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"UPDATES IN DIAGNOSTIC AND TREATMENT OF RESPIRATORY DISEASES"

July 4-5, 2019

Tîrgu Mureș, Romania

BOOK OF ABSTRACTS

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“Updates in diagnostic and treatment of respiratory diseases”

July 4-5, 2019, Tîrgu Mureș, Romania

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POLYGRAPHY FOR SLEEP APNEA DIAGNOSIS AND TREATMENT IN PULMONOLOGY CLINIC 2017/2019

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Introduction: Sleep apnea (SA) is a well-known frequent disease with early complications: cardio-vascular diseases, diabetes, dyslipidemia, sexual dysfunction, social isolation, cognitive decline, traffic accidents. Cardiorespiratory poligraphy (PG) is an easy performing investigation for obstructive SA (OSA). PG has to be performed in all patients with risk factors and symptoms for OSA (snoring, obesity, alcohol consume, diurnal somnolence, lack of energy) and above mentioned complications.

Purpose and Method: Analyze of the diagnosis by PG in Pulmonology Clinic (2017-2019).

Results: 205 patients were investigated by PG in our Sleep Lab consecutively the suspicion of SA. 178(86.8%) were referred by the pulmonologists from other departments, 7(3.4%) by the cardiologists, 3(1.46%) by the neurologists, 8(3.9%) by the general practitioners, 2(0.97%) by the specialists in diabetes, 7(3.4%) by the ENT specialists. Men were predominantly (ratio 6.1:1), with age between 24years-old and 78. BMI average was 36.2kg/m2. We raised suspicion for SA by clinical exam (increased BMI, neck circumference, waist size, snoring, diurnal somnolence, and nocturnal arousals) and Epworth drowsiness scale. SA was confirmed by PG with 6 channels. We found moderate/severe SA in 192 patients (high yield of investigation 93.6%). 188 (97.9%) patients had OSA, 4 central/mixed apnea and 35(18.6%) had also obesity-hypoventilation syndrome. The risk factors for OSA found in our group were: obesity, alcohol abuse, chronic smoking, diabetes, hypothyroidism, sedentary, ENT obstructions (tonsillitis, chronic rhinitis, and polyposis), muscular hypotonia. The average apnea-hypopnea index was 57events/hour. We performed investigations for complications: blood exam (glucose, lipids), endocrinological exam, EKG, cardiovascular consult, respiratory functional tests and chest x-ray. Complications were extremely frequent: 171 patients (89%) - hypertension, cardiac failure, arrhythmia, diabetes, dyslipidemia, depression, cognitive decline, decrease of life quality. After pressures to need titration we recommended a complex treatment: Continuous Positive Airway Pressure, weight loss, cessation of alcohol/sedatives/smoking, increase exercise (for weight loss, metabolism boosting and respiratory muscles reinforcing).

Conclusions: SA diagnosis yield from suspected patients was very high based on clinical examination, Epworth scale and PG established the confirmation. PG was accessible, easy to perform with short hospitalization (average 3 days). In the presence of SA risk factors any medical specialists has to referre the patient to the sleep lab for a specific PG during sleep for an early SA diagnosis, treatment and for complication prevention.

Keywords: Risk factors, sleep apnea, poligraphy.

CORTICODEPENDENT ASTHMA STILL EXISTS IN THE THIRD MILLENNIUM?

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Introduction: Corticoids-dependent bronchial asthma (CDBA) defines the long use (which is not recommended) of the oral corticoids (OC) to obtain the control of the BA symptoms. Firstly, frequent exacerbations drive to repeated cures of OC and to a resistance to high-doses of inhaled corticoids (ICS), than OC becomes a habit and sometimes with increasing doses. The causes of the severe CDBA can be different: incorrect previous treatment, poor inhalation technique, lack of adherence to ICS/long acting beta-agonists (ICS/LABA), incorrect allergens/irritants eviction, severe comorbidities (sinusitis, cardiac disease, collagen diseases, parasitosis, gastro-esophageal reflux disease - GERD, and sleep apnea), airways remodeling after years of persistent uncontrolled inflammation. Other causes are chronic smoking, chronic occupational exposure (with neutrophil inflammation steroid-insensitive). Prolonged dose of OC have secondary effects: increased risk for bacterial infection, osteoporosis, Cushing's syndrome, hypertension, gastritis/ulcers, insomnia, irritability, fluid retention, diabetes, weight gain, cataracts and glaucoma, skin thinning, muscle weakness.

Case report: A 44-year-old male, ex-smoker, with a diagnosis of late-onset, mixed-allergic and intrinsic BA (for 8 years) was hospitalized for dyspnea, wheezing, snoring, diurnal somnolence, weight gain, caught. Significant comorbidities include rhino-sinusitis, obesity (BMI 42.6 kg/m2), previous smoking, GERD, sedentary life, lack of adherence to treatment, exposure to allergens, alcohol abuse. The patient didn't come to regular controls and because his poorly controlled BA he gets from other medical services OC together with ICS/LABA. Functional tests: FEV1 64%, FEF 50 58%, TI=66% and positive bronchodilator challenge, IgE 230UI/ml, eosinophils 2312el./mm3. We performed a sleep poligraphy that diagnosed an obstructive sleep apnea with AHI 45events/h. We revised treatment and recommended high doses of ICS/LABA, "add-on" of anticholinergics, antileukotrienes, antihistamines, inhibitors of proton pump. In the future it will be considered treatment with anti-IgE (omalizumab) or anti-interleukin 5 medications. Finally the patient was convinced about the necessity to weight loss, increase exercise, healthy diet, correct use of ICS/LABA (like maintenance and reliever therapy) and elimination exposure to allergens.

Conclusions: Long time use of OC is unacceptable due to severe adverse events. In our case we personalized treatment with high dose ICS/LABA + anticholinergic, antiallergics drugs. We treated sleep apnea with CPAP and recommended the elimination of risk factors for BA. Lack of patient's adherence to treatment and delayed referral to the pulmonologists, delay in risk factors identification/elimination could arrive to CDBA. Close monitoring/treatment adjustment will be necessary for a controlled BA and a near normal life.

Keywords: Corticoids-dependent asthma, anti-IgE medication, asthma control

COMPLIANCE TO TREATMENT OF THE PATIENTS WITH SLEEP APNEA IN THE SLEEP LAB OF PULMONOLOGY CLINIC TG. MURES

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Introduction: Sleep apnea (SA) is a frequent disease that despite the existent knowledge about diagnosis, complications and treatment, is still underdiagnosed and undertreated. SA treatment implies the device Continuous Positive Airway Pressure (CPAP) (for airways permeabilization), etiological measures alongside with rehabilitation (weight loss, alcohol and smoking cessation, treatment of hypothyroidism, regular exercise, treatment of the superior airways obstruction, diet, and sleep hygiene). Compliance to treatment is crucial for goals achievement, good quality of life without symptoms and complication prevention.

Methods and Results: We studied 192 patients with SA who underwent cardiorespiratory poligraphy in our Clinic Sleep Lab (2017-2019). Most of the patients 188 (97.9%) had obstructive sleep apnea (OSA), 4 central/mixed apnea and 35(18.6%) had also obesity-hypoventilation syndrome. 189(98.4%) patients had severe SA. We found several complications 171(89%): hypertension 95(55.5%), cardiac failure 33(19.3%), arrhythmia 36(21%), diabetes 35(20.4%), dyslipidemia 89(49.7%), depression 33(19.3%), all patients had decreased life quality. Inside the 192 SA group 165 were men, 27 women (M:F = 6.1/1); most of them have medium ages (121-63% ≥60 years, 43-22.4% between 50-60 years, 28-14.6% between 24-50 years-old). The average AHI after titration with auto-PAP decreased from 57events/h to 8events/h. Only 114 patients accepted CPAP treatment 59.4%. 23(11.9%) registered significant weight loss. Compliance for CPAP use was 88%. Patients had a favorable evolution under treatment in 110 cases (96.5%). We monitored the patients every 1 month (at the beginning) than every 3 months. Only 2% found the mask uncomfortable. We improved compliance by using humidifier. For nasal congestion and obstruction we recommended antihistaminic, topic corticoids and in 33 allergic rhinitis antileukotrienes with favorable evolution. We registered only 4 cases abandon of therapy. 111 patients declared an improvement in energy, mental performance during the day and in the quality of sleep.

Conclusion: We noticed a strong men prevalence (M:F 6.1:1) and of the medium ages under 60. The diagnosis was quickly established by clinical examination, Epworth drowsiness scale and cardio-respiratory poligraphy (first night). Treatment recommendation was performed after titration with CPAP (in the second night). The percentage of non-adherent patients on CPAP treatment is still increased 40.1% despite the presence of multiple complications and despite recommendations. Continued active patient monitoring and education can improve treatment compliance and persistence.

Keywords: sleep apnea, CPAP, adherence to treatment

"PREDOMINANT COUGH - VARIANT" ASTHMA

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Introduction: "Predominant cough-variant" asthma (PCA) is a clinic phenotype of bronchial asthma (BA) that manifests long time by repeated dry cough without classic symptoms (wheezing, dyspnea). PCA has the same triggers and causes like common BA (allergens, irritants, infection, exercise, meteorological variation, gastro-esophageal reflux disease GERD).

Methods and Results: Pathogenesis is similar like classic BA with frequent atopy and hypersensitivity of the airways, inflammation and bronchospasm. Symptoms include dry cough that lasts more than 3 weeks and begins especially after exposure to triggers. PCA is difficult to diagnose since the only symptom is chronic cough but some clues are suggestive: personal/family history of allergies/asthma, comorbidities as allergic rhinitis or eczema, allergies to pollen, food or drugs. PCA has to be differentiated with other conditions of chronic cough: chronic bronchitis, sinusitis, "post nasal drip syndrome", GERD, secondary reaction to drugs (beta-blockers, ACE inhibitors), vocal cords dysfunction, allergic aspergillosis, bronchiectasis, incipient tuberculosis, cardiac failure, interstitial lung disease, and smoking with tracheitis). Complications are frequent: decrease in life quality, sleep disruption, urinary leakage, and stress. Usually PCA progress to classic BA and will associate the same persistent inflammation.

Conclusions: Without treatment it will be possible the fibrotic bronchial remodeling with important fix obstruction that decreases the lung function and provide a poor life quality. In PCA spirometry and chest x-ray are normal but a spirometry with bronchodilation test shows an improvement of parameters (very suggestive for BA). In the same time, investigations will eliminate the other above condition for chronic cough.

PCA is treated in the same way as the typical BA: inhaled corticosteroids, eviction of all allergies and irritants, smoking and occupational exposure cessation (including passive smoking), promoting exercise and a healthy life, maintaining a healthy weight, leukotriene inhibitors, anti-histamines when allergic rhinitis is present and a close medical monitoring.

Keywords: Predominant cough-variant asthma, inhaled corticoids

SMOKING IN WOMEN

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Introduction: Smoking is a severe addiction disease considered "communicable disease through advertising and sponsorship". Smoking has individual implications for the family and multiple unwanted social effects. Although considered the "most avoidable cause of morbidity and mortality," smoking continues to cause disastrous effects on human health and on the environment.

