-treated patients, 0.49 for mepolizumab-treated patients, and 0 for benralizumab-treated patients. The averages of ACT and CARAT were 15.85 and 13.38 in the last assessment. Only two patients needed to change the biological.
Conclusions: There was a high percentage of patients diagnosed in adulthood. AA is the most frequent phenotype, but the expression of AE and N/N is high in our sample, given the more complex control of these phenotypes. Most patients are on omalizumab. Regarding the number of exacerbations, there seems to be no statistically significant difference between the different drugs (p = 0.66). The initial values of IgE and Eosinophils are not related to the number of exacerbations (p = 0.30), although the high values found (IgE > 200; Eos > 500) may be a marker of severe disease. The ACT and CARAT values (15.85 and 13.38) were at the limit of what was considered to be controlled, which demonstrates the need for regular reassessments and adjustment of the remaining asthma medication. Specialized consultation for Severe Asthma is essential given the difficult control of these patients. The use of questionnaires such as CARAT and ACT allows objective assessment of response to therapy. Biologicals are an excellent therapeutic weapon that has made it possible to profoundly reduce the number of exacerbations and hospitalizations.

Keywords: *Severe asthma. Biologicals.*

PE 083. SLEEP APNEA AND NARCOLEPSY: IS IT REALLY THAT RARE?

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Introduction: Excessive daytime sleepiness (EDS) is recognized as an important public health problem due to its association with increased risk of automobile accidents and adverse impacts on productivity and quality of life. Individuals with obstructive sleep apnea (OSA) and narcolepsy often experience excessive daytime sleepiness (EDS) and, as a result, may experience tiredness, decline in work performance, difficulty staying awake while driving, and difficulty focusing and personal relationships. Narcolepsy is a sleep disorder primarily characterized by EDS, which involves a substantial burden of disease but is often overlooked or misdiagnosed. EDS is often confused with fatigue, exhaustion, lethargy, tiredness, and lassitude. The prevalence of EDS also differs between OSA and narcolepsy. Although EDS is universal in narcolepsy and is necessary for its diagnosis, the reported rates of patients with EDS at initial presentation who were later diagnosed with OSA ranged widely, from 15% to 45%, with higher rates associated with greater severity of the condition. OSA and advanced age. Polysomnography is the standard diagnostic test for OSA, which can coexist with narcolepsy, and the multiple sleep latency test (MSLT) should also be performed in case of EDS. Studies have reported that approximately 20% and 30% of patients diagnosed with narcolepsy have OSAS.
Case report: 59-year-old female, weighing 110 kg and 1.65 m. Followed in neurology by daytime sleepiness for approximately 10 years. She stopped driving and her job due to excessive daytime sleepiness. She performed two polysomnography in the laboratory. The first was carried out 7 years ago and the second 4/5 years ago. The two polysomnography did not show any diagnosis of sleep disorder. Between performing the two PSG, there was an increase in weight due to medication. However, he was waiting for an appointment for PSG, due to the worsening of symptoms. Since she was on the waiting list, and had no quality of life, she decided to go to a clinic, where, this year, she performed a PSG and LTMS, with a diagnosis of narcolepsy and moderate OSAS.
Discussion: In patients diagnosed with OSA who remain hyperdrowsy, a thorough evaluation for narcolepsy (PSG, MSLT, and clinical evaluation) and other conditions should be performed, in order to identify the causes and consequences of drowsiness. PSG is essential for the diagnosis of narcolepsy. Therefore, decreasing the use of PSG for patients suspected of OSAS but not confirmed may lead to the risk of failure to detect narcolepsy, either comorbid with OSAS or another sleep disorder, or as a primary condition. Despite advances in clinical practice, the assessment and management of these patients still proves to be a major challenge, often due to the delay and difficulty in scheduling these exams through the SNS. This difficult access to polysomnography results in a long delay in diagnosis, which in this specific case of this patient was 6 years.

Keywords: *Sleep apnea.*

PE 084. AN UNUSUAL CASE OF PNEUMOMEDIASTINUM DURING THE COVID-19 PANDEMIC

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Introduction: The presence of air in the mediastinum is called pneumomediastinum or mediastinal emphysema. Its etiology can be spontaneous or traumatic, which can cause alveolar rupture, esophageal or intestinal perforation, resulting in the displacement of air into the mediastinum.
Case report: We present a case of a male patient, 20 years old, student, ex-smoker, without relevant personal history, who went to the emergency department (ER) for dyspnea accompanied by precordial chest pain on deep inspiration and decreased muscle strength in both lower limbs with a few days of evolution. Additionally, he had odynophagia that worsened with food intake either liquids or solids. He denied fever, an episode of trauma or choking, a history of respiratory disease, or anxiety. He reported that he has carried out research of SARS-CoV-2 through the nasopharyngeal swab, whose results have been negative. Objectively in the ER, he was normotensive and normocardic, eupneic at rest and room air, with no signs of respiratory distress and no subcutaneous emphysema. Regarding the complementary diagnostic tests performed, analytical control within the parameters of normality and imaging with chest X-ray showing a suspicious image of pneumomediastinum. Subsequently, cervical and thoracic computed tomography (CT) confirmed the diagnosis: "extensive pneumomediastinum, extending inferiorly to the level of the heart and superiorly to the level of the nasopharynx. It was not possible to specify its origin, apparent absence of pneumothorax and tracheobronchial changes, as well as in the lung parenchyma and absence of changes in the pharyngeal and laryngeal contours. Liquid collections are not defined". Then, an evaluation by Gastroenterology was performed with an upper digestive endoscopy that excluded esophageal perforation and observation by otorhinolaryngology, with no relevant findings. CT of the paranasal sinuses and pharyngeal cavum demonstrated the maintenance of permeability of all anatomical structures. With no etiology to justify the presence of pneumomediastinum, the patient was admitted to the pulmonology service for study. Supplemental oxygen therapy was performed and CT imaging reassessment after 72 hours of hospitalization showed a very significant reduction in pneumomediastinum. In view of the clinical improvement with almost complete resolution of the condition, he was discharged home with an indication for rest and avoidance of the practice of impact sports, diving and air travel in the following months. Due to the causal link, with no other apparent explanation for this episode, the nasopharyngeal exudate swab technique was attributed to the most probable cause for this case of pneumomediastinum.
Discussion: This case alerts to an unusual etiology of pneumomediastinum. However, during the COVID-19 pandemic, this diagnosis may go unnoticed and not be detected at the hospital level, as this identity usually presents a spontaneous resolution, only requiring supportive treatment such as analgesia, rest and avoidance of maneuvers that increase the intrathoracic pressure.

Keywords: *Pneumomediastinum. Nasopharyngeal swab. COVID-19.*

PE 085. LONG-TERM FOLLOW-UP OF A CASE OF AUTOIMMUNE PULMONARY ALVEOLAR PROTEINOSIS TREATED WITH INHALED MOLGRAMOSTIM

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Introduction: Autoimmune Alveolar Pulmonary Proteinosis (aPAP) is a rare disease characterized by the progressive accumulation of surfactant at the alveolar level, with consequent impairment of gas exchange. The prognosis is variable and depends on the severity of the disease. Currently, total lung lavage (TLL) remains the therapeutic procedure of choice, however, in case of progressive disease, other options can be considered. Experience with recombinant GM-CSF such as molgramostim has been increasing, although its institution remains off-label in primary PAP.
Case report: Male patient, 50 years-old, ex-smoker, with no relevant pathological history, in follow-up by Pulmonology since 2016, when he was hospitalized for severe partial respiratory failure. The diagnosis of primary PAP was made after integration of imaging changes

with a characteristic bronchoalveolar lavage, along with an increase in serum anti-GM-CSF autoantibodies. At that time, given the extent of the disease, the patient underwent bilateral TLL, with clinical improvement, tolerating the suspension of oxygen therapy, however, temporarily. In 2018, for maintaining moderate to severe disease, translated by symptoms impacting daily activities (dyspnea mMRC 4 and non-productive cough), hypoxemia at rest with compensated respiratory alcalosis, desaturation > 4% in the gait test, decline in DLCO and persistence of extensive disease on chest CT, the patient started treatment with molgramostim 300 mg id nebulized every other week, which remains as an off-label option to date, given the evident clinical and quality improvement benefit of life, quickly obtained from the first evaluation after 6 months of treatment. Over the last 3 years, the positive results have been increasing and sustained over time. From a functional point of view, there was a significant increase in DLCO (maximum recorded value of 91%) and oxygenation (PaO2 82.6 mmHg) in room air, accompanied by a clear global reduction in the extent of the crazy-paving pattern on chest CT. of revaluation. No significant adverse events were recorded.
Discussion: This case illustrates a moderate to severe disease of aPAP despite initial approach with bilateral TLL, in which the institution of inhaled molgramostim every other week has produced positive results of efficacy and tolerability over time and allowed a favorable evolution of the disease.

Keywords: *Molgramostim. Pulmonary alveolar proteinosis.*

PE 086. BILATERAL MIGRATORY PULMONARY NODULES - WHICH GRANULOMATOSIS IS IT?

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Introduction: Pulmonary lymphomatoid granulomatosis is a rare lymphoproliferative disease of undetermined significance, associated with the Epstein-Barr virus. It presents with pulmonary nodules or masses that may cavitate and may have spontaneous remission or evolve to lymphoma. The authors present a case of a male with migratory nodules and masses with variable dimensions along the follow-up. The laborious investigation led to the final diagnosis of lymphomatoid granulomatosis.
Case report: In 2012 a 39-year-old male, nonsmoker, with a previously known history of obesity, asthma and erythema nodosum, asymptomatic, started investigation in Pulmonology Consultation due to multiple pulmonary nodules. A videobronchoscopy (VB) with transbronchial biopsies showed no alterations. Bronchoalveolar lavage had lymphocytosis 72% and CD4/CD8 ratio of 10.11. Angiotensin-converting enzyme levels and autoimmunity markers were normal. He lost the follow-up consultation. In December 2016 he was admitted to the Pulmonology Department due to hemoptysis. A new CT showed exuberant bilateral pulmonary masses and nodules, some cavitated, and mediastinal enlarged nodes, the subcarinal with 10 mm. Bronchial biopsies (BB) revealed a necrotizing granuloma and intense mixed inflammatory infiltrate, with a negative microorganism search; there was no dysplasia or neoplastic tissue. A transthoracic needle biopsy (TNB) was inconclusive. Two months after, he repeated the investigation with new VB, BB, endobronchial ultrasound, and autoimmune markers, all inconclusive. During follow-up, spontaneous improvement of the masses and cavitation resolution was seen. Due to the alterations' distribution, sarcoidosis was deemed unlikely. Granulomatosis with polyangiitis was considered, but after discussion with Nephrology it was considered low probability, and there was no added benefit in performing invasive procedures. During the follow-up period, new pericentimetric nodules kept appearing, and some of the previous ones disappeared. The hypothesis of eosinophilic granulomatosis with polyangiitis, with an atypical presentation, was thought possible. However, a paranasal sinuses CT had no relevant alterations, and the patient had no criteria for the diagnosis. In October 2021, a CT showed a new solid mass with 45 mm in the middle lobe, which increased and cavitated after a three-month corticotherapy treatment, associated with clinical and functional decline. To exclude cancer and fungal infection a VB was performed, with no relevant results. Finally, a TNB of the lesion showed changes compatible with pulmonary lymphomatoid granulomatosis, grade 2. Posteriorly, the cavitated lesion evolved to a large abscess 16 × 11 cm. The patient was admitted to the Pulmonology ward and treated with piperacillin-tazobactam for 22 days. He had clinical, radiological and laboratory results improvement. However, recently he had a recurrence of the abscess and is awaiting thoracic surgery evaluation.
Discussion: Pulmonary lymphomatoid granulomatosis should be included in the differential diagnosis of migratory nodular opacities and lymphocytic infiltration. Around 20% of patients have remission without treatment, but most of them have a progressive disease. For this reason, seeking the diagnosis is preponderant to improving the patient's prognosis.

Keywords: *Pulmonary migratory nodules. Lymphomatoid granulomatosis.*

PE 087. SARCOIDOSIS AND THE CENTRAL NERVOUS SYSTEM – IS IT ALWAYS NEUROSARCOIDOSIS?

