Poster Tour 1: Autoinflammatory and Rare Connective Tissue Diseases

PT1:001

IDIOPATHIC INFLAMMATORY MYOPATHIES: CLINICAL CHARACTERISTICS, SURVIVAL AND POOR PROGNOSTIC FACTORS OF 110 PATIENTS FROM TURKEY

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Objective. In this study, we aimed to assess clinical features, poor prognostic factors and survival analysis of patients with Idiopathic inflammatory myopathy (IIM). Records of 110 patients with IIM that had at least 6 months of follow-up, fulfilling Bohan and Peter's criteria were analysed for this study. Survival analysis was done by using Kaplan-Meier method and multiple Cox, regression analysis was applied to calculate the effect of multiple factors.
Design and Method. Records of 110 patients with IIM that had at least 6 months of follow-up, fulfilling Bohan and Peter's criteria were analysed for this study. Survival analysis was done by using Kaplan Meier method and multiple Cox, regression analysis was applied to calculate the effect of multiple factors.
Results. Sixty-eight percent of 110 patients was female, the mean age of the patients was 46 years, and the average follow up time was 77.5 months. Diagnosis of these patients was dermatomyositis (DM) in 68%, polymyositis (PM) in 26%, autoimmune necrotizing autoimmune myopathy (NOM), inclusion body miyositis (IBM) 6%. The percentage of periungual erythema, arthritis, dysphagia, respiratory muscle involvement and interstitial lung disease (ILD) 56, 22, 24, 32, 11 and 30. Malignancy was identified in 26% of patients. The percentages of malignancies diagnosed at the time of diagnosis, before the diagnosis and during the follow-up were 3.6, 11.8 and 8.2.The most frequent malignancy was breast cancer. Others are carcinoma of gastrointestinal tract, lung, and genitourinary tract. ANA was present in 36% and 12% of patients was positive for anti-Jo-1 antibody. The average daily dose of prednisolone was 7.5 mg, the average usage time was 35.5 months. Causes of death were aspiration pneumonia-sepsis (50%) and malignancy (25%). Significant associations with mortality were found between systemic symptoms, periungual erythema, respiratory muscle involvement, dysphagia, presence of malignancy. Mortality was higher in ANA negative patients (p<0.001). Five- and 10-year survival in these patients were 83% and 75%. Five-year survival rate in patients with respiratory muscle involvement was 38% and 68% in those with dysphagia. The presence of systemic symptoms, and malignancies were identified as risk factors for mortality in multivariable analysis.
Conclusions. ILD and malignancies are frequent in our IIM cohort. Malignancies are mostly detected at diagnosis. The mortality rate was high and the most common cause was infection.10-year survival rate was 79%. Malignancy, respiratory muscle involvement, dysphagia, negative ANA have a detrimental effect survival in IIM patients.

Keywords: myositis, survival, malignancy.

PT1:002

PARADOXICAL MONOARTHRITIS IN THE CASE RECEIVING ADALIMUMAB TREATMENT DUE TO HIDRADENITIS SUPPURATIVE

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Objective. Paradoxical events seen during anti-TNF can be defined as unexpected disease or symptom, which has potentially TNF blocker induction. We presented the case, paradoxical monoarthritis during the use of adalimumab due to hidradenitis suppurativa, when the disease is under control
Design and Method. A man, who is 35 years old, applied to us with a complaint of swelling and pain on his left knee. He used adalimumab for hidradenitis suppurative. When dosage was increased as 40 mg a week and, after regression began in the lesions, that the pain, swell, and constraints of movement occurred in the knee joint. In physical examination, the left knee was swollen, sensitive, and gave pain during movement. In laboratory analyses, CRP was 3.27 mg/L; sedimentation, 8 mm/h; RF and ANA, negative; and anti-CCP, negative, while anti-dsDNA was negative and complementary C3 and C4 were normal. There were no proteinuria and hematuria. It was considered whether or not there was a paradoxical event. The dosage of adalimumab he has been received was reduced to 40 mg/ 2 weeks. He was treated with non-steroid and low dose of steroid.
Results. Hidradenitis suppurotive is a disease placing in the region, where there is apocrine sweat gland. Among the clinical findings, there are modules with pain, sinus tracts, and hypertrophic scars. Even the cases in middle intensity affect quality of life. Paradoxical events generally develops in the control period of the underlining disease. In our case, anti-TNF treatment was continued. Dosage was reduced. It was followed by non-steroid or low dose- steroid treatment toward joint complaint. In the cases of inflammatory intestinal disease, during the use of anti-TNF, de novo articular complaints and morning stiffness in the hands and feet. In these cases, very high titrated ANA (+) >1/640 is seen. In our case, ANA was negative. We have presented a rarely seen paradoxical arthritis case.
Conclusions. Paradoxical events developing with anti-TNF medicaments can be in the form of psoriatic lesions, uveitis, sarcoidosis, granulomatous inflammation, or vasculitis. These events generally develop in the control period of the underlining disease. Interruption of anti-TNF medicament should be evaluated on the basis of reapplication or change

Keywords: adalimumab, hidradenitis supurativa, paradoxial monoarthritis.

PT1:003

DERMATOMYOSITIS ASSOCIATED WITH PAPILLARY THYROID CANCER: A CASE REPORT AND REVIEW OF LITERATURE

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Objective. There is a well-known association between malignancy and dermatomyositis (DM) but reports of an association between malignancies of the thyroid gland and dermatomyositis are very few. Here we describe a recent case of dermatomyositis found to have papillary thyroid cancer during screening and achieved complete remission following thyroidectomy and required no immunosuppression for maintenance. We also performed a review of the current literature concentrating on the course and temporal relationship of the two diseases in the previously reported cases to help better understand the link between these two diseases.
Design and Method. The case history, treatment responses and follow up data are described. We performed a systemic literature review using the keywords ((thyroid cancer) OR thyroid carcinoma) AND dermatomyositis.
Results. 35-year-old male presented with an acute onset of symptoms including facial rash, widespread myalgia, muscle weakness and dysphagia. Patient was diagnosed with dermatomyositis based on clinical findings, laboratory, EMG and imaging results. Immunosuppressive treatment was begun which resulted in an improvement in symptoms and screening for cancer revealed early stage PTC. Thyroidectomy was performed and immunosuppressive medication was gradually tapered and stopped. At 18 months following the diagnosis patient is in remission and has not experienced relapse of either disease. This is the 14th reported case of DM and thyroid cancer in English literature. Analysis of data from these 14 cases while revealing conflicting insights about the link between DM and thyroid cancer do not rule out its possibility. Treatment of thyroid cancer appeared to have a significant influence on the course of dermatomyositis in at least six of these cases. PTC is a slow-growing malignancy commonly being diagnosed incidentally. This underlines the possibility that the co-existence of PTC and DM may be more frequent and DM may be a paraneoplastic phenomenon in at least some of these cases.
Conclusions. Better recognition of the link between DM and thyroid cancer may allow physicians to protect some DM patients from morbidity and mortality associated with immunosuppression as well as providing possible benefit of diagnosing thyroid cancer at an earlier stage.

Keywords: dermatomyositis, papillary thyroid cancer, malignancy.

PT1:004

SARCOIDOSIS FOLLOWING MYCOPLASMA PNEUMONIAE INFECTION

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Objective. To mark the possible relation between Mycoplasma pneumoniae infection and sarcoidosis based on the presentation of a single case from our clinic.
Design and Method. Case report.
Results. Sarcoidosis is an autoimmune systemic disease of unknown etiology, which has the typical histopathological finding of a non-tyrosinated granuloma. Target organs are usually the lungs, the skin and the lymph nodes, but any other organ or system can be affected. We here present the case of a 52-year-old female with free medical history who presented with symptoms compatible with an acute respiratory system infection. IgM antibodies against Mycoplasma pneumoniae were detected in the serological evaluation and the patient received oral clarithromycin with good response. However, 10 days after the initial remission, the clinical picture deteriorated with the onset of fever, erythema nodosum, arthritis affecting both ankles and upper gastrointestinal system symptoms. The skin biopsy as well as the gastric biopsy revealed the typical pattern of sarcoid granuloma. Scintigraphy with gallium was performed which was pathognomonic for sarcoidosis (panda and lamda signs).
Conclusions. A positive correlation between IgM serological positivity for Mycoplasma pneumoniae and sarcoidosis may exist. Thus, more investigation on Mycoplasma pneumoniae infection as a possible cause of sarcoidosis may be indicated.

Keywords: sarcoidosis, mycoplasma, IgM.

PT1:005

A DIAGNOSTIC AND THERAPEUTIC CHALLENGE – BEHÇET'S DISEASE

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Objective. Behçet's disease is a rare and poorly understood condition with multiple systemic manifestations. The disease causes inflammation in blood vessels throughout your body which leads to numerous symptoms that may come and go on their own.
Design and Method. A 33-year-old woman is admitted to our clinic presenting severe muscle weakness (with orthostatic intolerance), joint pain and blindness of the left eye. Her medical history revealed that in the last years the patient was admitted several times in the Infectious Diseases department with persisten fever and severe headaches.
The onset of her symptomatology is in 2013 and it consists in fever (39-40 Celsius degrees) sicca syndrome and persistent headaches, recurrent oral and genital ulcerations.
Results. Despite the muscle weakness, muscle enzymes were never elevated.
We continued our investigations with an electromyogram. The EMG showed acute polymyositis aspect and sensory polyneuropathy lesion.
Then neurological exam shows spastic paraplegia, left brachial plegia. The brain MRI reveals a lacunar ischemic stroke in the vertebrobasilar territory. The ophthalmological exam shows optic nerve atrophy.
The blood tests reveal a persistent inflammatory syndrome (ESR=80-100mm/h). The lab tests showed: C3 hypocomplementemia, Anti-centromere antibodies (-), anti-B2GP1 antibody (+), lupus anticoagulant (+), U1RNP(-), HLA B51(-), ANA (+).
However we have the clinical examination highlights: chronic fatigue, recurrent mucosal ulceration, neurological symptoms, inflammatory arthritis, various symptoms that we were able to identify as features of Behçet's disease. We initiated a moderate dose of cyclophosphamide (15 mg/kg bolus intravenous) and low dose of oral corticosteroid (methylprednisolone 8 mg). A significant improvement was seen after the second course of cyclophosphamide.
Conclusions. In the past decade we have witnessed a significant improvement in the therapeutic approach of Behçet's disease by optimal use of the old available drugs and also by development and clinical use of new therapeutic solutions. Behçet's disease still remains a multidisciplinary challenge for attending physicians.

Keywords: Behçet, blindness, cyclophosphamide.

PT1:006

ARTHRITIS – THE SUBSTRATE OF A RARE DERMATOLOGIC DISEASE

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Objective. We are presenting the case of a 52-year-old female whose symptomatology was a medical challenge that required a close inderdisciplinary collaboration between rheumatologist, dermatologist, plastic surgeon and anatamopathologist.
Design and Method. The first presentation in our emergency room was in august 2017 with red, hot and painful radio-cubito carpal joints, elbows, shoulders, knees and ankles with impossibility to maintain orthostatism, accompanied by significant subcutaneous cell edema and febril syndrome (38.1) of about 2 weeks. From the onset of symptoms, the patient described three episodes of erythematous, papular rashes that dissapeared after the administration of antihistamines and cortisone. Biologically presented inflammatory syndrome (ESR = 103 mm / h, RCP 162.04 mg / L), leukocytosis with neutrophilia, negative tests for infections or neoplasias. Under antibiotic and cortisonic treatment it was observed a slow regression of arthritis, the temperature reaching normal values in the 48 hour follow-up and a significant decrease in soft edema including cephalic region, revealing some subcutaneous frontal and periorbital asymptomatic nodules and periarticular violet nodules on the dorsal hands. After the first discharge, the patient remained under cortisonic treatment. Slow regression of joint swelling and regression of subcutaneous nodules at the frontal level was observed for about two-three weeks. A few days before the next admission, the patient claimed the appearance of a new subcutaneous nodule at the submandibular level and the amplification of the pre-existing ones.
Results. The first histopathological and immunohistochemical examination of the subcutaneous nodule from the frontal level set the diagnosis of low-grade myxofibrosarcoma. Due to the inconsistency between this diagnosis and the patient's symptomatology (initial regression of the nodules, but also their recurrence, regression of paraclinical explorations in the previous evaluation, absence of signs of neoplastic impregnation), a new biopsy at the level of the new nodule from the submandibular region was performed that sustained the diagnosis of self-healing localized cutaneous mucinosis.
Conclusions. Being a rare dermatological disease commonly seen in children, its occurrence in adults may be associated with other rheumatologic, endocrinology diseases or paraneoplastic syndrome.

Keywords: arthritis, dermatologic disease, self-healing localized cutaneo.

PT1:007

SERUM VISFATIN LEVELS IN BEHÇET'S DISEASE PATIENTS

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Objective. Visfatin (52kDa) was newly described adipokin by Fukuhara *et al*. It is found in visseral fat tissue, liver, bone marrow and lymphocytes. It is releated with the insuline resistance, obesity, atherosclerosis and inflammation. We aimed to search the serum levels of visfatin in Behçet's Disease (BD) like the other proinflammatory cytokines, the tumor necrosis factor alfa (TNF-alpha) interleucin-6 (IL-6) which are released from the adipose tissue and increased in Behçet's disease (BD).
Design and Method. Between the months of January to July 2012 in Ankara Diskapi Yildirim Beyazit Education and Research Hospital, Department of Rheumatology-Immunology .60 patients who were diagnosed as BD according to the criteria applied by the Working Group on International BD, included in the study. 30 Patients were active state and the reminder 30 were inactive. The control group consisted of 20 healthy subjects. The study of groups detected visfatin levels were compared among groups.
Results. Visfatin levels were significantly higher in both group of patients compared to the control group (both $p<0.001$). Serum visfatin levels in patients with active than in inactive patients were found statistically significantly higher ($p<0.001$). The same way in all cases statistically significant correlation between visfatin and CRP ($p<0.001$). The same way in all cases statistically significant correlation between visfatin with ESR ($p<0.001$). Only according to the symptoms of the patients in the active group compared to visfatin levels in patients

with genital aphth visfatin levels, a statistically significantly higher than in patients without genital aphth were detected (p<0.001). Only in active disease patients visfatin levels in BD patients with genital ulcers were significantly higher than the BD patients without genital ulcers (p<0.001).
Conclusions. Serum visfatin levels in patients with active and inactive causes are higher than the control group. Visfatin as a proinflammatory cytokine has a role in chronic inflammatory reaction, and to sustain the cellular expression of the inflammatory stokinlerin concluded that induce or be due to different reasons. There is still need for advance research both *in vivo* and *in vitro* to evaluate the importance of visfatin as proinflammatory adipokine for BD.

Keywords: visfatin, Behçet's disease.

PT1:008

LYMPHOMA CASE IMITATING TAKAYASU ARTERITIS

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Objective. Takayasu arteritis (TA) is a rare, systemic large vessel vasculitis affecting especially the aorta and its branches. Here, we aimed to present the patient referred to the Rheumatology polyclinic with pre-diagnosis of the tension difference between both arms and the murmur in the neck.
Design and Method. A 48-year-old male patient was admitted to the Rheumatology outpatient with fever, fatigue, palpitation, headache complaints for about 1 month and he was in a pale and exhausted appearance on physical examination. Fever was 38.8 °C and arterial blood pressure of right upper extremity was 160/90 mmHg with upper left extremity 130/80 mmHg. The patient had a tachycardia (112 / min) and there was no difference in blood pressure between the peripheral pulses and the lower extremities. The patient had a distinct murmur in the left neck and in the waist. In the laboratory tests performed; sedimentation: 94 mm/h, CRP:4.3 mg/dl, Hgb: 6.3, Hct:19.6, were the some parameters detected. Other biochemical parameters of the patient, complete urine analysis and thyroid functions were normal. Doppler ultrasonography revealed bilateral carotid arteries with intimal thickening and millimetric noncalcified atheromatous plaques, reverse flow in the left vertebral artery and multiple LAPs with a size of 22x11 mm.
Results. Torax and abdominal CT angiography revealed a filling defect of 1-2 cm in the right subclavian artery, hypodense filling defects (fresh plaque) causing luminal narrowing in the 9 cm segment extending from the right renal artery level to the bifurcation level, suspicious double lumen view (dissection?) was observed at the aort distal and left common proximal iliac artery, the most prominent 30 mm LAPs were found in the paraaortic, paracaval, parailiac and bilateral inguinal region. LAP biopsy excised from the cervical region was reported as non-Hodgkin's lymphoma. Multiple hypermetabolic lymph nodes were detected in PET-CT and there was no evidence of vascular involvement in PET-CT. Chemotherapy was started by hematology with the diagnosis of lymphoma.
Conclusions. Malignant diseases can mimic different rheumatic diseases in many different ways. Malignant diseases should be distinguished in differential diagnosis especially in patients who present with atypical findings.

Keywords: differential diagnosis, lymphoma, Takayasu.