Material and Method: Smoking in women shows a tendency to grow worryingly despite information campaigns on its harmful effects. Smoking has been perceived as a benchmark for emancipation in women, and in this context, especially in developing countries, it has been considered (incorrectly) in some areas a step forward in women freedom. There are studies showing that smoking in women is increasing by 20% by 2025. Active smoking, secondhand and third-hand smoke have a severe effect on women (like in men and more): increased risk for chronic bronchitis, asthma, cancer, cardiovascular disease, peripheral arteriopathy, digestive and throat cancers, diabetes mellitus, osteoporosis, ocular disorders, anemia, depression, dysmenorrhea and early climax, increased risk of hip fracture in menopause, cosmetic effects of cardiovascular disease (atherosclerosis, ischemic cardiopathy, peripheral arteriopathy) early aging and effects of maternity and children. 90% of the lung cancer (LC) is caused by smoking (LC on the 2nd place in morbidity after breast cancer and 1st place in mortality).

Conclusion: Particular attention should be paid to effects on the genital system and on the fetal health: reduction of fertility, early menopause, and adverse effects on the fetus (malformations, low birth weight, spontaneous abortions, premature births, birth mortality, increased breast-feeding risk, respiratory infections and asthma, obesity in childhood and in the future adult). Smoking during pregnancy is one of the causes of morbidity and mortality for mother and child that need to be intensely and carefully prevented.

Keywords: smoking in women, fetal and newborn health

ASSOCIATION OF RISK FACTORS IN LUNG CANCER - CASE REPORT

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Background: Risk factors for lung cancer (LC) are numerous, often intricated, many of them with preventive options: active and passive smoking, marihuana smoke, professional exposure (uranium, aromatic hydrocarbons, asbestos, vinyl chloride), radon exposure, history of other malignant tumors (in personal or heredocolateral history), decreased pulmonary function in chronic pulmonary inflammation (COPD, fibrosis, silicosis, bronchiectasis), advanced age, radiotherapy for lymphoma or breast cancer, beta-carotene, feed supplements, etc.

Case presentation: A 59 year-old male presented for the first time in Pulmonology Clinic for dyspnea, asthenia, wheezing, dry cough. Personal history revealed heavy smoking 45 packs/years, exposure to minerals and metallic dust (SiO2) and prostate cancer. The patient has been known to have silicosis for 3 years. Respiratory functional test revealed mixed ventilatory dysfunction. Chest x-ray raised suspicion for LC (enlargement of the right hilum). Bronchoscopy confirmed a proliferative stenotic process in the main right bronchus (less than 2 cm from the carina), bronchiectasis, and anthracosis. Bronchoscopy and CT staging for LC was: stage T3,N1,M0 (IIIA). For complex oncologic treatment we recommended whole body intravenous contrast CT and case presentation in the oncology committee (tumor board) for inter-disciplinary case management and treatment decision - neoadjuvant radiotherapy and chemotherapy, reassessment with possible surgery (pneumectomy).

Conclusion: Diagnosis in LC was made in a late stage when curable surgery is uncertain. The patient had multiple LC risk factors - smoking, occupational exposure, previous prostate cancer, COPD. LC screening for early detection (by bronchoscopy and low-dose CT) and early treatment in patients with several risk factors for LC has to be the routine. Patients with occupational exposure have to be periodically controlled (by low – dose CT) and strongly counseled to quit smoking to eliminate the main risk factor for LC.

Keywords: lung cancer, risk factors, early detection

TREATMENT OPTIONS IN SEVERE ASTHMA

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Introduction: Severe bronchial asthma (SBA) is present when despite the correct treatment with high-dose inhaled-corticosteroids and other controllers (long-acting beta-agonists LABA, antileukotrienes LTRA, antimuscarinic agents) the symptoms/exacerbation persist and frequently it is necessary systemic corticoids or antibiotics.

Materials and methods: There are three SBA categories (according WHO): 1). SBA not treated/not correct treated; 2). Difficult-to-treat BA as result of non-compliance/persistence of the triggers or associated diseases; 3). Corticoid-resistant BA: despite maximalization of medication BA control is not achieved. A large reassessment in a reference center is recommended for large investigation and add-on medications. Firstly, it must rule out conditions that continue to entertain the BA: smoking, exposure to indoor/outdoor/occupational pollutants, parasitosis, gastro-esophageal reflux GERD, sleep apnea. Medical exam will exclude (and treat) also diseases that mimic or aggravated BA: bronchiectasis, vocal cord dysfunction, inhaled foreign bodies, recurrent aspiration, cystic fibrosis or other genetic disease (that decrease mucocilliary clearance), GERD, COPD, cardiac insufficiency with stasis, other causes of cough (e.g. ACE inhibitors, beta-blocants), pulmonary thrombosis/embolism. Computed tomography, bronchoscopy, genetic investigation, ENT exam (for locoregional infectious foci) will be performed. Allergy tests will be put into work (anamnesis, skin tests, IgE, eosinophils). Associated spirometry, pletismography and diffusion capacity have to be performed for COPD or restrictive pattern disease confirmation (bronchiectasis, cystic fibrosis, emphysema, hypersensitivity pneumonitis, other disease with "asthma like" symptoms).

Conclusions: The next step is to review the patient adherence and technique in ICS-LABA administration. SBA could include high-dose ICS-LABA with antimuscarinic bronchodilator, LTRA (especially when allergic rhinitis is present), humanized monoclonal antibody against IgE (omalizumab), and azithromycin (for non-eosinophilic asthma). Eosinophilic SBA could benefit from other monoclonal antibodies: mepolizumab (IL-5 antagonist) or reslizumab (anti-IL5 receptor), benralizumab (anti extracellular IL-5Rα epitope). In aspirin-exacerbated BA will consider LTRA. Pulmonary rehabilitation associated to specific BA treatment could stabilize asthma over a long period, increase quality of life and performance in physical activities.

Keywords: Severe bronchial asthma, humanized monoclonal antibody

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MULTIPLE HYDATID CYSTS COMPLICATED WITH PLEURAL INVASION - CASE REPORT

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Introduction: Lung hydatid cyst could be primary (airborne infestation) or secondary to another location (hepatic or renal). Usually diagnosis is made in a late stage when the cyst has large dimensions or dyspnea is accentuated or when it perforates in the pleura or in a main bronchus. Diagnosis is raised by the chest x-ray, thoracic ultrasound and it will be confirmed by thoracic CT. Serologic diagnosis (Ig G enzyme-linked immunosorbent assay) is expensive and has to be completed by complex whole body CT.

Case report: A 48 year-old male was hospitalized with dyspnea, pallor, mucopurulent cough, sweating, and weight loss. SaO2 was 91%, the respiratory frequency 26 respirations /minute and the cardiac frequency 110 beats/minute. The patients presented severe mixed ventilatory dysfunction. Chest x-ray revealed a massive pleural effusion with mediastinal pushing in the opposite side. Bronchoscopy: chronic bronchitis without other pathology. Thoracic and abdominal CT showed subphrenic hydatid cyst with diaphragmatic invasion, hepatic and renal hydatid cysts. We started the treatment with albendazole (400 mg/day, twice daily) than a 28 day pause continued per oral 400mg/day to prevent recurrence. The patient was sent in the surgery ward for cysts excision. Repeated thoracic and abdominal CT (any month the first 3 months than any 3 months), liver function and clinical assessment will ensure the close monitoring.

Conclusion: Our case was diagnosed in an advanced stage of hydatidosis when multiple complications were present (liver and renal cysts, diaphragmatic invasion, pleural effusion). Advances hydatid cysts benefit from combined treatment (benzimidazoles and surgery). Prophylaxis has to be provided in endemic areas. Early diagnosis of recurrences could be performed by close clinical and imaging monitoring.

Keywords: hydatid cyst, whole body CT-imaging, close monitoring

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METHODS IN CONFIRMING PULMONARY TUBERCULOSIS-CASE PRESENTATION

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Introduction: Confirmation of pulmonary tuberculosis (TB) could be sometime difficult. We can use several prelevates of sputum (the entire 24 hours/sputum after deep cough, hydration and mucolytics), bronchoscopy with broncho-alveolar lavage, pleural fluid analysis or biopsy of the involved tissues. Even so, some form of TB could remain negative. In these conditions, cases have to be discussed in the medical staff-committee ("TB board") and use combined criteria: close contact with a contagious source, risk factors for TB, opacities with inhomogenity in the

upper lobes, bilateralism, age of patient, and exclusion of other condition (tumors, pneumonia, and congenital disease). Positive tuberculin skin test or positive specific Quantiferon blood test could be beneficial (they attest only the presence of the active infection and reactivity to Koch bacillus antigens KB).

Case report: A 25year-old male (nonsmoker, without occupation and living in poor condition), was hospitalized for dry cough, hemoptysis, thoracic pain, weight loss (10kg/3 months), pale skin, sweating and asthenia. We didn't find a bacillary source. The chest x-ray and the thoracic CT scan revealed a pulmonary consolidation (52mm) without aeric bronchogram, left lymph nodes enlargement in relation with the hilum and a small pleural effusion. The repeated bacteriology for mycobacteria (microscopy and cultures) from spontaneous sputum was negative. Initially the patients refused bronchoscopy. After a long process of information, bronchoscopy was accepted and the investigation was performed to exclude a lung cancer. It was found a small infiltration (biopsy negative concerning tumoral cell or KB) with inflammation (lymphocytic, macrophages, necrosis) very suggestive for TB. Blood test for HIV antibodies was negative. The pleural liquid obtained under ultrasound guidance revealed: exudate, proteins 5,2g/l, LDH 120UI/l, glucose 88mg/dl, rich in small lymphocytes (>80%), without KB in microscopy and culture. The patient refused thoracoscopy. We started treatment for TB (with 4 antibiotics) after case discussion in our "TB board" with close monitoring. The consolidation decreased in 2 months to 25mm and the pleural effusion resorbed. Clinically it was a good evolution. After 2 months the Löwenstein Jansen culture for KB from the bronchoalveolar lavage was positive and that confirmed TB.

Conclusion: TB is difficult to confirm in some cases and hence we have to use all the noninvasive/invasive method for confirmation and for differential diagnosis. KB cultures are important for a consistent antibiogram for targeted treatment and to avoid chemoresistance.

Keywords: Negative pulmonary TB, bronchoalveolar lavage

ACQUIRED RESPIRATORY DISTRESS SYNDROME – UPDATE

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Introduction: Acquired respiratory distress syndrome (ARDS) combines bilateral pulmonary infiltrates and respiratory insufficiency (ratio PaO2/Fi O2 ≤200) by other causes than cardiac failure.

Material and Method: Pulmonary arterial wedge-pressure has to be ≤18mmHg without left atrial hypertension. ARDS is underdiagnosed especially in low-income-countries where is recommended to provide an improvement of recognition, management and clinical outcome of ARDS. ARDS is an acute condition (<1 week onset) associated with an extensive inflammation and increased capillary permeability with interstitial/alveolar exudate and injuries. The main causes of ARDS are: sepsis; trauma (especially head, chest or major injuries); burns; bronchopneumonia; aspiration; massive gas intoxication; fat embolism; pancreatitis, incompatible blood transfusion; illicit drug inhalation; status post near-drowning. Other factors could associate the main causes and bring in addition risk condition: advanced age, female sex, smoking (active/passive), alcohol abuse, shock, compromised immunity status, acidosis, low albumin, transfusion of red-blood cells mass, plasma, hypervolemia, low respiratory compliance (inclusive within obesity), cardiac failure. High pressure of mechanical ventilation (MV), administrated during treatment of ARDS could aggravate the evolution.