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Introduction: Sarcoidosis affects the central nervous system in about 5% of patients. The neurologic involvement of sarcoidosis should be considered in patients diagnosed with the disease who develop neurologic complaints. Although cerebrovascular involvement is not uncommon, involvement of large cerebral arteries in sarcoidosis is extremely rare. It is important to be alert and consider the differential diagnosis. Moyamoya is a cerebrovascular condition characterized by progressive narrowing of the large intracranial arteries around the circle of Willis associated with the development of prominent collateral vessels. It can be associated with genetic disorders and various diseases such as hematological pathologies, vasculitis and autoimmune diseases, metabolic diseases and kidney disorders. The association with sarcoidosis and sickle cell anemia is known. It is called Moyamoya disease when associated with genetic alterations, without other identified risk factors, and Moyamoya syndrome when associated with other pathologies. It can appear in children and adults, having a bimodal distribution, with a peak at 10 years of age and a second peak at 40 years of age. The clinic is variable. It may be a finding in asymptomatic patients, but most patients have headaches, ischemic or bleeding events and sometimes seizures. Treatment with antiplatelet agents is indicated for asymptomatic patients with preserved cerebral blood flow, symptomatic patients or patients with alterations in cerebral perfusion may have surgical indication.
Case report: 40 years old female patient, melanodermic, born in Angola. Diagnosis of sarcoidosis under infliximab therapy and low-dose corticosteroid therapy, with lung, lymph node, cutaneous and bone involvement. She went to the emergency department for headache in the right hemicranium, dizziness and an episode of convulsion. She was hospitalized for investigation and exclusion of neurosarcoidosis. There were no focal meningeal signs or other signs of infection. Cranioencephalic computed tomography did not reveal lesions or vascular events. Carotid and transcranial echo Doppler were performed without atherosclerosis, with evidence of multiple tortuous paths adjacent to the right middle cerebral artery (MCA) (possibility of a Moyamoya pattern) and cranioencephalic magnetic resonance imaging showed a unilateral "Moyamoya-like" pattern. To complete the study, an electroencephalogram was performed

without alterations and lumbar puncture with normal biochemical and cytochemical exams and negative microbiology. From the analytical evaluation we highlight thyroid function and thrombophilia study without alterations, however the hemoglobin electrophoresis with evidence of sickle cell trait. Finally, a cerebral angiography was performed, which showed occlusion of the proximal portion of the right MCA and an abnormal collateral vascular network that would confirm the diagnosis of Moyamoya syndrome. Cerebral perfusion scintigraphy was normal.
Discussion: Although sarcoidosis may present neurological involvement, there are other conditions, even if rare, that may be associated with the disease. Differential diagnosis is important to guide the treatment to each patient.

Keywords: *Moyamoya syndrome. Sarcoidosis. Sickle cell anemia.*

PE 088. LYMPHANGIOMATOSIS - NOT LAM

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Case report: We report a case of a 59-years old patient, arts teacher, no smoker and with previous history of arterial hypertension, mild aortic insufficiency, and uncharacterized documentation of several renal and hepatic cysts, having also chirurgic history of hysterectomy and unilateral salpingo-ooforectomy for uterine myomas 8 years before. After gynecologic surgery and being concurrently in menopause, the patient started hormonal substitution with progesterone/estradiol. The patient was referred to a pulmonology appointment for progressive complaints of fatigue and exertional dyspnea with 4 to 5 years of evolution, and aggravation in the past year with significative daily-task compromise and headaches. Previous investigation conducted to serial functional assessment with normal respiratory function tests, as well as normal plethysmography and diffusing capacity of carbon monoxide. To this point, the patient performed a thoracic CT, which documented the presence of multiple thin-walled cystic formation and disperse residual calcified micronodules. Considering the peri-menopausal onset of symptoms, and the documented presence of cystic thoracic and non-thoracic lesions, the main diagnosis pointed to LAM or other cystic disease. Additional characterization implied histology documentation so the patient was submitted to a surgical biopsy, in which it was evidenced the presence of cystic lesions with proliferation of abnormal anastomosing lymphatic spaces. Further immunohistochemical tests revealed CD1a and HMB45 negativity, excluding histiocytosis and LAM, and suggesting the diagnosis of pulmonary lymphangiomatosis with probable renal and hepatic involvement. Considering yearly disease progression with degrading arterial hypoxemia and 6-minute walking distance test desaturation, the patient started Sirolimus.
Discussion: Although this case is yet on its course, we believe it serves as an educational tool, considering its rarity and its atypical cystic phenotype presentation, which in this case could easily mislead the diagnosis into a pure cystic disease like LAM.

Keywords: *Lymphangiomatosis. Lymphngioleomyomatose. Cysts. Sirolimus.*

PE 089. GRANULOMATOSIS WITH POLYANGIITIS AND MUCORMYCOSIS: CONCOMITANT DIAGNOSIS

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Introduction: Granulomatosis with polyangiitis (GPA) is a rare necrotizing granulomatous vasculitis that mainly affects small vessels resulting in systemic manifestations. The upper airway (UA), lung and kidney are commonly involved. About ¼ of the patients present with migratory polyarthropathy, nasal crusts and other signs that do not include life-threatening organ injury, and they are usually younger patients with a greater prevalence of UA destructive disease.
Case report: Male, 36 years old, former smoker. He underwent septoplasty 15 years ago, with the development of chronic atrophic rhinitis with total destruction of nasal septum and development of saddle nose. He performed several cycles of antibiotherapy and systemic and topic corticotherapy (CCT) for recurring nasal infections, only with partial improvement. He performed septal reconstruction rhinoplasty in June/2021. He was followed in a private hospital and maintained anosmia, purulent rhinorrhea, conjunctivitis and serous otitis media, so it was decided to perform a nasal biopsy with microbiological study, whose isolation culture had isolation of *Mucor* spp. Histological examination showed no signs of malignancy, vasculitis lesions or granulomas. He was sent to hospital consultation due to chronic atrophic rhinitis secondary to chronic infection by Mucor, without aggressive mucormycosis. CT brain was normal and CT maxillofacial showed signs of right mastoiditis and inflammation of the paranasal sinuses. He was admitted electively for IV liposomal amphotericin B, requiring its suspension on the 6th day due to acute kidney injury (normalized with drug suspension and fluid therapy), having been replaced by oral posaconazole. Even so, he continued to have headaches and sinusitis, with several evaluations by ophthalmology and ENT, and the need for several cycles of antibiotic therapy. Subsequently, he developed purulent sputum, exertional dyspnea, asthenia and arthralgias appeared, and was referred to a Rheumatology and Pulmonology consultation. A chest CT scan was performed with evidence of "tiny nodular areas in the right upper lobe and in the upper segment of the lower lobe, forming a conglomerate measuring approximately 7 mm, with a ground-glass pattern surrounding them". Bronchoscopy was requested, which showed inflammatory infiltration of the nasal mucosa and the subglottic region with exuberant necrotic aspects, without other relevant changes. Bronchial lavage without microbiological isolations. Due to suspicion of vasculitis, an extensive analytical study was performed, which highlighted microcytic/hypochromic anemia (Hb 11,6 g/dL), a slight increase in rheumatoid factor (21 UI/mL), ANCA 1:20 with increased anti- PR3 (7.6 U/mL), negative ANAs, negative viral serologies and syphilis, without proteinuria. A nasal biopsy was repeated, with vasculitis lesions compatible with GPA and he was started on methotrexate 12.5 mg/week, with an improvement of the nasal clinic and chest CT, with resolution of the nodules and areas of ground glass.
Discussion: We present a rare case of GPA diagnosed in a context of sinonasal mucormycosis. The similarity of characteristics between GPA and sinonasal mucormycosis can create a diagnostic and therapeutic dilemma. Timely recognition and treatment of mucormycosis can prevent a fatal outcome, particularly in patients requiring immunosuppression. This highlights the importance of vasculitis as a differential diagnosis in severe sinonasal disease.

Keywords: *Granulomatosis with polyangiitis. GPA. Wegener. Upper airways. Sinonasal disease. Mucormycosis.*

PE 090. MULTIPLE BRONCHIAL STENOSES - A RARE MANIFESTATION OF PULMONARY SARCOIDOSIS

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Centro Hospitalar Barreiro Montijo.

Introduction: Sarcoidosis is a multi-systemic granulomatous disease of unknown etiology, mainly involving the lung and typically affecting young adults.

Case report: 46-year-old female, non-smoker. No relevant exposures. She developed dry cough and recurrent respiratory infections about 12 years ago, during pregnancy. After the puerperium, due to alterations in the chest X-ray, she was referred to a pulmonology consultation. Bronchoscopy revealed stenosis of the anterior segmental bronchus of the right upper lobe (B3). Endoscopic dilatation was performed, with immediate success, but later recurrence and maintenance of 3 to 4 pneumonias annually over the following 2 years. In this context, she was referred to Thoracic Surgery and underwent right upper lobectomy. The histological examination of the surgical specimen revealed a non-necrotising granulomatous process. The diagnosis of tuberculosis was assumed and antibacillary therapy was started. After 4 months of treatment without clinical improvement, this was suspended and corticotherapy was initiated, with symptomatic improvement. A diagnosis of thoracic sarcoidosis (stage II) was made and the patient was maintained on systemic corticosteroid therapy for 2 years. After suspension of corticotherapy, the patient again presented worsening symptoms and was referred to the Interstitial Disease consultation at Centro Hospitalar Universitário de São João due to complaints of mucous productive cough, exertional dyspnea and wheezing. Pulmonary function tests (PFT) revealed a mild obstructive ventilatory syndrome with negative bronchodilation test. High resolution computed tomography (HRCT) of the chest revealed multiple hilar and mediastinal calcified ganglia and cylindrical bronchiectasis with greater expression in the right lower lobe. She was medicated with inhaled corticoid, with slight clinical and functional improvement. After 4 years, she again presented worsening symptoms, with exertional dyspnea and persistent muco-purulent productive cough. The HRCT revealed alveolar consolidations in the upper segment of the left lower lobe (LLL). The study carried out included: negative serology for *Aspergillus fumigatus*; bronchofibroscopy with severe stenosis at the level of subsegment B6a of the apical segment of the left lower lobe bronchus, bronchoalveolar lavage with negative microbiological study and without evidence of malignant cells; Positron Emission Tomography (PET) with a large lesion of the LLL, vaguely nodular and hypermetabolic (SUV 7.9). The patient was submitted to transthoracic needle biopsy of the lesion, and the anatomopathological analysis revealed pulmonary parenchyma involved by a granulomatous process with abundant lymphoplasmocytic inflammatory infiltrate, with negative BAAR investigation. Deflazacort 30 mg/day was initiated. After 2 months of treatment, a significant reduction of hypotransparency in the left lung field was noted on chest X-ray.
Discussion: In sarcoidosis, bronchial mucosal lesions are common, and the diagnosis of the disease is often made by endobronchial biopsies. However, bronchial stenosis severe enough to cause symptomatology is rare, especially when the disease has not reached stage IV. The pulmonologist should beware of this atypical manifestation of sarcoidosis, given the potential for improvement with appropriate treatment.

Keywords: *Sarcoidosis. Bronchial stenosis. Corticotherapy.*

PE 091. THE ROLE OF SURGICAL BIOPSY IN INTERSTITIAL LUNG DISEASE: POPULATION CHARACTERIZATION, DIAGNOSTIC PROFITABILITY AND COMPLICATIONS

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Introduction: The performance of surgical biopsy by video-assisted thoracic surgery (VATS) in patients with interstitial lung disease under study has to be considered and decided in a multidisciplinary team meeting (MTM) after clinical, laboratory, imaging evaluation and, eventually, after an attempt to obtain histological material by another procedure.
Objectives: Characterization of the population of patients who underwent surgical biopsy for the diagnosis of interstitial lung disease, the diagnostic profitability and complications of the procedure.
Methods: Retrospective study of patients undergoing surgical biopsy by VATS, from January 2017 to December 2021 in the Thoracic Surgery Service of a level III hospital. Statistical analysis with Microsoft Excel of the following variables: gender, age, status and smoking history, previous exposures, radiological pattern, previously performed invasive diagnostic tests, histological pattern of the surgical biopsy, definitive diagnosis, complications of the procedure and days of hospitalization after surgery.
Results: Sample of 33 patients, with a mean age of 54.97 years and a predominance of males (n = 21; 63.6%). Most of the population were smokers (n = 22; 67%) with an average smoking history of 33.86 pack-year (PY), some of them still smoking (n = 9; 27.3%); one third of patients (n = 11) had a history of exposure, including birds (n = 7; 21.2%), exposure to silica (n = 4; 12.1%) or other occupational exposure (n = 4; 12.1%). The most frequent imaging patterns were probable UIP (n = 8; 24.2%) and NSIP (n = 8; 24.2%). Other radiological patterns were bilateral micronodularity with adenopathies (n = 4; 12.1%), DIP (n = 1), pulmonary cysts (n = 1), definitive UIP (n = 1) and findings that did not fit into any specific pattern (n = 10; 30.3%). Most of the population underwent bronchoalveolar lavage (n = 19; 57.6%) which revealed lymphocytosis > 30% (n = 6; 18.2%) or without significant changes (n = 13; 39.4%). During the investigation, 15.2% (n = 5) of the patients underwent transbronchial biopsy and 6% (n = 2) had previously undergone cryobiopsy, with inconclusive results. Surgical biopsy was diagnostic in 87.9% (n = 29). the most common diagnoses were idiopathic pulmonary fibrosis (n = 8; 24.2%), unclassifiable interstitial lung disease (n = 7; 21.2%), hypersensitivity pneumonitis (n = 5; 15.2%), sarcoidosis (n = 2; 6%) and single diagnoses of pulmonary amyloidosis, Langerhans cell histiocytosis, T-Cell Non-Hodgkin's Lymphoma, meningothelial-like nodules, silicosis and vasculitis. There were no surgical complications in the immediate postoperative period: no cases of prolonged air leak, hemorrhage or exacerbation of the underlying disease. The mean postoperative hospital stay was 2.09 days. There was only one case of surgical wound infection after discharge.
Conclusions: The study population is very heterogeneous, but with an important history of smoking and exposure. The diagnostic process of these patients until MTM was predominantly inconclusive or with clinical, radiological and laboratory aspects not in agreement. Choosing a patient for diagnosis by surgical biopsy must take into account the impact of this diagnosis in therapeutic terms and, on the other hand, the surgical risks. Surgical biopsy has good diagnostic yield and has had residual complications in this population. The importance of MTM as a gold standard for the diagnosis of patients with interstitial lung disease is highlighted.

