401. Different profiles of sarcoidosis and other granulomatous disorders

P3720

Effect of infliximab on lung function and well-being in patients with refractory sarcoidosis

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Rationale: Infliximab improves lung function in refractory sarcoidosis. Changes in other clinical parameters are still unclear.

Objectives: To assess the effect of treatment with infliximab on change in lung function tests, fatigue severity and physical functioning, serum parameters and uptake on (18)F-fluorodeoxyglucose positron emission tomography (FDG-PET) in patients with refractory sarcoidosis.

Methods: Retrospectively, 45 patients with refractory sarcoidosis were evaluated. All patients received 6 infusions of infliximab (5mg/kg).

Main endpoints were the change in percentage of predicted vital capacity (VC), forced expiratory volume in 1 second (FEV1) and diffusing capacity of the lung for carbon monoxide corrected for haemoglobin concentration (DLCOc) from baseline till after dose 6. Other endpoints were the changes in fatigue (Checklist Individual Strength) and physical functioning (Medical Outcome Score-short form), serum soluble interleukin-2 receptor (sIL-2R), angiotensin converting enzyme (ACE) and change on FDG-PET, expressed as maximum standardized uptake value (SUVmax).

Results: VC showed an increase of 5,4% ($p < 0.0001$), FEV1 an increase of 5,3% ($p < 0.001$) and DLCOc an increase of 3,1% ($p = 0.012$). In a subgroup of patients that had a pulmonary indication for treatment, these percentages were higher (VC: 7,6%, FEV1: 7,9%, DCLOc: 3,5%).

In the total group fatigue severity and physical functioning significantly changed over time, indicating clinically relevant improvement.

Additionally, a significant decrease in ACE, sIL-2R and SUVmax was observed.

Conclusions: Infliximab improves lung function, well-being and serum and PET-parameters in patients with refractory sarcoidosis.

P3721

Many faces of neursarcoidosis!

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Nervous system infiltration occurs in approximately 5% of patients with sarcoidosis; it is associated with a less favorable course and accounts for a disproportionate amount of disability.

Our aim was to evaluate clinical manifestations of patients with neurosarcoidosis, their demographics, and form of presentation, extra-neurological involvement and therapy.

We performed a retrospective analysis of 23 patients' clinical records (5,1%) out of a total of 450 with biopsy proven or high clinical suspicion of sarcoidosis with neurological involvement. Five males, 20 caucasian, mean age of 47,8±9,9 years with mean follow-up of 10,4±8,2 years (min. 1 and max. 23 years). At presentation, in 10 patients, neurologic symptoms. Twenty-one patients had further involvement of at least a second organ and 18 also had pulmonary compromise.

Most patients (n=15) had III, IV, VI or VII cranial nerve palsy conditioning dysarthria and diplopia. Three patients had peripheral neuropathy conditioning mainly paresthesia, two had headache, one had spastic paraparesis and one had extensive optic chiasm involvement conditioning almost total blindness. One of these patients had osmotic receptor dysregulation conditioning high sodium levels, a condition never yet reported in sarcoidosis and another presented with a rapidly progressive dementia

All patients except for 3 were submitted to steroid therapy and 5 still required the association of a second imunosupressor. Three patients were treated with Infliximab, 2 with total resolution of neurological symptoms.

In conclusion, most patients had localized disease affecting essentially the base of the brain however sarcoidosis' neurologic manifestations can be diverse and disabling, conditioning an aggressive approach.

P3722

Evaluation of factors affecting mortality rate in sarcoidosis

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Introduction: Five to 10% are the mortality rates reported in patients with sarcoidosis worldwide. However, little are known about the factors affecting the survival.

Methods: We conducted an observational study to examine factors affecting survival in patients with sarcoidosis. Totally 122 patients with biopsy-proven sarcoidosis enrolled, underwent pulmonary function tests, a 12-lead electrocardiogram, an echocardiogram and a 24-hour Holter monitoring. Cardiac sarcoidosis was detected based on known criteria. All-cause mortality and cardiac death were the primary and secondary endpoints.

Results: During a median of 58.89±15.75 months follow-up, ten deaths (8.2%) were reported. The demographic characteristics of the survived patients and those who died are presented in table 1.