Conclusion: Treatment is complex: supplemental oxygen (by noninvasive MV if possible, in order to exclude the invasive MV complication; helmet mask preferred), corticoids (methylprednisolone) in low-doses 1mg/kg/day and slowly tapered doses, fluid management (<4 mmHg central venous pressure), prone positioning, decrease O2 consumption (antipyretics, analgesics), inotropic, restriction for transfusion, enteral nutritional support, antiplatelet preventive therapies and thrombosis prophylaxis, inhibitors of proton-pump to prevent gastro-intestinal ulcers. Aspirin and statins prevention strategy did not demonstrated supplementary benefits.

Keywords: ARDS, complex treatment, update

ADVANTAGES OF "TUMOR BOARD" FOR LUNG CANCER MANAGEMENT IN TIRGU MURES, ROMANIA

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Introduction: Lung cancer (LC) is the leading cause of mortality in the world between all cancers and it is positioned of the second place in male (after prostate cancer) and in women (after breast cancer) like morbidity.

Material and Method: Diagnosis of LC is extremely complex and requires specific investigation: advanced imaging methods (whole body CT with contrast, PET-CT), endoscopies with biopsy (endobronchial ultrasound EBUS with transbronchial biopsy), biopsies by thorascopy, mediastinoscopy, biomarkers, immunocytochemistry. On the other hand treatment in LC has to be very precise respecting the internationals guidelines for the best result. Tumor board (TB) has been accepted like an important part of LC diagnosis and treatment recommendation. TB involves doctors from different specialties and health care providers that discuss the best diagnosis and treatment plan offered for each patient according with the international/national guides (oncologists, pathologists, pulmonologists, thoracic surgeons, genetic experts, social workers, nutritionists, palliative care specialists). TB was introduced for decades in Romania but its wide implementation is still difficult cause

of different condition: delay in LC diagnosis, lack of patient's adherence to control/investigation, dysfunction in the LC diagnostic/treatment chain, lack of medical personnel or medication, and sometime lack of precise legislation. Several studies showed that TB provides great benefit to patients by improving the diagnostic accuracy (staging, histopathology, LC phenotypes) and bringing the new best treatments. Regular LC monitoring and restaging by TB improve LC management, adherence to clinical practice guidelines, and clinical outcomes of the patients. The duration between the moment of the suspicion and treatment implementation decreases if every "steps" for investigation and treatment is precisely definite and accessible by the committee.

Conclusions: The TB and the national registry for LC cases ensure better information about disease burden, permit legislation adjustment, health-care supply and could eliminate a great part of the underdiagnosed/undertreated LC cases. The TB could respond better to the case finding and management and make possible the best new treatments (promoting the medical trials).

Keywords: Lung cancer, tumor board

POTT'S DISEASE STILL A CHALLENGE NOWADAYS?

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Background: Despite the worldwide important diminution of tuberculosis (TB) endemic, Pott's disease still could be met in regions with high TB prevalence in population with risk factors for transmission and host immunodepression.

Method: Case report of a complicated case of Pott's disease.

Results: A 54 year-old male (heavy smoker, alcohol user) was hospitalized in Nephrology Clinic for thoracic pain, weight loss, and polakiuria. He took antibiotics and anti-inflammatory drugs without benefit. The pneumological consultation and the thoracic CT-scan raised suspicion of a TB osteo-discitis. Magnetic resonance imaging (MRI) confirmed Pott's disease with D4-D7 osteolysis, paravertebral abscesses, posterior protrusion and a pleural effusion. Neurologic and orthopedic consults established the lack of neurologic deficit but recommended surgery (for disease confirmation, abscess drainage, and local stability increase). The patient refused the intervention such as it was recommended a corset (for 2 months) and wide reevaluation. We started antituberculous antibiotic regime (isoniazid, rifampin, pyrazinamide, and ethambutol) but the patient develop after 2weeks a drug-induced liver diseases that required antibiotics interruption and hepatoprotectors. In the present the patient is ongoing the standard antibiotic regime for 9 months and the corset with good tolerance and important clinical improvement.

Conclusion: Histopathological/bacteriological confirmation is very difficult in vertebral TB. In our case the diagnosis was possible by the association of the clinical examination and the suggestive CT/RMI imaging. Despite the late presentation in the medical service and the advanced stage, the complex treatment avoided the neurological complication. Close long time monitoring and reevaluation will be necessary. Management of Pott's disease needs a multidisciplinary approach for diagnosis and treatment (pulmonology, imaging, orthopedic, surgery, neurology, rehabilitation).

Keywords: Pott's disease, late diagnosis, multidisciplinary team

COMPLEX OVERLAPS (CHRONIC OBSTRUCTIVE PULMONARY DISEASE, OBESITY-HYPOVENTILATION SYNDROME, OBSTRUCTIVE SLEEP APNEA, OBESITY) WITH SEVERE COMPLICATIONS

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Introduction: Association of chronic obstructive pulmonary disease (COPD) and sleep apnea (SA) is known like „overlap syndrome" (OS). OS brings serious clinical features, high mortality and may produce severe complications: atheromatosis, ischemic heart disease, core pulmonale, hypercapnic respiratory failure, diabetes, dyslipidemia due to both diseases.

Method: Case report of a complex overlap (COPD + SA + obesity-hypoventilation syndrome - OHS, obesity) with early complications.

Results: A 57-year-old (heavy smoker 40 packs/years, with exposure to metallic dust and COPD for 3 years, SA with 1-year CPAP, obesity and obstructive arteriopathy) was hospitalized for worsening dyspnea, fever, purulent sputum, and inferior limbs pain. We found BMI 38 kg/m2, SaO2 80% in ambient air, crackles, lower edema, systolic murmur, cyanosis. Thoracic chest x-ray highlights bronchopneumonia and cardiomegaly. Cardiac consult: right ventricular hypertrophy, mitral + tricuspid failure and decompensated core pulmonale, arterial hypertension. Spirometry shows severe mixed ventilatory dysfunction. Gasometry indicates respiratory acidosis through hypercapnia and hypoxemia (pH 7.24, PaCO2 ↑70.6 mmHg, PaO2 ↓54.5 mmHg). The patient was treated with non-invasive ventilation, then with Bi-level Positive Airways Pressure Bi-PAP and oxygen O2, inhaled bronchodilators, antibiotics, anticoagulants, systemic corticotherapy, vasodilators, statins, respiratory rehabilitation in Pulmonology department with favorable evolution after 10 days.

Conclusions: Complex overlap (COPD + SA + obesity-hypoventilation) combined with chronic smoking and occupational exposure led to severe cardiovascular complications caused by each co-morbidity: severe heart failure, respiratory failure with acidosis, high risk of life threatening during an infectious COPD exacerbations. OS management required a multidisciplinary approach (pneumologist, cardiologist, physiotherapist, and nutritionist). Respiratory/cardiovascular rehabilitation and nutritional counseling associated with medication and Bi-PAP, longtime home O2 therapy will be necessary to relieve symptoms, increase exercise capacity, improvement of the quality of life and complications elimination.

Keywords: overlap syndrome, noninvasive ventilation, multidisciplinary team

MIXED TUBERCULOSIS: TONSILLAR TUBERCULOSIS HISTOPATHOLOGICALLY CONFIRMED AND PULMONARY TUBERCULOSIS CONFIRMED BY BACTERIOLOGY

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Introduction: Tuberculosis (TB) is a severe contagious disease with high social and economic burden, severe symptoms and complication. It affects especially the lungs (95%) but it could appear by several extrapulmonary location by blood dissemination or by contiguity. Tonsillar TB is a rare location but possible, encountered within the primary TB (like primary affect with submandibular satellite adenopathy) or like a complication of the secondary pulmonary TB (as a result of the repeated passage of the purulent infected sputum in the oral cavity).

Case report: A patients 43 year-old (BMI 18 kg/m2, smoker 25 packs/year, alcohol user, unemployed with social aid) was hospitalized in ENT department with dysphagia, oral cavity pain, asthenia, weight loss, mucopurulent cough. Pathological exam after tonsillectomy revealed necrotic granuloma (central caseous necrosis, multinucleate macrophages, lymphocytes and fibrosis) suggestive for TB. The patient was sent in our department and the chest x-ray revealed multiples exulcerated bilateral infiltrates and diffused micronodules. Lab test highlights anemia and sputum examination in microscopy (Ziehl Neelsen stain) confirmed TB. A treatment with 4 antibiotics was started for 2 months (isoniazid, rifampin, pyrazinamide, ethambutol, and group B vitamins) followed by 6 months double combination (isoniazid, rifampin) for continuation. We added oral corticoids, oral antiseptics, probiotic and antimicotic drugs: alcohol and smoking have been completely eliminated.

Conclusion: Tonsillar TB was the cause that led the patient to the presentation in the medical service. Recurrent tonsillitis with enlarged tonsils and ulceration has to trigger surgery and biopsy for the diagnosis differential between malignancy, actinomycosis or TB. In our case in an adult patient the contact with the infected sputum (smear positive) from a pulmonary TB was the main source for tonsillar TB. Association of pulmonary, extrapulmonary and milliary TB determined a prolonged antituberculous treatment and auxiliary treatment with corticoids and surgical ENT treatment.

Keywords: Mixed TB, tonsillar TB, histopatologically confirmation

BENEFIT OF HISTOPATHOLOGICAL EXAM AND IMMUNOHISTOCHEMISTRY IN THE DIAGNOSIS OF PULMONARY ADENOCARCINOMA

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Introduction: The correct diagnosis of the lung cancer (LC) involves, besides the TNM (tumor-node-metastasis) staging, the accurate histopathological type. Immunohistochemistry (IHC) allows the differentiation between pulmonary from non-pulmonary cancer and between different subtypes of cancer (primary LC or secondary, lung metastasis from other location – breast, tyroid, stomach, ovarian).

Case report: A 62 year-old man (moderate smoker, with occupational exposure – auto mechanic) was hospitalised 3 days for weight loss, thoracic pain, moderate dyspnea, mucopurulent sputum, BMI- 18kg/m2. The chest x-ray revealed a left hylum infiltrate and the bronchoscopy revealed a proliferative tumor in culmen. The lab blood exam hightligths leukocytosis with lymphopenia in rest it shows normal hepatic and renal function. Bronchial biopsy result (obtained after 10 days) diagnosed a lung adenocarcinoma that infiltrates conjuctive tissue (glandular zones with large cells and marqued atipies, anisocariosis, cytological and nuclear pleimorphism: irregular large nuclei, high nucleus/cytoplasm ratio). The immunohistochemical profile was: cytokeratin 7 positive, cytokeratin 5/6 negative, anti-TTF-1 antibodies confirms a bronchial adenocarcinoma. Other information regarding LC mutation (EGFR, Alk, ROS) are ongoing for adenocarcinoma subtype caracterisation and target therapy. The patient was programmed to the CT with contrast (cranio-thoracic-abdominal-pelvian CT) for an acurrate staging to indicate the proper treatment and to apreciate the oportunity of curative surgery. Respiratory functional tests (distal mild ventilatory obstryuctive dysfunction) and the cardiac investigation (normal cardiac function) would permit surgery.