PT1:009

TAKAYASU'S ARTERITIS: EXPERIENCE OF A SINGLE TERTIARY CENTER

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Objective. Takayasu's arteritis (TA) is a rare large vessel vasculitis with unknown etiology. Its onset is in the second and third decades of life and female to male ratio shows geographic distribution. Non-invasive imaging methods are preferred for diagnosis. The main therapy of TA depends on immunosuppression with conventional immunosuppressives (csDMARD) and for resistant cases biological agents (bDMARD) are needed.
Design and Method. The aim of this study is to demonstrate the demographic and clinical characteristics of patients diagnosed with TA in a tertiary center in Turkey.
Results. Between 2001-2017, a total of 53 patients were diagnosed with TA. Of these patients, 42 were female and 11 were male (F:M=3.8:1). The mean age of the patients was 44.4 years (min: 20 max: 67) and the mean age at the time of diagnosis was 34.4 years (min: 15 max: 65). The most preferred imaging method for diagnosis was computer tomography angiography (51.3%). Magnetic resonance angiography and conventional angiography were used in 12.8% of patients. Initial mean erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) were 74.1±37.5 mm/h, 62.8±55 mg/L, respectively. All of the patients were given prednisolone in addition to an immunosuppressive agent. The most preferred immunosuppressive agent was methotrexate (n=29) which was followed by azatioprin (n=11), leflunomid (n=2) and mycophenolate mofetil (n=2). 11 patients received biologics due to resistant disease activity. The most commonly used biologic agent was tocilizumab (n=7) which was followed by etanercept (n=2), infliximab (n=1) and adalimumab (n=1) respectively. The median remission time for bDMARD and csDMARD were 3 months and 9.8 months respectively. There was no difference in time to relaps between conventional and biologic immunsupressives. (Median survival csDMARD: 77, bDMARD: 59.5, p=0.95).

Table I. Table showing the demographic data of TA patients.

Age (years)	44.4±13.2
Sex (F:M)	3.8:1
Age at diagnosis (years)	34.4
ESR at diagnosis (mm/h)	74.1±37.5
CRP at diagnosis (mg/L)	62.8±55
Imaging method used at diagnosis	Computer tomography angiography (51.3%) Computer tomography (17.9%) Magnetic resonance angiography (12.8%) Arteriography (12,8%) Doppler Ultrasonography (2.6%) PET (2.6%)
Medication used for immunosuppression	MTX (29) AZA (11) LEF (2) MMF (2) Tocilizumab (7) Etanercept (2) Infloximab (1) Adilimumab (1)
Remission time (months) (p=0.95)	csDMARD:77 bDMARD:59.5

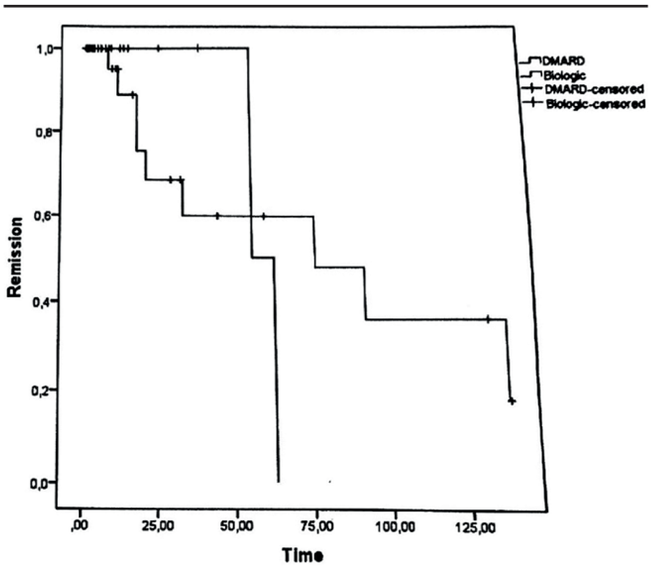

Figure 1. The figure that shows time to relaps for immunosuppressives.

Conclusions. In 53 TA patient, age of diagnosis and patients being mostly female are consistent with the literature. To achieve remission, traditional immunsuppressive agents were used initially and for patients in whom remission was not reached, biological immunosuppressives were preffered. The indifference in relapse time between csDMARD and bDMARD might be related to csDMARD resistant patients received bDMARD. In conclusion, as TA is a rare but a devastating disease, early diagnosis and prompt immunosuppresion are needed before the development of occlusive disease.

Keywords: Takayasu arteritis, biological immunsupressives, imaging.

PT1:010

A GOOD MIMIC: PMR - IS PMR THE ACCURATE DIAGNOSIS? A SINGLE-CENTER STUDY

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Objective. Polymyalgia rheumatica (PMR) is an inflammatory disease with unknown etiology and is characterized with shoulder-hip girdle pain and morning stiffness. It is seen in 1/133 of people over 50 years. Many diseases mimic PMR such as giant cell arteritis (GCA), late onset rheumatoid arthritis(RA), inflammatory myopathies, thyroid diseases, malignancy, infections, bilaterally shoulder capsulitis, osteoarthritis, parkinsonism and depressive mood disorders.
Aim. The aim of this study is to evaluate the compatibility of patients who had preliminary and/or final diagnosis of PMR according to ACR/EULAR 2012 Classification criteria of PMR without using musculoskeletal ultrasound for diagnosis.
Design and Method. A total of 1549 patients with PMR (preliminary) diagnosis between 01.01.2006 and 31.12.2015 were evaluated retrospectively by using the database of our center.
Results. From the total of 1549 patients, 975 patients had been registered more than once. Therefore a total of 574 patients were evaluated and from these patients 56 patients were under 50 years. Out of 518 patients 297 patients had insufficient data for evaluation and were excluded. From 221 patients included, 192 patients had fulfilled the required criteria for PMR. Besides required criteria, only 37 patient (19.27%) had >4 points according to 2012 classification criteria. (Table 1) Out of 518 patients who referred to our clinic with shoulder pain, a total of 59 patients (11.4%) were diagnosed with RA, 2 patients with GCA (0.4%) and 86 patients (16.6%) were followed-up with another rheumatic or non-rheumatic diseases.

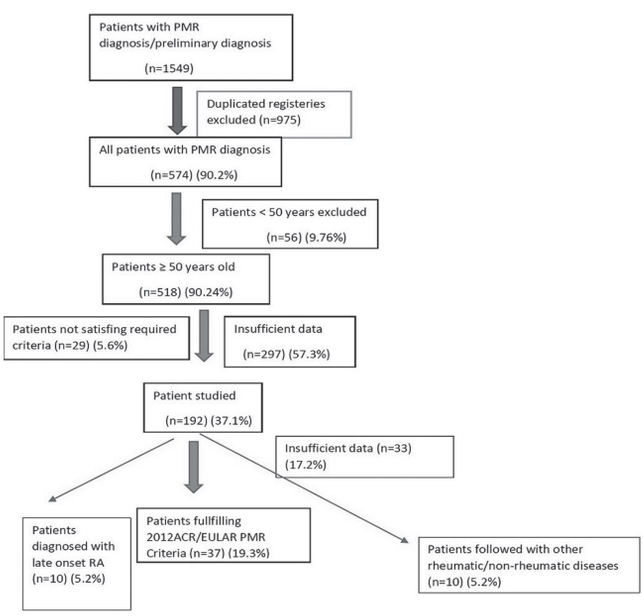

Table I. The flow-chart showing patients evaluated.

Conclusions. Our results show that only 19.27% of patients with shoulder pain have final diagnosis of PMR according to 2012 ACR/EULAR Classification criteria. This study is a retrospective study and almost half of the patient data was insufficient to evaluate. In this patient group, there might have been patients overdiagnosed as PMR and been prescribed corticosteroids unnecessarily or there might have been patients whose diagnosis might have been overlooked. In the literature, PMR is mostly seen with GCA but in our study group, there was only 2 patients who were diagnosed with GCA. In conclusion, elderly patients with shoulder pain should be handled carefully in order to avoid misdiagnosis.

Keywords: polymyalgia rheumatica, classification criteria, giant cell arteritis.

PT1:011

SYSTEMIC SARCOIDOSIS ASSOCIATED WITH VIRAL HEPATITIS C: FORTUITOUS ASSOCIATION OR A CAUSAL EFFECT?

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Objective. Few cases of systemic sarcoidosis were described in patients with viral hepatitis C after interferon treatment suggesting a causal effect of such a treatment. We report here a rare case of systemic sarcoidosis occuring in a patient with HVC without interferon treatment.
Design and Method. Case report.
Results. It is about a 49-year-old diabetic patient with hepatitis C virus (HCV) cirrhosis since 2013 who has been treated with Ledipasvir for six months with good outcome and an undetectable viral load at the end of treatment. She was admitted on June 2017 for dyspnea on exercise, sicca syndrome, and inflammatory arthralgia. On examination there was and hepatomegaly with a splenomegaly. There were no peripheral lymph nodes and no crackles. Chest X-ray showed mediastinal enlargement. A body CT scan revealed multiple supra and sub diaphragmatic lymphadenopathy with hepato-splenomegaly. Biology showed pancytopenia, with elevated LDH and beta 2 micro globulinemia levels. There was no hypercalcemia, nor hypercalciuria, no angiotensin converting enzyme. Lymph node biopsy showed non-caseating granuloma consisting with sarcoidosis. The diagnosis of systemic sarcoidosis associated with HCV was made and the patient was treated with steroids at 1mg/kg/day with close control of liver function and viral load with a good outcome at 6 months of follow up.
Conclusions. HVC was reported in association with several autoimmune diseases suggesting a role in the immune system imbalance. A part from that HVC was isolated in sarcoid granulomas according to some authors. In our patient it's not clear whether HVC or Ledipasvir induced sarcoidosis, or perhaps it's no more than a fortuitous association given that HVC was in remission and without treatment

Keywords: sarcoidosis, viral hepatitis C, granuloma.

PT1:012

TOCILIZUMAB AS POTENTIAL FIRST OPTION BIOLOGIC THERAPY IN SNITZLER'S SYNDROME

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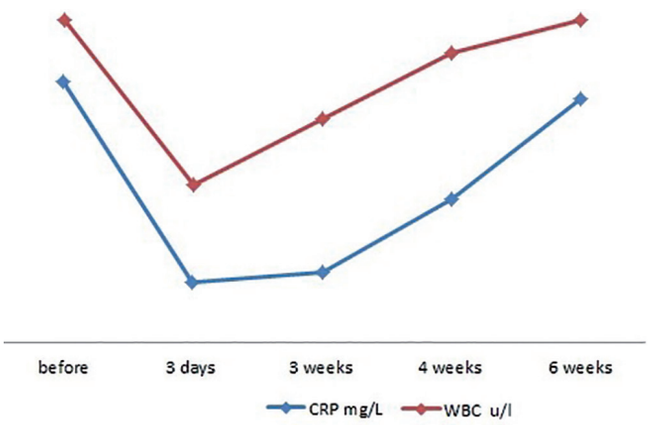
Objective. Anti-IL-1 agents are now the first choice of biological therapy in Snitzler's syndrome, a prototype of late-onset autoinflammatory disease. However, anti IL6 agents-Tocilizumab have been administered, all with good response, but there is still limited data. To present the clinical and biological evolution of a patient diagnosed with Snitzler's syndrome receiving anti-IL-6 therapy-tocilizumab for 3 years.
Design and Method. A 50-year-old patient diagnosed with Snitzler's syndrome (Strasbourg Diagnostic Criteria 2013) is presented. He received treatment with antihistamines, hidroxicloroquine, dapsone, neither of them being successful. High doses of systemic glucocorticoids showed significant benefit with alleviation of the clinical manifestations and of the inflammation but with rebound after tapering the dose.
Results. Since anti-IL-6 agents have been reported efficient in patients with Snitzler syndrome, and anti-IL-1 agents are not available for use in our country, the patient received as first biological DMARD, an anti-IL-6 agent: Tocilizumab, 8 mg/kg/month. A good response was obtained. After each infusion the patient reported a prompt relief (3–4 days) in joint pain and a fading of eruption, also a drop in CRP from 35times the normal value to 8 times normal value. On the other hand, after 3 weeks from infusions, the disease flairs (rash and arthralgia, subfebrility and inflammation). Serological values of Immunoglobulin G lowered but were still above the normal range during treatment. The flare can be due to the fact that the treatment loses its effectiveness faster than the next scheduled infusion. Also, the patient receives the highest dose approved for use according to current therapeutic protocols, but because of the increased BMI=32 kg/m^2, it might not be efficient enough for an entire month.it would be useful to increase the dosage or to program the infusions closer, every 3 weeks, the moment disease starts to flare.



Conclusions. The anti-IL-6 agent-tocilizumab proved useful in treating a patient with Snitzler's syndrome that needed high doses of cortisone for managing clinical symptoms. A very good and prompt response was obtained in both symptoms and markers of inflammation. As the patient presented disease flares at 3 weeks interval from infusion, shortening of the dose interval between the infusions may be recommended. Long-term follow-up is needed.

Keywords: Snitzler's syndrome, autoinflammatory, tocilizumab.

PT1:013

THE IMPACT OF PROLONGED CORTICOTHERAPY ON DAMAGE PROGRESSION IN PATIENTS WITH BEHÇET'S DISEASE

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Objective. The type of organ involvement and overall disease activity evaluated in the clinical practice determine the course of treatment and the decision to initiate immunosuppression in patients with Behçet's disease. The main objective is to evaluate the ability of classical immunosuppressant therapy to prevent damage progression. Also, to establish correlations between disease activity scores: Birmingham Vasculitis activity score (BVASv3), Behçet's Disease Current Activity Form 2006 (BDCAF), long term treatment, immunosuppressant use and damage after remission, as calculated by Vasculitis Damage Index (VDI).
Design and Method. A cohort of patients admitted in the Department of Internal medicine and Rheumatology was studied. The documented cases were diagnosed according to the International Criteria for Behçet's Disease (ICBD). Disease activity and damage scores were calculated: BVASv3, BDCAF2006, VDI (after obtained remission). Windows Excel/SPSS20.0 was used.
Results. The study included 20 patients. The mean age at the time of the diagnosis was 35.7 years with a male predominance of 60% (12 patients). Severe systemic involvement was present in 10 cases (Ophthalmological involvement-6 cases, Recurrent venous thrombosis-6cases, pulmonary vasculitis-1 case, severe cardiac involvement-1case, central nervous system involvement-3cases) and all patients received classical immunosuppression
The mean scores for BVAS and BDCAF at the time of the diagnosis were 7.95 and 3.75. A strong correlation between BVASv3 and BDCAF was identified ($r=0.862$, $p<0.001$). There was a stronger correlation between BVASv3 and immunosuppressive therapy ($r=0.734$) in comparison with BDCAF2006 ($r=0.647$). After obtained remission, damage indexes were calculated = VDI (vasculitis damage index). There was a strong correlation between disease activity scores and VDI (VDI-BVASv3 $r=0.747$, $p<0.001$, VDI-BDCAF ($r=0.795$, $p<0.001$). A comparison was made between long-term cortisone use, immunosuppression duration and damage. Damage correlated stronger with long-term chortisone use ($r=0.609$) than with immunosuppression.
Conclusions. Damage progression is influenced by disease activity, as calculated by activity scores (BVASv3 and BDCAF). Classical immunosuppression is used for severe organ involvement. There was a stronger correlation between long-term corticotherapy and VDI than between immunosuppression duration and damage. The damage index increased by irreversible organ damage due to disease activity and corticotherapy use, but not due to the immunosuppressive therapy.

Keywords: corticotherapy, damage, Behçet's.

PT1:014

TERTIARY SYPHILISIS IN A PATIENT WITH TRAPS UNDER CANAKINUMAB TREATMENT: CASE REPORT

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Objective. TNF receptor-associated periodic syndrome (TRAPS) is characterized by periodic fever, cutaneous rash, conjunctivitis, lymphadenopathy, abdominal pain, myalgia, and arthralgia. Here, we present the case of a 54-year-old woman with manifestations of tertiary syphilis on canakinumab treatment.
Design and Method. 47-year-old woman was diagnosed TRAPS with a high fever, fatigue, rashes, nausea, peri-orbital edema, migratory myalgia and heterozigous mutation in TNFRSF1A gene in 2007. We initiated treatment with methylprednisolone in addition to colchicine. Attack frequency did not change. We started etanercept (ETN) in 2010 and Anakinra in 2016. She ceased both treatments because of the injection site reaction. We started Canakinumab. Six months after the initiation of Canakinumab, she came with painless subcutaneous nodules of varying size. We investigated the patient for differantial diagnosis representing with nodulary skin lesions.
Results. The skin biopsy revealed naked granulomas predominantly composed of epithelioid cells and multinucleated giant cells of Langhans' type. Ziehl-Neelsen stain was negative. Tissue culture for acid and alcohol-fast bacilli and fungi was negative. We excluded the sarkoidozis, tuberculosis and viral infections including HBV, HCV, HIV1 and HIV. In order to investigate syphilisis, treponemal and non-treponemal tests were performed. VDRL-RPR was borderline but TPHA was found positive for three times with consecutive measurements. The histopathological findings of granulomas mostly with non-caseous central necrosis were attributed in favour of the tertiary syphilisis. She did not tell any symptoms or signs that are consistent with the primary and secondary phases of syphilis. The results of patient's husband for TPHA test was positive and supported the diagnosis in our patient. We decided to treat the patient with Ceftriaxone and follow up regularly with short intervals for the clinical findings. After fourteeen days of the antibiotic treatment the skin lesions disappeared.
Conclusions. It is difficult to recognise the clinical and histopathological aspects of the cases with tertiary syphilis. The most reported adverse events with IL-1 inhibitors include skin reactions, disorders of hematopoiesis, mild respiratory infections, flu-like symptoms, increase of aminotransferases, thrombophlebitis, unspecified temporary breathing problems (5, 6). Our case is the first reported tertiary syphilis in both adult and paediatric patients receiving anti-IL-1 agents.

Keywords: canakinumab, tertiary syphilisis.