Factors affecting mortality in sarcoidosis

Factors	Alive 112/122 (91.8%) Mean value ± SD	Dead 10/122 (8.2%) D Mean value ± SD	Statistical significance
Age	47.4±11.67	62.33±18.06	<0.05
TLC	85.56±12.79	57.5±17.54	<0.001
DLCO	80.64±16.1	43.53±18.93	<0.001
Mean 24-hour HR	79.52±7.94	82.7±13.4	NS
SD24	122.51±36.08	77.87±19.88	<0.001

Abbreviations: PSAP: Pulmonary Systolic Arterial Pressure; HR: heart rate; SD24: Standard Deviation of RR intervals; NS: not significant.

Five patients (4.1%) died due to cardiac causes. Cardiac involvement was detected in 40 patients (32.8%). The multivariate analysis showed age, standard deviation of RR intervals < or =90 ms, TLC<80% of the predicted, DLCO<80% of the predicted and the cardiac involvement were independent risk factors of all-cause mortality.

Conclusion: The thorough evaluation of the results from a full cardiopulmonary monitoring in patients with sarcoidosis may be able to detect factors related with increased risk of mortality.

P3723

Long-term treatment with infliximab in patients with sarcoidosis

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Background: Long-term benefit and safety of infliximab treatment in patients with chronic sarcoidosis remain unclear. We wanted to assess clinical benefit and safety of long-term infliximab treatment in patients with chronic steroid-resistant sarcoidosis.

Methods: A retrospective chart review of all patients with chronic steroid-resistant sarcoidosis who received infliximab between January 2003 and November 2010. Pulmonary function tests and index lesions before and after infliximab therapy were assessed.

Results: 28 patients received infliximab, 16 of them for more than 12 months. 5 (31%) of these 16 patients with long-term infliximab treatment had a predominantly pulmonary, and 11 (69%) a predominantly extrapulmonary disease. Mean duration of treatment was 29 months (range 12 - 62). 6/11 (55%) patients with mainly extrapulmonary sarcoidosis showed a complete remission of their index lesion, 4/11 (36%) had a partial remission, and 1/11 (9%) showed no response. 1/5 patient with predominantly pulmonary sarcoidosis showed a >10%-improvement of percentage predicted forced vital capacity (FVC,%P), 3/5 showed a 0-10%-improvement, and in 1 patient FVC,%P declined. Thus, overall 14/16 (88%) patients profited from long-term infliximab treatment. Suspected adverse effects which lead to a temporarily discontinuation of infliximab therapy were noticed in 1/16 (6%) patient.

Conclusions: This retrospective study indicates that long-term infliximab is very efficient and safe in patients with chronic steroid-resistant sarcoidosis when assessed with individualized treatment targets. Patients with predominantly extrapulmonary sarcoidosis seem to profit more than patients with predominantly pulmonary disease.

P3724

Interferon gamma release assays in screening for tuberculosis – Can we use them in patients with sarcoidosis?

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Treatment with tumour necrosis alpha (TNF-α) inhibitors has been introduced in recalcitrant sarcoidosis. These biologics may reactivate a latent tuberculosis infection (LTBI) and sarcoidosis patients are routinely LTBI tested before receiving TNF-α inhibitors. Until now, the tuberculin skin test (TST) has been used for LTBI screening among sarcoidosis patients in Denmark, even though the TST is unreliable with a low sensitivity in this specific group of patients. This study reports the results of an LTBI screening among recalcitrant sarcoidosis patients using the interferon gamma release assay (IGRA) QuantiFERON TB Gold (QFT). Secondly, the study assesses to which extent the QFT result is influenced by sarcoidosis disease activity. 44 sarcoidosis patients (22 men) with a median age of 38 years (range 25-59) were examined with QFT. Disease activity was assessed by biochemical blood markers, pulmonary function tests, chest X-ray and fluorine-18 fluorodeoxyglucose positron emission tomography (FDG-PET). 41/44 (93%) patients had a negative and 3/44 (7%) an indeterminate QFT test. 19/44 (43%) patients had activity in their sarcoidosis as judged by biochemical markers and 12/44 (27%) of these had a positive FDG-PET. None of the patients with a negative QFT had clinical, radiological or microbiological evidence of latent or latent tuberculosis infection. All patients were alive 5 years after the QFT test was performed. At the 5-year follow-up of in the National Danish Tuberculosis Registry, there was no registration of overt tuberculosis in any of the patients.