Conclusion: Correct staging and histological confirmation (including tumoral biomarkers) are mandatory conditions for an accurate treatment. Immunochemistry revealed the type of LC that would make possible targeted therapy. The medical activity in interdisciplinary team (pulmonologist, oncologist, specialist in pathology and imaging) is crucial for a rapid and complet diagnosis.

Keywords: lung cancer staging, imaging and histopathology, immunohistochemistry

TREATMENT WITH MONOCLONAL ANTIBODIES IN SEVERE ALLERGIC ASTHMA

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Introduction: Bronchial asthma (BA) is a chronic inflammatory disease that frequently evolves by immunoglobulin IgE-mediated immune responses to an antigen (Ag) to which the patient is sensitized by repeated prior contacts. IgE is fixed on mast cells and basophils.

Material and method: Binding of a new specific Ag on two fixed IgE molecules ("Ag cross - linking") produces degranulation of inflammatory cells with the release of mediators of inflammation. This is the moment of the initiation of several inflammatory reactions with mucosal edema, cell infiltration, mucus hypersecretion and bronchospasm. Nowadays there is accessible for the treatment of the severe BA (with high levels of IgE) a targeted anti-IgE molecule = omalizumab (OM). OM is a humanized monoclonal antibody (IgG) that acts against IgE by selectively fixing them. Studies shown that this biological treatment reduces severe BA exacerbation improve quality life and diminish BA symptoms. OM has a subcutaneous administration every 2-4 weeks (depending of the intensity of the allergy - respective IgE levels, symptoms and bodyweight). Criteria that recommend anti-IgE treatment are: stage 4-5 of the disease upon GINA guide (Global INnitiative for Asthma), BA diagnosed for at least 1 year, confirmed allergy (positive skin reaction) to a perennial pneumoallergen, poor controlled BA despite high-dose ICS-LABA (at least 6 months) with ≥2 exacerbation in the last year or oral corticoids, FEV1 <80%, total blood IgE between 30-1500 UI/mL. A large assessment of the evolution under treatment will be made at 16 weeks after the OM beginning.

Conclusion: The poor control of BA is appreciated after precise criteria: frequent diurnal symptoms (over 2/week), night time awakenings, over 1 exacerbation/year, decrease in physical activities, use the reliver medication more than 2/week, decrease in lung function under normal/ personal best. OM will be administrated indefinitely with annual assessment if this medication will give to the course of the disease a favorable evolution. The assessment of evolution will be realize by clinical exam, spirometry and by "Asthma Control Test" Questionnaire (values >20). If unfavorable effect, the OM treatment will be stopped.

Keywords: Monoclonal antibodies, omalizumab, IgE, uncontrolled asthma

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COMPLICATED NECROTIC PNEUMONIA IN A PATIENT WITH SEVERAL RISK FACTORS

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Introduction: Pneumonia is a non-suppurative inflammation of the lung parenchyma. Under certain risk conditions (pyogenic germs, tuberculosis, digestive secretions aspiration, anaerobic germ infection, poor oral hygiene) pneumonia could be complicated by necrosis and excavation. Etiological diagnosis is important for antibiotic therapy or specific anti-tuberculosis treatment.

Case report: A 68-year-old female (smoker 26packs/year, with occupational exposure) was urgently hospitalized for severe rest dyspnea, mucopurulent cough and hemoptysis, fever 38.50 C alternating with hypothermia, bilaterally thoracic pain. Medical history was consistent: diffuse atheromatosis with post-ischemic stroke status with slow favorable evolution (carotid atheromatosis, with 70% stenosis), dyslipidemia, diabetes, chronic obstructive pulmonary disease COPD in advanced stage, silicosis. At the admission, SaO2 was 73% in ambient air than 83% under oxygen, blood pressure 170/80, tachycardia, cyanosis, orthopnea, BMI 31.2kg/m2, poor dentition. Considering the flu epidemic that was in that time we checked the flu antigen from the nasal/pharyngeal exudate (negative). Chest x-ray: diffuse infiltrates in the 2/3 inferior right lung with hyperlucent zones, cardiomegaly and enlarge venous design of cardiac stasis. The blood analysis revealed leukocytosis with neutrophils 82.9%. Blood cultures were negatives. Bronchoscopy was negative for lung tumor and for bacteriology: Koch bacillus and other bacteria in microscopy from bronchoalveolar aspirate were negative. The treatment included combined antibiotics (third generation cephalosporin, aminoglycosides and metronidazole), corticoids, inhaled bronchodilators, oxygen on nasal cannula, vasodilators, beta-blocants, anticoagulants, diuretics, and mucolytics. Treatment was prolonged 21 days with slow favorable outcome. We will check the culture for mycobacteria at 1 and 2 months. The patient will be close monitored in the cardiology, pulmonology and neurology department.

Conclusion: The complicated necrotic pneumonia was the consequence of a combined risk factors: aspiration from oral cavity (poor oral dentition and hygiene, hemiplegia), cardiac insufficiency, poor controlled hypertension, age >65, obesity, chronic previous smoking, COPD and exposure to silica. Bronchoscopy is mandatory in severe pneumonia to exclude malignancy, foreign bodies' aspiration and to perform bronchoalveolar lavage for bacteriology. Blood cultures will be workout in severe pneumonia.

Keywords: Necrotic pneumonia, bronchoscopy, Koch Bacillus

FOLLOW -UP TREATMENT IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE UPON THE NEW GUIDELINES 2019

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Introduction: The new revised guideline (2019 updated) for chronic obstructive pulmonary disease (COPD), "Global Initiative for Obstructive Lung Disease" recommends a separate algorithm assessment for the patients at the initial treatment and further under the "follow-up" monitoring considering the clinical criteria: persistence of dyspnoea, number of exacerbations, side effects of the initial medication and the blood eosinophil count (new biomarker for inhaled corticoids - ICS indication).

Aim of the guideline: If the initial treatment was suitable with clinical/functional favorable evolution, it will be maintain. If the patient still has dyspnea after initial treatment with 1 bronchodilator the guide recommends introduction of the combination LAMA+LABA (long acting anti-muscarinic agent plus long acting beta-agonist) in the same device. If dyspnea continues to persist it will be considered the replacement of the molecules (by others from the same families) or device/inhaler switch. The close assessment will consider elimination of other causes of dyspnea and to correct the comorbidities treatment (cardiovascular complication, cachexia, deconditioning, anemia, depression, bronchiectasis, infection etc.). If the patients are currently on an ICS, it will be considered de-escalation (elimination of the ICS which has not a direct anti-dyspneic effect and even could produce pneumonia especially when its recommendation was not appropriate). In further persistence of exacerbations and high blood eosinophils it is possible the transition from LAMA+LABA to triple therapy (+ICS). If the patient with persistent exacerbations was initially treated only with ICS+LABA, the switch to LAMA+LABA will be made. In the same time, if the patient followed initially triple therapy, he can be switched to bronchodilator combination (LAMA + LABA) that is proved to prevent exacerbation better than ICS. For persistent exacerbation in patients with decreased FEV1 <50% and chronic bronchitis phenotype it is possible the add-on medication with another anti-inflammatory drug (roflumilast) or by several cures of azithromycin in former smokers.

Conclusion: The strategy of increasing medication is based on efficacy and safety criteria. De-escalation (exclusion of the ICS) is possible anytime when there is no response or if there are side effects. Inhaled dual bronchodilation occupies a central place in the maintenance treatment of COPD with the persistence of dyspnea/exacerbations along with other types of management: smoking cessation, respiratory rehabilitation, vaccination, treatment of comorbidities, nutrition and psychological support.

Keywords: 2019 updated GOLD, COPD guideline

CAPNOGRAPHY - AN IMPORTANT METHODS FOR GUIDING TREATMENT IN PATIENTS WITH SEVERE RESPIRATORY DISEASES

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Introduction: There are different possibilities to measure the pressure of carbon dioxide (CO2) in blood and tissues, for respiration/gas exchange assessing: arterial gasometry, capnography of the expired air, and percutaneous CO2 pressure (PtcCO2). 1).

Material and method: Arterial gasometry is an invasive method that analyzes several blood parameters among which the most important are: the partial arterial pressure of CO2 (PaCO2-normal values NV 35-45mmHg), the O2 arterial partial pressure PaO2 (NV 75-100 mmHg), pH (NV 7.35-7.45), bicarbonate (HCO3, NV 22-28 mEq/L, bases excess NV –2 to +2 mmol/L). Gasometry is an important tool that drives the treatment in critically ill patients with respiratory failure, metabolic processes or renal dysfunctions. Despite its great usefulness gasometry is invasive, painful, difficult to repeat permanently and expensive. 2). Capnography performed from the patient's airflow during ventilation measures the inspired/expired CO2, the respiratory rate and the capnogram. The device has an analog output, memory for repeated measurements, integrated rechargeable battery, audible and visible alarms, and application for neonate, infant and adults. Capnography could be used in ICU patients with artificial airway to identify ventilation disorders; airway obstruction; airway displacement; apnea/hypopnea; hypoventilation (with hypercapnia); hyperventilation (with hypocapnia). Unfortunately the use of capnography is smaller than necessities because lack of spread information, lack of devices (financial causes) and lack of "hands-on" practical experience. 3). Percutaneous CO2 partial pressure (PtcCO2) analysis is a non-invasive measurement of PCO2, percutaneous O2 saturation (SaO2 NV 95-100%) and pulse rate.

Conclusion: CO2 has a high tissue solubility and diffusion through the skin; thereby studies reveal acceptable levels of correlation between PaCO2 and PtCO2 (independently of the PaCO2 level). PtcCO2 is increasingly used to monitor the result of non-invasive positive pressure ventilation (NIPPV). This technique is reliable, accurate and can reduce the number of invasive gasometry and does not disturb the patient's sleep/rest.

Keywords: gasometry, capnography, PtcCO2

AUTOFLUORESCENCE - A BRONCHOSCOPIC TECHNIQUE (UNDER BLUE LIGHT) THAT IMPROVE THE EARLY DIAGNOSIS OF LUNG CANCER

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Introduction: Confirmation of the histopathological type in lung tumors is necessary for the diagnosis of malignancy and a target treatment.

Material and method: In central tumors the bronchial biopsy (BB) is easily performed by bronchoscopy (BS). However, the incipient forms "in situ" lung cancer LC or advanced mucosal dysplasia may have a qvasinormal appearance and then the biopsy is error-prone. Increase of the BB precision could be improved by different new techniques: autofluorescence bronchoscopy imaging (AFI) in blue light analysis, "narrow band imaging" BS, endobronchial ultrasound (EBUS), digestive endoscopy with ultrasound (EUS), electromagnetic navigation (BS + CT + electromagnetically establishing of the lesion coordinates), "optical coherence tomography", "confocal fluorescent laser-microscopy". AFI is a modern technique that detects the differences between normal and malignant tumor tissues (when changes are not highlighted with the naked eye). The procedure requires imaging devices for fluorescence detection of pre-invasive and microinvasive incipient lesions in LC. The principle of the method is based on the fluorescence of the chromophore tissue structures (elastin, collagen, nicotinamide adenine dinucleotide NAD, and porphyrins): in the white light the normal structures are colored in green. Changes in normal tissues (dysplasia, "in situ" LC, invasive LC) lead to a progressive decrease of the "green" fluorescence intensity by reducing the concentration of chromophores and increase in neoformation vasculature and thickening of the epithelium. The fluorescence of normal tissues is green and the pathological, dysplastic, thick mucosa is brown.