PT1:015

ADULT STILL'S DISEASE – SERIES OF CLINICAL CASES IN A ROMANIAN REFERENCE CENTER

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Objective. To characterize a single center cohort of adult Still's disease patients regarding clinical, biological and therapeutic features.
Design and Method. Cross-sectional study by enrolling all patients registered between 2013-2017 with adult Still's disease diagnosis in our department. Demographic, disease-related and therapeutic-related parameters were collected. The data was extracted from the clinical observation files.
Results. The study included 34 cases, 20 females and 14 males. Mean age at the time of diagnosis was 43.03, and 41.9 at the onset of disease (41% patients presented delays between age at the onset and age at diagnosis point). At the onset, all patients presented fever, inflammatory syndrome and leukocytosis with neutrophilia, and around a third of the patients presented typically salmon-colored rash and pharyngitis. The most frequent clinical manifestations where arthralgia, arthritis, myalgia, weight loss and asthenia. 94% patients presented arthralgia and arthritis, most common locations were: knees, fists, elbows and shoulders; 52.9% patients presented myalgia; 23.5% patients presented weight loss (maximum 16 kg) and 35.3% asthenia. Also most patients had hepatosplenomegaly and hepatic enzyme elevations. Rare manifestations were detected: pulmonary, pericarditis (one patient-cardiac tamponade), one patient presented meningoradiculoneuritis onset and other one developed glomerulonephritis. From the available data we extracted information about rheumatoid factor, anti-CCP antibodies and ANA:

RF negative for 70.5% patients and positive for 8.8% patients, anti-CCP antibodies negative for 61.7% patients, ANA negative for 58.8% and positive for 2.9%. The value of serum ferritin was found for 76.4% patients, elevated for 55.8%. All patients received cortisone treatment and for most was added DMARD's. Most common association was with Methotrexate or Hydroxychloroquine, but there were also associations with Azathioprine or Sulphasalazine. One patient received treatment with Cyclophosphamide. 8.8% patients developed adverse effects to treatment (Sulphasalazine - pancytopenia, bull epidermolysis; Methotrexate - hemorrhagic cystitis; Methotrexate -hepatic cytolysis + azathioprine – cutaneous allergy and hepatic cytolysis).
Conclusions. Most patients had typical onset with fever, arthritis and arthralgia, inflammatory syndrome and leukocytosis with neutrophilia, for whom other causes were eliminated. All patients had very good response to cortisonic treatment associated with DMARD's.

Keywords: adult Still's disease, autoinflammatory disease, salmon-colored rash.

Poster Tour 2: Gout and arthritis in dismetabolic conditions

PT2:016

MUSCULOSKELETAL ULTRASOUND ABNORMALITIES IN PATIENTS ON DIALYSIS

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Objective. To identify the musculoskeletal soft tissue abnormities associated to dialysis and to evaluate whether or not they are more frequent. Also, we set ourselves to point out the importance of detecting these anomalies early in the evolution, in order to preserve the joint function and the quality of life, in a category of patients already severely affected.
So far, the majority of studies evaluating the musculoskeletal system status in patients on dialysis mostly target the bone metabolism. At this moment, there is few data regarding articular and abarticular abnormalities in patients on dialysis.
Design and Method. This is a prospective study, ran over a period of 5 months. We included 65 patients (37 in the study group – on dialysis, 28 in the control group – late stage pre-dialysis chronic kidney disease). For each patient, we evaluated 68 joints using ultrasonography. Also, a visual analogue scale for pain was applied for each patient.
Results. The findings vary from median nerve entrapment (68% in the study group, 18% in the control group) and tendon calcifications (65% in the study group, 44% in the control group; most within the supraspinatus tendon, followed by the quadriceps femoris tendon), to usual degenerative abnormalities, synovitis and tenosynovitis. The type of abnormalities does not vary between the two groups, but the percent of the affected patients was much higher in the study group.
We divided the numeric VAS results into three groups (low, moderate, high). In the study group the distribution of the patients according to VAS is 41% - low, 37% - moderate and 22% - high. In the control group, the proportions of the VAS groups are: 54% - low, 32% - moderate and 14% - high.
Conclusions. A great number of patients from the study group presented important articular and mostly abarticular abnormalities, sometimes with no correlation to the algo-functional symptoms.

Keywords: musculoskeletal ultrasonograph, chronic kidney disease, dialysis.

PT2:017

EFFECT OF LOSARTAN IN LOWERING THE LEVEL OF URIC ACID IN PLASMA IN ALBANIAN PATIENTS WITH HYPERURICEMIA AND HYPERTENSION

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Objective. The aim of this study was to evaluate the effect of Losartan in lowering the levels of Uric Acid in plasma, in albanian patients with hyperuricemia and hypertension.
Design and Method. This is a case-control study in which were included 107 patients with hyperuricemia and high blood pressure, admitted in Internal Medicine department of UHC Mother Teresa, Tirana, Albania from January 1, 2017 to October 30, 2017. Losartan was added to Allopurinol in 35 patients, while the other patients were treated with Allopurinol and another anti-HTA drug (not Losartan). It was evaluated the Uric acid level in all patients included in this study: 2 weeks after the beginning of the therapy, and then every month.
Results. From 35 patients treated with Losartan and Allopurinol, 15 patients (42.8%) had a 50% or more decrease of uricemia, and 18 patients (51%) had a 35–49% decrease of uricemia after 1 month of treatment. The levels continued to be lower during follow-up.
From 72 patients treated only with Allopurinol and another anti-HTA drug (not Losartan), 25 patients (34.7%) had a 35–49% lowering of uricemia and only 17 patients (23.6%) had a lowering of 50% or more on uricemia levels.
The levels continued to be low at the same level during follow-up.
Conclusions. In this study was found that combination of Losartan with Allopurinol caused a faster decrease of uric acid plasma levels than allopurinol alone. The decrease of uricemia was greater with the combination of Losartan with Allopurinol than only allopurinol and another anti-HTA drug.
The continued therapy with Losartan and Allopurinol may control uricemia levels better than other combinations of allopurinol with other anti-HTA drugs.

Keywords: hyperuricemia, Losartan, gout.

PT2:018

PULMONARY ADENOCARCINOMA PRESENTED WITH ARTHRITIS

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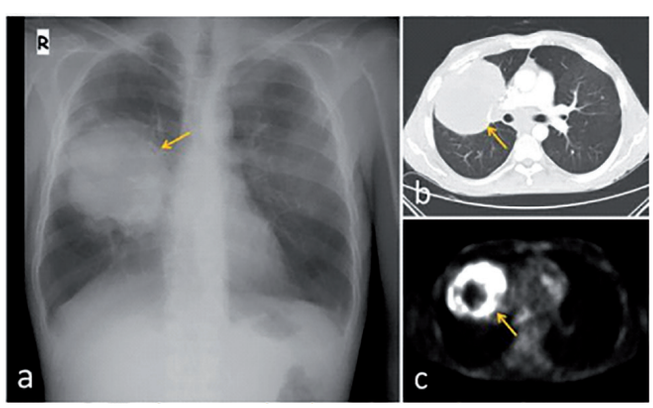
Objective. Paraneoplastic rheumatic syndromes are generally seen before the diagnosis of the underlying malign disease or simultaneously but rarely after diagnosis. We have presented our case applying to our clinic with arthritis and having the diagnosis of pulmonary adenocarcinoma.
Design and Method. A man, who is 48 years old, applied to us with the com-



Picture a. In PA pulmonary graph, a large dimensional mass lesion is seen on middle zone of right lung. **b.** In thorax BT examination, malign - characterized heterogeneous hipodense mass lesion in the dimensions of 116x109x87 mm, which affects medium lobe of right lung and anterior segment of upper lob, and surrounds right pulmonary artery, is monitored. **c.** In PET/BT examination, while lesion central is ametabolic (necrotic), intensive FDG involvement, peripherally increased, was observed (*SUVmax: 10.78*):

plaint of pain and swelling in his wrist and ankle joints. He stated that he was suggested to use non-steroidal medicament. It was learnt that he lost weight of 11 kg in 5 months; that he replaced undershirt for 2 to 3 times in the nights; and that he had a complaint of cough and phlegm especially in the nights. He had a story of 70 packages of cigarette per year. During physical examination, pain was seen in his wrist and ankle joints; swelling in his left ankle; and the case of drumstick finger in fingers. In laboratory, there were anemia, leukocytosis, and thrombocytosis. CRP was 72.4 mg/l; sedimentation; 68 mm/h; and RF, Anti-CCP, negative. Due to weight loss, night perspiration, and cigarette story, graph was taken for malignity and tuberculosis infection. On the right lung, opacity diameter of approx. 10 cm extending from upper lobe to middle lobe was seen (Picture a). In BT imaging, in the anterior section of right pulmonary upper lobe, mass lesion extending to lobe in the dimension of 10 x 8 cm was seen, and metastatic lymph nodes, whose large one is sub carinal region, in mediastina (Picture b). In PET-BT, intensive increase of metabolic activity was monitored in these regions (Picture c). By means of transthoracic thoracic needle biopsy, the pulmonary adenocarcinoma was diagnosed.
Results. Our case could be taken the diagnosis of adenocarcinoma with the giant mass in lung. Joint complaint began six months ago from the diagnosis. When the patient applied to our clinic, his findings toward investigating malignity were night perspiration, smoking, and the view of drumstick fingers.
Conclusions. In the cases appealing with arthritis, taking detailed anamnesis and examining physically, and in the cases including risk factor such as smoking, taking grah will make contribution to the diagnosis of the underlying disease.

Keywords: arthritis, paraneoplastic, pulmonary adenocarcinoma.

Poster Tour 3: Osteoarthritis: Thermal and Pharmacological Management

PT3:019

PATIENT'S EXPERIENCE OF ALTERED BODY PERCEPTION IN MUSCULOSKELETAL AND RHEUMATIC CONDITIONS

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Objective. to investigate personal experience and perception of chronic musculoskeletal and rheumatic patients' own body, in order to better understand the complex relationship between the mind and the body in pain.
Design and Method. a literature review has been conducted by two independent reviewers on Medline (PubMed) and PsycINFO, searching for records indexed until November 2017. 'Body perception', 'body representation', 'body schema', 'body image' and 'self image' have been the main keywords used for the search. No limits have been applied for language or date of publication.
Results. the literature on body perception associated to painful experience in musculoskeletal and rheumatic diseases is scarce. Three studies have been analyzed. They investigated the complex relationship between the sense of self, the body and the pain on patients with Complex Regional Pain Syndrome, Fibromyalgia and Chronic Low Back Pain. The methodologies of investigation varied from interpretative-phenomenological analysis to the grounded-theory approach. The present analysis shows that the main themes reported by patients are phenomena of disturbed perception of own body parts, such as distortions in shape, pressure and altered awareness of limb position, coexisting with a compromised or distorted sense of self, such as hostile feelings, spectrum of dissociations and altered body image.
Interestingly, a contradictory association between the high level of alertness demanded by pain and a diminished attention, neglect-like, toward the affected body part seems to be present in such conditions.
Conclusions. The theme of the experience of the own body suffering, particularly regarding the perception of the body and the related emotions, seems to be scarcely investigated in musculoskeletal and rheumatic diseases. Further qualitative studies are needed to better understand neurocognitive aspects associated to musculoskeletal and rheumatic chronic painful conditions as osteoarthritis, rheumatoid arthritis, neck and shoulder pain in view of a clinical implementation of such information in terms of assessment and treatment.

Keywords: body perception, body image, sense of self.

PT3:020

A LOW FERMENTABLE OLIGO-DI-MONOSACCHARIDES AND POLYOLS DIET IMPROVES SYMPTOMS WITHOUT AFFECTING BODY COMPOSITION AND EXTRACELLULAR BODY WATER IN FIBROMYALGIC PATIENTS WITH IRRITABLE BOWEL SYNDROME

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Objective. The study was aimed at testing the effects of a low Fermentable Oligo-di-Monosaccharides and Polyols (FODMAPs) diet on symptoms of fibromyalgia (FM), quality of life, abdominal symptoms and body composition, of FM patients with IBS.
Design and Method. Twenty (46.5±7.9, 19F, 1 M) FM patients with IBS, diagnosed according to Rome III criteria, were treated with a low FODMAPs diet adequate in macro/micronutrients, for 8 weeks.
The low FODMAPs diet excludes fructose, lactose, oligosaccharides including fructans (wheat and some vegetables), galacto-oligosaccharides (legumes) and sugar polyols such as sorbitol and mannitol (stone fruits and artificial sweeteners). FODMAPs are poorly absorbed in the small intestine and enter the colon where they are fermented, producing gas possibly responsible for bloating, abdominal discomfort and pain, frequently complained by patients affected with IBS. FM is associated with gastrointestinal comorbidities and IBS.
Outcome measures were: IBS-SSS (Severity Score System), a questionnaire evaluating bowel habits using a scale from 0 (no symptom) to 4, Short Form 36 Health Survey (SF36), Hospital Anxiety and Depression Scale (HADS), Pittsburgh Sleep Quality Index (PSQI), revised fibromyalgia impact questionnaire (RFIQ) and bioelectrical impedance vector analysis (BIVA).
Results. After 8 weeks of low FODMAPs diet the following outcome measures improved: IBS-SSS (global score: 363.1±72.9 vs 206.2±82.0; $p<0.0004$), bowel habits (Fig. 1), quality of life ($p<0.01$), sleep quality (11.5±4.4 vs 7.6±3.7, $p<0.01$), anxiety (11.0±3.6 vs 6.2±2.2, $p<0.0009$) and depression (9.7±2.7 vs 7.2±3.7, $p<0.01$). No change in BMI (23.6±4.2 vs. 23.6±4.5) and body composition assessed with BIVA was noticed. The degree of relief using a scale from 0 (total relief) to 7 (no relief) was 1.2±1.0.

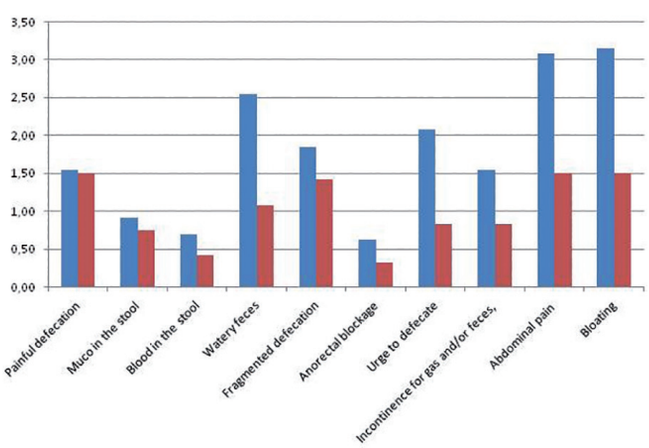

Fig. 1. Bowel habits at baseline (blue) and after two months of low FODMAPs diet (orange).

Conclusions. The low FODMAP diet greatly improved IBS symptoms as well as quality of life in FM patients, without affecting body composition and body water. The low FODMAPs diet might be a useful dietetic approach in treating fibromyalgic patients with comorbidity of IBS.

Keywords: fibromyalgia, irritable bowel, FODMAPs.

PT3:021

CONTROL AND MANIPULATION OF CONTEXTUAL FACTORS IN MUSCULOSKELETAL PAIN MANAGEMENT. A VALID OPPORTUNITY TO ENHANCE THE EFFECTIVENESS OF THE SPECIFIC THERAPY

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Objective. To investigate the therapeutic relevance of contextual factors (CFs), placebo and nocebo responses in the management of musculoskeletal pain.
Design and Method. A narrative review was performed based on an extensive literature search conducted in Medline through Pubmed without time and language limit in June 2017. The keywords adopted were: "placebo", "nocebo", "contextual factors", "musculoskeletal", "pain".
Results. 222 relevant papers were selected and used to write the review. A growing body of research ascribes to CFs a significant role as influencers of musculoskeletal pain. Indeed, CFs impact the patient's pain through specific neurochemical process and brain circuit responsible for triggering placebo and nocebo responses. The classical conditioning, the expectancy, the anxiety reduction, the reward and psychological theories clarify the clinical effect of the CFs. CFs embody therapeutic rituals and signs constantly current in the therapeutic encounter between patients and clinicians. They are synthesizable in five dimensions: patient's features (expectation, history, baseline characteristics); clinician's features (behavior, belief, verbal suggestions, therapeutic touch); patient-clinician relationship features (positive therapeutic encounter, patient-centered approach, social learning); treatment features (overt therapy, posology of intervention, modality of treatment administration, promotion of treatment); healthcare setting features (environment, architecture, interior design).
Conclusions. Due to their possible role on the outcome, the proactive manipulation of CFs should be taken into consideration by every clinician and incorporated in the clinical approach to musculoskeletal pain. A conscious and ethically correct integration of CFs in clinical practice is a valid opportunity to enhance the effectiveness of the specific therapy. There is a strong need of translational research on CFs to guide clinicians to a better management of pain in daily practice.

Keywords: placebo effect, nocebo effect, musculoskeletal pain.