P3725

Honeycombing pattern: A particular form of sarcoidosis-related pulmonary fibrosis

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Introduction: Pulmonary fibrosis, as defined as radiographic stage 4, is the major cause of morbidity and mortality in sarcoidosis. Three main patterns of pulmonary fibrosis have been described on HRCT: bronchial distorsion, hilo-peripheral linear opacities, and honeycombing (HC).

Aims: To determine whether patients with HC pattern have a particular phenotype of sarcoidosis.

Methods: Retrospective and monocenter study, comparing 34 patients with HC pattern (men: 62%, age: 56±14 years) with 34 controls with other HRCT pattern. Controls were matched with patients for the date of the first available workup with stage 4.

Results: HC predominated in the upper lobes, but 5 cases (15%) had evidence of basal and peripheral predilection close to that seen in idiopathic pulmonary fibrosis. Patients differed from controls for a higher frequency of environment exposure (39 vs 15%, p=0,045), more altered gas exchanges (PaO2: 77±10 vs 82±11 mmHg, p=0,04 and DLCO: 38±16 vs 60±16%, p<0,0001) and reduced lung volumes (FVC: 62±2 vs 75±20%, p=0,017) and an increased occurrence of pulmonary hypertension (62 vs 32%, p=0,029) and oxygen requirement (56 vs

15%, p=0,001). Extra-respiratory involvement of sarcoidosis was less frequent (21 vs 47%, p=0,04) in patients as well as residual granulomatous activity, as judged by serum angiotensin convertizing enzyme and HRCT signs. However, mortality was similar between the two groups.
Conclusion: The phenotype of patients with HC is original. An exposure to inhaled particles may play a role in the development of this particular fibrosis evolution and explain the local respiratory severity of sarcoidosis while the disease seems less active and severe from a systemic point of view.

P3726
Thyroid disease in an Irish cohort of sarcoidosis patients
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Introduction: Sarcoidosis is a multisystem disease of unknown aetiology with prevalence rates in the West of Ireland being among the highest in the world. Sarcoidosis is attributable to an altered or incomplete immune response to an auto- or alloantigen in genetically susceptible hosts. The association of sarcoidosis and thyroid disease has been described in numerous studies with a range of variability. Baseline prevalence rates for thyroid disease in the population range from 0.1 to 3%.
Objectives: The purpose of our study was to estimate the prevalence of thyroid disease in a cohort of sarcoidosis patients in the West of Ireland.
Methods: Using our patient database from 1983-2009, we retrospectively identified patients who had thyroid function testing (TFTs) and reviewed the clinical indication, treatment and related physiological, radiological and treatment findings.
Results: 139/407 (34.2%) had TFTs. Of these, 24/139 (17.3%) were abnormal with 15/139 (10.7%) hyperthyroid and 9/139 (6.5%) hypothyroid. Mean age was 40.3yrs (median 37) with M:F ratio of 1:2. Mean time to diagnosis was 5.8yrs. There was no relationship with presentation, lung function, radiological stage or treatment of sarcoidosis. There was no association with hypercalcaemia, hypercalciurea, coeliac or other autoimmune disease.
Conclusion: We have demonstrated a moderately increased prevalence of thyroid disease on follow-up of Irish patients with sarcoidosis particularly in relation to hyperthyroidism. This is in contrast to Antonelli who reported a high prevalence of female predominant clinical and subclinical hypothyroidism. Complex immunological and genetic mechanisms may explain this association which should not be overlooked. Further investigation is needed.