Keywords: *Interstitial lung disease. Surgical biopsy.*

PE 092. THE SMALLEST LOBE IS IN TROUBLE

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Introduction: The most common definition of middle lobe syndrome is recurrent or chronic collapse of the middle lobe. Middle lobe syndrome is a rare clinical entity, with multiples etiologies (obstructive *versus* non-obstructive) and diversity of clinical presentation. The etiology of the non-obstructive form is not completely understood and it is necessary to rule out an endobronchial lesion. The most frequent causes of compression of the middle lobe bronchus are tumors and peribronchial lymph nodes, and the non-obstructive form is commonly associated with recurrent pneumonia or asthma (1,2).

Case report: A 35-year-old female had eight respiratory infections in one year, neither of them requiring hospitalization. Specific IgE testing, prick test were negative such as bronchoalveolar lavage (negative for malignancy and infections). Flexible bronchoscopy showed a stenosis of middle lobe bronchus and computed tomography (CT) of the chest presented middle lobe atelectasis with air bronchogram and bronchiectasis, without hilar or mediastinal adenomegaly. After 6 months CT showed persisting atelectasis of the middle lobe and diagnosis of middle lobe syndrome was made. The patient underwent a middle lobe lobectomy and an enlarged peribronchial lymph node was found. Patient was discharged home two days after surgery. After 1 year she is asymptomatic. Histology showed an anthracotic lymph node without malignancy and bronchiectasis in the surgical specimen. There is no consensus regarding the indication and the timing for surgical treatment in middle lobe syndrome. Surgical resection is a treatment option reserved for patients who do not respond to conservative treatment and bronchiectasis is the most common histological finding. Surgical treatment appear to have a low mobility rate, especially in thoracoscopic lobectomy (1). In our case the middle lobe syndrome was caused by an extrinsic compression (peribronchial lymph node) not diagnose on CT scan, and the patient already suffers for irreversible damage.
Discussion: Timing for surgical treatment in middle lobe syndrome is controversial, but it is important to recognize patients with recurrent infections that may suffer irreversible damage and can benefit for surgical treatment.

Keywords: *Respiratory tract diseases. Pulmonary atelectasis. Middle lobe syndrome. Thoracic surgery. Video-assisted.*

PE 093. THYMOMA: ERYTHROID APLASIA AS A PARANEOPLASTIC SYNDROME

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Introduction: Thymoma is the most frequent tumor of the anterior mediastinum and may be associated with several paraneoplastic syndromes, including erythroid aplasia (which is associated with thymoma in 10% of cases). All patients with erythroid aplasia should do a thoracic CT scan and in the presence of an anterior mediastinal mass, the patient should undergo total thymectomy without the need for preoperative histological confirmation.
Case report: Male, 44 years old, with no relevant personal history. Hemoglobin of 4.6 g/dL was detected in routine analyses. He had complaints of dyspnea for medium efforts with one month of evolution, denying blood loss. The patient underwent an extensive study including iron kinetics, viral serologies (HIV, HBV and HCV), direct Coombs test, bone marrow and peripheral blood immunophenotyping, bone biopsy, bone marrow myelogram and thoraco-abdomino-pelvic CT. This study detected a pure erythroid aplasia and a partially calcified nodular lesion measuring approximately 6 cm in the anterior mediastinum. The biopsy of this lesion was not representative. The patient was subsequently submitted to total thymectomy by median sternotomy, requiring excision of the pericardium due to its invasion and subsequent closure with a bovine pericardium patch. The postoperative period was uneventful and the patient was discharged on the second day.
Discussion: Erythroid aplasia is a rare cause of anemia. It may arise in the context of a paraneoplastic syndrome in patients with thymoma. The presence of an anterior mediastinal mass in a patient with erythroid aplasia is an indication for its excision. Thymectomy in these patients contributes to the remission of the disease and changes its course, hence its importance.

Keywords: *Anterior mediastinum tumours. Thymoma. Erythroid aplasia.*

PE 094. CONSEQUENCES OF THE OCCUPATIONAL EXPOSURE TO SILICA: SILICOSIS AND AUTO-IMMUNE DISEASES

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Introduction: Silica has multiple nasty effects in the pulmonary tree which begin with the deposition of particles in the alveoli. The ingestion of these particles by the macrophages develops an inflammatory response with pulmonary fibrosis which is called Silicosis. Depending on the dose of exposure it can be classified in Acute or Chronic Silicosis with obvious differences in the level of reversibility of the pulmonary lesions. Silica is equally related with the development of auto-immune diseases such as Rheumatoid Arthritis, Systemic Erythematosus Lupus, Scleroderma, and others.
Case report: Age 55, female, non-smoker, factory worker in Porcelain Industry, with an exposure period bigger than 20 years. Dyspnoea to small efforts (stage 3 in the modified dyspnoea scale - mMRC) with substantial progression in the last 5 years (mMRC equalled 1 in the beginning of this period). Pulmonary auscultation showed an altered vesicular breath with mild inspiratory rales?? In both the upper lobes. Medicated with oral corticosteroid and inhalers with corticosteroids, long-acting beta-2 adrenergic agonist and muscarinic antagonist. The spirometry reported a severe obstruction and restriction (FVC 60%, FEV1% 30% and Tiffeneau index 50%) irreversible with the bronchodilator reversibility exam, without changes in the pulmonary diffusion (DLCO 50%). High-resolution thoracic tomography identified multiple rounded and well-defined gaseous cystic images scattered in both lungs (related to the auto-immune disorder). In addition, the patient has positive anti-nuclear antibodies in moderate levels and a capillaroscopy with several megacapillaries.
Discussion: The Mixed Dust Pneumoconiosis and Autoimmune Cystic Interstitial Disease is an example of dichotomy of diseases attributed to pulmonary damage caused by silica. The exposure in the workplace to high quantities of this material would be the probable genesis of these pulmonary diseases and highlights the importance of the restriction of occupational substances to the workers' health through protection equipment individually or collectively.

Keywords: *Silicosis. Occupational Medicine.*

PE 095. HYPERSENSITIVITY PNEUMONITIS FROM INORGANIC SUBSTANCES? – A CASE REPORT OF OCCUPATIONAL EXPOSURE TO ISOCYANATES

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Introduction: Hypersensitivity Pneumonitis is caused by the inflammation of alveoli and terminal bronchiole due to an allergic reaction to an innocent agent which the patient has bigger sensitivity. In most of cases, organic agents are more often linked to the genesis of this disease, although other agents such as chemical substances can be involved in the pathogenesis of the Hypersensitivity Pneumonitis if there is an exaggerated immune response.
Case report: Female, age 60, with active work exposure to isocyanates and to silica for more than 10 years. Presents with chronic dyspnoea for about 10 years, in the present day with 2 in the mMRC scale. Pulmonary auscultation showed bilateral velcro crackles predominately in the lower lobes. In spirometry it was identified a severe restriction (FEV1/FVC 100%; FEV1 50%; FVC 50%). The thoracic tomography showed ground-glass areas in the parenchyma of both lungs, alternated with normal density areas with a mosaic

pattern. In the bronchoalveolar lavage it showed alveolar lymphocytosis higher than 50%, T-helper/T-cytotoxic lymphocytes ratio lesser than 1. Pulmonary scintigraphy showed an altered pulmonary perfusion and ventilation, manly in lower lobes. She is medicated with long-term oxygen therapy, oral prednisolone and mofetil mycophenolate, besides the inhalers with corticosteroid and long-acting muscarinic antagonist.
Discussion: The basis of the treatment of Hypersensitivity Pneumonitis is based on the eviction of the etiologic agent. In the occupational environment, the management planning, the usage of Collective Protection Equipment and Individual Protection Equipment help minimise the quantity of the toxic agent than the patient is exposed in his or her workplace. The complete elimination of the exposure can be difficult to implement not only by the challenging characterization of the actual agent, but also because of the types of tasks performed.

Keywords: *Hypersensitivity pneumonitis. Occupational Medicine.*

PE 096. RESPIRATORY INSUFFICIENCY DUE TO PULMONARY MALT LYMPHOMA: A CASE REPORT

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Introduction: Primary mucosa-associated lymphoid-tissue (MALT) lung lymphoma is a rare entity characterized by a non-specific clinical and radiological presentation and an indolent malignant course. Herein, we present a case of pulmonary MALT lymphoma with unusual presenting features.
Case report: A non-smoker 56-year-old female with a history of progressive respiratory distress with multiple recurrent infections developed an acute onset of shortness of breath and fever. She was examined and medicated with 2 cycles of empiric antibiotics with resolution of infectious symptoms but exhibited gradually increasing respiratory failure which ultimately led to hospital admission. Physical examination showed preserved hemodynamical stability, dyspnea with minimal activity and trepopnea in right lateral decubitus. Chest auscultation disclosed no left-sided breath sounds. Infectious serologies and antigenurias, viral panel and tuberculosis cultures were negative. A chest radiography evidenced an air-filed lesion occupying the left hemithorax. CT scan revealed multiple bullae, the biggest measuring 163 × 102 × 185 mm, conditioning passive atelectasis of the left lung and a pleural effusion with contralateral mediastinal shift (figure 1B). A flexible bronchoscopy allowed for the biopsy of the bronchus mucosa at the level of the left superior lobar bronchus, revealing the presence of low-grade MALT lymphoma. A six-minute walk test was performed before discharge, reveling a minimum saturation level of 86% at the 3-minute mark and total walking distance significantly reduced. The patient was discharged with deterioration of dyspnea (mMRC grade II), requiring 3 liters per minute of ambulatory oxygen flow with minimal activity. Whole body CT scan showed no obvious lymphadenopathy and bone marrow biopsy showed no signs of infiltration. After oncology board multidisciplinary meeting, the patient was considered for surgical treatment. An upper left lobectomy with lymph node sampling was performed by thoracotomy and as demonstrated by postoperative radiology exams, significant re-expansion of the lower left lobe was achieved. Surgical follow-up showed no complications with substantial clinical improvement and increase in respiratory capacity, reverting to normal oxygenation levels. Histopathology confirmed the diagnosis of MALT lung lymphoma with lymphocytic pleural effusion, classified as Ann Arbor stage IIE. The patient has successfully completed treatment with rituximab. One year after surgery, she remains asymptomatic with no evidence of disease progression.
Discussion: Primary MALT lymphoma is a rare disease and even less frequently does it have an acute presentation of dyspnea as demonstrated. The present case alerts to the importance of considering MALT lung lymphoma in the differential diagnosis of respiratory insufficiency and the value of a multidisciplinary team for the most effective treatment strategy.