Conclusion: The sensitivity of the method: BS in white light locates the disorders in 40 - 51% of cases. The addition of the AFI method increases the detection rate to 79%. False positive results may occur in asthma patients, accentuated glandular hyperplasia or purulent bronchitis. AFI allows targeted biopsy, but also is useful for surgery and endobronchial treatment of malignancies.

Keywords: autofluorescence bronchoscopy, target biopsy, early bronchial lesions

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LUNG VOLUME REDUCTION METHODS IN ADVANCED CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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Introduction: Emphysema (permanent enlargement and destruction of the distal airspaces) could appear isolate or along with chronic bronchitis inside chronic obstructive pulmonary disease (COPD). Emphysema can be diffused or bullous, located paraseptal, centri-lobular, pan-lobular. Chronic progressive dyspnea is the main symptoms of the emphysema (through airflow limitation, hyperinflation, and decrease in gas exchange or by disturbing the diaphragm movement).

Material and method: The new techniques of "lung volume reduction" (LVR) hypothesize the "reduction" (by removal or exclusion from ventilation) of the parts of the lung which is physiologically nonfunctionally (it does not participate to the gas-exchange) and in the same time compresses/compromises the function of the normal surrounding tissue. LVR methods are: 1). LVR surgery (by thoracoscopy) realizes the wedge excision of emphysematous tissue; 2). Endobronchial valves insertion through a bronchoscope (the valves prevent air inflow during inspiration but allow air to exit during expiration); 3). Endobronchial coils are "nitinol" devices implanted bronchoscopically under fluoroscopy to re-tension the lung; 4). "Bronchoscopical thermal vapor ablation therapy" (an inflammation is realized with subsequent fibrosis/stenosis that decreases air supplying). Firstly the patient will be largely assessed (verifying the previous treatment and adherence) than a battery of testes will be performed to establish the indication/contraindication: multidetector CT scan (with quantitative analyze of the volume/location of the damaged parenchyma and of the functional tissue), pulmonary function tests, gasometry, electrocardiogram, cardiopulmonary exercise test.

Conclusion: The mechanisms for restoring lung function are: improvement in ventilation-perfusion mismatch, decrease hyperinflation, improvement of the diaphragmatic curvature and work capacity, expansion of the compressed normal lung tissue, increase in exercise capacity, exclusion of hypoxemia/hypercapnia with beneficial effect on heart hypertrophy and pulmonary hypertension. The methods of LVR in emphysema showed in well selected patients an improvement in breathing ability, lung function and quality of life.

Keywords: COPD, emphysema, lung volume reduction techniques

HOW TO INCREASE ACCURACY OF INITIAL COPD DIAGNOSIS AND TREATMENT FOLLOWING THE UPDATED 2019 GUIDELINES

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Introduction: Chronic obstructive pulmonary disease (COPD) is a frequent disease with a high burden in adult population concerning symptoms, disability, complication and health resources consuming. A correct COPD assessment begins with raising the suspicion based on symptoms (dyspnea, chronic cough, sputum production) in the presence of risk factors (smoking, repeated respiratory infections, occupational exposure, outdoor or indoor pollution: biomass linked to heating fuels). COPD is confirmed after spirometry with obstruction - low FEV1/CVF ("permeability index = Tiffeneau index" under 70%).

Aim of study: The values of FEV1 indicate the severity of flow obstruction and the "COPD assessment test" (CAT) or "Dyspnea scale questionnaire" establish the risk group of the disease that will recommend the initial treatment (CAT >10 units and dyspnea scale ≥1 place the patient in high-risk groups B, D). The second criteria for risk assessment are the number of exacerbations (moderate and severe). In patient with ≥2 exacerbations/in the previous year or 1 exacerbation with hospitalization, the patients enter in the high-risk groups C and D. The updated 2019 guide for COPD ensures a personalized treatment upon patient's severity group, drug preference, drug accessibility. In A group of COPD, the treatment will start with 1 inhaled bronchodilator (short or long acting bronchodilator). In group B we will indicate 1 long-acting anti-muscarinic agent (LAMA) or long-acting beta-adrenergic (LABA). In group C the guidelines recommend a LAMA bronchodilator considering their effects: decrease of hyperinflation, exacerbations reduction, sustained bronchodilation. The group D will benefit from a combination of LAMA + LABA or inhaled corticoids (ICS) + LABA if the number of blood eosinophils is over 300/microliter. The pharmacologic treatment will be completed with infection prevention (education, anti-influenza vaccination, and antipneumoccoccal vaccination), pulmonary rehabilitation, smoking cessation, exposure to gases/substances elimination.

Conclusion: The evolution under the initial treatment will be reviewed periodically with possible adjustments according to the persistence of symptoms or exacerbations with the close compliance assessment and evaluation of the inhalation technique.

Keywords: COPD initial treatment, COPD assessment test, risk group assessment

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ACQUIRED RESPIRATORY DISTRESS SYNDROME CAUSE BY SEPSIS - CASE REPORT

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Introduction: The most common cause of acquired respiratory distress syndrome (ARDS) is sepsis. When it overlaps with multiple organ dysfunction syndromes (MODS) evolution is reserved. MODS include two or more organs altered functions in acutely ill patients. For clinical operationalization, organ dysfunction and poor evolution can be represented by the score "Sepsis-Related Organ Failure Assessment" (SOFA) ≥2 points, which is associated with an in-hospital mortality greater than 10% (blood pressure ≤100 mmHg, respiratory rate ≥22 breaths/minute, altered conscience Glasgow coma scale <15). The presence of the septic shock increases the death rate to 40%.

Case report: A 65-year-old male (known with chronic stage-V renal disease with dialysis, diabetes type II with insulin-requirement, chronic hepatitis, and cardiac failure) was hospitalized firstly in Pulmonology Clinic than in Intensive Care Unit (ICU) with fever, cyanosis, resting dyspnea, polypnea (28/min), confusion, anuria, low blood pressure. Thoracic CT revealed a bilateral bronchopneumonia, enlarged liver and spleen. Examinations showed SaO2 70%, severe renal insufficiency (creatinine 7.50 mg/dl, urea 158mg/dl), increase blood glucose 170 mg/dl, leukocytes 18.900 cells/mm3 with neutrophils, anemia (hematocrit 29%, Hb. 8.8g/dl), thrombocytopenia, hepatic enzymes alteration (ALT 182U/L), acidosis (pH=7.173) and confirmed acute type II respiratory insufficiency (hypercapnia PaCO2 60.6mmHg, PaO2 50mmHg, HCO3 22mmol/L). PaO2/FiO2 ratio was very low (178.4mmHg) that confirmed ARDS. Blood cultures revealed staphylococcus aureus methicillin-resistant (MRSA) with sensitivity to linezolid, vancomycin, rifampin, gentamicin, teicoplanin. It was urgent started endotracheal-tube intubation, oxygen (FiO2-100%), vasoconstrictors (dopamine, noradrenaline), bicarbonates, protective liver drugs, antibiotics (linezolid plus clindamycin, antimicotics), inhibitor pump-protons, amino-acids, anticoagulants, bronchodilators. Evolution was unfavorable.

Conclusion: ARDS and MODS appeared in condition of severe bronchopneumonia with resistant germ (MRSA), in a patient with a medical background with multiples diseases: complicated diabetes with advances renal failure and dialysis, ischemic cardiac disease with cardiac failure, chronic liver disease. Severe pneumonia requires always blood cultures. ARDS with SOFA ≥2 points indicates necessity of ICU complex management and has a poor prognosis.

Keywords: ARDS, PaO2/FiO2 ratio, "Sepsis-Related Organ Failure Assessment"

CHRONIC COUGH WITH NORMAL CHEST X-RAY-STILL A CHALLENGE ?

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Introduction: Chronic cough is the cough that lasts for 8 weeks. There are many causes of chronic cough with normal chest x-ray: upper airway diseases ("post-nasal drip syndrome", otitis, pharyngeal/laryngeal inflammation, tumors or infections); lower airways disease (asthma, bronchiectasis – BE, smoking, early COPD); inhaled foreign bodies; thyroid compressions; lung cancer (LC); interstitial lung disease (ILD); cardiovascular condition (mitral stenosis, left ventricular failure, venous hypertension); gastro-esophageal reflux disease (GERD); dysphagia with recurrent aspiration; drug exposure (angiotensin-converting enzyme-ACE-inhibitors, beta blockers, psychogenic causes).

Aim of the study: The further work-up for chronic cough etiology includes medical history, chest x-ray (profile), respiratory functional tests, computed tomography (for early ILD, LC, bronchiolitis or BE), bronchoscopy (in any LC suspicion), cardiac examination with ultrasound, sputum examination for germs (inclusive for mycobacterium). Productive chronic cough without pathological chest x-ray could include foreign bodies (different toys in children, tooth, bone, and aliments in any patients); parasite (hydatid membranes, ascaris); mucus plug (asthma, bronchial aspergillosis, cystic fibrosis, pneumonia, alveolar proteinosis); blood clot; pus; alimentary products in esophageal fistula or aspiration; microlithiasis.

Conclusion: A study in Pulmonology Clinic on 90 patients with chronic cough and normal chest x-ray found: early asthma in 33 patients (36.6%), tonsillitis and nasal polyps 21 (23.3%), BE 21 (23.3%), GERD 18 (20%), cardiovascular diseases with stasis 12 (13.3%), treatment with ACE inhibitors 9 (10%), laryngitis 2 (2.2%), foreign bodies 5 (5.5% tooth, vegetal aliments, 1 coin (1.1%), LC 2 (2.2%), laryngeal cancer 2 (2.2%). ENT examination and bronchoscopy will be performed in any undiagnosed case of chronic cough to exclude malignancy and foreign bodies.

Keywords: chronic cough, diagnosis,normal chest X-ray

RISK FACTORS FOR PNEUMONIA

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Introduction: Pneumonia (PN) has worldwide a high morbidity and morbidity. Understanding the risk factors for PN may help to reduce the risk of disease apparition and provide complications prevention. Risk factors include a range of host factors (genetic particularities of the immune system, underling medical condition determining immunodepression) and intricated life style risk factors. Local conditions that decrease immunity are: smoking, dehydration, sedative use, chronic respiratory diseases (COPD, bronchiectasis, bronchial stenosis, tumors, and foreign bodies), poor dental hygiene, initial infection with viruses, mechanical ventilation, dysphagia, recent dental works and decrease of cough (stroke, sedatives, illicit drugs). General causes that favor PN are: advanced age, coma, diabetes, hemiplegia, cachexia, obesity, cardiovascular stasis, cerebrovascular disease, Parkinson's disease, epilepsy, dementia, chronic renal diseases, HIV/AIDS infection, malnutrition, chemotherapy, prolonged corticoids, hypothermia, malignant diseases, and sepsis. External condition for PN include: over-exertion, alcoholism, smoking, general anesthesia, intravenous drug users, pregnancy, contact with medical centers, hospitalization, occupational exposure, low level of education, epidemics, poor nutrition, lack of vaccination. Pathogenic classification in PN describes: a) Community Infections (no recent hospitalization or contact with medical centers); b) Hospital infections = nosocomial hospital pneumonia (pneumonia began ≥72h after admission to hospital, existing factors for PN and comorbidities or even ventilator associated PN onset ≥48h from mechanical ventilation); c). PN associated with contact with health-care centers (patients are outside the hospital but have recent contact with health-care centers).