PT3:022

EFFICACY AND SAFETY OF INTRA-ARTICULAR CORTICOSTEROID ULTRASOUND-GUIDED INJECTION IN EROSIVE HAND OSTEOARTHRITIS

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Objective. Erosive hand osteoarthritis (EHOA) is considered a variant of hand OA with severe local inflammation and degeneration of the distal (DIP) and proximal interphalangeal (PIP) joints. The aim of this study is to evaluate the efficacyof intra-articular corticosteroid ultrasound-guided injections in EHOA.
Design and Method. We retrospectively included in the study twelve consecutive EHOA out-patients attending the Hand OA Clinic of our Rheumatology Unit and underwent intra-articular ultrasound-guided corticosteroid injection for painful and swollen joint/s. In accordance with the ACR clinical classification criteria for hand OA, all the patients had at least one X-ray-confirmed erosion of an IP joint, without presence of metacarpophalangeal erosions. All the patients reported painful hand joints >70 mm (0-100) at the Visual Analog Scale (VAS) at study onset. The patients underwent a physical examination of the hands and filled in the following questionnaires: the Australian/Canadian Osteoarthritis Hand Index (AUSCAN) and Dreiser's algo-functional finger index (DREISER). Follow-up data at 1, 3, 6, 12 months after the corticosteroid injection were collected. The patient's clinical and demographic data were expressed as median (interquartile range [IQR]: Q3-Q1). Wilcoxon matched pair test were used to compared variables at different time points. P values <0.05 were considered significant.
Results. The patients (all female) had a median age of 64 (IQR 68-59) years. Their average age at disease onset was 49.5 (IQR 53.25-42.75) years; disease duration was 13.5 (IQR 17.25-9.25) years. Thirty-one joints were ultrasound guided injected with triamcinolone acetonide (23 PIP, 4 DIP, 3 1st interphalangeal joints). Four joints were re-injected with corticosteroid at 3 months and five at 6 months. A significant improvement in pain VAS assessed for any single joint injected was noted at 1 (p<0.0001), 3 (p<0.0001), 6 (p<0.0001), and 12 (p=0.0044) months post-injection (Fig. 1A). A significant improvement of AUSCAN and DREISER index was found at 1 and 3 months after the corticosteroid injection (p<0.05) (Fig. 1 B-C). No serious side effects have been reported.

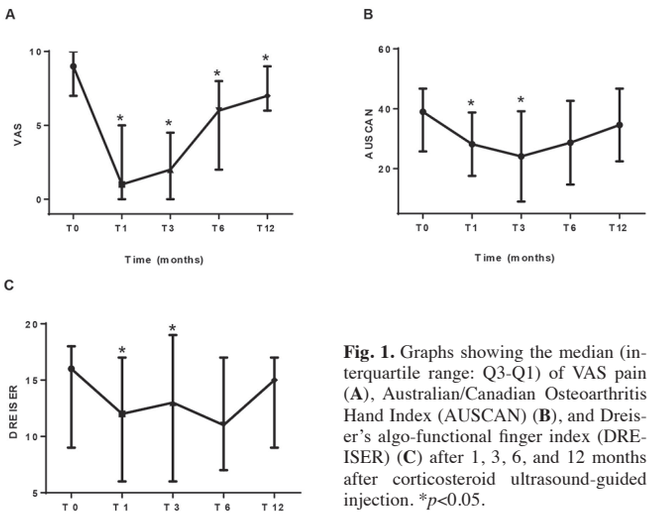

Fig. 1. Graphs showing the median (interquartile range: Q3-Q1) of VAS pain (**A**), Australian/Canadian Osteoarthritis Hand Index (AUSCAN) (**B**), and Dreiser's algo-functional finger index (DREISER) (**C**) after 1, 3, 6, and 12 months after corticosteroid ultrasound-guided injection. *p<0.05.

Conclusions. Intra-articular ultrasound-guided corticosteroid injections have been demonstrated to be effective on reducing pain in EHOA. In addition, an improvement on physical function and patient's ability to perform daily tasks has been observed.

Keywords: hand erosive osteoarthritis, intra-articular injection, corticosteroid.

PT3:023

COULD HYBRID HYALURONIC ACID REPRESENT A VALID APPROACH TO TREAT RIZOARTHROSIS? A RETROSPECTIVE COMPARATIVE STUDY

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Objective. Osteoarthritis (OA) of the trapeziometacarpal joint (TMJ) is a disabling condition with a significant impact on quality of life. The optimal management of hand OA requires a combination of non-pharmacological and pharmacological treatments that include intra-articular (*i.a.*) therapy. EULAR experts recommend corticosteroid injections in TMJ OA and underline the usefulness of hyaluronic acid (HA).
The aim of this study was to assess the efficacy and tolerability of i.a. injections of a hybrid formulation of HA (Sinovial H-L®) in comparison to triamcinolone in patients with TMJ OA.
Design and Method. This 6-months observational comparative study, retrospective analyzed the medical records of 100 patients with monolateral or bilateral TMJ OA, treated with two injections of Sinovial H-L® (Sinovial H-L Group) or of triamcinolone acetonide (Triamcinolone Group). Clinical assessments were recorded at the time of the first and second injection and after one, 3 and 6 months.
The primary outcomes were represented by the change in global pain on a Visual Analogue Scale (VAS) and in hand function evaluated by the Functional Index for Hand OA (FIHOA) from baseline to month 6. Secondary outcomes included the improvement of the duration of morning stiffness, Health Assessment Questionnaire (HAQ) and the Medical Outcomes Study 36-Item Short Form (SF-36). The comparison between the two groups of treatment were performed with the Wilcoxon rank-sum test for continuous variables and with chi-square or Fisher exact test for categorical variables. Statistical significance was set at p<0.05.
Results. Both therapies provided effective pain relief and joint function improvement, but the benefits achieved were statistically significantly superior in the Sinovial H-L® Group than the Triamcinolone Group after one month (p<0.01) from the beginning of the therapy and during the 6-months follow-up (p<0.001).

Furthermore, Sinovial H-L® was associated with a significant decrease in the duration of morning stiffness and with a significant improvement in the HAQ score and physical component summary (PCS)-SF-36.
Conclusions. Our results suggested that the hybrid formulation of HA may be more effective than triamcinolone in pain relief and joint function improvement with a rapid and persistent effect, resulting a valid alternative to steroid in the management of TMJ OA.

Keywords: trapeziometacarpal joint, intra-articular therapy, hybrid hyaluronic acid.

PT3:024

PAIN IN KNEE: MORE THAN JUST WEAR AND TEAR DUE TO OSTEOARTHRITIS

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Objective. Chronic knee pain can be caused by injuries, mechanical problems, types of arthritis and other problems.
The aim of the study was to investigate the impact of knee pain and disability at patients with rheumatologic diseases who were presenting in rheumatology department in 1 month.
Design and Method. This study has used the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) in an unsolicited postal questionnaire to investigate the impact of knee pain and disability. Demographic data, body mass index (BMI), symptoms and diagnose were evaluated.
Results. 78 patients have chronic knee pain, and complete the questionnaire. 80% were women, 20% men; with mean age (years) 57±11SD, mean duration of chronic knee pain (years) 7,19±5,26SD. Mean value of WOMAC score was 41.84±9,94SD, with 8.38±3,11SD pain, stiffness and physical function 29, 65±7,1SD. The BMI was 26,84±6,1SD (mean value), 42% have normal BMI. 53% of patients have inflammatory/immune arthritis (IIA), 42% osteoarthritis (OA), 5% other diseases. 38% patient had severe knee pain, 48% had severe difficulty with at least one area of physical functioning. The strongest link with severe difficulty and physical functioning was IIA 43%, OA 32%, other 15% (metabolic syndrome, vascular and/or IIA, OA). Other independent links were age over 70 years, bilateral knee injury and BMI > 30. Similar associations were found for severe pain 49% IIA, 48% OA, other 13% (metabolic syndrome, vascular, and/or OA, IIA).
Conclusions. Pain in knee is a result of modifiable and non-modifiable factors, and cumulative factors - inflammatory, mechanical and or dysmetabolic factor plays an important role.

Keywords: knee pain, osteoarthritis.

PT3:025

INTRA-ARTICULAR HYALURONIC ACID FOR KNEE OSTEOARTHRITIS: TWO YEARS EFFICACY OF A QUARTERLY REGIMEN

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Objective. Knee is the most frequently affected joint by OA leading to activity limitations, need for walking devices and increased use of analgesics and non-steroidal ant inflammatory drugs (NSAIDs). In knee OA, HA is indicated for non-responders to non-pharmacological therapy, to analgesics or when NSAIDs are contraindicated. The aim of the study is to evaluate the long-term efficacy of a quarterly single intra-articular injection of high molecular weight HA (Hyalubrix®, HA >1500 kDa) in symptomatic knee OA

Analysis of GEE Parameter Estimates

WOMAC GEE linear regression model

Correlation: **-0.001678708**

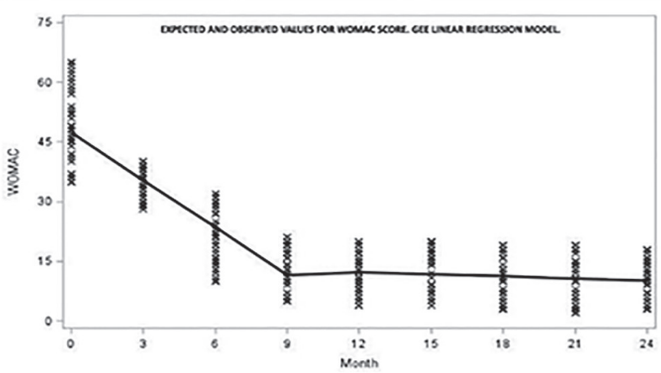
Empirical Standard Error Estimates

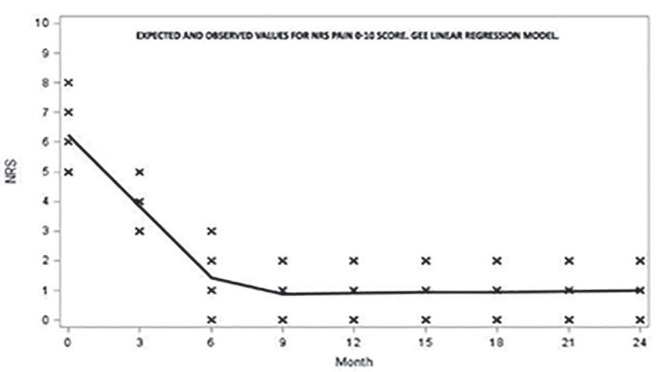
Parameter	Estimate	Standard Error	95% Confidence Limits		Z	Pr > Z
Intercept	47.3766	0.9665	45.4823	49.2709	49.02	<.0001
Month	-3.9738	0.1527	-4.2731	-3.6744	-26.02	<.0001
Month_9	-33.0660	1.3861	-35.7826	-30.3493	-23.86	<.0001
Int_month_9	3.8057	0.1582	3.4956	4.1158	24.05	<.0001

NRS pain 0-10 GEE linear regression model

Empirical Standard Error Estimates

Parameter	Estimate	Standard Error	95% Confidence Limits		Z	Pr > Z
Intercept	6.2234	0.1379	5.9531	6.4937	45.13	<.0001
Month	0.7979	0.0361	-0.8687	-0.7270	-22.8	<.0001
Month_6	-5.4007	0.2155	-5.8231	-4.9783	-25.06	<.0001
Int_month_6	0.8050	0.0363	0.7339	0.8760	22.20	<.0001





Design and Method. The charts of 50 patients with symptomatic knee OA (mean age 60.89±9.88 years; 63.8% of the patients were female; K-L grade I 42.6%, K-L grade II 27.6%, K-L grade III 29.8%) treated with a 3-weekly regimen followed by a quarterly single injection with HA for 24 months. Patients were assessed as follows: WOMAC score and NRS 0-10 pain scale at baseline (T0) and at each treatment (T1-T8), and Kellgren-Lawrence grading (K-L) at baseline and at 24 months to evaluate disease progression at x-rays. Descriptive analyses and GEE linear regression model was performed with SAS 9.3.
Results. 47/50 patients completed 24 months of follow-up: 3 patients stopped the treatment (accidental knee injury, osteonecrosis and missing data). The mean age of the patients was 60.89±9.88 years; 63.8% of the patients were female. At baseline 42.6% of patients was in K-L grade I, 27.6% in K-L II and 29.8% in K-L III: no significant x-ray changes were observed in any group while a progressive reduction in WOMAC values (baseline 48.83±8.94 vs T8 10.77±4.52) and NRS (baseline 6.32±1.09 vs T8 1.00±0.88) was detected (p<.0001). The GEE linear regression model used in this study showed that the treatment reached its maximum between the 6th and 9th month when the effect was stable and remained unchanged until the 24th month.
Conclusions. The data show 24 months' efficacy of a regular cycle of high molecular weight HA in knee OA significantly reducing pain and improving joint function. Moreover, the Kellgren results may suggest that the treatment could slow the x-ray progression of OA.

Keywords: osteoarthritis, knee, hyaluronic acid.

PT3:026

THE EFFECTIVENESS OF SAFFRON PILL IN TREATMENT OF OSTEOARTHRITIS: A RANDOMIZED, DOUBLE-BLIND CONTROLLED TRIAL

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Objective. Purpose: Osteoarthritis is a major cause of pain and disability in the world. Non-steroidal anti-inflammatory drugs are the most common in this disease, but these drugs could cause gastrointestinal and cardiovascular problems especially in the old age. Saffron is a well-known spice produced from dried stigmas of Crocus sativus L. flowers. Apart from its wide use in medical properties, the use of saffron for pain relief of osteoarthritis (OA) has not been studied yet. So the aim of this study was to compare the efficacy and tolerability of saffron tablets for the treatment of knee osteoarthritis.
Methods. A total of 66 patients with symptomatic unilateral knee OA received saffron pills, 100 mg daily for 12 weeks, or placebo in a double-blind and randomized manner. Clinical data (Western Ontario and McMaster Universities Osteoarthritis Index, WOMAC, pain subscale and the mean number of NSAID per day) were collected before treatment and at the end of study in each group.
Design and Method. The average age of patients was 57/32±5/96. Fifty-nine patients were female (89.4 %) and seven of them were male (10.6%). WOMAC were significantly improved in each group at the end of the study, but we found no difference between both groups in the primary outcome measure (WOMAC pain score) at the end of study. NSAID consumption in the intervention groups was significantly reduced after 6 weeks of saffron pills consumption in comparison with the control group, (0.64±1.02 (N/day) vs 1.12±1.31(Number/day). Saffron pills were safe and tolerable in this study.
Results. The NSAID need for pain relief in osteoarthritis patients treated with saffron pill was reduced, and it seems that this drug can be used as an alternative drug in osteoarthritis.
Registration:IRCT2016091029777N1

Keywords: saffron, NSAID, WOMAC, osteoarthritis.

PT3:027

BALNEOTHERAPY IN KNEE OSTEOARTHRITIS: A COST/EFFECTIVENESS ANALYSIS ALONGSIDE AN ITALIAN RANDOMIZED CONTROLLED CLINICAL TRIAL

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Objective. To perform a cost-effectiveness analysis of mud-bath therapy (MBT) in addition to usual treatment compared to usual treatment alone in patients with bilateral knee osteoarthritis (OA).
Design and Method. This is a prospective randomized, controlled single-blind (assessor) trial. The study protocol was approved by the Ethics Committee of Siena University Hospital and registered on http://www.clinicaltrials.gov (NCT01538043).
Patients aged between 40 and 80 years of both sexes with primary symptomatic bilateral knee OA (ACR criteria) and with a Kellgren-Lawrence radiological score between I–III were recruited in the area near the Health Resort of Chianciano Terme (Siena, Italy), allowing them to continue to live at home and carry out their daily routines during the study period.
Patients were randomly assigned to receive either a 2 weeks cycle of MBT in addition to their usual treatment or to continue routine care alone. The European Quality-of-Life Questionnaire-5 Dimensions (EQ-5D) was administered at baseline, 2 weeks, 3, 6, 9, and 12 months. Direct healthcare resource consumption (drug's consumption, laboratory and imaging tests, general practitioners and specialists visits, physical therapies and devices) for the treatment of knee OA up until 12 months were derived from a daily diary given to patients and returned at prescheduled follow-up visits.
Results. A total of 103 patients were included (MBT = 53, control = 50). Overall, patients in the MBT group accrued on average 0.703 (± 0.23 standard deviation, SD) quality adjusted life years (QALYs) compared to 0.523 (± 0.25 SD) in the control group (p<0.001). Patient average direct costs (€302.8 vs 975€, p<0.001) were higher in the control group, primarily because of hospitalization and use of intra-articular hyaluronic acid.
Bootstrapping replications of costs and QALYs sample distributions indicated that the MBT therapy combined with standard therapy represents a dominant strategy vis-a-vis standard therapy alone, with a consistently negative incremental cost-effectiveness ratio (ICER, mean: -3,752€/QALY, 95%CI: -8,134€/QALY to -2,139€/QALY).
Conclusions. The results of this cost-effectiveness analysis support a positive recommendation to the use of the mud bath therapy as complementary therapy in the management of knee OA.

Keywords: cost-effectiveness, knee, mud-bath therapy.

Poster Tour 4: Osteoarthritis / Osteomalacia and malabsorption

PT4:028

VITAMIN D DEFICIENCY IN THE ACUTE CARE UNIT. IS IT RELATED TO SURVIVAL?