Keywords: *Pulmonary malt lymphoma. Dyspnea. Surgery.*

PE 097. RATS FOR MEDIASTINAL MYELOLIPOMA: A CASE REPORT

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Introduction: Myelolipoma is a benign tumor composed of adipose and hematopoietic tissue, developing mainly in the adrenal cortex. Primary extra-adrenal myelolipomas, particularly when found in the thorax, are a rare entity. A definitive diagnosis is difficult to establish considering the non-specific clinical and imaging features. We present the case of a primary mediastinal myelolipoma excised by robotic-assisted thoracic surgery (RATS). Very few cases have been reported in the literature using this surgical approach.
Case report: A 70-year-old male with a history of smoking (50 pack-years), obesity and hypertension presented with worsening dyspnea (mMRC grade I) and fatigue. Physical examination and blood analysis showed no abnormalities. A CT scan evidenced an ovoid soft tissue mass with homogenous density and well-defined margins located in the left posterior mediastinum, set in the costovertebral sulcus at the T10 spinal level, with a size of 3.3 × 2.4 × 1.7 cm. Magnetic resonance imaging showed a rich vascular supply of the tumor, with low signal intensity peripheral enhancement on T2-weighted images, conserved after contrast administration and no sign of invasion of the lung, bone or vascular structures was observed. Pulmonary function tests confirmed normal respiratory capacity. Based on imaging findings, the most likely diagnosis was a neurogenic tumor. A unilateral RATS with four-port technique was performed, achieving complete resection of the tumor. The procedure elapsed with no complications and minimal blood loss (less than 20 mL), lasting for a total of 25 minutes. After the surgery, the patient remained comfortable, not requiring pain medication. Pleural drainage was removed, and the patient was discharged on the first postoperative day. Histopathology revealed a solid mass composed predominantly of mature fat and hematopoietic cells, establishing myelolipoma as the final diagnosis. One month after the surgery, the patient is asymptomatic with no evidence of complications.
Discussion: The differential diagnosis for posterior mediastinal lesions centers on neurogenic tumors such as schwannomas and ganglioneuromas, lymph node metastasis, lymphomas, sarcomas and only rarely, myelolipomas. Considering the preoperative diagnosis is often unclear, pathological analysis is essential in clarifying the diagnosis. RATS is showing to be a safe and reliable treatment choice for removal of posterior mediastinal tumors, in terms of technical precision and surgical accuracy, low complication rate, minor post-surgery pain level and short hospital stay.

Keywords: *Posterior mediastinal tumor. Myelolipoma. Robotic-assisted thoracic surgery.*

PE 098. PPODLCO AS A POSTOPERATIVE MORBIDITY MARKER IN LUNG RESECTION SURGERY

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Introduction: Lung resection surgery is associated with an increased risk of pulmonary and cardiovascular complications. Therefore, recent studies recommend a preoperative evaluation of diffusing ca-

pacity for carbon monoxide (DLCO) and forced expiratory volume in 1s (FEV1). DLCO evaluation and its predicted postoperative value (ppoDLCO) constitute parameters that are independent from lung volumes and allow an assessment of the alveolocapillary membrane integrity. Therefore, they seem to be more sensitive than FEV1 as markers of postoperative risk, especially in patients with preexistent pulmonary pathology.
Methods: We conducted a retrospective observational study that included patients admitted to the thoracic surgery ward and submitted to major pulmonary resection surgery from the 1st of March to the 30th of April at our hospital. ppoDLCO was estimated (anatomical method) and according to the results, the patients were divided into two groups (ppoDLCO > 60% and ppoDLCO 30-60%). The aim of this study was to assess the relationship between each group and both the mean length of stay and the ratio of cardiopulmonary postoperative complications during hospital stay. Statistical analysis was performed using SPSS® 28.0.
Results: During the abovementioned period, 33 patients underwent anatomic lung resection surgery (28 lobectomies, 3 trisegmentectomies and 2 bilobectomies) due to oncologic disorders. Most procedures were done through video-assisted thoracoscopic surgery (VATS) (51,5%; n = 17). 60,6% of patients were women (n = 20) and the mean age was 62,2 ± 10,7 years old. 33,4% had previously diagnosed cardiopulmonary disorders (18,2% COPD). 70% were smokers/ex-smokers. 57,6% (n = 19) of patients had a ppoDLCO between 30-60% and 42,4% (n = 14) > 60%. The ratio of postoperative complications during hospital stay was higher in the lower ppoDLCO group (morbidity: 47,4%; mortality: 5,3%) compared to the higher ppoDLCO group (morbidity: 7,1%; mortality: 0%) (p = 0,021). The most common cardiopulmonary postoperative complications were prolonged air leak (12,1%; n = 4), type 1 respiratory failure (6,1%; n = 2) and pneumonia (6,1%; n = 2). Mean length of hospital stay was 14 ± 13,4 days in the group with a ppoDLCO of 30-60% and 7,9 ± 1,6 days in ppoDLCO > 60% group.
Conclusions: Though limited by a small study group, our study highlights the importance of ppoDLCO as a morbidity and prognostic marker in the preoperative evaluation of lung resection candidates, which is in line to what has previously been described in the literature. Most studies have concluded that ppoDLCO is independent from preoperative lung volumes, making it an essential tool for the estimation of postoperative risk. Patients with a ppoDLCO < 60% have increased risk of postoperative complications, making individualized preoperative evaluation, which might include other lung function tests, such as cardiopulmonary exercise test, indispensable.

Keywords: *Lung resection surgery. ppoDLCO. Morbidity. Postoperative risk.*

PE 099. OVERLAP OF GRANULOMATOSIS WITH POLYANGIITIS IN A PATIENT WITH RHEUMATOID ARTHRITIS - A CASE REPORT

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Introduction: Granulomatosis with polyangiitis (GPA), more frequently called Wegener's Granulomatosis, is a necrotizing vasculitis predominantly affecting small-calibre arteries, included in the group of vasculitis associated with antineutrophil cytoplasmic antibody (ANCA). It mainly involves the upper and lower respiratory tracts as well as the kidneys, but may present in a multisystemic fashion. Rheumatoid arthritis (RA) is the most common connective tissue disease, affecting about 1% of the population worldwide. This group of pathologies often presents with pulmonary involvement. Despite having common features, GPA and RA are clinically and immunologically distinct conditions. Curiously, the coexistence of GPA and RA has been described in the literature, but it is a rare condition.
Case report: Male patient, 53 years old, Caucasian, professional activity in lift installation. Past medical history of RA (diagnosed in 2007), acute diverticulitis, thrombosis of the spleno-portal confluence and chronic bronchitis. Medicated with methotrexate until 2019, having stopped due to thrombocytopenia and started leflunomide. Ex-smoker for 14 years (30 UMA). Referred to the Pulmonology Department in 2013 for suspected pulmonary involvement in the context of AR. Initial Respiratory Functional Study (RFS) with carbon monoxide diffusing capacity (DLCO) of 58% (DLCO/VA 80%) and Thoracic Computed Tomography (CT) with some bilateral apical emphysematous bullae and mild bronchiectasis in the lower lobes, without other changes. The patient was followed up clinically, radiologically and with regard to pulmonary function. He always complained of chronic cough, with no other respiratory symptoms. In 2020, thoracic CT showed multiple nodular lesions in the right upper lobe, the largest with a stellate morphology, measuring 17.8 mm in diameter. EFR compatible with incipient obstruction of the small airways. ANCA negative. Subsequently, he underwent bronchofibroscopy, without any relevant alterations and Positron Emission Tomography (PET), which highlighted a nodular formation with spiculated contours (18 × 16 mm) with discrete uptake (SUVmax 1.5). A CT-guided transthoracic biopsy was performed, without signs of malignancy, followed by a surgical lung biopsy, which revealed the diagnosis of GPA.
Discussion: The authors present a case of APM, diagnosed 13 years after RA diagnosis and approximately one year after methotrexate suspension. The overlap of GPA in association with RA seems to be relatively rare, with few papers documenting this association in the literature review. A high degree of suspicion is required for this overlap syndrome in patients with a previous history of RA, especially in the case described, with ANCA negative. In fact, the authors also intend to alert to the possibility of ANCA negative in a patient with GPA, a situation that only occurs in about 10% of cases.

Keywords: *Granulomatosis with polyangiitis. Rheumatoid arthritis. Overlap. Negative ANCA.*

PE 100. PULMONARY AMYLOIDOSIS SECONDARY TO WALDENSTROM'S MACROGLOBULINEMIA - A CLINICAL CASE

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Case report: A 65-year-old male, baker and former smoker of 43 pack-year, with previous clinical history of atrial fibrillation for which he was hypocoagulated with dabigatran. He was being observed on the hematology consultation for a monoclonal peak IgM lambda, although asymptomatic at the time. He had no other previous known condition or usual medication. The patient presented episodes of hemoptoic cough during physical exertion, dyspnea and asthenia with one year of evolution, with no other symptoms such as fever, night sweats, weight loss or anorexia. His chest CT revealed symmetrical diffuse parenchymal micronodularity with basal predominance, with some confluence forming larger nodules. He was referred to the interstitial lung disease consultation for follow-up. On initial evaluation, he showed crackles on pulmonary auscultation and peripheral saturation of 93%, without other relevant alterations. Blood count, biochemistry and autoimmunity studies were normal, infectious serology and cultural tests were negative. On bronchoscopy, there were no macroscopic alterations, the BAL cytometry had inflammatory cells with polymorphonuclear predominance. Neoplastic cells search was negative, as well as the cultural tests. Subsequent transbronchial lung biopsy identified lymphocytic alveolitis (30% lymphocytes with a CD4/CD8 ratio: 6.5). The patient presented progressive worsening of dyspnea despite

initiation of corticosteroid therapy, as well as worsening of respiratory function tests. The case was discussed at a multidisciplinary meeting, where it was decided to perform a surgical lung biopsy. The histological analysis revealed the presence of subpleural and interstitial nodules of amorphous substance positive with Congo Red staining, compatible with amyloid deposition. Subsequently, systemic involvement of amyloidosis was excluded through salivary gland and abdominal fat biopsies, as well as through cardiac and renal function studies. In a subsequent discussion with hematology, the diagnosis of Waldenstrom's Macroglobulinemia was assumed, and targeted therapy was initiated.

Discussion: Amyloidosis is characterized by the deposition of insoluble proteins or protein fragments in a localized or systemic manner. The most frequent subtype is light chain (AL) amyloidosis, associated with pathologies that involve plasma cell dyscrasias. Another known subtype is reactive amyloidosis (AA), in which amyloid deposition occurs following chronic inflammatory, infectious, or tumor-associated processes. Lung deposition of amyloid can occur according to two patterns: the most common is nodular parenchymal amyloidosis, but there´s also the diffuse parenchymal pattern, which is less frequent and more associated with progressive dyspnea and cough. After identifying the pulmonary deposition of amyloid, it is necessary to exclude chronic inflammatory and/or infectious processes that could justify the presence of secondary amyloidosis (AA). Only after excluding other etiologies is it possible to admit that interstitial amyloidosis is secondary to the hematologic disease. This case illustrates the importance of multidisciplinary meetings in the diagnostic approach of diffuse lung diseases.

***Keywords**: Hemoptysis. Amyloidosis. Surgical lung biopsy. Waldenstrom macroglobulinemia. Lung interstitium.*

PE 101. PLEURAL INVOLVEMENT IN IGG4-RELATED DISEASE: REPORT OF A CLINICAL CASE

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Introduction: IgG4-related disease is a systemic immune-mediated condition characterized by a diffuse infiltration of IgG4-positive plasma-cells in target-organs. It is most often diagnosed in middle-aged male patients. Thoracic manifestations may occur in up to 50% of patients. Interstitial, mediastinal, airway and pleural involvement can be encountered. The prevalence of pleural involvement varies between 5 and 16%, possibly presenting as pleural effusion, pleural nodes or pleural thickening. Patients are predominantly asymptomatic, but may present with unspecific symptoms such as dyspnea, cough, hemoptysis or thoracic pain.

Case report: We present the case of a 49-year-old male, current smoker (38 pack-year). He was employed as a driver. No asbestos exposure was identified. He reported no significant medical diagnosis and no routine medication. He had known history of two Community Acquired Pneumonia episodes in 2019, none requiring hospitalization, after which he was referred for follow-up in Pneumology. The patient disclosed no symptoms and physical examination was unremarkable. A Thoracic CT ordered in September 2021 identified a diffuse right pleural thickening, as well as an 80 × 47 × 21 mm paravertebral, infracarinal area of coarse nodularity, with no cleavage plane with the pleural surface or the thoracic aorta. Right middle and lower lobe cylindrical bronchiectasis were also evident; no adenomegalies were documented. Thereafter, in January 2022, he underwent PET-CT that revealed an increased metabolic uptake in the anterior (SUV 4.42), posterior and lateroaortic (SUV 4.42) right pleural surfaces. No other suspicious lesions were identified. The case was discussed in Lung Cancer Multidisciplinary Team setting and the patient was recommended for Transthoracic Biopsy of the identified enhancing lesions, which he was submitted to in February 2022. Histopathology evaluation noted the presence of pleural fibrosis and a lymphoplasmacytic infiltrate. Immunohistochemistry documented a 50% IgG4+/IgG+ ratio and the identification of over 10 IgG4+ plasma cells per high-power field, supporting the diagnosis of IgG4-related disease. In laboratory analysis, serum IgG4 levels were within reference range; workup was otherwise unremarkable. The case was then discussed in Interstitial Disease Multidisciplinary Team setting – an IgG4-related Disease diagnosis was admitted. The patient was initiated on corticosteroids (50 mg Prednisolone, with a subsequent tapering scheme). Follow-up Thoracic CT in August 2022 showed favourable evolution, with stability of pleural thickening and resolution of the previously documented paravertebral coarse nodularity pattern.