Conclusion: Risk factors for PN or associated diseases are parameters that assess the severity of PN and help treatment. Strong knowledge about risk factors and the close workout for their elimination is crucial to decrease the prevalence and severity of PN.

Keywords: Pneumonia, local, systemic and external risk factors for PN

UPDATE IN BRONCHIECTASIS -DIAGNOSIS AND RISK FACTORS

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Introduction: Bronchiectasis (BE) is defined by irreversible destruction and dilation of large bronchi through chronic infection and inflammation. The disease is much underestimated because usually there are reported only the subjacent diseases and not the BE (tuberculosis, interstitial fibrosis, collagen disease, cystic fibrosis).

Aim of the study: BE is a common cause of pathology seen in our medical activity. In the Bronchoscopy Service of Pulmonology Clinic Tg. Mures, 1 of 4 patients has BE (from 1000 bronchoscopies/year). Manny patients are coming with pneumonia or suppurations inside infectious exacerbations of bronchiectasis. BE causes can be divided into bronchial (interne causes) and extra-bronchial causes. Bronchial causes include: repetitive bronchial infections (with tuberculosis bacilli, atypical mycobacteria, or non-specific bacteria Gram+ or Gram-), inhalations

with chemicals after professional exposure or by gastric acid aspiration, retro-obstructive BE (foreign bodies, tumors, stenosis), genetic diseases with cilliary dysfunctions: Kartagener syndrome (sinusitis, BE and situs inversus), Young syndrome (male infertility, bronchiectasis, sinusitis), trachea-broncho-malacia (William-Chambel syndrome), trachea-broncho-megalia (Mounier Kuhn syndrome). Extra-bronchial condition that favor/associate BE are: fibrosis (localized or diffuse interstitial fibrosis, pachipleuritis, pulmonary sequestration, alfa-1-antitripsin deficiency, broncho-esophageal fistula). Systemic disorder that include BE: cystic fibrosis (autosomal recessive genetic disorder that determine BE in homozygotes), autoimmune disorders (rheumatoid arthritis, ankylosing spondylitis, systemic lupus, Marfan's syndrome), immunodeficiency of immunoglobulin (congenital or acquired), lymphopenia, sarcoidosis. BE could remain a long time dry asymptomatic but in time they associate infection (that brings much more walls inflammation and destruction), pneumonia, hemoptysis, empyema, parenchymal damage and core pulmonale.

Conclusion: Diagnosis is made by clinical investigation, bronchoscopy, and computed tomography and for complication by assessing bacteriology from bronchial aspiration, genetic analysis, respiratory functional tests and cardiovascular investigation.

Keywords: bronchiectasis, risk factors and etiology

COMPLICATED EXTENDED BRONCHIECTASIS – CASE REPORT

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Case report: A 54 year-old male (nonsmoker, without occupational exposure) was hospitalized in the Pulmonology Clinic Tirgu-Mures for chest pain, rest dyspnea, cough with mucopurulent expectoration, weight loss, sweating, anxiety.

Material and method: The medical history revealed left inferior lobectomy for bronchiectasis at the age of 16, frequent respiratory infections and frequent hospitalizations in the last 5 years for exacerbation of his bronchiectasis. The physical exam revealed pale skin, retraction of the intercostal spaces, crackles, cyanosis of the extremities, BMI 18kg/m2. The chest x-ray showed the presence of a basal bronchopneumonia, SaO2 88%, purulent sputum (negative for Koch bacilli but positive for Streptococcus pneumonia). The thoracic scan highlights diffuses bronchiectasis (moniliformes), interstitial fibrosis and left fibrothorax with the rise of the left diaphragm. The respiratory function tests: severe mixed ventilatory dysfunction, ECG with signs of right branch block and right ventricle hypertrophy. Despite the age, and considering the onset of the symptomatology in puberty, we performed a chlorine sweat test which was negative (we excluded a late evolution of a cystic fibrosis). We began treatment with oxygen, intravenous third-generation cephalosporin, aminoglycosides, mucolytics (acetylcysteine, erdosteine), systemic corticoids, combined inhaled bronchodilators (long acting anticholinergic and beta agonists) with favorable evolution.

Conclusion: We recommended in the future vaccination against pneumococcus (1 time in life - pneumococcal polysaccharide conjugate vaccine) and against influenza (1 time/year in autumn) and immunostimulants (oral "vaccination" with immunogenic bacterial lysates). In the same time we recommended a diet rich in proteins, vitamins and calories for weight gain and maintaining a good oral hygiene. Increase in exercise (respiratory rehabilitation) with continued kinetotherapy for correct bronchial drainage will be beneficial for exacerbation prevention and increase in effort capacity and quality of life.

Keywords: Diffused bronchiectasis, chlorine sweat test

UPDATE IN CYSTIC FIBROSIS TREATMENT

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Introduction: Cystic fibrosis (CF) is a genetic disease due to mutations of the CFTR gene encoding chlorine channel proteins in the epithelial cell membrane influencing its transport. In the absence of the right membrane transfer, the mucus of the membrane surface will be viscous with mucocilliary clearance deficiency, stasis, and superinfection, bronchiectasis, and parenchymal damage.

Aim of the study: The complications of the disease include: bronchiectasis and respiratory insufficiency, digestive and metabolic disorder (exocrine pancreatic insufficiency, diabetes mellitus, maldigestion/malabsorption, liver dysfunction with jaundice, lipid malabsorption, gastro-esophageal reflux), infertility, otitis, growth retard, chronic core pulmonale and reduced survival. The goals of the treatment are to slow the progression of the disease and to increase the quality/duration of life. Treatment of lung damage depends on the bacteriological colonization (bronchoscopy has to be performed every 3-6 months) and include complex permanent targeted measures: a). Decrease in the mucus viscosity with alpha-dornase (recombinant human deoxy-ribonuclease that acts like a powerful mucolytic), saline hypertonic solutions, manitol, expectorants; b). Thoracic physiotherapy: percussion, respiratory muscular reinforcing exercises, inhaled bronchodilators, bronchial drainage with "Forced Expiratory Pressure" devices, "High Frequency Chest Wall Oscillation" devices (therapy with vibrating thoracic vests); c). Antibiotics in various ways of administration (aerosols, oral, intravenous) are recommended against chronic bacterial colonization according with the germs sensitivity (anti-pseudomonas and anti-staphylococcus covering - tobramycin, colistin, aztreonam, ciprofloxacin, aminoglycosides, macrolides); d). Long-term oxygen therapy if needed; e). Vaccination anti-influenza and antipneumoccoccal infection; f). Bronchodilators, anti-inflammatory drugs (non-specific or steroids); g). Modulators drugs that improve the function of CFTR gene (ivacaftor or lumacaftor); h). Lung transplantation is recommended in selected cases in advanced stages. Treatment of digestive damage: daily, lifetime, pancreatic synthesis enzymes, diet, supplement with fat-soluble vitamins and nutrients.

Conclusion: Treatment and monitoring of the disease will be done in a multidisciplinary team in specialized centers (pneumologist, bacteriologist, geneticist, family doctor, diabetologist, physiotherapist, nurse and social worker, dietitian, surgeon, psychologist).

Keywords: cystic fibrosis, multidisciplinary team, alpha -dornase, kinetotherapy

DIAGNOSTIC AND TREATMENT OF A CHYLOTHORAX IN A NON-HODGKIN LYMPHOMA -CASE PRESENTATION

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Introduction: Chylothorax could have several etiologies and usually has a poor prognostic. It could be malignant diseases (lymphoma, Kaposi sarcoma, lymph nodes LNs dissemination from any malignancy especially lung cancer or breast cancer), infections (tuberculosis, filariasis, histoplasmosis or any severe chronic infection), subclavian vein thrombosis, hepatic cirrhosis, severe cardiac failure, trauma or cardiac/esophageal/lung surgery, or by congenital causes (lymph vessel atresia). Etiologic diagnostic approach is mandatory for a correct treatment.

Case report: A 52 year-old female (moderate smoker) was hospitalized for rest dyspnea, thoracic pain, epigastric pain. The chest x-ray revealed bilateral pleural effusion that was confirmed by ultrasound. We perform pleural punction and found milky liquid rich in proteins, triglycerides and chylomicrons, with normal glucose and lymphocytic cytology. Non-specific germs and acid-fast bacilli (Koch bacilli) were negative in microscopy and also later in cultures. Thoracic CT-scan revealed mediastinal and retroperitoneal enlarged LNs, axillary LNs, liver and spleen enlargement. The peripheral number of the lymphocytes was slightly decreased. With the strong suspicion of a lymphoma we sent the patient to the hematologic exam. Axillary biopsy was positive for a Non-Hodgkin lymphoma (NHL). The treatment included a combination of cytostatic (cyclophosphamide, doxorubicin, vincristine and prednisone) followed by 2 cures of the previous 4 drugs plus Rituximab, followed by 6 cures of rituximab (monoclonal antibodies strongly indicated in NHL as a single medication). Treatment was completed by administration intrapleural of cyclophosphamide and mitoxantrone hydrochloride. Evolution was favorable with remission of the enlarged LNs and of the pleural effusion.

Conclusion: Chylothorax is a severe condition that needs a precise diagnosis of etiology for a targeted treatment. Biopsy (from peripheral or mediastinal LNs) is crucial for disease confirmation. In our case repeated cures of targeted cytostatic and local intrapleural administration of the cytostatic brought the favorable evolution. Close monitoring of the NHL case has to be made by an interdisciplinary team (hemato-oncologist, pulmonologist, radiologist, pathologist specialist).

Keywords: lymphoma, axillar biopsy, chylotorax

TREATMENT WITH METHYLXANTHINES IN COPD

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Introduction: Methylxanthines (MX) are bronchodilators that induce phosphodiesterase inhibitors having also anti-inflammation action by various mechanisms: intracellular CAMP growth, TNF-alpha inhibition, leukotriene synthesis inhibition, immunostimulating effect, neutrophils infiltration. At the present, MX has a limited indication - only in severe COPD stages - because of their major adverse effects and the need for monitoring plasma concentrations. In the same time, nowadays there is well recognized the value of the inhaled bronchodilators (anticholinergic and beta-adrenergic) with stronger power and less toxicity. The best-known representative of the MX family is theophylline (TE). TE has a bronchodilator effect on the bronchial muscle, increases diaphragm contraction performance, increases mucociliary clearance, reduces hyperinflation, improves blood gases, and raises moderately the FEV1 and FVC. At concentrations of 5-10 mg/L TE has an immunomodulatory and anti-inflammatory effect being a histone-deacetylase-activator and a corticoid activator. This effect indicates new directions of study for the representatives of this drug family without adverse effects. The therapeutic doses of TE are close to the toxic ones. Therefore, COPD guides position MX as line- III medication, "add – on" to previous treatment in patients with severe COPD (who still maintain dyspnea after using a combination of bronchodilators). The side effects of MX may be redundant (especially at doses above 20 mg/L): tachycardia, cardiac arrhythmias, central nervous stimulation, tremor, seizures, headaches, nausea, vomiting, increased gastric acid secretion (hydrochloric acid and pepsin).