P3727
Pulmonary hypertension and right ventricular impairment in patients with sarcoidosis
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There is little date about frequency of pulmonary hypertension (PH) and right ventricular (RV) impairment in patients with sarcoidosis. In this work we examined the prevalence PH in these disorders using noninvasive cardiopulmonary evaluation.
33 patients (aged 50,64±2,84) with sarcoidosis have been studied. 8 pts was with R I stage and 26 with RII stage of sarcoidisis. Criteria of exception were the clinical displays heart disease, heavy arterial hypertension. Control group have made 14 normotensive volunteers (aged 47,57±1,86). All patients were studied using realtime, phased array, two-dimensional Doppler echocardiography. The pulmonary artery systolic pressure (SP) was calculated as the sum of the transtricuspid pressure gradient and the right atrial pressure.
Results: PH (SP>35 mm Hg) is revealed at 18 patients (52.9%) and 10 pts (30.3%) had SP > 40 mm Hg. Doppler-estimated SP at the patients with sarcoidosis exceeded SP at the healthy persons ($p<0.001$). RV hypertrophy was present in 84,8% patients ($p<0.001$ with controls). RV dilation was present in 90% patients with sarcoidosis ($p<0.001$). Right atrial diameter in patients with sarcoidosis was higher than at the healthy persons ($p<0.001$). RVwall in patients with sarcoidosis was higher than at the healthy persons ($p<0.001$). RVdiameterl in patients with sarcoidosis was higher than at the healthy persons ($p<0.001$).RV diastolic dysfunction we noted in 58.3% pts.
We noted a correlation between SP and MRS scale (r=0,52, $p<0,01$), VC (r=-0,44, $p<0,01$), FVC (r=-0,46, $p<0,01$), duration of disease (r=0,46, $p<0,01$), SaO2 (r=-0,42, $p<0,01$).
Conclusion: Pulmonary hypertension and right ventricular abnormalities is common in patients with sarcoidosis.

P3728
Clinical and morphological signs of liver damadge in patients with pulmonary sarcoidosis
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The aim of our study was to identify clinical and morphological signs of liver damadge in patients with pulmonary sarcoidosis.
Patients and methods: 65 patients with morphologically proved pulmonary sarcoidosis were examined. Pulmonary function testing, high-resolution CT (HRCT), liver tests were evaluated. Biopsy of lung (65), liver (52) were performed. Biopsy of liver were performed if the signs of cytolisis and/or cholestasis were present.
Results: 65 patients had markers of active pulmonary sarcoidosis: respiratory failure which correlated with HRCT sings of activity such as ground - glass opaque (p=0,0053) and morphology of specific granulomatous, 52 patients also presented slight hepatomegaly, sings of cytolisis (AST 1,2-2,5 norms, ALT 1,3 – 2,7 norms) and/or cholestasis (GGT 1,6-3,4 norms) which correlated with morphological signs of liver granulematosis: the non-caseating granulomas were in all biopsies, three types of histologic change were found: inflammatory (78%) cholestatic (51%), and vascular (19%).Inflammatory changes included inflammation suggestive of chronic active hepatitis. Among those with cholestasis, 9 had a pattern of periductal fibrosis. Vascular changes consisted of sinusoidal dilatation (3 cases) and nodular regenerative hyperplasia (7 cases). No cirrhosis were found.
Conclusion: Liver involvement can be considered as a marker of extra-pulmonary activity in pulmonary sarcoidosis.

P3729
Diagnostic value of epithelioid cell granulomas in bronchoscopic biopsies
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Background: The granulomatous inflammatory response is a manifestation of many lung diseases.
Objective: To evaluate the diagnostic value of epithelioid cell granulomas in bronchoscopic biopsies in daily clinical practice.
Methods: The data of 157 consecutive patients with epithelioid cell granulomas in biopsy tissue who had undergone the bronchoscopic lung biopsy or bronchial biopsy were examined. All cases were divided into non-necrotizing epithelioid cell granulomas and epithelioid cell granulomas with necrosis.
Results: Of all the cases 108 had non-necrotizing epithelioid cell granulomas and 49 had epithelioid cell granulomas with necrosis. Without respect to the presence of necrosis in granulomas, the majority of the patients had sarcoidosis (50%) or tuberculosis (34%). 95% of the patients with sarcoidosis had non-necrotizing epithelioid cell granulomas and the remaining 5% had granulomas with necrosis. The sensitivity of non-necrotizing epithelioid cell granuloma for the diagnosis of sarcoidosis was 95% and specificity 57%. The positive and negative predictive values were 69% and 92%, respectively.
Of the patients with culture positive tuberculosis 72% had epithelioid cell granulomas with necrosis and 28% had non-necrotizing epithelioid cell granulomas. The sensitivity of epithelioid cell granuloma with necrosis for the diagnosis of tuberculosis was 72% and specificity 90%. The positive and negative predictive values were 80%, and 86%, respectively.
Conclusion: A significant overlap in types of granulomatous inflammation between tuberculosis and sarcoidosis was found. The type of epithelioid cell granuloma alone was not sufficient for the final clinical diagnosis.