Discussion: Pleural involvement in IgG4-related Disease, although infrequent, should be considered for the differential diagnosis of identified pleural nodules and pleural thickening. A discussion in Multidisciplinary Meeting setting is crucial to the correct diagnosis and management of these patients.

***Keywords**: Pleural nodules. IgG4-related disease.*

PE 102. PULMONARY ASPERGILLOMA: 10+ YEARS' EXPERIENCE WITH SURGICAL TREATMENT

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Introduction: Aspergilloma consists of a cavity or bronchiectatic airway filled with hyphae, cellular debris, mucus, fibrin, and blood, with important clinical implications.[1] Aspergillomas are firmly associated with personal history of pulmonary tuberculosis, due to the residual cavities within which Aspergillus grows.2 Given the historical relatively high incidence of tuberculosis in Portugal, the analysis of our experience with aspergilloma and its surgical management becomes quite relevant. Surgical resection is well established as the effective long-term treatment, however associated with a high rate of peri and postoperative complications.

Objectives: Characterization of the population of patients with a diagnosis of pulmonary aspergilloma and their surgical management in a tertiary center over 10+ years, and evaluation of post-operative complications and prognostic factors.

Methods: Retrospective analysis of 21 patients with a diagnosis of pulmonary aspergilloma who underwent surgery in a tertiary center from January 2011 to June 2022.

Results: The study included 21 patients (13 men; 8 women) with a mean age of 55.6 + 14.1 years. Of them, 29% were smokers or ex-smokers, and 47,6% had a previous history of tuberculosis. The most common presentation was hemoptysis (66.6%). Most patients had a complex aspergilloma (76.2%) and 23.8% a simple aspergilloma. Lobectomy was the most frequent surgical procedure and was performed in 47.6% of patients (bilobectomy in 30% of them), and all procedures were open surgery. No thoracoscopic approach were performed. Postoperative complications occurred in 28.6% of patients, and the most frequent was pneumothorax with persistent air leak (19% of patients). There were no perioperative deaths. The mean follow-up time was 56.3 months (1-135) and the 5 years mortality rate of 38.1%. Of them, 3 patients died because of non-related causes.

Conclusions: The most common surgical procedure performed was open surgery lobectomy. The postoperative complications rate was similar to previous studies. Although a potentially deleterious procedure, surgical treatment for both simple and complex aspergilloma could achieve satisfactory long-term outcomes in selected groups of patients.

***Keywords**: Aspergilloma. Lung infection. Pulmonary resection.*

PE 103. CUT-OFF SCORES OF THE MMRC AND CAT TO PREDICT SHORT-TERM EXACERBATIONS IN PEOPLE WITH COPD

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Introduction: Research on prediction and prevention of acute exacerbations in people with chronic obstructive pulmonary disease (AECOPD) has become a priority since these events are frequent and have a negative impact on health status and disease progression. Dyspnoea and poor health status, which can be assessed with the modified Medical Research Council dyspnoea questionnaire (mMRC) and the COPD assessment test (CAT), respectively, have been associated with an increased risk of AECOPD. Cut-off scores for prediction of AECOPD are, however, lacking for use in clinical practice.
Objectives: To identify the cut-off scores of the mMRC and the CAT for determining risk of an AECOPD in the subsequent month.
Methods: An observational, prospective study was conducted in people with COPD. At inclusion, people with COPD had to be clinically stable for at least 1 month, i.e., no hospital admissions, AECOPD or changes in respiratory medication in the last month. Age, sex and lung function were collected cross-sectionally, at baseline, and participants were followed monthly for six months. Follow-up assessments included the mMRC, the CAT and the occurrence of an AECOPD in the previous month. Differences between people who suffered an AECOPD and those who did not suffer an AECOPD were explored with independent t-tests. Receiver operating characteristic analysis was performed and the area under the curve (AUC), sensitivity, specificity and accuracy were calculated. The optimal cut-off points were identified by the highest Younden index.
Results: In total, 139 people with COPD (67.6 ± 8.8 years; 83.5% male; FEV1 53.6 ± 22.1% predicted) participated. From these, 35 (25.2%) suffered an AECOPD during follow-up. People suffering an AECOPD were older (70.3 ± 9.7 *vs.* 66.7 ± 8.3 years, p = 0.033) and had worse lung function (FEV1 43.3 ± 13.6 *vs.* 57.7 ± 23.2%predicted, p < 0.001) than participants who did not suffer an AECOPD. Cut-off scores of 1.5 for the mMRC (AUC = 0.67; 95%CI 0.57-0.76; 71.4% sensitivity; 53.8% specificity; accuracy = 0.58) and 16.5 for the CAT total score (AUC = 0.65; 95%CI 0.55-0.75; 45.7% sensitivity; 78.8% specificity; accuracy = 0.71) were found to discriminate between people who suffered or not an AECOPD in the subsequent month.
Conclusions: The mMRC and the CAT are simple questionnaires with an acceptable discriminative ability and good accuracy in predicting short-term AECOPD. Cut-off scores of 1.5 in the mMRC and 16.5 in the CAT total score may be used to help detecting people with COPD at an increased risk of suffering an AECOPD. The screening of these questionnaires in routine clinical appointments may support clinicians in identifying people at risk of an AECOPD and thus, possibly contribute to the implementation of timely cost-effective preventive strategies.

Keywords: *COPD. Exacerbation. Prediction. COPD assessment test. Modified Medical Research Council. Patient-reported outcome.*

PE 104. REAL-WORLD DATA TO CHARACTERIZE AND ESTIMATE THE PREVALENCE OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN AN UNSELECTED POPULATION

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Introduction: Worldwide, chronic obstructive pulmonary disease (COPD) is the third most common cause of death and it is among the top ten causes of disability-adjusted-life-years, constituting a major current and future health burden. Local studies are therefore needed to raise awareness of the burden of this disease and support strategic healthcare decision-making.
Objectives: This study aimed to characterize and determine the prevalence of COPD in a large non-selected population covered by a Health Local Unit.
Methods: This is a real-world, retrospective, observational, longitudinal study that analyzed secondary data from Unidade Local de Saúde de Matosinhos. Individuals who were at least 40 years old, with at least one electronic health record in 2021 and at least one appointment with a primary care physician in the last 3 years were included. The population was identified at the prevalent index date of 31st December 2021. COPD was defined based on the combination of three criteria: spirometry test reports, diagnosis codes (ICD-10 and ICPC-2) and medication prescription. Data regarding age, sex, smoking status, weight, height, lung function, exacerbations, comorbidities and COPD medication were used to characterize the prevalent population. Statistical analysis was performed using Apache Spark version 3.2.1 and R version 4.0.
Results: A population of 97 671 people was identified. Subjects' median age was 61 (IQR 22) years old and median BMI was 26.8 (IQR 6.2); 42.9% were male and 16.7% were smokers. Using the criteria for COPD diagnosis, a prevalence of 3.4% (n = 3 282) was found. In comparison with the general study population, patients with COPD were older (median age 71), more frequently male (69%), smokers (35%), and presented with a slightly lower BMI (26.2%). Moreover, COPD patients had a high burden of cardiovascular comorbidities (77.7% hypertension, 32.7% hypercholesterolemia, 32.0% type 2 diabetes, 12.8% heart failure and 10.2% ischaemic heart disease), as well as depression and anxiety (64.2%). Looking at the last 365 days, about ¼ of the patients had at least 2 exacerbations (moderate or severe) and about 40% had at least 1 exacerbation (19% moderate and 33% severe).
Conclusions: This study highlights a high burden of comorbidities in COPD patients and a history of frequent exacerbations in the last year, requiring timely treatment of COPD. The prevalence of COPD found was lower compared to the published literature (10.7-14%), which may be explained by the diagnostic criteria that were considered, the data source used, and the underdiagnosis of COPD in health systems.

Keywords: *Chronic obstructive pulmonary disease. Exacerbations. Treatment. Comorbidities. Prevalence. Real-world.*

PE 105. WHEN THE PROBLEMS START IN THE MOUTH – A CASE OF *PORPHYROMONAS GINGIVALIS*

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Introduction: Pleural empyema is a pleural infection, usually due to a preexisting lung infection. Its main etiological agents are *Streptococcus pneumoniae, Staphylococcus aureus*, gram-negative bacteria, mixed aerobic and anaerobic bacteria (in decreasing order of frequency).
Case report: We present a 75-year-old male, active smoker (CT 93 UMA) with a personal history of type 2 DM, hypertension, ischemic heart disease, and emphysema. He went to the ER due to a 3-day course of dyspnea with progressive worsening, accompanied by a productive cough with mucopurulent sputum and fever. He was apyretic, eupneic, and SpO2 95% with NO 0.5L/min in the ER. Pulmonary auscultation with decreased VM in the bases and bibasal fervors. Analytically, acute kidney injury, CRP elevation, and leukocytosis stood out. Chest radiograph with hypotransparency at the right base. A chest CT was performed, which showed signs of empyema on the right, in the lower middle topography, loculated

and with contrast uptake with diffuse thickening of the corresponding pleura - there were predominantly two sites: the lower predominant one measured 90 × 55 mm and the upper predominant one 76 × 44 mm, with short communication between them. Adjacent lung parenchyma with passive partial atelectasis of the corresponding right basal pyramid. Empirical antibiotic therapy was started with Amoxicillin/clavulanic acid and Azithromycin. Thoracentesis was performed with an output of 60 ccs of purulent fluid (chemical examination was impossible), showing septate effusion and thickened pleura on chest ultrasound. A small residual locus remained after drainage. Respiratory physiotherapy was started with lung expansion. Blood cultures, bacteriological sputum examination, and antigenuria for legionella and pneumococcus were negative. Pleural fluid with isolation in bacteriological examination in anaerobic *Porphyromonas gingivalis*, sensitive to Amoxicillin/clavulanic acid. Negative mycological examination and negative direct and cultural mycobacteriological examination. The patient had a favorable clinical and laboratory evolution during hospitalization. Chest CT was repeated at one month with volumetric reduction of the empyema location (with minimal posterior-inferior location); clear improvement in the areas of consolidation of the right lower lobe. Chest CT was repeated at three months, showing complete regression of the effusion and absence of consolidation. Clinically, the presence of dental caries and gingivitis is highlighted, which is admitted in the genesis of pulmonary infection. Stomatological treatment was recommended.

Discussion: *Porphyromonas gingivalis* is an anaerobic gram-negative bacterium common in periodontal disease, namely gingivitis. It is an agent present in the oral microbiome; however, it becomes pathological due to its virulence factors. This case is presented to highlight the host's condition's influence on the infectious etiology so that the clinician can adequately direct the therapy.

Keywords: *Empyema. Gingivitis.* Porphyromonas gingivalis.

PE 106. COMMUNITY-ACQUIRED *VERSUS* NOSOCOMIAL PNEUMONIA IN AN INTENSIVE CARE UNIT

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Introduction: Community-acquired pneumonia (CAP) is a prominent cause of mortality and morbidity with important clinical impact worldwide. On the other hand, hospital-acquired pneumonia is the most common infection in intensive care, with a mortality rate of 20%.

Objectives: The aim of this study was to analyze the differences between patients admitted with a main diagnosis of CAP *versus* Nosocomial Pneumonia to the Intensive Care Unit (ICU) of a Hospital Center during the year 2021.

Methods: A retrospective observational study including patients admitted to the ICU for pneumonia from January to December 2021. Patients with COVID-19 were excluded. IBM SPSS statistics 23 software was used for statistical analysis. Continuous variables were expressed as median and interquartile range (AIQ); categorical variables were expressed as frequency and percentage. Mann-Whitney's U test was used for the comparative analysis of continuous variables. Categorical variables were compared between groups using the chi-square test. The significance level was set as $p < 0.05$.