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Objective. Vitamin D deficiency has been reported to be widely found within the population. Vitamin D deficiency was also found to be prevalent in patients with autoimmune inflammatory diseases such as rheumatoid arthritis and systemic lupus erythematosus. Vitamin D deficiency was reported in almost all patients with acute myocardial infarction in a United States multicenter study. Low concentrations of 25-hydroxyvitamin D (25(OH)D) are reported to be an independent risk factor for cardiovascular events, in particular for stroke and sudden cardiac

deaths. The aim was to study and report vitamin D levels in acutely ill patients being cared for in an acute care unit.
Design and Method. In 20 patients being cared for in an acute care unit and in 20 controls matched for age and sex 25(OH)D3 levels were measured. In the patient population CRP and procalcitonin were also measured. 25(OH)D3 was measured by radioimmunoassay, normal values being 47.7-114 nmol/L.
Results. In the patients being cared for in the acute care unit 25(OH)D3 levels were 30.33±3.63 nmol/L (mean±SEM), whereas in the controls 60.37±4.41 nmol/L (p<0.001, Student's t test). In the patients being cared for in the acute care unit vitamin D deficiency or insufficiency was found 18 of the 20 patients. No relationship was observed between vitamin D levels and survival in the acute care unit patients.
Conclusions. Low vitamin D levels were found in patients hospitalized in an acute care unit. These findings are in agreement with findings of other investigators having reported low levels of vitamin D in patients with acute myocardial infarction. It has been proposed that low vitamin D levels may be a risk factor for cardiovascular events and in patients with acute myocardial infarction may predict adverse outcome. It has also been proposed that vitamin D levels may decrease during the acute phase response, however, more studies are needed to confirm or refute this hypothesis. In the present study no relationship was observed between vitamin D levels and survival in patients hospitalized in an acute care unit.

Keywords: vitamin D, acute care, acute phase response.

PT4:029

VITAMIN D DEFICIENCY AND OSTEOMALACIA IN ACUTELY ILL PATIENTS AFTER SURGICAL TREATMENT FOR COLON CANCER

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Objective. Vitamin D deficiency is observed in elderly patients, especially those confined at home. Vitamin D deficiency is also observed in acutely ill patients, especially those hospitalized for long periods of time in intensive care units. Observations connect vitamin D deficiency with gastrointestinal disorders, such as gastritis, gastric ulcer, Helicobacter pylori infection and cholocystectomy. The aim was to describe the cases of two elderly frail patients who developed severe vitamin D deficiency and osteomalacia after long-term hospitalization following surgical treatment for colon cancer.
Design and Method. The cases of two patients, female, aged 82 and 85 years, respectively, are described in whom vitamin D deficiency and osteomalacia was observed after surgical treatment and long-term hospital care for colon cancer.
Results. The patients were frail. Both patients had undergone partial colectomy for the treatment of colon cancer. After surgical treatment for colon cancer the patients needed long-term hospital care due to frailty. Laboratory investigations revealed blood Ca 7.8 and 8.2 mg/dL, respectively. Levels of 25(OH)D3 were 6.1 and 7.2 ng/mL (normal levels >30 ng/mL), and PTH levels were 78 pg/mL and 82 pg/mL (normal range 10-65 pg/mL), respectively. Cholecalciferol orally and calcium gluconate iv were administered. Blood calcium levels improved. Cholecalciferol administration contributed to the improvement of calcium levels. Both patients felt better and their general health condition improved considerably.
Conclusions. The results show that acutely ill elderly patients should be investigated for the presence of concurrent vitamin D deficiency. Cholecalciferol administration may contribute to patient improvement and may aid to the management of frailty in these elderly patients.

Keywords: vitamin D, osteomalacia, malabsorption.

PT4:030

EFFECTIVNESS OF DENOSUMAB IN ADJUSTMENT OF OSTEOPOROSIS TREATMENT IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Objective. This project aims is to evaluate the effectiveness of Denosumabe in adjustment of OP treatment in patients with RA.
Design and Method. We have examined 43 patients with RA and OP. As background therapy of RA were used methotrexate 15 mg/week in combination with folic acid. All patients were divided into 2 Groups: Group 1 (24 patients) received Risendronate 35 mg/week, calcium 1000 mg/day with vitamin D3 2000 MO/day; Group 2 (19 patients) received Denosumab120 mg/24 weeks admixed with calcium 1000 mg/day and vitamin D3 2000 MO/day. We detected Ca and P levels in blood and using the dual-energy X-ray absorptiometry DEXA (to calculate a T-score of the lower thoracic spine level) before the treatment, 12 and 24 months after treatment start.
Results. Patients with seronegative RA before treatment had significantly lower level of bone mineral density (BMD) and it was 13.3±2.34% less than in patients with seropositive RA. In Group 2 T-score was -2.93±0.38 SD before treatment, -2.32±0.27SD after 12 months and -2.18±0.21SD after 24 months. In Group 1 T-score was -2.84±0.34 SD before treatment, -2.54±0.23 SD after 12 months and -2.51±0.21SD after 24 months of treatment. BMD was increased for 10.3±2.31% in patients of Group 1 only after 24 months of treatment but increase of BMD in patients of Group 2 was significantly higher (21.3±4.43%). 59.4% of patients with high activity of RA and duration of disease for more than 10 years had osteoporotic fractures in their anamnesis. Pathological fractures before treatment were revealed in 9 patients from Group 22 and in 6 patients from Group 1. Osteoporotic fractures were diagnosed in 3 patients in Group 1 and in 2 patients in Group 2 after 24 months.
Conclusions. Seropositivity for RF, high activity and long-term RA are prognostically unfavourable signs of development of OP in these patients. It is effective to combine Denosumab with calcium 1000 mg/day and vitamin D3 2000 MO/day for OP treatment in patients with RA as it leads to increase BMD and reduce the risk of osteoporotic fractures.

Keywords: osteoporosis, rheumatoid arthritis, denosumab.

PT4:031

EVALUATION OF EFFECTS OF ADAPTED PHYSICAL ACTIVITY PROGRAM ON FUNCTIONAL ORGANIC INDEXES AND BMD IN OSTEOPOROTIC PATIENTS TREATED WITH DENOSUMAB

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Objective. The positive effects of physical exercise on bone trophism are now irrefutable. The exercise prescription foresees a type, dose, frequency of administration, duration of treatment, and therapeutic objective. The aim of this study was to evaluate the effects of adapted exercise program to a specific cohort of postmenopausal women osteoporotic in treatment with denosumab from six months.
Design and Method. 112 patients in post-menopausal, age >50 <74 years with history of at least 1 vertebral fracture, or with with T-score <-3.0 and high risk of falling, have been selected. After the initial screening, 55 patients were placed in the exercise group (APA) and subjected to an adapted motor activity program lasting 12 months while 57 women have been enrolled in the control group which did not practice regular physical activity. Outcome measures for both groups were the following tests: SITAND REACH; 30 SECOND CHAIR STAND; TUG; 6' WALK; BERG BALANCE; 30 SECOND ARM CURL; VAS; BMD; BODY SATISFACTION; SELF-RATING DEPRESSION. These evaluations were made at T1, or 6 months from the beginning of the denosumab, and T2, or 18 months from the beginning of the denosumab; BMD was instead calculated to To, before starting treatment with Deosumab, and T2. Statistical analysis was performed with the two-way ANOVA and the calculation of Pearson's correlation coefficient to determine the relationship between the values of the different physiological variables and the BMD (p<0.05).
Results. APA group showed a reduction in pain, improvement of functional organic indexes and BMD values in comparison between T2 vs T1 and T2 vs T0 respectively; for control group, the average values of the VAS and functional organic indexes are poorly varied in the follow up, despite the improvement of BMD in T2 vs T0.

Conclusions. Physical activity, especially adapted physical activity (APA), can represent a valid presidium in the prevention and treatment of alterations of bone trophism with the control of lifestyle and pharmacological therapy. In our study its association with the administration of Denosumab was successful in the improvement of BMD and functional organic indexes for the synergistic effect on the Rank-Rank L system.

Keywords: adapted physical activity, osteoporosis, denosumab.

PT4:032

BREAST CANCER AND SKELETAL HEALTH: EVALUATION OF BONE MINERAL DENSITY AND FRACTURE RISK

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Objective. Women with breast cancer have an increased prevalence and risk of fracture that become most evident following the use of aromatase inhibitors (AIs) as standard adjuvant therapy due to the negative effect of estrogen depletion on bone.
Fracture Risk Assessment (FRAX) is a tool for evaluation of fracture risk but to date, there are no data regarding its use to identify patients with high risk of osteoporosis in breast cancer. Aim of the study is to evaluate bone mineral density and risk fracture in a cohort of breast cancer patients.
Design and Method. After oncological evaluation all patients during or before starting ormonal theraphy becoming to rheumatologist to perform clinical and instrumental assessment of bone turnover by bone mineral density (BMD) at the lumbar spine (L1-L4) and at the proximal femur by the DXA scan and laboratory assessment for determination of 25(OH)D3. Demographic data and risk factors for fracture were collected than WHO/FRAX fracture risk assessment was made considering AIs as a form of secondary osteoporosis.
Results. 60 breast cancer patients were examined (mean age 62.3±9.8 years; mean ormonal theraphy duration 31.2±20.7months). A group of 60 postmenopausal matched-age subjects was a control. 38 patients (60.3%) have low bone mass particulary 33.3% osteoporosis and 27% osteopenia. BMD was lower in breast cancer patients than controls (L1-L4 0.891±0.12 g/cm2 vs 1.039±0.18 g/cm2; p<0,001; femoral 0.767±0.09 g/cm2 vs 0.903±0.11 g/cm2 p<0.001). The mean concentration of 25(OH)D3 was 18.6±9.6 ng/ml. FRAX was 7.8% at major site and 1.7% at femoral site; the value does not change considering or not aromatase inhibitor therapy as a risk factor.
Conclusions. Women treated with AIs for breast cancer are high risk to clinical fractures; so selection of prope drug therapy to reduce fracture risk is essential. The use of FRAX to quantify fracture risk is recommended by IOF guidelines in order to increase the power of BMD. The prevalence of risk sufficient to necessitate drug therapy was high and was strongly influenced by age. Since FRAX was not designed specifically for women receiving aromatase inhibitors, and the risk of fracture may be underestimated. Further work is needed to refine risk assessment in this vulnerable population.

Keywords: osteoporosis, breast cancer, fracture risk.

PT4:033

THE 3-YEAR EFFICACY OF ZOLEDRONIC ACID ON BONE MINERAL DENSITY OF LUMBAR SPINE AND FEMORAL NECK IN POSTMENOPAUSAL WOMEN WITH OSTEOPOROSIS

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Objective. To demonstrate the three-year efficacy of Zolendronic acid (ZOL), in terms of bone density (BMD) of lumbar spine (LS) and femoral neck (FN), in postmenopausal women with osteoporosis.
Design and Method. Retrospective study of 78 postmenopausal women, aged 66.6±10 years and postmenopausal years 20±10, with osteoporosis (t-score<-2.5), who received ZOL annually (5mg IV) for at least 1 year and daily Calcium (1000mg) plus Vitamin D (400-800IU). Fifty-eight (74%), thirty-one (40%) and ten (13%) patients received ZOL for two, three and four years respectively. Bone densinometry of LS and FN was performed at 0, 1, 2 and 3 years.
Results. Significantly greater increases in BMD were observed at all measured skeletal sites at the end of the third year (FN-BMD: 0.751±0.0.113 to 0.867±0.105, p<0.0001, LS-BMD: 0.632±0.179 to 0.734±0.116, p<0.05). Eight (10%) patients referred mild arthralgias of 2-3 days duration, six (8%) patients a post-dose, self-limited low grade fever (37.2ºC), while one (1.3%), who previously received per os bisphosphonates for 4 years, developed an atypical femur fracture (AFF), after the fourth ZOL infusion, despite the gain from baseline in FN-BMD (+10.6%).
Conclusions. ZOL increased BMD at all evaluated skeletal sites after three years of therapy and seems to be a well-tolerated treatment.

Keywords: zolendronic acid, osteoporosis, bone mineral density.

PT4:034

TENDENCIES OF BONE MINERAL DENSITY IN YOUNG ADULTS AND THE INFLUENCE OF DIET AND OTHER LIFESTYLE HABITS

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Objective. Maximum bone mineral density (BMD) is achieved in early stages of adulthood (20-30 years) and it depends on gender, race, hormonal factors, nutrition, physical activity and other lifestyle behaviors. The study aims to analyze the tendencies of BMD in the young adults in Romania (ages 20-30 years) in relation with dietary habits and lifestyle behaviors like smoking and drinking.Other aims of the study are to compare the results obtained in the Romanian cohort with those from other populations that used the same method of evaluating BMD.
Design and Method. Observational prospective study (still in early stages) that evaluates BMD, T score and Z score by using an ultrasonographic bone mineral density scanner developed by Echolight Italy in a group of young Romanian adults. Evaluation was done on two sites: the lumbar vertebral bodies by placing the transductor verticaly on the median line of the abdomen and detecting vertebra L1 to L4 and use the integrated software of the Echolight system and the femoral neck, using a standard ultrasonographic window for the hip.
Participation in the study is through signing an informed consent, data being anonymus and respecting the national reglementations of the ethics commitee.
Statistical analysis was done with Jamovi v 0.8.1 software.
Results. As until now, higher BMD levels have been observed in subjects who have protein-rich (not dependable of source) compared to those with high carbs diets or high lipid diets. There is not enough data as of yet to determine if animal proteins or those from vegetables are more influential on BMD. It has also been observed that the femoral neck ossification appears later and could be positively influenced by lifestyle habits.
Conclusions. A balanced diet that has enough proteins seems to be optimal for reaching a healthy BMD and determining proper ossification, especially in the femoral neck.
More subjects are needed to determine more subtle changes in BMD dependent on diet and other lifestyle behaviors.

Keywords: maximum bone mineral density, young patients, diet recommended.

Poster Tour 5: Psoriatic Arthritis / Spondyloarthritis

PT5:035

THE PREVALENCE AND COMORBIDITIES ASSOCIATED WITH PSORIATIC ARTHRITIS IN PATIENTS WITH PSORIASIS: AN OBSERVATIONAL COHORT STUDY

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Objective. To investigate the prevalence of psoriatic arthritis (PsA) in patients with psoriasis (PsO), and to identify comorbidities associated with it.
Design and Method. The study was designed as a observational cohort study involving patients with psoriasis. Information was collected about lifestyle, habits, comorbidities, and psoriasis activity. Patients were classified as having PsA if they fulfilled the criteria of the Classification of Psoriatic Arthritis Study group (CASPAR).

Results. The data was obtained from the 371 psoriasis patients. The mean age was 40.0±16.6 years, 42% were women, and 58% were men. A diagnosis of PsA was found in 104 patients (28%), of whom 34.6% had peripheral involvement, 15.4% had isolated axial involvement, and 50% had both peripheral and axial involvement. The PsA onset was preceding psoriasis in 48%, together with psoriasis in 40% and following psoriasis in 12%. Family history of PsO and PsA was positive in 21.6% and 8.4% respectively. PASI score of our patients ranged from 1-30 with a mean of 8.77±6.33, which were relatively higher in PsA patients. Comorbidities in form of diabetes mellitus, hypertension, liver disease, HIV and dyslipidemia were found in 14.6%, 10.5%, 10.2%, 0.3% and 0.5% respectively. Smoking was found in only10 patients (2.7%).
Conclusions. The prevalence of PsA in Egyptian patients with psoriasis appears to be within the range reported in other studies. Whereas, most of PsA onset was found to precede the psoriasis.

Keywords: psoriasis, psoriatic arthritis, prevalence.

PT5:036

ASSOCIATION BETWEEN LIVER STEATOSIS, METABOLIC PROFILE AND RHEUMATOLOGIC DISEASES: A SINGLE CENTER STUDY

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Objective. Recent evidences suggested the possible association between liver steatosis and psoriatic arthritis (PsA), rheumatoid arthritis (RA), and ankylosing spondylitis (AS). Aim of our study was to evaluate the presence of liver steatosis in PsA, RA and AS patients.
Design and Method. A population of 30 rheumatologic patients, 14 females (46.6%), respectively 12 with diagnosis of AR, 14 with PsA and 4 with AS, was recruited and evaluated by liver ultrasound to detect the presence of liver steatosis and its degree of severity, according to Hamaguchi score. Also glucose and lipid profile are studied.
Results. In our cohort 22 (73%) patients were diagnosed with liver steatosis. This group had a significant lower proportion of females (p=0.03), higher BMI (p<0.0001) and high prevalence of moderate liver steatosis degree (p<0.001). In our cohort we do not found association between transaminase blood levels, and severity of steatosis. We found a significant association between liver steatosis and patients with PsA (p<0.05). In particular, the metabolic profile of this group of patients showed high values of total cholesterol, LDL cholesterol, and fasting glucose (p<0.05).
Conclusions. Considered the systemic inflammatory status typical of rheumatologic patients, our results provide evidence for a pathogenetic link between liver steatosis and these diseases. In particular we found the association between PsA and liver steatosis associated with a disequilibrium of metabolic profile. These data support the idea to include ultrasound liver evaluation in first line evaluation of PsA patients.

Keywords: liver steatosis, metabolic profile, rheumatologic diseases.