P3730
Is sarcoidosis associated with increased occurrence of malignancy? A retrospective analysis
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Background: There are few reports with ambiguous results concerning the relationship between sarcoidosis and malignancies.
Aim: To evaluate the incidence and prevalence of malignancies in our sarcoidosis patients.
Methods: We performed a retrospective analysis in our cohort of 170 sarcoidosis patients. We compared the incidence and prevalence of malignancies in sarcoidosis patients with the incidence and prevalence of malignancies throughout our population (Czech Oncology Register data). Data from years 2005-2007 were analyzed. The analysis only included patients with sarcoidosis diagnosed prior to malignancy, or patients with malignancy discovered simultaneously with sarcoidosis.
Results: Out of our sarcoidosis patients, 5 of them were diagnosed with malignant tumors (3 breast cancers; 1 colorectal carcinoma; 1 non-Hodgkin lymphoma). The median age of sarcoidosis patients with a malignancy was 68 years (44 -75). The women:men ratio was 4:1. All patients were non-smokers. Median time from sarcodosis diagnosis to malignancy was 6.5 years (0-14). Calculated prevalence of malignant diseases in patients with sarcoidosis was: 813/100000 (2005), 2739/100000 (2006), and 2941/100000 (2007). In the Czech population, the prevalence of all malignant diseases between 2005-2007 was 3552-3865/100000. In patients with sarcoidosis, calculated incidence of malignancies in the monitored period was: 0 (2005), 2054/100000 (2006), and 588/100000 (2007). The incidence of all malignant diseases in the Czech Republic was 698-738/100000.
Conclusion: We do not prove the statistically significant difference in the incidence and prevalence of malignancies between sarcoidosis patients and general population.

P3731

QRS-T angle significantly increased in sarcoidosis patients

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Introduction: Aim of the study was the evaluation of the QRS-T-angle, a novel marker of ventricular repolarization, in asymptomatic patients with sarcoidosis and investigation of the relationship between QRS-T-a and occurrence of ventricular arrhythmias.
Methods: The ECG derived QRS-T-a of 112 sarcoidosis patients was calculated while cardiac involvement (CI) was assessed based on known criteria. Assessment of the ventricular arrhythmias was based on the Lown classification criteria. All patients were compared to 65 healthy controls.
Results: 36/112 patients fulfilled the criteria of CI while 15 patients were classified as Lown 4A and 4B. The QRS-T-a of sarcoidosis patients was significantly increased compared to controls, while subgroup analysis showed that patients with CI and Lown >3 had significantly elevated QRS-T-a.

Electrocardiographic and clinical characteristics among the groups

	Non CI		CI		Healthy Subjects (n=65)
	LC<3 (n=68)	LC>3 (n=8)	LC<3 (n=29)	LC>3 (n=7)	
Systolic BP (mmHg)	123±14	123±13	127±14	137±17	125±10
Disease duration (years)	4.2±6	2.7±1.9	4.9±5.3	6.2±7.7	–
24 hour MHR (Bpm)	78.1±8.7	86.7±9.9	78.7±9.1	79.1±6.7	–
Spatial Qrs – T angle (°)	15.75±8.8*	16.1±11.9*	14.9±8.5*	27.5±13+*	11.3±5.1+
QRS amplitude (mv)	1277±388	1093±248	1242±381	1284±413	1208±281
T amplitude (mv)	387±193	328±67	327±119	319±172	362±95

Abbreviations: CI: cardiac involvement; LC: Lown Class; BP: Blood pressure; MHR: Mean Heart Rate. *p<0.01, +p<0.005.

Bivariate correlation showed that QRS-T-a is associated with the age and the Lown classification.
Conclusion: The calculation of QRS-T-a may be useful in the risk assessment of sarcoidosis patients prone to develop ventricular arrhythmias, especially if CI is detected.