Results: Thirty-one patients were included, the majority male (64.5%, n = 20), with a mean age of 64 years (AIQ = 17); most were classified as previously having a high degree of prior autonomy (90.3%, n = 28). More than half of the patients were admitted to level 3 intensive care (58.1%). The infectious picture developed into sepsis (64.5%), with septic shock on admission in 29% of all cases. Most pneumonias in this sample were classified as community-acquired (71%, n = 22), with one pneumonia associated with tracheoesophageal fistula in a neoplastic patient and the rest assumed to be nosocomial (25.8%, n = 8). Nosocomial pneumonia was significantly associated ($p = 0.026$) with longer hospital stays; however, the length of stay of these patients in the ICU did not show significant differences when compared to patients with CAP ($p = 0.765$). This difference is related to longer hospital stays, as this group of patients had a greater number of days in the hospital prior to admission to intensive care, with statistical significance ($p = 0.001$). All patients with mortality during the ICU stay belonged to the group of patients whose pneumonia was acquired in the hospital ($p = 0.015$). When we compared in-hospital mortality of patients with CAP with those who contracted the infection in the hospital there were no significant differences ($p = 0.099$). In patients admitted to level 3 there was a more frequent need to escalate antibiotic therapy ($p = 0.026$). The causative agent for pneumonia was identified in 41.9% of cases, with multi-resistant microorganisms identified in only 6% of cases.

Conclusions: Pneumonia in intensive care is a frequent entity whose early diagnosis and treatment is imperative. In this study, the importance of the place where pneumonia is contracted is mirrored, with cases acquired in a hospital environment, usually in the context of prolonged hospitalization, resulting in a higher mortality rate in intensive care, without, however, presenting differences in hospital mortality in the present sample.

Keywords: *Community-Acquired Nosocomial Pneumonia. Intensive Care Unit.*

PE 107. SARCOIDOSIS... OR MAYBE NOT

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Introduction: Histoplasma capsulatum infection is often asymptomatic or self-limited. However, immunosuppressed patients or those at extremes of age are at higher risk of developing progressive disseminated histoplasmosis. Histoplasmosis is most common in Central and North America. Pulmonary histoplasmosis can sometimes be difficult to distinguish from sarcoidosis.

Case report: A 58-year-old man was followed in an internal medicine consultation for hepatosplenomegaly, with a predominance of splenomegaly, and elevation of liver enzymes. He is an ex-smoker for 2 years (45 pack years) with asthma since childhood under dual inhaler therapy with ICS/LABA. This is a patient who has frequent work-related travels to Indonesia and India. Tropical diseases such as leishmaniasis and malaria, as well as sphingolipidoses, were excluded. The liver biopsy was inconclusive. In hematology consultation, bone marrow biopsy revealed "sarcoidotic granuloma", but the patient refused diagnostic splenectomy. Due to 2 asthma exacerbations, high levels of angiotensin-converting enzyme (140 μg/L), and chest CT abnormalities, a pulmonology consultation was requested. Chest CT revealed "centrilobular emphysema in upper lobes; tree-in-bud and areas of densification in the upper left and right, middle and lower left lobes, with septal thickening" and plethysmography reveals moderately severe obstructive ventilatory alteration with positive bronchodilation test, air-trapping and a 43% DLCO. Asthma/COPD overlap was assumed, and a triple inhaler therapy (ICS/LABA/LAMA) was started. Given the suspicion of sarcoidosis and to exclude an infectious cause, a bronchoscopy was performed. It revealed a "lesion on the right vocal cord; five hard and white nodular lesions, measuring 5-10 mm, in the trachea and one nodular lesion in the left main bronchus, which were biopsied; bronchoalveolar lavage (BAL) was collected". The otorhinolaryngologist performed microsurgery with a CO2 laser for the excision of the right vocal cord lesion. The patient presented clinical worsening, with dyspnoea, fever, and desaturation, and was therefore hospitalized. Tracheal and right vocal cord biopsies, available in the

meantime, revealed: "necrotizing granulomas, with morphological and histochemical characteristics of fungal infection by Histoplasma". In the hospital, he completed 14 days of amphotericin with significant clinical improvement. He was discharged with itraconazole, having completed 13 months. Regression of chest CT changes, normalization of liver enzymology, and absence of asthma/COPD exacerbations were observed. A chronic progressive disseminated histoplasmosis with pulmonary, laryngeal, splenic, liver, and bone marrow involvement was assumed, maintaining follow-up in pulmonology and internal medicine consultations.
Discussion: This case depicts a less common presentation of disseminated chronic progressive histoplasmosis, as it occurs in a patient who is not at extremes of age and who is not immunosuppressed. Additionally, histoplasmosis is more common in Central and North America, although there are some endemic regions in India. In Europe, histoplasmosis is an uncommon diagnosis, which, associated with a non-specific clinical presentation, means that it is not often considered as part of the differential diagnosis.

***Keywords**: Histoplasmosis. Histoplasma. Amphotericin. Itraconazole. Fungal infection.*

PE 108. CHRONIC CAVITARY PULMONARY ASPERGILLOSIS

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Introduction: Chronic pulmonary aspergillosis (CPA) is a rare pulmonary disease affecting about 240,000 people in Europe. The most common form is chronic cavitary pulmonary aspergillosis (CCPA). When untreated, it may progress to chronic fibrosing pulmonary aspergillosis (CFPA). Less common manifestations of CPA are Aspergillus nodule and single aspergilloma. These entities can affect non-immunocompromised patients with prior or current lung disease, usually treated tuberculosis, presenting with significant pulmonary and/or systemic symptoms and elevation of inflammatory markers over at least 3 months.
Case report: The authors present the case of a 25-year-old African male, from Guinea-Bissau, non-smoker, previously treated for pulmonary tuberculosis in Guinea-Bissau in 2007, for 6 months. He was evacuated to Portugal in November 2020 to further evaluation of right pleuritic chest pain, dyspnea, and involuntary weight loss (6 kg) for 3 months. No further past medical illness, and no chronic medication. Laboratory tests: Hb 15.4 g/dL; Leucocytes 3,900/uL; Platelets 180,000/uL; ESR 26 mm; positive *Aspergillus precipitins*; negative *Aspergillus*-specific IgEs; negative serum Galactomannan antigen. The viral serologies for HIV, hepatitis B and C were negative. The direct sputum smear was negative for acid-fast bacillus. Lung function tests: Mixed ventilatory defect, with a predominance of moderately severe airway obstruction. Normal alveolo-capillary diffusing capacity for carbon monoxide. Computed tomography (CT) of the thorax: Pulmonary cavitation measuring 6 cm in the right upper lobe and other cavitated lesions in the upper part of the right lower lobe, with pericavitary infiltrates and bronchiectasis. The flexible bronchoscopy showed right upper lobe with atrophic mucosa and architectural distortion. The microbiology of the bronchial aspirate was positive for Aspergillus fumigatus. Galactomannan antigen in the bronchoalveolar lavage (BAL) was negative. Ziehl-Nielsen and culture of mycobacteria of the bronchial aspirate and BAL were negative. The histopathological examination of the bronchial biopsies presented unspecific chronic inflammatory infiltration of the respiratory mucosa. The diagnosis of CCPA was established and the patient was treated with voriconazole 200 mg 12/12h for 6 months, with clinical improvement of respiratory symptoms and weight gain (8 kg) in the 4 months follow-up. No clinical or laboratory toxicity due to antifungal therapy. As there was recurring respiratory and systemic symptoms and persistence of pericavitary infiltrates after suspending antifungal therapy at 6 months, it was decided to reintroduce antifungal therapy. The case was further discussed with Thoracic Surgery to evaluate the risk/benefit of surgical intervention in this case.
Discussion: This case aims to highlight the diagnosis of CPA as a potential complication of pulmonary tuberculosis or other pulmonary condition with structural destruction. It can affect non-immunocompromised patients with prior or current lung disease. The diagnosis is established in the presence of one or more pulmonary cavities, possibly containing one or more aspergillomas or irregular intraluminal material on chest CT, and serological or microbiological evidence implicating Aspergillus spp. over at least 3 months, in the absence of an alternative diagnosis. Long term antifungal therapy is recommended, as well as a close follow-up of these cases. Some presentations, such as single aspergillomas, may benefit from surgical resection.

***Keywords**: Chronic pulmonary aspergillosis. Tuberculosis. Aspergillus.*

PE 109. PULMONARY ACTINOMYCOSIS: A DIAGNOSTIC CHALLENGE

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Case report: A 68-year-old man started follow-up in an external medical consultation after a presentation of community-acquired pneumonia in November 2020. His past medical history consists of diabetes mellitus type II, arterial hypertension, overweigh and dyslipidemia, all of them controlled with targeted therapy. He was a smoker with a history of 70 pack-years. In April 2021 he performed a control thorax computed tomography (CT) that revealed an area of parenchymal consolidation in the anterior segment of the right upper lobe of the lung with numerous centrilobular micronodules with a morphology tree-in-bud. At this stage, the only symptom reported was anorexia, with no major findings on physical examination or respiratory insufficiency/hypoxemia. Laboratory tests showed a white blood cell count of 13,840/uL, hemoglobin levels of 14.4 g/dL, a platelet count of 220,000/uL, C-reaction protein levels of 18 mg/L, and an erythrocyte sedimentation rate of 58 mm. The patient underwent flexible bronchoscopy, which revealed a stenosis at the level of the anterior segment of the right upper lobe bronchus. Bronchoalveolar lavage aerobic cultures were negative, as well as cultures for mycobacteria. Transbronchial biopsy objectified the presence of occasional bacterial colonies that resembled Actinomyces species, despite negative culture results. The patient was started on oral treatment with amoxicillin (1,500 mg/day). Control CT at 7 weeks of treatment showed a clear dimensional increase in relation to the previous one with no clinical response, maintaining significant anorexia and increasing fatigue. At this point, the clinical and imaging progression of the condition despite targeted treatment raised concerns about the possibility of over infection or the presence of lung cancer and the patient was subsequently hospitalized. A transthoracic needle biopsy was performed: cultures were negative; histopathologic examination showed an exuberant inflammatory infiltrate with lymphoplasmacytic predominance, no signs of malignancy and a negative staining with Periodic acid-Schiff (PAS) and Ziehl-Neelsen. The patient was treated with intravenous amoxicillin and clavulanate (3,000 mg/day) for 2 weeks with remission of symptoms and laboratory improvement. After 2 more weeks of oral treatment the patient was discharged and CT control after 6 months of treatment revealed full resolution of the process with no recurrence of the symptoms.
Discussion: Actinomycosis is an uncommon, chronic and slowly progressive bacterial infection that it is cause by infection with Actinomyces species, a genus of Gram positive bacilli that mainly belong to the human commensal flora of oropharynx, gastrointestinal tract and urogenital tract. The peak incidence is reported to be in

the fourth and fifth decades of life and males are more often affected (3:1). Although this disease can affect numerous organs, the most common type is the cervicofacial actinomycosis, while the pulmonary form is the third most frequent type, accounting for approximately 15-20% of all cases of the disease. As its symptoms and radiological findings are often unspecific, pulmonary actinomycosis is a difficult condition to diagnose, leading to confusion with other diseases, such as tuberculosis, lung abscess or lung cancer.

Keywords: *Pulmonary actinomycosis. Diagnostic.* Actinomyces.

PE 110. CYTOMEGALOVIRUS INFECTION AND IMAGING VARIABILITY - REGARDING THREE CLINICAL CASES

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Introduction: The spectrum of cytomegalovirus (CMV) disease is broad and host-dependent, associating with high morbidity and mortality among immunosuppressed patients. The imaging translation of lung disease tends to be characteristic of inflammatory changes in depolished glass, but does not be consoned to these forms – as illustrated in the cases that present themselves.
Case reports: Case 1) A 65-year-old non-smoking woman with a history of Chronic Lymphocytic Leukemia (under Ibrutinib) and severe hypogammaglobulinemia, with complaints of productive cough and asthermia and thorax tingle, of traces and areas of fibrointerstitial densification, again, in the apical segment of the Right Upper Lobe (RUL). An endobronchial study was conducted, with identification of CMV DNA in BAL. Patient hospitalized over 25 days, under ganciclovir therapy, with clinical and imaging resolution. Case 2) Man, 70 years old, followed in oncology consultation by Gastric Adenocarcinoma (under chemotherapy), also having HTA, Dyslipidemia, Type 2 DM and Dysrhythmia as comorbidities, with imaging of cavitated lesion of thickened and irregular walls, again at the level of RUL, with no notion of associated clinic. Decided by performing videobronchofibroscopy, with all negative studies, except bronchial aspirated positive for CMV DNA. Also admitted at hospital level, with a favourable response to Ganciclovir. Case 3) Male, 80 years old, hospitalized in Pulmonology after identification of CMV in BAL performed during episodes of sputum emission with blood and Chest CT with dense areas, poorly defined, again, in the anterior segment of the RUL. He was a patient with a history of recurrent interstitial pneumonia and under systemic corticosteroid therapy for treatment of Bell's palsy on the left. Medicated with Ganciclovir, he improved clinically, but developed thrombocytopenia as a complication.
Discussion: The correct identification and timely intervention under potentially aggressive microorganisms is of paramount importance, so clinical suspicion should prevail even when imaging translation is not the most typical (as in the case of cavitate injury). The clinical cases presented are illustrative of the clinical and imaging variability to which CMV infection may be associated, especially in immunodepressed patients.