PT5:037

OBESITY AND RESPONSE TO TNF INHIBITORS IN PATIENTS WITH ANKYLOSING SPONDYLITIS – DATA FROM A ROMANIAN COHORT

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Objective. despite extensive research about the interrelation obesity – response to biologics, particularly TNF inhibitor (TNF-i) in rheumatoid arthritis, only a paucity of studies have addressed the topic in patients with ankylosing spondylitis (AS). The objective was to assess the influence of obesity on the response yo TNF inhibitors (TNF-i) in AS as compared to normal or overweight patients.
Design and Method. retrospective observational study in a cohort of 190 consecutive AS patients receiving TNF-i (biologic-naive, biologic-experimented) according to the national recommendations, attending at least twice (at 6 months interval) an academic rheumatology outpatient department.
Patients were classified according to their baseline body mass index (BMI) as normal (BMI 18.5 to 25 kg/m2), overweight (BMI 25 to 30 kg/m2) and obese (BMI >30 kg/m2). We evaluated the proportion of AS achieving at least 1.2 improvement based on disease activity scores (ASDAS-CRP, BASDAI) based on status scores at 1 year of biotherapy; low disease activity was considered if BASDAI<3 and ASDAS-CRP<2.1, while remistimp ce remisiunea in conditiile indeplinirii cumulative BASDAI<1, ASDAS-CRP<1.3 si absenta sindrom inflamator).
Multiple logistic regression analysis adjusted on age, gender, disease activity and disability at baseline, high CRP and smoking profile was performed in total as well as subgroup analysis (biologic-naïve and -experimented AS).
Results. 11% AS were classified as obese patients. Statistical significant differences in age, disease duration and disability levels were reported in obese vs. normal and overweight AS at baseline, while comparable disease activity before starting TNF-i.
At 12 months significant few patients achieved low disease activity and remission (p<0.05) in the obese subgroup irrespective of the use of i-TNF as first, second- or even third-line therapies.
Conclusions. Obesity negatively influences the rate of response to TNF-i in patients with active AS.

Keywords: ankylosing spondylitis, TNF inhibitors, obesity.

PT5:038

PREVALENCE OF COMORBIDITIES IN PSORIATIC ARTHRITIS: A CROSS-SECTIONAL STUDY

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Objective. The objective of this study was to calculate the prevalence of comorbidities and risk factors in a cohort of PsA patients.
Design and Method. This was an observational cross-sectional study, including consecutive, unselected adult patients, with a diagnosis of PsA according to their rheumatologist. Data collected: demographical, clinical (affected joints, current psoriasis, axial involvement, enthesitis, dactylitis), biological (acute phase reactants), and treatment related (nonsteroidal anti-inflammatory drugs, synthetic remissive drugs and biologics). Data on comorbidities and risk factors were collected according to the EULAR recommendations on reporting comorbidities in chronic inflammatory rheumatic diseases in daily practice.
Results. In all, 129 PsA patients were included: 77 (59.7%) women, mean age ± standard deviation 53.5±11.8 years, disease duration 7±7.4 years; 53 (41.1%) had axial involvement, 33 (25.6%) dactylitis, 18 (14%) enthesitis, and 24 (18.6%) current moderate/severe psoriasis. Most of them had low or moderate disease activity and almost a quarter of them (32; 24.8%) were taking a biologic.
The most prevalent comorbidities were: dyslipidaemia 103 patients (79.8%), hypertension 67 (51.9%), obesity 44 (34.1%), diabetes 21 (16.3%) and ischemic heart disease 15 (11.6%). Almost a third of patients (42, 32.6%) suffered a cardiovascular event after their PsA diagnosis, of which heart attack 2 patients, stroke 4, cardiac failure 4 and peripheral arterial disease one patient. Cardiovascular events correlated with smoking (r=0.893, p<0.001) and current moderate/severe psoriasis (r=0.218, p=0.013). Regarding infectious comorbidities: 11 patients (8.5%) had a history of tuberculosis after being diagnosed with PsA, 7 (5.4%) chronic viral hepatitis, of which 4 with B virus and 3 with C virus, and 5 patients (3.9%) developed severe infections. Five patients (3.9%) were diagnosed with neoplasia, but no correlation was identified with any of the clinical, biological or treatment related included variables. Only 11 patients (8.5%) were diagnosed with depression, but the prevalence is probably underestimated, since not all patients were screened to this end.
Conclusions. PsA is associated with a high prevalence of comorbidities, especially cardiovascular diseases. This should be taken into consideration in the therapeutic and the global management of PsA patients.

Keywords: psoriatic arthritis, cardiovascular comorbidities.

PT5:039

HYPERURICEMIA IN PSORIATIC ARTHRITIS: PREVALENCE AND ASSOCIATED FACTORS

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Objective. Hyperuricemia is frequent in psoriatic arthritis (PsA) and it seems to be related to metabolic syndrome rather than to extensive psoriatic skin disease. The objective of this study was to evaluate the prevalence of hyperuricemia in PsA patients and to identify the associated factors
Design and Method. Design: cross-sectional study, including consecutive, unselected, adult PsA patients. Data collection: demographic variables (age, gender, disease duration), clinical variables (affected joints, current moderate/severe psoriasis, nail disease, axial involvement, enthesitis, dactylitis), biological factors (acute phase reactants), treatment-related variables (non-steroidal antiinflamatory drugs, corticosteroids, synthetic and biologic disease modifying drugs) and comorbidities. Hyperuricemia was defined as uric acid level above 6.8 mg/dl.
Statistical analysis. the factors that were potentially associated with hyperuricemia were assessed by Spearman correlation and uni- and multivariate logistic regressions.
Results. In all, 120 PsA patients were included in the study: 69 (57.5%) women, mean age±standard deviation 54±11.8 years, mean disease duration 7±7.4 years; 24 (20%) had moderate/severe psoriasis and 30 (25%) were taking a biologic. A high percentage of patients had cardiovascular comorbidities, i.e., dyslipidemia 80%, hypertension 51.7%, obesity 34.2% and cardiovascular events 34.2%. Around a quarter of patients had hyperuricemia (33; 27.5%). Hyperuricemia was significantly associated with obesity, diabetes, ischemic heart disease and hypertension, but there was no correlation with current skin psoriasis. In the multivariate analysis, it was best explained by diabetes (odds ratio: 4.95, [95% confidence intervals: 1.47; 16.67]), ischemic heart disease (3.61 [1.00; 12.98]) and obesity (1.86 [1.04; 3.32]).
Conclusions. Hyperuricemia in PsA is associated with metabolic syndrome rather than skin psoriasis, but further longitudinal studies are needed to identify causal relationships.

Keywords: psoriatic arthritis, hyperuricemia, metabolic syndrome.

PT5:040

METABOLIC SYNDROME AND ANKYLOSING SPONDYLITIS IN ALGERIAN PEOPLE

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Objective. Ankylosing spondylitis resounded globally on the quality of life and long-term on the life expectancy of patients by the increased occurrence of cardiovascular events.
The Metabolic Syndrome (MS), also known as X Syndrome or Insulin Resistance Syndrome, includes the presence of several associated metabolic abnormalities (abdominal obesity, hypertriglyceridaemia, low HDL cholesterol, glucose intolerance or diabetes mellitus, hypertension). The objective of this study is to evaluate the prevalence of metabolic syndrome and identify the associated factors in ankylosing spondylitis.
Design and Method. This is a prospective study including all the patients presenting ankylosing spondylitis (AS) according to ASAS criteria 2010, hospitalized in the rheumatology department of BAB EL OUED hospital between January 2009 and December 2016. All the patients have undergone a clinical examination and laboratories. The following were analyzed: demographic data, comorbidities (diabetes, hypertension, dyslipidemia, tobacco and BMI), duration of disease progression, disease activity, ESR, CRP at inclusion, and the treatments received. We used the AACE (American Association of Clinical Endocrinologists) definition to assess the presence of MS.
Results. The study enrolled 113 patients (23 women, 90 men); average age: 39.37 years (19 - 74); average duration of illness: 12.5±8.28 years. Current treatments: non-steroidal antiinflammatory drugs (NSAIDs) 29.2%, MTX (28.8%), leflunomide (0.7%), salazopyrin (21.6%), biotherapy (69.1%). uveitis (18.6%), coxitis (45%), mean ESR first hour was 38.8±28.94 mm, the average CRP was 17.24±19.8 mg/l. The mean BASDAI: 3.89±2. The median ASDAS: 2.41±1.1. The mean BASFI: 4.6±2.16. The comorbidities noted: diabetes II 3.5%, hypertension 11.5%, dyslipidemia 5.3%, BMI: mean 25.09±4.59kg/m^2, 22.1% are overweight and 10% are obese, tobacco: 25.7%. The prevalence of metabolic syndrome is 17.7%.
We found a significant relationship between the MS and the patients age (p=0.02), BASDAI (p=0.03), ASDAS (p=0.02), NSID (p=0.02) and biologic treatment (p=0.01).
Conclusions. The factors associated with MS during AS are mainly represented by the advanced age of the patients, the activity of the disease and the type of treatment received (NSAIDs and biotherapy).

Keywords: metabolic syndrome, prevalence, ankylosing spondylarthritis.

PT5:041

PARADOXICAL INFLAMMATORY BOWEL DISEASE IN PATIENTS WITH SPONDYLOARTHROPATHIES TREATED WITH ANTI-TNF AGENTS

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Objective. Inflammatory bowel diseases (IBD) including Crohn's disease (CD) and ulcerative colitis (UC), are widely recognized as extra-articular manifestations of spondyloarthritis (SpA), but may also occur as paradoxical events (PAE) in patients with ankylosis spondylitis (AS) and psoriatic arthritis (PsA) exposed to anti-TNF drugs.
We aimed to evaluate the incidence of new onset or flares of IBD in patients with SpA receiving anti-TNFs.
Design and Method. Cross-sectional retrospective study evaluating 150 consecutive active SpA under TNF inhibitors (TNF-i) according to local recommendations. Patients identified with paradoxical IBD were systematically assessed based on a predefined protocol - gut pathology (clinical, biochemical, endoscopic), responsible medication (drug exposure prior to paradoxical event), rheumatic condition (activity, response to treatment, extra-articular manifestations, disease duration).
Results. 59 bio-naive AS and 20 PsA, 36 bio-experimented AS and 33 PsA were recruited; among them, 339 patient-years exposed to etanercept, 127.82 patient-years to infliximab, 265.58 patient-years to adalimumab, while 30.49 patient-years on golimumab. A history of IBD was reported in 2.66% (4 cases), slightly increased in AS (4.21%).
We reported three cases of paradoxical IBD - two de novo CD after etanercept (1.91 per 100 patient-years in AS, 0.58 per 100 patient-years in SpA) as well as a flare of pre-existent CD under infliximab (1.89 per 100 patient-years in AS, 0.78 per 100 patient-years in SpA). PAE were described in bio naïve women with AS and occurred any time during biological therapy, as early as 3 months but also up to two years (20 months average exposure).
Furthermore, a favourable outcome with dramatic improvement of gastro-intestinal manifestations was demonstrated, related to discontinuation of responsible drug plus switching to adalimumab, with or without specific synthetic DMARS (mesalazine) and short-term oral glucocorticoids. In addition, none of them had a recurrence of IBD.
As expected, the underlying SpA was controlled (ASDAS-CRP) when paradoxical IBD, and patients were classified as responders compared to previous visit.
Conclusions. Although occasional, new onset or flare of paradoxical IBD may occur during anti-TNF therapy particularly in AS. Surprisingly, not only TNF receptor but also monoclonal antibodies were responsible, etanercept being involved in new onset CD, while infliximab in precipitating intestinal flares.

Keywords: paradoxical reactions, inflammatory bowel disease, TNF inhibitors.

PT5:042

ASAS HEALTH INDEX AND ENVIRONMENTAL FACTORS (ASAS HI/EF) IN PATIENTS WITH ANKYLOSING SPONDYLITIS AND CONCOMITANT FIBROMYALGIA

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Objective. Ankylosing spondylitis (AS) usually characterized by functional impairment and low quality of life especially in case of comorbid conditions. Most common comorbid condition in patients with AS is fibromyalgia (FM), which

accompany the AS in 12.6-25% cases. Presence of FM may substantially change disease activity, functional ability, health status and quality of life AS patients. ASAS Health Index and Environmental Factors (ASAS HI/EF) are one of the tools specially developed for patients with AS, in order to assess their health status.
The aim of this study was to evaluate the effect of FM on health status of patients with AS.
Design and Method. AS was diagnosed according to modified New York criteria. For FM we used the 1990 or the 2010 American College of Rheumatology criteria. We assessed disease activity by Bath Ankylosing Spondylitis Disease Activity Index (BASDAI), functional disability by Bath Ankylosing Spondylitis Functional Index (BASFI) and Bath Ankylosing Spondylitis Metrology Index (BASMI). Health assessment Questionnaire (HAQ) and Ukrainian version of ASAS HI/EF were used to asses the functional and health status in patients with AS.
Results. 67 patients (55 men and 12 women) with AS were examined. The average age (M±SD) of the patients was 39.3±1.46 years. Duration of disease was 5.7±0.69 years. Twenty patients met the criteria for FM (29.85%). In patients with AS mean scores of ASAS HI and ASAS EF were 5.7±0.22 and 3.1±0.15 respectively. Patients with AS and FM were characterized by higher values of these indices. ASAS HI was as high as 7.3±0.43 and ASAS EF – 3.7±0.18. We determined the significant correlation between ASAS HI and BASDAI (r=0.761), BASMI (r=0.378), BASFI (r=0.534), HAQ (r=0.475), age (r=0.274). There was also a relationship between the ASAS EF and BASDAI (r=0.656), BASMI (r=0.228), BASFI (r=0.45), HAQ (r= 0.423), age (r=0.249) and there was no reliable association with the duration of the disease.
Conclusions. Patients with AS and FM reported significantly worse disease activity and functional disability. FM has a pronounced impact on patient health status assessed by ASAS HI/EF. ASAS HI/EF is an effective and sensitive tool for assessment of health status in clinical practice for patients with AS.

Keywords: ankylosing spondylitis, fibromyalgia, ASAS HI/EF.

PT5:043

DNA METHYLOME AND SERUM PROTEOME ANALYSES IDENTIFY NEW BIOMARKERS OF PSORIASIS AND PSORIATIC ARTHRITIS IN MONOZYGOTIC TWINS

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Objective. Psoriatic disease is a chronic inflammatory disorder spanning from skin disease (PsO) to psoriatic arthritis (PsA). The genetic background is insufficient to explain disease onset, and epigenetics, partially resulting from the interaction with the environment, represents a potential process modulating disease susceptibility. Moreover, proteomic analyses are crucial for the comprehension of the molecular mechanisms involved in the progression of the disease.
In this frame, our aim is to analyze the epigenetics signatures and proteomics profiles of PsO/PsA in a cohort of monozygotic (MZ) twins discordant for the disease.
Design and Method. We performed DNA methylation analysis (Infinium MethylationEPIC BeadChip), and transcriptome profile (Illumina TruSeq Stranded mRNA kit) in whole blood of MZ twins, whereas proteomic analyses (www.somalogic.com) were conducted on twins' serum.
Results. The epigenetics analysis identified 19 genes consistently differentially methylated and mostly involved in the pathway of TGF-beta and IFN response. Pathway analysis of integrated methylome and transcriptome data evidenced an enrichment in "transcription regulation", "innate immunity", "ATP-binding" and, "Srp-dependent co-translational proteins", that may be involved in the psoriatic condition. Moreover, serum proteomics of PsO/PsA versus healthy twins showed a significant up/downregulation of 10 and 3 proteins, respectively, involved in the innate and adaptive immune response, DNA repair and DNA damage sensors pathways.
Conclusions. This omics approach allowed the identification of biological pathways and target proteins that could have a potential pathogenic role and may prove useful as disease biomarkers.

Keywords: twins, biomarkers, epigenetics.

PT5:044

PROTEIN LEVELS AND AUTOANTIBODIES AGAINST LL37 AND IFI16 NUCLEIC ACID SENSORS IN PSORIATIC ARTHRITIS

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Objective. The etiopathogenesis of psoriatic disease, including psoriasis and psoriatic arthritis (PsA), is still unclear, but recently it has been clarified why self-DNA become immunogenic in psoriatic disease, suggesting an important role of nucleic acid sensors such as LL37 and IFI16, in psoriatic disease. We aimed at investigating humoral and cellular response to LL37 and IFI16 in PsA.
Design and Method. Serum samples from PsA patients and age- and sex-matched healthy controls (HC) have been tested for anti-LL37 (human synthetic LL37-based ELISA), IFI16 (capture ELISA) and anti-IFI16 (human recombinant IFI16-based ELISA). Confirmation of anti-IFI16 with protein radio-immunoprecipitation using marked 35S- K562 cell extract and Western blot.
Results. Anti-LL37 IgM antibodies were detected in 22/35 (63%) PsA sera, compared to 2/34 (6%) of HC (p<0.001). Two/22 (9%) anti-hLL37-positive subjects were in remission according to DAS28-CRP, compared to 5/13 (39%) anti-hLL37-negative patients (p=0.036). IFI16 was detected in 73/158 (46.2%) of PsA sera and correlated significantly with high levels of C reactive protein (50.7% vs 30.6%, p=0.01). Anti-IFI16 IgG was positive in 12% of PsA cases and correlated significantly with high levels of C reactive protein (63.2% vs 36.7%, p=0.027). Anti-IFI16 IgA was positive in 14.6% and were significantly increased in subjects with skin psoriasis (95.7% vs 77%, p=0.045). IFI16 was detected in 1/7 synovial fluid, while anti-IFI16 IgG antibodies in 3/7. IFI16 declined during anti-TNF-alpha treatment.
Conclusions. Nucleic acid sensors LL37 and IFI16 elicit an adaptive immune response in PsA, and autoantibodies against LL37 and IFI16 correlate with disease activity.

Keywords: biomarkers, innate immunity, antibodies.