P3732

Hard diagnosis of intrathoracic sarcoidosis in male patients

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Typical presentations of sarcoidosis are easily diagnosed. Atypical forms have unusual presentation making diagnosis hard.
We studied four cases with unusual presentations of thoracic sarcoidosis.
Over a period of 7 years we diagnosed intrathoracic sarcoidosis in four male patients. Clinical and radiological characteristics were reviewed.
The mean age was 40 years. All cases had fever, sweat and respiratory symptoms including dyspnea, cough and chest pain. Chest X ray and CT scan showed bilateral hilar lymphoma in all cases, with multiple large lung nodules in one case, cavitation in one case and large alveolar opacity in another case. Tissue biopsy showed in all cases non-caseating granuloma, by bronchial lung biopsy in one case, peripheral lymph node in one case, skin biopsy in one case and by mediastinoscopy in another case.
Diagnosis of tuberculosis was initially evoqued in two cases but the outcome was non favorable under antituberculous therapy and diagnosis was revised. In one case, diagnosis of BOOP was suspected but skin biopsy confirmed sarcoidosis. In another case, multiple large disseminated lung nodules led for a rather neoplasic diagnosis.
Diagnosis of unusual presentations of sarcoidosis requires the association of clinical features, evidence of non caseating granuloma in histologica and exclusion of infection, malignancy and other granulomatous diseases.

P3733

Corticosteroids significantly improve symptom score in patients with active pulmonary sarcoidosis over a two year follow up

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Corticosteroids are used in sarcoidosis to relieve symptoms and modify disease progression. Most studies of the effects of corticosteroids have concentrated on changes in chest radiograph and lung function (PFT). A recent systematic review (Paramothayan, S. et al. Respir Med 2008;102:1-9) found no studies that reported the effects of corticosteroids on symptoms.
Objectives: To investigate whether corticosteroids were associated with improved PFT or symptom score (SS) over a 2-year follow-up.
Methods: PFT and SS before treatment were compared with results at 3, 12 and 24 months in 20 patients given oral corticosteroids for active pulmonary sarcoidosis. To calculate SS dyspnoea was valued 1-5 by severity, and all other symptoms were valued at 1. Data were collected from clinical records and results evaluated using a 2-tailed paired t-test.
Results: 14 females and 6 males aged 29-63 years were included; 13 black, 6 Caucasian, 1 Asian. Initial symptoms included dyspnoea (11), cough (8), skin changes (9), arthralgia (8), eye problems (7). SS improved significantly at all time points. Improvement in PFT was not statistically significant.

Table: mean difference in symptom score after starting steroid treatment

Time from start of treatment (months)	Pulmonary Symptoms			All Symptoms		
	Mean score difference	95% CI	p value	Mean score difference	95% CI	p value
3	-1.53	-2.50 to -0.48	0.007	-1.68	-2.64 to -0.73	0.002
12	-1.5	-2.60 to -0.37	0.013	-1.65	-2.68 to -0.62	0.003
24	-1.71	-2.92 to -0.49	0.009	-1.79	-2.87 to -0.70	0.003

Conclusion: Corticosteroids improved symptoms in sarcoidosis. This is a novel finding not assayed by other studies. It has potential importance for future management guidelines for pulmonary sarcoidosis.

P3734

Serum angiotensin converting enzyme (ACE) as additional clinical markers of activity of pulmonary and extra-pulmonary locations of sarcoidosis

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The aim of our study was to identify additional clinical predictors of activity of extra-pulmonary locations in pulmonary sarcoidosis.
Patients and methods: 107 patients with morphologically proved pulmonary sarcoidosis were examined. Pulmonary function testing, high-resolution CT (HRCT), echocardiography, daily ECG monitoring, myocardial scintigraphy, renal tests were evaluated. Biopsy of lung (107), skin (74), kidney (13), liver (52) and heart (3) were performed. Biopsy of organs were performed if the suspected specific sarcoid organ failure. Serum concentration of ACE levels were determined with a spectrophotometric method.
Results: 57 patients presented sings of clinical and morphological activity of sarcoidosis (group 1), 50 without parameters of activity (group 2). Clinical and morphological sings of extra-pulmonary locations of sarcoidosis were in 32 active patients, in 7 – not active patients. Granulomas were found in skin 25 (33,8%), heart -1, in liver 37 (71%), in kidney 5 (38%). Elevation of serum ACE were more in the 1st group: 63,7 (49,1- 79,8) micrograms/L vs 43,1 (32,5-47,2) micrograms/L in the 2nd group (p=0,0021). Level of serum ACE directly correlated with HRCT sings of activity such as ground - glass opaque (p=0,0045) and morphology of specific granulomatous extra-pulmonary changes (p=0,0047).
Conclusion: Level of serum ACE can be considered to be a marker of extra-pulmonary granulomatous lesions in pulmonary sarcoidosis.