Keywords: *Cytomegalovirus. Interstitial changes. Cavitate lesion.*

PE 111. *CORYNEBACTERIUM STRIATUM*: TWO CLINICAL CASES OF THIS EMERGING MULTIDRUG-RESISTANT AND RESPIRATORY DISEASE PATHOGEN

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Introduction: *Corynebacterium striatum* is a non-diphtheric gram-positive, aerobic and facultative anaerobic bacillus. This bacterium is generally found as a commensal in the skin and nasopharynx of humans. In recent years, the frequency of *C. striatum* infections appears to be increasing. Advanced age, immunosuppression, long-term use of broad-spectrum antibiotics and prolonged hospitalization are established risk factors. Multidrug resistance is observed in 49% of *C. striatum* strains. Nevertheless, respiratory infections caused by this agent remain rare in clinical practice, usually associated with chronic conditions that cause structural lung damage.
Case reports: Case 1: a 72-year-old male with frequent bronchiectasis exacerbations and a recent diagnosis of rheumatoid arthritis, treated with salazopyrin. The patient was admitted in Intensive Care Unit because of a new respiratory exacerbation and Piperacillin-tazobactam was started. Computed Tomography (CT) demonstrated varicose bronchiectasis with mucus plugging and tree-in-bud pattern. In addition to *Staphylococcus aureus*, a *Corynebacterium striatum* resistant to vancomycin and only sensitive to linezolid were isolated in bronchoalveolar lavage. He responded and was discharged, at his basal status, to complete a 14-day course of linezolid. Case 2: a 58-year-old male with Chronic Obstructive Pulmonary Disease (COPD) GOLD 4D, chronic respiratory failure using ambulatory oxygen therapy and proposed for lung transplant. Prior sputum identification of *Pseudomonas aeruginosa* suggesting chronic colonization. Follow-up appointment with worsening dyspnea, cough and purulent sputum. CT demonstrated severe emphysema and diffuse infiltrates, predominantly in the right lung. Sputum culture yielded Corynebacterium striatum resistant to clindamycin, ciprofloxacin and penicillin; sensitive to rifampicin and vancomycin. Treatment was initiated in outpatient setting. The patient responded to a 14-day course of rifampicin.
Discussion: Most *C. striatum* respiratory infections occurs in immunocompromised patients or in immunocompetent who have impaired airway clearance and/or structural damage, including COPD and bronchiectasis as described. Organisms commonly co-isolated with *C. striatum* included *Pseudomonas aeruginosa* and *Staphylococcus aureus*, a relationship that was found in the cases above. Multidrug resistance was found in both antibiotic susceptibility tests, a characteristic of this agent. *C. striatum* has emerged as a multidrug-resistant pathogen. This should be taken into consideration before dismissing it as normal flora when isolated from certain patients.

Keywords: Corynebacterium striatum. *Multidrug-Resistant.*

PE 112. LUNG NODULE IN A PATIENT WITH ANCA-ASSOCIATED VASCULITIS

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Introduction: ANCA-associated vasculitis are necrotising, affect mainly small vessels and present variable clinical features, often with renal and pulmonary involvement. Their prognosis has greatly improved since the introduction of immunosuppressive therapy such as corticotherapy (CCT), rituximab or cyclophosphamide. However, the adverse effects of treatment are associated with morbidity, namely infectious complications which are currently the main cause of early mortality in these patients. The authors describe a case of a patient with ANCA-associated vasculitis with a pulmonary nodule and its unexpected diagnosis.
Case report: A 73-year-old woman, non-smoker, history of asthma beginning in adulthood, without documented atopy, controlled with triple inhaled medication. Personal history of hypertension, type 2 diabetes mellitus and ANCA MPO+ vasculitis with renal involvement confirmed by renal biopsy in 2020. Initially, she underwent induction therapy with CCT and rituximab, which was interrupted due to infectious complications. Currently medicated and controlled with prednisolone (5 mg/day). At the Pulmonology consultation in January/2022 presented dyspnea to great efforts (mMRC 1), without other respiratory or constitutional complaints. Functionally with

moderate restrictive ventilatory alteration [FVC 1.18 L/59.3% predicted; FEV1 0.86 L/53.4% predicted) and moderate DLCO defect (55% predicted). Thoracic HRCT highlighted diffuse mosaic pattern and a nodule in the anterior segment of the RUL, para-mediastinal with 19 × 14 mm, with dimensional increase compared to previous CT of February/2021. Transthoracic needle biopsy (TNB) was requested, whose anatomopathological analysis revealed pulmonary parenchyma with fibrous septa, without signs of malignancy. Given the high level of suspicion, a PET/CT was requested which showed marked glycolytic hypermetabolism of the nodule in the RUL (SUVmax = 7.1), without other foci of anomalous uptake. The TNB was repeated, with evidence of necrotic areas and numerous *Aspergillus* fungal structures. A bronchofibroscopy with BAL was performed, with confirmation of fungal hyphae in the cytological analysis and negative galactomannan antigen. In the cytoimmunological study, the differential cell count revealed lymphocytosis (24.8%) and neutrophilia (7.2%). The investigation of hemosiderin in the cytoplasm of macrophages by Pearls staining was positive, with a Golde score of 151, compatible with moderate alveolar hemorrhage. Serum IgG for *A. fumigatus* was 12 mGA/L. Given the absence of clinical worsening and the presence of fungal hyphae, the diagnosis of an Aspergillus nodule was assumed and treatment with voriconazole (200 mg bid) was started. Considering the previous history of infectious complications with immunosuppressive therapy and the clinical stability, it was decided in a multidisciplinary meeting of autoimmune diseases to adopt a conservative attitude for pulmonary involvement by vasculitis. After 2 months of antifungal therapy there was a radiological improvement, with reduction in the para-mediastinal nodule size.

Discussion: *Aspergillus* nodules are a manifestation of chronic pulmonary aspergillosis and typically affect immunocompetent individuals. They may be single or multiple, with or without cavitation. With this case the authors intend to alert to the importance of early diagnosis, taking into account the range of differential diagnoses of pulmonary nodules in immunocompetent patients.

Keywords: *Aspergillus. Vasculitis. Imunossupression. Nodule.*

PE 113. THE PNEUMONIA THAT COMPLICATED WITH TWO VOWELS

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Introduction: Although most patients with community acquired pneumonia recover with antibiotic therapy, some cases can progress and develop complications. As far as loculated infections, such as empyema and pulmonary abscess, the following risk factors are considered: aspiration, alcohol and tobacco.

Case report: 51-year-old male, construction worker, habits: active smoker, chronic alcoholism. He went to the Emergency Service with 1 month of productive cough, mucus-purulent sputum and clinical worsening in the last 15 days, characterized by: chest pain in the right side, with pleuritic characteristics; asthenia, anorexia, and weight loss. Stand out in the objective exam: hyperthermia; decreased transmission of vocal vibrations, dullness and abolition of breath sounds in the lower 2/3 of the right hemithorax. Still in the Emergency Department, the complementary diagnostic tests point out: a significant increase in inflammatory parameters; radiologically: a rounded lesion, on the upper floor of the right lung field, with air-fluid level and 5 centimeters of greatest axis; opacity in the lower 2/3 on the right, with effacement of ipsilateral diaphragmatic dome. Towards these findings and assuming a complicated parapneumonic pleural effusion, a chest computed tomography (CT) scan was requested, which showed: a dense cavitated area, with an air-fluid level on the right; a massive right pleural effusion; small nodular formations in the right upper lobe, infra-centimetric and multiple mediastinal adenopathy's. Then, an eco-guided thoracentesis was performed, with drainage of fluid, serous content, with characteristics compatible with exudate. Hospitalization was chosen, assuming: complicated parapneumonic effusion and pulmonary abscess. It should be noted that he promptly started empirical antibiotic therapy, but had previously performed: blood cultures; urinary antigen tests; microbiological examination of sputum and pleural fluid; whose result was negative, except for the isolation of a *Haemophilus influenzae* in sputum. On the 12th day of hospitalization, due to the persistence of fever and radiological worsening, the hypothesis of empyema emerged. Therefore, a thoracocentesis was performed, with the output of pus and pleural fluid with the following characteristics: pH < 7.20; glucose < 40 mg/dL, predominance of polymorphonuclear cells. In this context, a chest drain was placed, with drainage of thick, purulent content, and the case was presented to the Thoracic Surgery Service (TSS), which suggested imaging re-evaluation, after 4 weeks of antibiotic, to determine the need for a surgical approach. In the following days, maintaining the initial antibiotic and respiratory kinesiotherapy, there was a progressive clinical, laboratory and radiological improvement. As previously decided, imaging control was repeated at 28 days of meropenem. The TSS was contacted again, which agreed that, given the evident clinical and radiological improvement, medical treatment could be extended, and chest CT repeated within a month. The patient was discharged after 40 days of meropenem, being referred to the Pulmonology appointment.

Discussion: With this case, we intend to highlight the importance of early initiation of antibiotic therapy and other fundamental non-pharmacological measures in the therapeutic success and prognosis of these patients. It should be noted that, only about 10% of cases require surgical resection, after a prolonged course of antibiotic.

Keywords: *Pleural effusion. Empyema. Pulmonary abscess. Respiratory kinesiotherapy.*

PE 114. TRENDS IN MRSA ISOLATION IN BRONCHIAL ASPIRATE

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Introduction: Methicillin-resistant *Staphylococcus aureus* (MRSA) isolation has been decreasing in Europe in the last decade. Despite this trend, in our hospital in the period between 2010 to 2013 there was an increase. We aimed to compare the MRSA isolation rate in bronchial aspirates from 2018 to 2021 with the same period 8 years prior and analyse the relationship between risk factors for MRSA and its isolation in our population.

Methods: Comparative retrospective study from October/2018 to October/2021 and the same period in 2010-2013. All bronchial aspirates of our Broncology Unit were evaluated, selecting patients with MRSA isolation and their clinical information.

Results: From 2018-2021, 579 bronchial aspirates (520 patients) were obtained (*vs.* 544 from 2010-2013). At least one microorganism was isolated in 103 patients (17.5%), 16 of these (2.8%) were MRSA (*vs.* 12.3% from 2010-2013). In the 2018-2021 MRSA group 68.8% were male, mean age of 83.3 ± 9.0 yrs (no significant demographic differences were found from 2010-2013). Despite the increasing tendency of MRSA isolation in 2010-2013, in 2018-2021 the isolation of MRSA is decreasing each year, being the lowest in 2021 (1.1%). Through logistic regression we analysed the relationship between risk factors for MRSA (antibioterapy/admission in the last 3 months and being in a nursing home) and its isolation, verifying that in our population the most strongly associated risk factor was being in a nursing home (p = 0.004; OR = 9.245).

Conclusions: We verified a significant reduction in MRSA isolation rate in our hospital compared with the earlier period, which is in

line with the trends seen in Europe. In addition, in our population there is a strong correlation between MRSA isolation and its known risk factors, particularly being in a nursing home.