Conclusion: The daily recommended dose of TE in stable COPD is 200-300mg in prolonged-release form. For long-term use, blood concentrations have to be measured (initially and at 3 months) and interactions with other medicinal products (allopurinol, ciprofloxacin, erythromycin, benzodiazepine or cimetidine) will be evaluated. Toxic effects can be prevented by slowly increase of doses to the therapeutic dose (8-12 μg / mL).

Keywords: methylxantines,COPD treatment,toxic effects

PLEURAL EFFUSION OF SUB-DIAPHRAGMATIC ORIGIN

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Introduction: There are large communications between the thoracic and abdominal compartments (by anatomical orifices, lymphatic vessels or by contiguity). An important part of the pleural effusion has the origin in subdiapfragmatic region of the body. We may note several condition of abdominal diseases that could associate pleural effusion: subphrenic abscesses, hydatid cysts (hepatic/spleen/kidney or intraperitoneal cysts), abscesses of the liver, hepatocarcinoma, liver cirrhosis (with vascular failure and ascites), pancreatitis, pancreatic cyst or tumors, recent abdominal surgery, peritonitis, digestive or peritoneal tuberculosis, peritoneal dialysis, sclerotherapy of esophageal varicosities and any digestive tumor. A variety of genital and renal diseases could associate pleural effusions (frequently along peritoneal effusion): nephrotic syndrome, glomerulonephritis, uremia (could associate also pericarditis), Meigs syndrome (benign ovarian tumor with ascites and pleural effusion), malignant tumor of the prostate, testis, ovaries, and uterus. Any found pleural effusion has to be punctured (under thoracic ultrasound guidance) and analyzed as it follows: aspects of the liquid, biochemistry (proteins, glucose, LDH, interferon - gamma, adenosine - deaminase), bacteriology (for tuberculosis mycobacteria and for non-specific bacteria) and cytology exam. The pleural effusions could be transudates (nephrotic syndrome, dialysis, hypoalbuminemia, liver cirrhosis, varicosities sclerotherapy, Meigs syndrome, and myxedema) or exudates in all the other above mentioned conditions. Pleural biopsy and histopathological exam is beneficial in tuberculosis, malignancy (primary tumor of the pleura – mesothelioma or secondary dissemination of tumor), silicosis, granulomatosis (sarcoidosis, beriliosis).

Conclusion: Etiology is difficult to establish and requires clinical exam, imagistic investigation (ultrasound, computed tomography, biologic and serologic markers) and a multidisciplinary team (pulmonologist, internal medicine specialist, imagist, surgeon, bacteriologist, pathologist, lab specialist and oncologist).

Keywords: Pleural effusion, subdiapfragmatic diseases, liquid analysis

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GIANT BULLA INSIDE CHRONIC OBSTRUCTIVE LUNG DISEASE, TUBERCULOSIS CAVITY OR A SMALL APICAL PNEUMOTHORAX? (CASE REPORT)

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Introduction: Advanced chronic obstructive lung disease (COPD) could associate several respiratory complications: recurrent exacerbations, respiratory failure, pulmonary hypertension, lung cancer, and pneumothorax. Emphysema inside COPD produces sometimes large bullae that have to be differentiating from a localized pneumothorax or even from tuberculous TB cavities (Romania being a region with high TB endemic). Bacteriology from sputum and computer tomography (CT) often are necessary for the final diagnosis.

Case report: A 79-year-old male (heavy smoker 53 packs/year) is hospitalized for 38.5o C fever, dyspnea, fatigue, headache, mucopurulent cough, cyanosis, chest pain. Medical history revealed a COPD stage IV, risk group D, arterial hypertension, ischemic heart disease, an old stroke with important clinical recovery. Thoracic radiography indicated a hyper-transparent image occupying the entire right superior lobe, with a fine contour and multiple opacities of pulmonary condensation extended in the right lung. The clinical-radiological aspect could plead for TB, that why samples of sputum for the Koch bacillus (KB) bacteriology was taken. Low SaO2 (86%) and resting dyspnea recommended a gasometry (we found slight hypoxemia PaO2 65 mmHg with normocapnia). Respiratory functional tests revealed a predominantly severe obstructive ventilatory dysfunction (FVC 56%, FEV1 28%, Tiffeneau index 37%). Blood analysis showed leukocytosis with neutrophils (14,000 / mml, 81%). EKG demonstrated a sinus rhythm with a right branch block. KB from the sputum were constantly negative. The patient refused bronchoscopy for bronchoalveolar lavage and bacteriology. We interpreted the case like a community bronchopneumonia in a patient with several risk factors: advanced age, severe COPD, chronic smoking, bronchoplegia (inside stroke and cough diminishing), poor dentition. Thoracic ultrasound confirmed suspicion of a small pneumothorax: absence of "lung sliding", presence of the "transition point", absence of "B lines", absence of other subjacent lesions – in the brightness mode (B) and aspect of suggestive "bare code" in mode M ("motion"). Considering the clinical features and negative exam for KB in the sputum, the hyper-transparent "cavity like" image was interpreted as a small fixed localized pneumothorax. Patient refused surgical consult but had a favorable evolution under oxygen therapy, nonspecific antibiotics, combined bronchodilators, mucolytics, and diuretics.

Conclusion: Advanced emphysema could associate large bullae or pneumothorax. In Romania those cases have to be investigated in the same time for Koch bacillus (Ziehl-Neelsen and Löwenstein Jensen cultures) regarding the high prevalence of TB in general population. Small pneumothorax has a conservatory treatment with close further monitoring of evolution to detect a possible complication through total pneumothorax. Thoracic ultrasound remains an accessible tool for pneumothorax diagnosis.

Keywords: emphysema, pneumothorax, tuberculosis, thoracic ultrasound

PALLIATIVE CARE IN COPD

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Introduction: COPD is a highly symptomatic disease with progressive disability. WHO included COPD among diseases that need palliative care (PC). PC implies measures aimed to eliminate sufferance and improve the quality of patients' life in severe condition or in terminal phases. PC involves the early identification of the problems and a sustained treatment of symptoms and other physical, psychological, spiritual, social needs that decrease quality of life. Another category of eligible COPD patients for PC are those with persistent major symptoms (dyspnea, decrease in exercise capacity, fatigue, panic attacks, anxiety/depression) despite optimal baseline treatment. PC is applied at home, in hospitals or in specialized centers "hospices" (in terminal diseases stages or in life expectancy <6 months). Advanced COPD associates chronic respiratory failure, cardiovascular, metabolic, muscular dystrophy, and exacerbations that degrade the clinical/functional status with poor prognosis. Criteria announcing the accelerated decline of the disease and mortality risk are: severe pulmonary impairment, high frequency of exacerbations, decreased walking distance at the 6-minute walk-test ≤50 meters, PaO2 decreased by ≥5mmHg at rest, and increase PaCO2 by >3%, or permanent depression. Patient management will be covered by a multidisciplinary team (pneumologist, palliative care specialist, family physician, nutritionist, psychologist, physical therapist, social worker). PC components: early identification of problems raised by the patient's serious condition, communication with the patient/family for understanding of the prognostic and the therapeutic possibilities, exhaustive assessment of patient's status, treatment plan (increase in basal treatment, pulmonary rehabilitation, non-invasive mechanical ventilation NIMV or endotracheal intubation, transplantation). Dyspnea will benefit from: combined long - acting bronchodilators (anticholinergic and beta-adrenergic) in maximal concentrations, corticoids in acute exacerbations, evacuation of pleural effusions, mucolytics, respiratory rehabilitation, oxygen therapy, NIMV, opiates.

Conclusion: Nutritional support includes food supplements and can improve the strength of respiratory muscles. Depression, anxiety and fatigue will benefit from rehabilitation measures, nutritional support, cognitive-behavioral therapies and psychological support. PC in specialized centers have shown to improve information (understanding the disease and the treatment resources), communication with the patient and patient's family, better access to care, optimization of medication, increase in spiritual/emotional support, well-being, dignity for the patients, symptoms control, increase quality of life.

Keywords:palliative care,COPD,patient management

RISK FACTORS FOR PULMONARY THROMBOEMBOLISM

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Introduction: Pulmonary embolism (PE) continues to represent a severe respiratory disorder with multiple complications (core pulmonale, respiratory failure, increased risk of death). A number of conditions favor pulmonary embolism or thrombosis "in situ". They were divided into high, moderate or low risk factors. Often these predisposing risk factors are associated and so they are difficult to prevent. Strong risk factors for PE are: multiple trauma, fractures or prosthesis in the lower limbs and knee, major surgery, spine cord lesions, sepsis, deep veins thrombophlebitis DVT (especially with high location in the great veins of the upper/lower limbs), congenital/acquired thrombophilia (through genes controlling clotting mutations – factor V Leiden, antithrombin III and protein C/S deficiency, factor II mutation, hyperhomocysteinemia), HIV infection, mechanical ventilation, shock. Intermediate risk factors occur under the following conditions: central venous line, chemotherapy, respiratory or cardiac failure, knee arthroscopic surgery, advanced age, history of previous DVT or PE, active cancer, myocardial infarction, atrial fibrillation, hormone replacement therapy, oral contraceptive therapy, COPD and core pulmonale, neurologic disorders with paresis, prolonged bed rest, postpartum/postabortum status, burns, heredocolateral antecedents of PE, collagen diseases, antiphospholipidic syndrome, siclemia. Lower risk for PE (but still increased comparative to common people) includes: laparoscopic surgery, immobilization during prolonged travels, obesity, pregnancy/antepartum status, varicose veins, prolonged inflammatory states, exposure to drugs (antituberculous drugs, cytostatic, thalidomide, and cortisteroids), smoking, dehydration, multiple pregnancies.

Conclusion: PE can occur in patients without identifiable risk factors. These patients were identified by analyzing of some suggestive inflammatory markers: reactive C protein, fibrinogen. Early and constant detection of at high risk patients adds significant advantages to the prevention and appropriate treatment of risk factors.

Keywords: pulmonary thrombosis or embolism, risk factors

FUNCTIONAL EVALUATION AND CLINICAL - RADIOLOGICAL STAGING IN SARCOIDOSIS (PULMONOLOGY CLINIC TG. MURES)

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Introduction: Sarcoidosis is a systemic granulomatosis without known etiology and pathogenesis. It always involves the lungs but also frequently organs like liver, spleen, bones, skin, nervous system or digestive organs. Initially sarcoidosis could have an obstructive ventilatory pattern then with the progress of the interstitial fibrosis it will be more characteristic the restrictive/mixed ventilatory pattern and the reducing in transfer capacity for carbon monoxide (TLCO).