P3735

Manifestations of malignancies during the course of sarcoidosis

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Introduction: Sarcoidosis is the granulomatous disorder with chronic course which can involve any organ in human body. Coexistance of two disorders is potential.
Method of the work: Analysis were restrospective.All patients with histologically proved sarcoidosis were obtained. Patients were ambulatory or hospitaly treated in the Clinic for lung diseases and tuberculosis. Malignincies were also histologycally proved.
Results: Among 1307 patients with sarcoidosis (ACCES group, ERS) only 15 patients with malignicies were obtained.Mean ages were 47.3 years, and 11 F/4 M ratio was find out.In 5 patients malignicies were the first obtained diagnosis in patients life as followed: carcinoma mammae (2 patients), carcinoma renis, fibrosarcoma and chronic laeucemia.The mean time in which sarcoidosis were manifested - 3,1 years. All patients were treated for carcinoma, till nowdays. In 11 patients, malignincies followed the sarcoidosis in mean time of 7.7 years: M. Hodgkin, adenocarcinoma ovarii, melanoma malignum, carcinoma cutis (3 female patients), adenocarcinoma intestine, carcinoma recti (2 patients), carcinoma mammae.Mean time of sarcoidosis duration were 8.3 years. All patients with sarcoidosis were mediacally treated even for relapses. In this group 3 lethal outcomes were obtained.
Conclusion: Comorbidities exists even in sarcoidosis.The question is what is the cause for manifesting sarcoidosis and malignincies. Is immunodefitientia one

of the potential factors in manifesting sarcoidosis and in manifesting malignincies. Another question is due to cytostatic drugs delivering during the treatment from malignincies. One of the known cytostatics which can cause granulomatous disorders is vinblastin.

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Experience of hydroxychloroquine in the treatment of pulmonary sarcoidosis in the west of Ireland: An insight into clinical practice

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Introduction: Hydroxychloroquine is widely used in treatment of cutaneous sarcoidosis. There is limited literature regarding the experience of hydroxychloroquine in pulmonary sarcoidosis.
Aim: To review the treatment and toxicity profile of hydroxychloroquine in the treatment of pulmonary sarcoidosis.
Methods: Retrospective observational cohort study of sarcoidosis patients in the West of Ireland from 1983-2009. Remission was defined as successful withdrawal from steroids within one year, improvement in radiological staging of pulmonary disease (Scadding classification) and maintenance of pulmonary function. Relapse was defined as deterioration necessitating re-introduction of steroids.
Results: 92/407 (22.6%) were treated with hydroxychloroquine 200mg BD. Mean age 38.1yrs (range 17-68) with M:F ratio 1:1. Mean length of treatment 2.9yrs. Mean follow-up 8.5yrs. 19.6%, 47.8%, 25% and 7.6% had stage 1-4 disease respectively. 95.6% received high-dose steroids prior to treatment. Indications for treatment were: steroid-sparing 17.4%, refractory 18.5%, extra-pulmonary 47.8% and maintenance of remission 16.3%. 52.2% were steroid-free within one year; 23.9% showed improvement in radiological staging (normal radiology in 13%); there was no significant difference in lung function. Relapse rate was 14.1%. Adverse event rate was 11.9% (4.3% discontinued treatment).
Conclusion: This study shows hydroxychloroquine is safe and effective in the treatment of pulmonary sarcoidosis, particularly multisystem disease. We conclude, therefore, that hydroxychloroquine should be considered in the treatment and maintenance of patients with chronic pulmonary sarcoidosis.