Keywords: *MRSA. Bronchial Aspirate. Nursing Home.*

PE 115. WHEN AN INFECTION DOESN'T COME ALONE

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Introduction: Actinomyces are predominantly anaerobic, gram-positive bacteria often found in the oral cavity. These are usually responsible for dental caries/periodontitis, but sporadically they can result in other infections such as pulmonary actinomycosis. Pulmonary actinomycosis has no specific clinical manifestations and may present with low-grade fever, weight loss, fatigue, expectoration, or dyspnea. Neither has characteristic radiological manifestations being possible presence of cavitations, consolidations, masses or pleural effusion. Given the clinical/imaging mimicry of other more frequent diseases such as tuberculosis/lung cancer, in addition to the difficulty in isolating these bacteria through microbiological examination of sputum, the diagnosis of this pathology is often delayed.
Case report: Female, 27 years old, born in Brazil, living in Portugal for 2 years. Smoker (6 pack-year). She presented a history of drug hypersensitivity to sulfonamides, and contact with a person suspected of having tuberculosis 2 years before, without screening. Observed in a Pulmonology Consultation, for a month-long cough associated with scanty sputum, fever and night sweats for 4 days, with no improvement after antibiotic therapy (amoxicillin-clavulanic acid). Objectively, the presence of dental caries and auscultation with left diminished vesicular murmur and homolateral subcrepitant rales were highlighted. She had elevation of inflammatory parameters (sedimentation rate 51 and CRP 11) and viral serology - HIV and hepatitis B and C were negative. Antigenuria for *pneumococci* and *Legionella* also negative. Computed tomography scan of the chest revealed thickened wall cavitation in the left upper lobe (LUL) and multifocal ground-glass densification with bronchiolar filling and bilateral multifocal areas of consolidation. The suspicion of cavitated pulmonary tuberculosis with bronchogenic dissemination required diagnostic videobronchofibroscopy (VBF) under light sedation, which was not tolerated. Due to hypoxemic respiratory failure, she was admitted to a respiratory isolation unit and antibiotic therapy was started, namely azithromycin and piperacillin-tazobactam, with slight clinical/laboratory improvement, maintaining a subfebrile thermal profile. VBF under general anesthesia revealed enlargement of the LUL spur with a detachable whitish plaque, mucopurulent secretions and bronchial mucosa with inflammatory signs, particularly in the LUL. Bronchial washing (BW) of the LUL, bronchoalveolar lavage (BAL) at the lingula level and bronchial biopsies (BB) of the LUL spur and iterative at the level of this lobe were performed. Acid-fast bacilli and PCR for *M. tuberculosis* were positive in the BW; and in the cultural bacteriological examination, *Actinomyces odontolyticus* was isolated in BAL and BB. Diagnoses of pulmonary tuberculosis (later confirmed in cultural examination), molecular test without rifampicin resistance, with concomitant pulmonary actinomycosis were assumed. She started HRZE with tolerance, and antibiotic therapy – high dose Penicillin G. After starting this treatment, there was gradual clinical, laboratory and imaging improvement.
Discussion: The recommended treatment for pulmonary actinomycosis includes antibiotic therapy namely high dose intravenous penicillin for 2-6 weeks, followed by oral penicillin V/amoxicillin for a further 6-12 months. Pulmonary actinomycosis is difficult to distinguish from tuberculosis and neoplasia, both clinically and radiographically. The authors therefore intend to raise awareness of this rare and often overlooked infection, as its early diagnosis and adequate treatment are crucial to improve the prognosis and avoid unnecessary surgeries.

Keywords: *Actinomycosis. Tuberculosis. Pulmonary infections.*

PE 116. PULMONARY MASS ON A CHEST X-RAY: AN UNUSUAL SYSTEMIC HOST

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Introduction: Human Echinococcosis or hydatic disease is a rare parasitic infection most commonly associated with *Echinoccocus granulosus*. Humans are an accidental host and the infection is mainly caused by close contact with dogs. It can be asymptomatic in most cases and the lung and liver are the organs typically affected. Surgical removal of the cysts is the preferential treatment, if technically possible.
Case report: We present the case of a 24 years old man, autonomous, native from India and working on construction. There was no previous relevant medical history and the patient didn't take any daily medication. The patient went to the emergency department due to a left chest pain that had started 3 days before and that aggravated with ventilatory movements. The symptoms were worse during dawn and early morning. He denied fever, cough, or recent chest trauma. On admission and clinical observation, the patient was vigil, oriented and with normal vital signs. Both cardiac and pulmonary auscultation were innocent, and he had no abdominal pain or peripheral edema. Blood analysis showed an augmented c-reactive protein (97.5 mg/L) and a discrete hyperkalemia. From the complementary diagnostic exams performed, the chest X-ray documented a pulmonary mass of big dimensions, with intermediate density, projected to the lower third of the left lung field. Due to the clinical, laboratorial and radiological nonspecificity, it was necessary to complement the investigation with a chest CT (computerized tomography). The chest CT identified a well delimited cystic formation, with thickened walls, measuring approximately 72 × 46 mm on the axial plan, and with a surrounding parenchymal consolidation. Moreover, there was an identical cystic lesion on the left lobe of the liver, measuring approximately 63 × 38 mm. Both lesions had no calcifications. Although these imagiological findings are nonspecific, active systemic hydatidosis is an entity that should be considered in this clinical context. The patient was hospitalized for further investigation, presenting positive anti-Echinococcus antibodies, with a significant title (1/640), which supported the initial presumptive diagnosis of systemic echinococcosis. Due to the systemic dissemination classically associated to this disease, a brain CT was also performed, which excluded central nervous system implication. The patient started to be treated with albendazol and remained clinically stable. A Magnetic Resonance for revaluation was performed and both lesions were morphologically stable when compared to the initial evaluation and maintaining the same dimensions.
Discussion: This case seeks to highlight an atypical presentation of echinococcosis, as this patient symptoms were acute and a pulmonary mass was found on the initial chest X-ray. A thoracoabdominal CT should be the next step to undertake in the clinical investigation of such cases because it can suggest the diagnosis and exclude lesions in other organs (especially the liver), but it also detects possible complications, namely rupture of the hydatic cysts.

Keywords: *Pulmonary mass. Systemic hydatidosis. Hydatid cyst. Systemic.*

PE 117. PULMONARY SUBMERSION: ALMOST FATAL SYNCOPE

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Introduction: Non fatal drowning can be defined as survival, at least temporary, to the aspiration of fluids into the lung. Non cardiogenic acute pulmonary edema is identified by radiographic evidence of alveolar fluid accumulation, without hemodynamic evidence that suggest cardiogenic etiology. Syncope is a transitory loss of consciousness, caused by an inadequate and time-limited nutritional cerebral flow. Aspiration pneumonia occurs by the act of taking foreign material into the lungs, like gastric content, foreign bodies or aspiration of bacteria from oral or pharyngeal areas. The interest to detail this specific case comes from the tremendous consequences related to a very common event (syncope).
Case report: Male, 73 years old, independent on everyday life activities. From previous illnesses, worth taking note of dementia followed by a neurologist. Brought to the emergency room after a syncope that happened on a biologic pool, having been submerged for minutes before being rescued by friends. He remained unconscious after being taken out of the pool, was put in lateral safe position and regained consciousness. His vital signs were monitored after the event. Three hours later, he developed difficult breathing with tremors and hyperthermia, so he was transported to the emergency room. In the emergency room he presented with dyspnea, type 1 respiratory failure (Ratio PaO2/FiO2 232), a necessity of supplementary oxygen (FiO2 32%) and hyperthermia (38,6 ºC). On the blood work he had no elevation of inflammatory parameters. On the X-ray there was evidence of bilateral infiltrates and perihilar reinforcement, so a thoracic CT-scan was made, showing "extensive ground glass consolidations on every pulmonary lobe". Attending to analytical and imagiological evidence, the diagnostic of acute pulmonary edema after non-fatal drowning in a biological pool was made, so treatment with antibiotic and diuretic therapy was started. He stayed 6 days in the hospital, completing 6 days of ceftriaxone and furosemide with clinic and blood evidence of improvement. The respiratory failure was solved after needing oxygen for a few days. During the hospital stay, the cause of syncope was investigated without any conclusive results, so it was assumed has a vasovagal syncope. He went home with oral amoxicillin/clavulanate and furosemide and was evaluated after a week, showing no symptoms or other clinical evidence of infection or remaining fluid in the lungs.
Discussion: This was a very interesting case because a vasovagal syncope generated a submersion in a biological pool and, consequently, an acute pulmonary edema associated with an aspiration pneumonia.

Keywords: *Acute pulmonary edema. Drowning. Pneumonitis. Aspiration.*

PE 118. A DIFFERENT STRATEGY FOR A CANDIDA ALBICANS LUNG ABSCESS IN A PATIENT UNDERGOING CHEMOTHERAPY

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Introduction: Lung abscesses often have a polymicrobial aetiology. Fungal abscesses are uncommon and frequently associated with immunosuppressed state as in the case of active oncologic disease and concomitant systemic chemotherapy. Secondary prophylaxis with antifungals does not yet have a solid evidence.
Case report: We report the case of a 79-year-old man with previous medical history of gastric adenocarcinoma with peritoneal metastases undergoing chemotherapy with capecitabine alone after discontinuation of oxaliplatin due to ototoxicity. He went to the emergency department complaining of a week of cough with mucopurulent sputum, right pleuritic pain and dyspnoea. Patient had no fever or chills. In the initial evaluation we identified hypoxemia, decreased breath sounds on the right hemithorax and oedema of the lower limbs. We have identified an increase in inflammatory parameters (C-Reactive Protein 287.1 mg/L) and the chest radiograph showed an opacification on the right hemithorax. A computed tomography (CT) scan of the thorax was performed: cavitations in the right upper lobe and consolidation of the middle lobe were documented. Empirical piperacillin-tazobactam was initiated and the patient was hospitalized. Bronchoscopy and bronchoalveolar lavage were performed but no relevant findings were found. Due to clinical deterioration on the 3rd day of hospitalization, it was decided to suspend piperacillin-tazobactam and initiate meropenem and linezolid. A CT scan was repeated, which identified scattered alveolar infiltrates on the right side, lung abscess in the middle lobe, a minimal alveolar-pleural fistula and a small empyema. Due to the high surgical risk, a CT-guided placement of an 8.5 Fr Pigtail drain was performed. A purulent fluid was documented with isolation of Candida albicans and Gram-positive Cocos. Fluconazole (400 mg/day) was introduced, and it was decided to suspend meropenem and restart piperacillin-tazobactam. A re-discussion was carried out with Thoracic Surgery: after estimating the volume of the abscess by CT analysis, daily instillations of 20 mL of hypochlorous acid and sodium hypochlorite (Microdacyn®) were started through the drainage system. After 10 days of successful instillations and no further relevant daily drainage, the drain was removed. Patient completed 21 days of antibiotic therapy. Given the favourable clinical, analytical and radiological improvement, the patient was discharged to the outpatient clinic under a fluconazole regimen for 6 weeks. Owing to the improvement of its Performance Status, in a joint discussion with Oncology, it was decided to restart palliative chemotherapy with capecitabine alongside a secondary prophylaxis with fluconazole (100 mg/day) during the chemotherapy cycles performed. Recurrence of the fungal infection was not documented. On CT revaluation patient maintained sequelae changes only. The patient died 9 months after due to the progression of the underlying oncological disease.
Discussion: Antifungal and antibiotic therapy are both indicated given the common polymicrobial aetiology of lung abscesses. CT-guided drainage minimizes iatrogenic risk and allows for a minimal invasive approach in high surgical risk patients. Therapy with fluconazole as secondary prophylaxis proved to be safe in this situation and allowed concomitant palliative chemotherapy without recurrence of the fungal infection. However, further studies are needed to validate it.

Keywords: *Abscess. Oncology. Immunossupresion. Antifungal.*

PE 119. FEBRE QUÊ?

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Introduction: Pneumonia caused by atypical agents are characterized by the difficult isolation of pathogenic agents, which are not detectable with gram staining and are difficult to cultivate. The etiologic diagnosis is challenging but important in sustained clinical conditions.
Case report: A 49-year-old female, architect and former smoker, that resided near a livestock farm, presented with persistent fever and frontal headache of five days duration, with no respiratory complaints. No significant changes were observed on physical examination, except hypoxemia. Thoracic teleradiography showed a triangular hypotransparency, of external base, in the middle third of the left

hemithorax, resembling a loculated pleural effusion. The elevation of CRP stands out, although without changes in the leukogram. The combined swab for SARS-CoV-2, Influenza A and B and RSV was negative, as was the microbiological study of sputum, two blood cultures and antigenuria for Legionella and *S. pneumoniae*. Empyema was hypothesized and empirical antibiotic therapy was started with Piperacillin/Tazobactam. Later, a CT scan showed extensive parenchymal consolidation of the LSE, with an air bronchogram, translating lobar pneumonia. Due to a lack of improvement, azithromycin was added and, later, linezolid was also started. New blood cultures and sputum cultures, BF with AB and bronchial washes directed to the BLSE, with a search for aerobic and anaerobic bacteria, BK, mycoplasma, *Legionella, P. jiroveccii* and CMV, were negative; serologies for *Legionella, Aspergillus, Chlamydophila psittaci, Echovirus* and *Leptospira*, were also negative, as well as *C. neoformans* antigen screening and rose Bengal test. Simultaneously, serologies were obtained for *Coxiella burnettii*, with phase II antibody titers compatible with acute Q fever. Having already finished the antibiotic therapy, without clinical resolution, doxycycline was introduced, with clear clinical, analytical and radiological improvement.

Discussion: This was a challenging case of a patient with atypical lobar pneumonia caused by *Coxiella*. Acute Q fever can present in different ways, from asymptomatic to a prolonged febrile syndrome, to pulmonary involvement by alveolar infiltrates of lobar distribution, although these tend to be located in the lower lobes. The definitive diagnosis of Q fever based only on clinical aspects is virtually impossible, requiring laboratory confirmation by direct identification, cultural or through compatible serology, to adjust the antibiotic therapy.

Keywords: *Pneumonia. Atypical pneumonia. Coxiella burnetti. Q Fever.*