Methods: In 56 patients with sarcoidosis hospitalized in Clinic of Pulmonology Tg. Mures we studied clinical aspects, clinical and radiological staging and functional tests.

Results: Men predominated (in literature the disease is most common in women): 40 men and 16 women (M: W = 2.5/1). We found more frequently notable associations: ASLO positive 18 patients (32.1%), infectious/parasitosis 26(46.4%), obesity 20(35.7%), endocrine disorders: 5 cases with hypothyroidism, 2 with hyperthyroidism, 4 ovarian cysts. We found in the st.I - 19 patients (33.9% - 8 erythema nodosum), 26(46.4%) st.II, 11(19.6%) st.III. Thoracic chest-x-ray correlated in 100% with thoracic CT. Determination of CO transfer factor (TLCO) was possible in 9 patients in the absence of a diagnostic device (7 patients from st. III with moderate low TLCO). There was a good relationship between the symptoms and the functional profile. St. I on chest-x-ray a). 3(15.7%) asymptomatic patients and normal spirometry (functional st.I A); b). 16(84.2%) patients with gr.1 dyspnea and discrete distal obstruction (functional st.IB). St.II on chest x-ray: a). 6(54.5%) patients with gr.2 dyspnea and slight obstruction; b). 10(38.4%) patients with gr.2 dyspnea and low forced vital capacity (CVF); c). 10(38.4%) gr.3 dyspnea and moderate restriction. St.III on chest-x-ray: 3(27.2%) patients with gr.2 dyspnea and moderate low CVF and with 8 (72.7%) with gr. 3-4 dyspnea and severe restriction (4 with core pulmonale). In terms of the relationship between the radiological aspect and the spirometry there were higher radiological changes than functional changes on spirometry in 18 patients (69.2%) from st.II and 5 (45.4%) from st.III. In this context TLCO brings the precision in characterization of the respiratory dysfunction.

Conclusion: The functional investigations (spirometry, TLCO, pulsoximetry, echocardiography) must be performed in all cases of sarcoidosis being indispensable for the personalized diagnosis and staging of sarcoidosis, complications (dysfunction and respiratory failure, core pulmonale) along with the establishment of state of disease evolution for a proper treatment (systemic corticoids, inhaled bronchodilators, respiratory rehabilitation).

Ket words: sarcoidosis, spirometry, TLCO

DIAGNOSTIC TESTS IN CYSTIC FIBROSIS

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Introduction: Cystic fibrosis is an autosomal recessive monogenic disease caused by mutations (over 1500 possible) of the CFTR gene (Cystic Fibrosis Transmembrane Conductance Regulator). 1 out of 25 people in the Caucasian population is a carrier (heterozygous). Those who inherit the mutant gene from each parent develop the disease (homozygosis). CFTR is essential for regulating water and salt transfer through membranes and in the absence of the right transfer the mucus at the surface of the membrane will be viscous. Symptomology depends on altered gene alleles and upon the influence of the environmental factors. At the bronchial level, the viscous mucus becomes colonized with bacteria, initiating a chronic inflammatory process leading to bronchiectasis. In digestive area occurs pancreatic exocrine failure than endocrine disorder with diabetes through lesions of the gland. Other symptoms are: meconial ileus in newborn, malabsorption, steatorrhea, hepatitis, sinusitis, delayed puberty and azoospermia, hippocratic fingers. Diagnostic criteria of the CF: a). Clinical examination: frequent onset in newborn or infant (ileus meconial, rectal prolapse, cough, and bronchial recurrent infections); b). Genetic screening it is indicated when it is present history of the disease or carrier in parents, brothers or sisters; c). Lab assessment: chlorine sweat test >60 mEq/L in symptomatic subjects or with positive screening test; d). Genetic identification of 2 mutations in each CFTR gene. Screening of carriers can be performed in people with family history (before or during pregnancy): genetic test - DNA assessment in blood or saliva or in the cells of the mucous membrane of cheek or by prenatal sample of amniotic fluid or placenta. In newborn it will be performed the genetic test for confirmation (blood from baby's heel).

Conclusion: Screening for heterozygotes will be performing in people with suggestive family history. Screening is consistent with genetic counseling and is an optimal way to reduce morbidity through CF.

Keywords: cystic fibrosis, screening for CFTR gene, chlorine sweat test

MODERN METHODS OF TUMOR RESTAGING IN A RENAL TUMOR WITH MEDIASTINAL LYMPH NODES BLOCK - CASE PRESENTATION

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Introduction: Endobronchial ultrasound (EBUS) is a modern method to guide transbronchial - needle biopsies of the mediastinal/pulmonary unidentified masses. The advantage of the investigation is to bring the histopathological examination in the same time as the staging of the tumor/lymph nodes/metastasis TNM (in a single investigation). EBUS is a comfortable morphological investigation for the patient (it can be done in a single day hospitalization with moderate sedation) after previous investigation (anamnesis, physical examination, cardiac assessment, respiratory function tests, and coagulation status) in order to eliminate contraindications. The PET-CT "Positron Emission Tomography Fused with Computed Tomography" imaging method allows TNM staging and differential diagnosis between benign/malignant masses by assessing vascularization and metabolic activity (level of tracer substance fixation - deoxy-fluoro-glucose).

Case report: A 56 year-old male patient (heavy smoker 30 packs/years) with recent history of nephrectomy for malignant tumor was hospitalized for dry cough, small efforts dyspnea. CT with intravenous contrast revealed mediastinal lymph nodes mass, but also a thyroid mass with non-homogeneous areas and calcifications. We recommended EBUS bronchoscopy for the histopathological evaluation of the mediastinal mass. EBUS could show us the histopathological type of lymphatic block and establish the provenance of the nodes dissemination (thyroid tumor, renal tumor - M1? or a lung cancer - N2?). In the same time we recommended endocrinological consultation and thyroid biopsy punction and PET - CT for "whole body" complete TNM staging. Accurate histopathology confirmation will lead to targeted chemotherapy/radiotherapy.

Conclusions: CT monitoring with contrast (2 times/year in the first 2-3 years and then annually) after diagnosis of a malignant tumor (even after surgical resection) is required in all cases. EBUS and transbronchial lymph node biopsy is a convenient method available in Romania for assessing mediastinal adenopathy. Bronchoscopy is mandatory in any heavy-smoker patient in the presence of a mediastinal mass, especially with previous confirmed malignant tumor.

Keywords: endobronchial ultrasound (EBUS), Positron Emission Tomography CT (PET – CT)

ADHERENCE TO TREATMENT OF COPD PATIENTS

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Introduction: Chronic Obstructive Pulmonary disease (COPD) is a worldwide severe obstructive disease with high impact over people's health and society. Despite the progresses made in the medical treatment there are some dysfunctionality in the management of this patients especially concerning adherence to medication treatment (inhalators, smoking cessation, oxygen therapy, CPAP therapy) and respiratory rehabilitation (exercise, education, diet, auto-management of the disease). Nonadherence could manifest by underuse, overuse or improper use of a medication or disregarding medical recommendations (continuing smoking, exposure to noxious, lack of exercise). The main causes of nonadherence (NA) are due directly to the patient (noncompliance) or indirectly due to the physicians' lack of engagement or due to high cost of medication. In COPD NA to treatment and medical advice brings more symptoms, increase number of exacerbation/hospitalizations, decrease quality of life, provide complications and increase mortality. In the same time, for the patient NA to treatment means lack of self - care. The efficacy of the treatment relies also on patients' adherence to the medical advice, and education for aggravation/complication prophylaxis. At the moment of the diagnosis and start of treatment the physician would explain the necessity for a life-time treatment, smoking cessation and medication consisting mainly in bronchodilators. After a large discussion with the patient and his family, the physician will ensure a written plan of treatment and would explain the type of the disease, the reason and the benefices of the treatment, its lack of dangers, the technique of inhalation, and the possible side effects and will demonstrate the administration technique. Than the patient will repeat the goal of treatment and he will demonstrate how he should take the inhalers. The patient will respect the schedule of the future visits to the pulmonologist. At each visit the pulmonologist will check the patient compliance and the technique of drug administration.

Conclusion: The patient has to become an active actor in his own health management. The physician will adapt the treatment to the accessible medication, to the patient's belief and cognitive ability. Nowadays it speaks about "concordance" between patient and healthcare professional. From the health-system point of view NA could mean a great burden with healthcare expenditure and direct cost (associated with medical resource use, efforts from the medical personnel) and indirect costs (by absenteeism, work loss, worker replacement, reduced productivity, and family care). The strategy to increase adherence continue to be largely studied but consists in some ideas: treatment (by written plan) has to be simple (one dose daily), simply explained to the patient and to his family, adapted to the patient abilities and financial possibilities, with follow-up supervision and enforcing self-management.

Keywords: adherence to treatment, COPD, self-management

RENAL TUBERCULOSIS IN A PATIENT WITH MULTIPLE RISK FACTORS

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Introduction: Horseshoe kidney is a common kidney anomaly with increased risk for infections (including tuberculosis infection), lithiasis, trauma and renal carcinoma.

Case presentation: A 75-year-old patient (non-smoker but alcohol user, 22.9 kg/m2 BMI) is hospitalized in the Urology Clinic for prostate adenoma suspicion regarding a surgery intervention. Renal symptoms started for a long time (6 months). The patient was known to have a history of urologic pathology (prostate adenoma, horseshoe kidney, renal lithiasis with spontaneously eliminated calculi, left hydrocele). The urine test highlights the positive Koch bacillus at Ziehl Neelsen staining in microscopy and the patient was transferred to the Pulmonology Clinic for the treatment of renal tuberculosis (RTB). Pelvic ultrasound reveals fusion anomaly and pielo-caliceal dilatation zones, calculus in the right kidney with a shadow cone, and a small prostate adenoma of 35cm2 with intravesical evolution. Thoracic radiography only reveals fibrous hilum sequels. Spirometry was normal. Urine culture for non-specific germs was negative. Serology shows creatinine - 1.63 mg/dl, urea 61.2 mg/dl, normal blood count, Ac. antiHIV-negative. Urine exam revealed leukocytes 500/microL and hematuria 5-10 erythrocytes/microL, density 1010, leukocytes in sediment grouped and isolated and rare amorphous salts. We started class I antituberculosis treatment with Isoniazid, Rifampin, Ethambutol, Pyrazinamide and vitamin B6 for 3 month than in continuation phase Isoniazid, Rifampin for 5months, liquid drinking 2 liters / day. Periodic urological re-assessment was accorded. The evolution of the case was favorable with the rapid disappearance of the symptomatology, without need for further surgery.

Conclusions: Tremendous infectious symptomatology with polakiuria, dysuria, frequent urine and pelvic embarrassment may be an indicator of a chronic tuberculous infection, thus recommending urine examinations in all symptomatic cases for both non-specific flora and mycobacteria. The presence of anatomical abnormalities, horseshoe kidney and urinary lithiasis adds additional risk factors for RTB. RTB will be closely monitored by pneumologists and urologists/nephrologists. RTB treatment will avoid the use of nephrotoxic antibiotics.

Keywords: renal tuberculosis, multiple risk factors

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