PT5:045

THE INFLUENCE OF SMOKING ON RESPONSE TO ANTI TNF THERAPY IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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Objective. We followed up the influence of cigarettes smoking on response to anti TNF therapy in patients with ankylosing spondylitis.
Many studies have suggested that smoking is an important risk factor for ankylosing spondylitis. The relationship between history of smoking and response to tumor necrosis factor antagonists in patients with ankylosing spondylitis is important in clinical practice.
Design and Method. Each patient on starting therapy completed a questionnaire about history of cigarette smoking. The clinical variables were determined at baseline and 3 and 12 months. The influence of cigarette smoking on the response to therapy was evaluated by logistic regression on the never smokers as the referent groups. Response to therapy was defined according to the European League Against Rheumatism (EULAR) improvement criteria, based on their 3 or 12 months BASDAI and inflammatory markers - CRP, from baseline.
Results. 106 patients with SA received treatment with anti TNF (Adalimumabum, Infliximabum and Etanerceptum).
72 patients had a history of smoking. Of these 49/106 were current smokers at start of therapy.
There was no significant difference in age, sex and disease duration between no-smokers, past-smokers and current smokers. Compared with never smokers, current smokers did not have a good response at 3 months following the start of anti TNF therapy (25% versus 43%, p<0.05).
Past smokers did not affect a good response to anti TNF therapy.

The change in BASDAI score and CRP over 3 months was inversely associated with the number of cigarettes (p<0,05).
The association of (numbers of cigarettes) smoking history with response failure was independent of age, sex, disease duration, baseline BASDAI and CRP-HAQ score, and the kind of anti TNF alpha.
Conclusions. Ankylosing spondylitis patients with history of smoking were more likely to have a poor response to anti TNF alpha therapy. Response failure was associated with the intensity of smoking.

Keywords: smoking, spondyloarthritis, anti TNF therapy.

PT5:046

FACTORS ASSOCIATED WITH STOPPING BIOLOGICAL TREATMENT IN PATIENTS WITH ANKYLOSING SPONDYLITIS

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Objective. Over the past decade, the strategies for management and treatment of patients with ankylosing spondylitis have changed substantially. Biological treatment brought a new face in ways of clinical and paraclinical efficacy by reducing the inflammation process and the goal seems to be keeping an imbalance between benefits and adverse effects.
The aim of this study was to evaluate the factors associated to prolonged discontinuation of biologics due to patient's decision.
Design and Method. We realized a retrospective cross-over study by analyzing patients registered in our database between 2007-2017 with ankylosing spondylitis while being on TNF-alpha blockers. Data referring to gender, age, level of education, duration and activity of the disease, type of TNF alpha blocker used were collected from the clinical observation files. Patients who stopped the treatment by their own will were selected and further evaluated for the reason of treatment cessation.
Results. The study evaluated 98 patients with ankylosing spondylitis using TNF blockers. 14% of them definitive stopped the treatment. Most of them were men (64%), 50% had higher level of education, 57% lived in the city. The disease duration was 10.21±6.31 years, BASDAI score before stopping the treatment was 0.96±0.77 and 85.7% were in remission for more than 6 months. Time from beginning of the treatment to complete stop was 41.7±5.22 months. The reasons for stopping the treatment were as following: 15% fearing side effects, 22% were lost from surveillance, 7% had serious side effects, 7% had minor side effects, 14% left the country, 7% refused to continue without any explanation,14% had reactivated tuberculosis and refused to restart the biologic after completing the tuberculostatic treatment. Concerning the BASDAI score, 21.4% had 0 points, 41.85% had 1point, 28.5 % had 2 points and the rest of them had a higher score.
Conclusions. The most important factors associated with patient's decision of stopping the treatment were associated to side effects, either already happened either the fear of them. Most of the patients had this feature while being in remission for more than 6 months and after more than 3 years of treatment.

Keywords: ankylosing spondilitis, biological treatment, cessation of treatment.

PT5:047

ULTRASONOGRAPHIC CHANGES OF ASYMPTOMATIC ANTERIOR CHEST WALL JOINTS IN ANKYLOSING SPONDYLITIS AND THEIR RELATION TO CHEST EXPANSION

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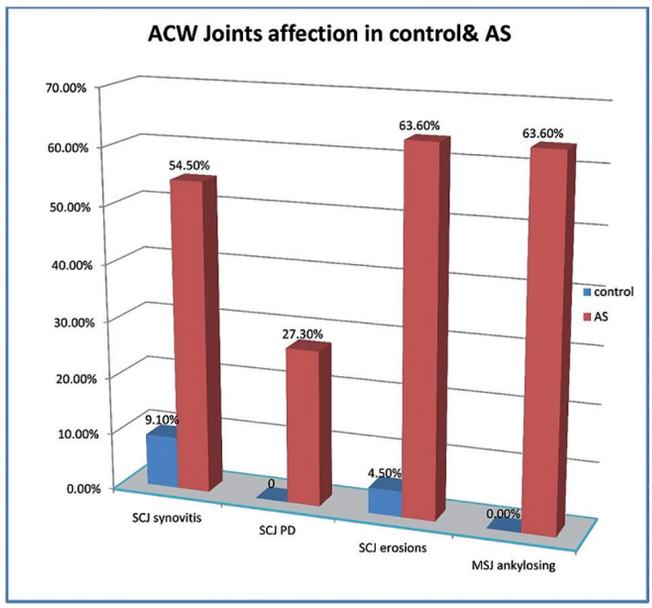
Objective. To detect the ultrasonographic changes of asymptomatic ACW joints in patients with AS and their relation to chest expansion.
Design and Method. The study included 88 sternoclavicular joints (SC) and 44 manibrusternal joints (MSJ) in 44 subjects (22 AS and 22 control). Ultrasound (US) assessments were performed to detect synovitis, erosions, ankylosis, osteophytes, or Doppler signals. Chest expansion was measured. In AS group, Ankylosing Spondylitis Disease Activity Score (ASDAS), Bath Ankylosing Spondylitis Disease Activity Index (BASDAI) and Bath Ankylosing Spondylitis Functional Index (BASFI) were recorded.
Results. US detected subclinical changes of ACW joints in (77.3%) of AS group, and (21.2%) of control group. There was a highly significant difference between total US changes in AS (77.3%) and control (21.2%) (p<0.001). None of our control subjects had erosions or ankylosing in MSJ. MSJ ankylosing was highly associated with limited chest expansion in AS group (p<0.001). All AS patients (100%) with ankylosed MSJ by US had limited chest expansion. In AS group, ultrasonographic changes were found to be higher with older age, male sex, smoking, longer disease duration and high BASDAI and BASFI.



Conclusions. Our study demonstrated high frequency of subclinical ultrasonographic changes of ACW joints in AS patients. Ankylosing of the MSJ is highly associated with limited chest expansion in patients with AS. Our data suggest that US is a highly valuable tool for detecting early changes in ACW joints before being clinically manifested.

Keywords: ultrasonography, ankylosing spondylitis, anterior chest wall joints.

PT5:048

GLOBAL HEALTH ASSESSMENT BY RHEUMATOLOGIST AND BY PATIENT IN PSORIATIC ARTHRITIS, RHEUMATOID ARTHRITIS AND OSTEOARTHRITIS

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Objective. Global health assessment (GHA) is a significant instrument in evaluation of patients with rheumatic diseases. The objective of this part of the larger study was to evaluate GHA in different rheumatic arthritis, psoriatic arthritis (PsA), rheumatoid arthritis (RA) and osteoarthritis (OA), and to establish if there is a difference in its perception between rheumatologist and patients.
Design and Method. The study was conducted in two phases at the outpatient clinic of the Department for rheumatology in the tertiary university hospital in Zagreb (Croatia). A total of 177 patients were enrolled in the Phase 1: 114 patients with PsA, 31 patients with OA and 32 patients with RA. In the Phase 2 which occurred on average 5 years later the same patients were assessed, in total 164 patients, 104 patients with PsA, 30 patients with RA and 30 patients with OA. The GHA was evaluated on the horizontal visual analogue scale (VAS).
Results. The mean values of rheumatologist's GHA for patients in the phase I were for PsA, RA and OA: 57.3±19.4, 61.4±14.5) and 54.9±14.6, respectively, and in the phase II the mean values were: 45.0±14.3, 52.3±14.6 52.8±10.5, respectively. There was a significant difference between observed variables in phase II (p=0.0067), and post-hoc analysis showed that rheumatologist's GHA was lower in PsA group compared to RA and OA patients. The mean values of patient's GHA patients in the Phase 1 for PsA, RA and OA were: 52.9±22.6, 67.9±20.9 and 67.3±20.1, respectively, and in the Phase II the mean patient's values of GHA were: 45.8±16.1, 61.5±14.7 and 65.4±16.3, respectively. In both phases, significant difference was observed in patient's GHA p<0,001. Post-hoc

analysis showed that patient's GHA was significantly lower in PsA group compared to RA and OA group (p<0.001). For all types of arthritides and in both phases, the values were higher in patient's assessment than in rheumatologist's assessment.
Conclusions. In this research we showed that GHA was worse in patients with PsA compared to those RA and OA. In addition there was a difference in GHA assessed by rheumatologist and patients, which may reflect differences in perception of outcomes and treatment goals.

Keywords: global health, arthritis, assessment.

PT5:049

TWO-YEARS SURVIVAL OF USTEKINUMAB IN PSORIATIC ARTHRITIS PATIENTS

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Objective. To evaluate the survival of UST in clinical practice, to describe the baseline characteristics of the patients, and to evaluate factors that could influence the survival of the drug.
Design and Method. This was a retrospective study in patients with PsA according to CASPAR (Classification criteria for Psoriatic Arthritis) criteria. All patients who received at least one dose of UST treatment between January 2011 and August 2017, were included. Demographic and clinical data presented at the onset of treatment with UST and disease features (duration, previous treatments, reasons of discontinuation, adverse events) were recorded. We performed a Kaplan-Meier analysis and a log-rank test to assess the presence of predictor of survival. The analysis was performed with IBM SPSS 23.
Results. Thirty patients, 56.7 % female with a median age (SD; range) at the PsA diagnosis of 49,3 (13;27,2-76,8) years and a mean articular disease duration (SD; range) of 6,2 (9;-3,9-33,8) years, were included. Sixteen patients (53.3%) received at least 2 previous biologic treatments and 14 (46.7%) received more than 2 previous biologic treatments, and there was a mean of 2.2 previous biologic therapies. The reasons for change of previous biologic treatments were, loss of efficacy in 23 patients, in 5 patients adverse events and in one patients other reasons. The mean duration (SD; range) of treatment with UST was 21 (20,5;2,64-83,4) months and a median of 15.6 months. The follow-up time of UST treatment was 52.5 patients-year. We observed a retention rate for UST of more than 60% at 24 months in the Kaplan-Meier analysis. We found no significant differences in the retention rate between UST in monotherapy and in combination with csDMARDs and neither between patients with less than 2 previous biologics and more than 2 previous biologics when we perform a log-rank test. The incidence of adverse events in this study was of 0.0759 patients-years. During follow-up 11 patients discontinued the treatment, 9 patients due to lost efficacy, 1 due to adverse event and 1 lost of follow-up.
Conclusions. UST had relatively good survival rate even in patients with experienced biological TNFi treatment.

Keywords: ustekinumab, drug survival, psoriatic arthritis.

PT5:050

PROMPT CLINICAL RESPONSE TO SECUKINUMAB IN PATIENTS WITH AXIAL SPONDYLOARTHRITIS: REAL-LIFE OBSERVATIONAL DATA FROM THREE ITALIAN REFERRAL CENTERS

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Objective. Primary aim of our study was to evaluate short-term efficacy of secukinumab (SCK) in axial spondyloarthritis (axSpA); secondary aims were to identify differences in the clinical and laboratory assessment, according to dosage administered and biologic treatment-lines, and to report any adverse event.
Design and Method. Patients with axSpA consecutively treated with SCK were enrolled. Laboratory assessment was based on erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) evaluation; clinical assessment was performed with the Ankylosing Spondylitis Disease Activity Score (ASDAS)-CRP and Bath Ankylosing Spondylitis Disease Activity Index (BASDAI). Data were recorded at baseline and at the 3-month visit.
Results. Twenty-one patients (7 males; 14 females) were enrolled; both BASDAI and ASDAS-CRP showed a statistically significant reduction between the baseline and the 3-months visit (p<0.0001 and p=0.0005, respectively). At the laboratory assessment, ESR significantly decreased (p=0.008), while CRP improvement did not reach significance (p=0.213). No statistical significance was observed in BASDAI and ASDAS-CRP improvement (p=0.99 and p=0.69, respectively) and in ESR and CRP variations (p=0.54 and p=0.56, respectively) between patients undergoing SCK 150 mg and subjects administered with SCK 300 mg. No significant differences emerged in the BASDAI, ASDAS-CRP and CRP variations between biologic-naïve patients and subjects previously failing to TNF-alpha inhibition (p=0.15, p=0.09, p=0.15, respectively). Conversely, ESR decrease was significantly higher in the biologic-naïve subgroup (p=0.01). No adverse events were reported.
Conclusions. SCK has proved a remarkable short-term effectiveness regardless the biologic treatment-line, and the dosage of 150 mg confirmed to be appropriate in the clinical and laboratory management of axSpA.

Keywords: interleukin-17, spondyloarthritis, treatment.

PT5:051

THE ASSESSMENT OF THE RELATION BETWEEN SERUM URIC ACID LEVEL AND DISEASE ACTIVITY IN ANKYLOSING SPONDYLITIS

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Objective. Although erythrocyte sedimentation rate and (ESR) and C-reactive protein (CRP) have been used as markers of inflammation they have limited value in the assessment of disease activity in ankylosing spondylitis (AS). In this study, we aimed to assess the relation between serum uric acid levels and disease activity in ankylosing spondylitis.
Design and Method. 72 male and 28 female AS patients were included in the study. These patients had been diagnosed according to modified New York criteria and were under the follow-up of the Rheumatology outpatient clinics of the Kocaeli University Faculty of Medicine between September 2011-March 2012. The data were collected retrospectively from medical records. Disease activity was determined with BASDAI score. Laboratory data, C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), and serum uric acid levels were determined as markers of disease activity. Patients with a history of gout disease, with another rheumatological disease or advanced cardiac, pulmonary, and kidney disease, or with an active infection during the registration period and patients who are on a medication (including diuretics) that may affect the levels of uric acid were excluded from the study.
Results. The mean ages of the patients with active disease (BASDAI equal to or greater than 4; n=35) and inactive disease (n=65) were similar (39.2±13 and 37.3±9 years, respectively). Although CRP levels were markedly higher among AS patients with active disease compared to those in remission, the difference was not statistically significant (p=0.062). When groups were compared with regard to ESR patients with active AS disease had significantly higher ESR compared to AS patients in remission (p=0.015). Besides routinely used inflammation markers, serum uric acid levels were significantly higher in patients with active disease (p=0.015).
Conclusions. Our findings suggest that serum uric acid levels may be used as an inflammation marker in addition to ESR and CRP levels. This is the first study in literature implying that serum uric acid levels may also be used for the assessment of disease activity in AS.

Keywords: ankylosing spondylitis, serum uric acid.

PT5:052

OBESITY INTERACTS WITH RESPONSE AND INCREASES THE RISK OF HYPERTRANSAMINEMINA IN PSORIATIC ARTHRITIS

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Objective. To study whether there is an association between obesity and the increase of adverse effects of disease modifying drugs (DMARDs) in psoriatic arthritis (PsA).
Design and Method. Systematic review of the literature using the Medline and Embase databases according to MOOSE consensus guidelines. Studies were included if 1) they had recruited patients with PsA, 2) obesity was studied as a predictor or factor, and 3) adverse effects or toxicity, including efficacy failure was an outcome. Quality was assessed using an ad hoc risk of bias scale. A qualitative analysis was performed by type of study and population studied, quality and specific results.
Results. The systematic search strategy recovered 1043 articles, most of which were discarded by title and abstract. We studied in detail 10 studies of which 3 were finally excluded. The 7 studies concluded with statistically significant results that obesity in patients with PsA and inhibitors of TNF-α (iTNF-α) is associated with a lower probability of reaching and maintaining minimal inflammatory activity, with a higher rate of treatment interruption and a lower cutaneous response rate. In relation to conventional synthetic DMARDs, a trend towards a moderate increase in transaminases with methotrexate (MTX) was observed in obese patients.
Conclusions. Obesity is a negative predictive factor of the clinical response in patients with PsA and iTNF-α. Except for hepatotoxicity due to MTX, no other adverse effects or other drugs were found in relation to obesity. Patients with PsA should be warned systematically about the need to loose weight.

Keywords: obesity, diet, treatment response.

Poster Tour 6A: Rheumatoid arthritis

PT6A:053

RITUXIMAB FOR THE TREATMENT OF RHEUMATOID ARTHRITIS IN A PATIENT WITH COMORBIDITY – CHONDROSARCOMA/OSTEOSARCOMA OF THE CAVERNOUS SINUS

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Objective. The treatment options for the patients with rheumatoid arthritis who have severe comorbidities are sometimes limited. We are pesenting the patient with rheumatoid arthritis and past malignancy (chondrosarcoma/osteochondroma) treated with rituximab.
Design and Method. A 41-year-old mason had a positive family history for rheumatoid arthritis (mother) and was diagnosed with low grade malignancy chondrosarcoma with the elements of osteochondroma of the left cavernous sinus and left parasellar region. He underwent the treatment with Gamma-knife (18 Gy) and continued regular follow-up visits. During the several years the patient started to notice swelling and pain of the joints of his lower extremities. Later on he developed pain and swelling of small joints of his hands. The patient was diagnosed with seropositive (RF and ACPA) erosive rheumatoid arthritis.
Results. He was treated with NSAIDs, low dose prednisone and methotrexate (MTX). Because of high disease activity (DAS28ESR=5.76) sulphasalazine (SSZ) was added. Rheumatoid arthritis was controlled only with high doses of prednisone (0.3-0.5mg/kg). Severe side-effects of the prednisone started to occur. The patient's history of malignancy was discussed in detail with the colleagues from the Oncology department and the decision to treat the rheumatoid arthritis more aggressively was made. Due to high disease activity (DAS28ESR = 6.1) the patient was started on rituximab (1000 mg per application; two applications two weeks apart).
Conclusions. In a follow-up period the patient is doing fine with the improvement of rheumatoid arthritis (DAS28ESR = 2.51) and the dose of prednisone has been reduced to minimal and finally stopped. He continued MTX and SSZ. No relapse of chondrosarcoma/osteochondroma has been noticed in the follow-up period.