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Characteristics of inflammatory bowel diseases-associated interstitial lung diseases

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Introduction: Various interstitial lung diseases (ILD) have been reported in inflammatory bowel diseases (IBD) but most publications are limited to small series or predate the 2002 ATS/ERS statement on idiopathic interstitial pneumonias.
Aims: To describe the epidemiological, clinical, radiological and pathological characteristics of IBD-associated ILD.
Methods: This is a monocentric retrospective study of 9 patients with IBD-associated ILD refered from 1990 to 2010. Patients were classified according to HRCT and pathological patterns of ILD as recommended by 2002 ATS/ERS statement.
Results: There were 5 men and 4 women with a mean age of 49±7 years (Crohn's disease: n=4, ulcerative colitis: n=3, undetermined colitis: n=2). ILD developped in the course of previously known IBD in 7 cases, with a median delay of 10 years, while IBD was diagnosed after ILD in 2 cases. Surgical lung biopsy was available in 4 patients. ILD final diagnoses were: "hypersensitivity pneumonitis" ("HSP"): n=4, nonspecific interstitial pneumonia (NSIP): n=2, NSIP secondary to "HSP": n=1, combined pulmonary fibrosis and emphysema: n=1, bronchiolitis: n=1. No patient had overt environnemental exposure but 4 patients received mesalazine at the onset of ILD, of which only one with "HSP". One patient with NSIP also had dermatomyositis. Baseline FVC was 65±19% and DLCO 34±8%. ILD worsened despite corticosteroids in 7 patients who required other immunosuppressive drugs. At the end of follow-up (4.3±2.6 years), 2 patients died and 1 was transplanted.
Conclusion: Our study outlines the severity of IBD-associated ILD and the high frequency of "HSP", raising the possible role of a particular unrecognised antigen in such a context.

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Characterization of chronic hypersensitivity pneumonitis and evaluation of its predictive factors – Retrospective study

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Background: A percentage of patients with hypersensitivity pneumonitis (HP), despite appropriate therapeutic measures, evolves to chronicity.
Objective: Characterization of clinical presentation, lung function, radiological, histological and bronchoalveolar lavage fluid (BALF) features of patients with chronic HP and evaluation of its potential predictive factors.
Material and methods: Retrospective analysis of patients with HP diagnosed according to the criteria of Schuyler and Cormier. CT scans were classified according to Sahin et al score. Patients with chronic evolution of HP were compared to those with disease regression.
Results: Were included 70 patients. Average age was 50 years; 65.7% females and 84.3% non-smokers. Avian proteins (81.4%) and moldy cork dust (7.1%) were the most common etiological antigens. Twenty-nine (41%) patients progressed to chronicity. Restrictive ventilatory syndrome was more severe in the group of patients with chronic evolution with lower FVC ($p < 0.03$), FEV1 ($p < 0.05$) and TLC ($p < 0.02$).
Presence of reticular and honeycombing patterns were associated with evolution to chronicity ($p < 0.003$). The existence of centrilobular nodules was associated with regression of disease ($p = 0.011$). The extension of radiological findings didn't correlate with HP's evolution.
No statistically significant differences between groups concerning BALF cellularity.
In 20 patients (28.6%) surgical lung biopsy was performed. Pathology evaluation revealed the expected association of honeycombing with the evolution to chronicity ($p = 0.004$).
Conclusion: Lung function measurements seemed to be those who better predict the evolution of HP.

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Prevalance and outcomes of pulmonary hypertension in chronic hypersensitivity pneumonitis

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Background: The purpose of this study was to evaluate the prevalence and outcomes of pulmonary hypertension (PH) in chronic hypersensitivity pneumonitis (HP) and to examine the relationship between pulmonary function tests (PFT) and PH.
Methods: A retrospective review of 120 patients with HP seen at two centres of pulmonary diseases over a 5-year interval and identification of patients with chronic HP for whom both PFT and Doppler echocardiography (DE) data were available.
Results: Chronic HP was identified in 83 patients and in 72 patients data of Doppler echocardiography were available. PH (sPAP $\geq$ 40 mmHg) was detected in 26 patients (36%), and was associated with a greater risk of death (median survival, 30 months vs 98 months, respectively; $p = 0.002$). In patients with PH, a significantly decreased PaO2, predicted% of DLCO, predicted% of FVC and increased PaCO2 were detected. There was only a weak correlation between pulmonary function testing and the underlying PH.
Conclusions: Using DE for evaluation, PH is common in patients with chronic HP and significantly impacts survival. Because of the poor correlation between pulmonary function testing and PH correspondingly with other interstitial lung diseases (ILD), other factors than fibrosis may play a role in the etiology.