Keywords: rheumatoid arthritis, chondrosarcoma, rituximab.

PT6A:054

PERIPHERAL BLOOD B-CELL SUBSETS IN PATIENTS WITH VERY EARLY AND ESTABLISHED RHEUMATOID ARTHRITIS

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Objective. To examine B-cell subsets in peripheral blood of patients (pts) with very early (VE) and established rheumatoid arthritis (RA), and to analyze the association between the B-cell subsets and RA activity
Design and Method. Peripheral blood of 20 healthy donors, 26 VERA DMARD-naive pts (22F/4M, Me(IQR) age 54(38-64) years, disease duration 5.2(4.1-6.0) months, DAS 28 5.1(4.6-5.9) and 22 established RA pts (17F/5M, age 58 (44-62) years, disease duration 144.0(54.0-210.0) months, DAS 28 5.3(4.6-6.2) were assessed for B-cell subpopulations. $CD19^+$B cells, memory B cells ($CD19^+CD27^+$), non-switched memory B cells ($CD19^+IgD^+CD27^+$), switched memory B cells ($CD19^+IgD$-$CD27^+$), naïve ($CD19^+IgD^+CD27^-$), double negative ($CD19^+IgD$-$CD27^-$), transitional ($CD19^+IgD^+CD10^+CD38^{++}$CD27-) B cells, and plasmablasts ($CD19^+CD38^{+++}IgD$-$CD27^+CD20^-$) were assessed by multicolor flow cytometry
Results. In pts with VERA, compared to healthy donors was found the higher percentage of naïve B cells (75.3(69.7-83.6) vs 64.7(57.6-72.4)), the lower percentage of non-switched memory B cells (3.0(1.6-5.5) vs 7.4(3.7-11.05)); in pts with established RA – higher percentage and abs level plasmatic cells (5.1(1.6-10.1) vs 0.1(0.05-0.1) and 0.006(0.001-0.02) vs 0.0001(0.0-0.0002)), $p<0.05$ for all cases. In pts with VERA, was seen the higher percentage naïve B cells and lower percentage and abs level switched memory B cells compared to pts with established RA (75.3(69.7-83.6) vs 54.3(39.7-69.1) and 8.3(4.4-12.9) vs 24.1(14.0-42.3), 0.01(0.006-0.022) vs 0.03(0.02-0.05), $p<0.05$).
In pts with VERA we found a significant correlation between the percentage of $CD19^+$ B-cells and CDAI (r=0.4), abs memory B cells and CDAI (r=0.4); abs non-switched memory B cells and CDAI (r=0.42); established RA: percentage memory B cells and ESR (r=0.58); percentage switched memory B cells and CRP (r=0.48), $p<0.05$ for all cases
Conclusions. The increased frequencies of naïve B cells and decreased frequencies of switched memory B cells were seen in our cohort pts with VERA compared to pts with established RA. We found a positive correlation between the B-cell subsets and disease activity in patients with RA

Keywords: B-cell subsets, RA activity, very early and established RA.

PT6A:055

IS IT POSSIBLE TO REPLACE THE RADIOLOGICAL ASSESSMENT OF DESTRUCTIVE CHANGES IN RHEUMATOID ARTHRITIS (RA) BY ULTRASOUND (US) EXAMINATION?

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Objective. to make a comparative assessment of the results of joints erosions measuring of the hands and feet according by US and radiography.
Design and Method. 79 patients with early RA use MTX and/or biologic therapy in accordance with the treat-to-target concept. The hands and feet US were analyzed at baseline and after 3, 6, 9 and 12 months of treatment. X-ray score joints with erosions were calculated at baseline and after 12 months. Bland-Altman analyses were performed to evaluate the agreement between US and X-ray measurements of erosion. Univariate logistic regression were used to determine the factors, associated with radiographic progression.
Results. During the follow-up period, according to US, there is an increase in the number of joints with erosions (from 1 [0; 2] to 2 [1; 3], $p=0.000$) compared with the X-ray score (from 0 [0; 1] to 0 [0; 1], $p=0.000$). At baseline, the correlation between two methods was average (r = 0.37, $p=0.0008$), and low at 12 months, r=0.28, $p=0.016$. According to the Bland-Altman diagrams, statistical consistency of measurements carried out by the two methods was revealed. The mean difference between the measurements in analysis of the parameters at baseline was -0.42 with 95% limits of agreement ranging from -0.68 to -0.16, at 12 months of observation was -1.16 with 95% limits of agreement ranging from 1.52 to -0.80; which is slightly different from the values themselves. There is a dependence of the difference in indices from the average value of the number of joints with erosions. 8% of the measurements were not within the interval of two standard deviations at the first point, 4% at 12 months. The logistic regression analysis has not revealed interrelation of radiographic progression within a year with increase of joints with erosion number by US within the first 3, 6 and 9 months follow up.
Conclusions. Thus, our research shows weak degree of the agreement between these two methods and also a predictive possibility of increase US erosions within one year follow-up.

Keywords: rheumatoid arthritis, ultrasound, radiographic progression.

PT6A:056

EDUCATING PEOPLE WITH RMDS TO FOLLOW A CORRECT DIET: AN INNOVATIVE 3 STEPS PROJECT

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Objective. to make stakeholders, patients, their families and care givers and the society aware of the importance of following a correct diet to prevent some of the damages that may be related to rheumatic diseases to make patients and their families aware of the importance to rely on experts in setting up correct dietary regimes to educate people with RMDs to a correct diet and healthy lifestyle to show them it is possible to eat meals savoury, tasty and appearing beautiful even if following an appropriate and healthy diet.
Design and Method. STEP 1 An expert panel of Rheumatologists, dieticians and patients will write a booklet containing all topics concerning diet and RMDs. The booklet will be sent to all people receiving the ANMAR magazine'Sinergia' and will be available for free in all ANMAR events and on website.
STEP 2 During 2018 ANMAR will organise at leats 18 events (one for each regional association federated in ANMAR) to educate all the population and especially patients and their families and care givers, to follow a healthy diet, as the first aid to the pharmacological therapies.
STEP 3 To complete the educational pathway, some chefs (we are now completing agreements with some famous Italian groups as 'Gambero rosso' or 'Masterchef' and /or with famous local Chefs) who prevently received a full list of all the best foodstuffs, will prepare a menu based only on that products and participants will have a dinner to understand how fun may be eating in an healthy way.
Results. As the project is still ongoing, we can only say what we expect:
Diet and RMDs: 15.000 copies of the booklet printed;
all participants to our events and dinners will follow a healthy diet;
relatives and caregivers will help us to encourage this new lifestyle;
all the chef involved will publish a cookbook which collects all menu recipes.
Conclusions. As in Italy eating is not only a way to feed, but an enjoyable moment, we hope with this innovative project to have found the right way to overcome a cultural gap which leads to live diet as a bad and depressing lifestyle.

Keywords: lifestyle, nutrition, education.

PT6A:057

FOLIC ACID SUPPLEMENTATION REDUCES METHOTREXATE EFFICACY AND DELAY CLINICAL IMPROVEMENT IN RHEUMATOID ARTHRITIS PATIENTS

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Objective. Methotrexate (MTX) is the disease-modifying anti-rheumatic drug (DMARD) most commonly employed in the treatment of chronic inflammatory arthritis. MTX-related adverse effects are usually prevented by folic acid (FA) supplementation. However, the need of FA supplementation remains controversial, as it might influence the efficacy of MTX therapy. The aim of this retrospective study was to evaluate the effects of FA supplementation on both safety and efficacy of MTX-low doses in the treatment of rheumatoid arthritis (RA) patients.
Design and Method. 120 RA patients (mean disease duration 11±30 months, mean age 61±13SD years), according to ACR criteria, who started low-dose MTX were retrospectively evaluated. Two groups of patients were selected: 58 patients supplemented with FA and 62 patients not-supplemented with FA. MTX dose, prednisone dose, disease activity (DAS28), and adverse event (AE) appearance were recorded at 3, 6, 9, 12, 24, 36, and 48 months. At baseline, MTX mean dose was 8.3±1.9 and 8.1±1.4 mg/weekly, prednisone mean dose was 7.4±3.1 and 5.3±3.2 mg/daily, and mean DAS28 was 5.1±1.2 and 4.8±1.1, respectively for both groups. The patients were followed-up until either MTX discontinuation, new DMARD/BiologicDMARD addition, or after 48 months of therapy (mean follow-up 40±20 months). The maximum MTX dose administered during the follow-up was 15 mg/weekly. Statistical analysis was performed by non-parametric tests.
Results. DAS28 decreased in both groups during the follow-up. However, DAS28 was found significantly lower (p<0.04) in patients without FA supplementation, when compared with patients taking FA supplementation, at months 3, 6, 9, and 12. Patients without FA supplementation required significantly lower (p<0.01) doses of both prednisone and MTX during the follow-up. During the follow-up, AEs have been observed in 26% of patients with FA supplementation, and in 43% of patients without FA supplementation. The difference was statistically significant (p=0.049). No difference in AE type was observed between the groups (mainly, transaminase or red blood cell volume elevation, oral mucositis, urinary tract infections).
Conclusions. In RA patients receiving low-dose MTX, FA supplementation decreases the efficacy of the treatment, delaying the clinical responsiveness. The effects of FA intake by diet on MTX response in RA patients should be carefully investigated.

Keywords: rheumatoid arthritis, methotrexate, folic acid supplementation.

PT6A:058

CLINICAL AND ECONOMIC VALUE OF SERUM AUTOANTIBODIES MULTI-TESTING IN RHEUMATOID ARTHRITIS IN THE MEDITERRANEAN AREA

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Objective. Rheumatoid arthritis (RA) diagnosis requires a combination of clinical, laboratory and imaging investigations. In RA, the consequences of wrong serology test results are particularly important: False Positive results (FPs) are initially managed as RA patients, bringing about extra costs until correct diagnosis is made.
The first aim of the present study was to evaluate the diagnostic performance of Rheumatoid Factor (RF)-IgA, RF-IgM, and cyclic citrullinated peptides (CCP), used alone or in multi-testing parallel or sequential combinations. The secondary goal focused on the economic consequences of FPs to serology.
Design and Method. 190 established RA patients and 197 controls (either affected by other conditions or healthy donors) were used to assess the diagnostic performance of mono- and multi-serology testing; both testing in Primary Care (PC) and in Secondary Care (SC) settings were considered.
For the secondary objective, a 12-month Markov model simulated, from the National Health Services perspective, 1.000 RA-suspected individuals tested in PC and SC with mono- or multi-testing. Costs come from the published literature. The Mediterranean countries included in the analysis were Italy, France, Spain and Portugal. Uncertainty was addressed with sensitivity analysis.
Results. The diagnostic performance was:
- RF-IgA: sensitivity [95%CI] = 40.5% [33.5%-47.9%], specificity = 92.4% [87.8%-95.7%];
- RF-IgM: sensitivity = 59.0% [51.6%-66.0%], specificity = 89.3% [84.2%-93.3%];
- CCP: sensitivity=59.5%[52.1%-66.5%], specificity=96.5%[92.8%-98.6%].

Defining a "positive result" as "positivity to at least one test" increased sensitivity; "positivity to all the tests" increased specificity. In a PC scenario:
- parallel testing:
  - o using CCP and RF-IgM increased specificity to 99.5[97.2-100];
  - o the 3 tests used simultaneously maximized specificity (100%[98.1-100]), but reducing sensitivity;
- sequential testing: testing positive to both RF-IgA and RF-IgM followed by CCP testing led to 90.7[81.7-96.2] sensitivity and to 100.0[54.1-100.0] specificity.

With respect to mono-testing, multi-testing options reduced importantly the number of FPs. Therefore, in each of the countries considered, multi-testing allowed for important cost savings due to reduced clinical procedures and resource utilization of FPs.
Conclusions. Multi-serology testing can improve the diagnostic accuracy of the individual RF IgA, RF IgM and CCP tests. Optimal multi-testing combinations minimizes the number of FPs, thus reducing avoidable costs to the National Health Services. Consequently, multi-testing for RA demonstrates superior value from patient and payer perspective.

Keywords: serology, multi-testing, health economics.

PT6A:059

CAN DIET MODIFY RISK AND COURSE OF INFLAMMATION AND MALIGNANCY?

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Objective. Nutrition is a major environmental influence of human health. Nutritional factors and dietary habits can significantly modulate immune and inflammatory response as well as development of malignancy. These phenomena are very complex, and published studies are partially inconsistent and methodologically flawed. The study was designed to identify and classify factors associated with diet that can influence risk of development and course of inflammatory and immune-mediated rheumatic diseases and malignancy including those that may be presented in form of paraneoplastic rheumatic syndromes.
Design and Method. Review of literature data with evaluation of their epistemologic strength.
Results. Diet and its components play a role in development of inflammation and malignancy. The following factors are to be considered:
- diet components that influence immune and inflammatory response;
- diet component that act as evidenced or suspected carcinogens;
- effect of adherence to different dietary pattern upon risk of development of inflammatory rheumatic diseases and malignancy;
- diet as modifier of gut microbiota;
- energy supply, obesity and adipose tissue as the risk factor of inflammation and cancer.

Several factors have been identified as important diet components affecting inflammation and cancer (monounsaturated fatty acids and extra virgin olive oil polyphenols as well as fatty acid profile, flavonoids, tannins and carotenoids).
A high adherence to various diet patterns is associated with different incidence of rheumatoid arthritis, immune-mediated disorders and cancer. Studies indicate for lower incidence of inflammatory rheumatic diseases or malignancy in individuals on Mediterranean diet. Diet has a major influence on gut microbiota diversity. Meager gut microbiota is associated with immune disturbances and facilitates development of a number of diseases. Difference in the gut microbiota has been found between healthy individuals and patients with rheumatoid arthritis.
Obesity and adipokines are also considered as proinflammatory factors and are associated with enhanced risk of malignancy: consumption of olive oil was shown to decrease TNF-alpha and interleukin-6 secretion.
Conclusions. There is a direct and indirect evidence that diet pattern and diet content might prevent inflammatory and immune-mediated rheumatic diseases and malignancy also mechanisms of these phenomena are only partially elucidated and further studies are needed.

Keywords: diet, inflammation, malignancy.

PT6A:060

TRADITIONAL TYPE 2 DIABETES RISK FACTORS AND INSULIN RESISTANCE IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Objective. To determine insulin resistance (IR), traditional risk factors and 10-years risk of type 2 diabetes mellitus (DM) development in patients with rheumatoid arthritis (RA) by questionnaire Finnish Type 2 Diabetes Risk Assessment Form (FINDRISK).
Design and Method. Our study included 46 RA patients without known DM (39 women, 7 men, 57[39; 64] years old). The median disease duration was 7[5;14] years, median DAS28 was 3.8[2.6;4.6]. The majority of pts were seropositive for IgM RF (80.4%) and anti-CCP (80.4%). RA pts were treated with glucocorticoids (50.0%), methotrexate (58.7%) or other disease-modifying antirheumatic drugs (26.1%), and biological agents (15.2%). Eight traditional DM risk factors (increasing age, overweight, abdominal obesity, family history of diabetes, physical inactivity, eating habits, high blood pressure, history of hyperglycemia) were assessed by FINDRISK questionnaire and the total test score (TS) was calculated. The risk of DM development within following 10 years is regarded as low or slightly elevated with TS <12 points, as moderate with TS =12-14 points, as high or very high with TS >14 points. IR was defined as Homeostasis Model Assessment of Insulin Resistance (HOMA-IR) index >2.77.
Results. The risk of DM development was low/slightly elevated in 26 (56.5%) RA pts, moderate in 8 (17.4%) pts, and high/very high in 12 (26.1%) pts. Median HOMA-IR was 1.4[1.0;2,3] in the low/slightly elevated risk group, 2.3[1.3;3.7] in the moderate risk group and 3,0[2,0;4,5] in high/very high risk group (p<0.01). HOMA-IR was correlated moderately with body mass index (r=0.58, p<0.001), waist circumference (r=0.59, p<0.001), and FINDRISK TS (r=0.52, p<0.001). It was not associated with other FINDRISK components and did not depend on DAS28, ESR, CRP in whole group. There was correlation between HOMA-IR and ESR (r=0.44, p=0.02) in pts with moderate and high RA activity (DAS28>=3.2). Fourteen RA patients (30.4%) had IR. The patients with IR had moderate, high or very high risk more often than those without IR (71.4% vs 31,2%, p=0.03).
Conclusions. One third of non-diabetic RA patients had IR. The main risk factor for IR was obesity. FINDRISK is simple, inexpensive and effective way to identify RA pts with probably IR who should be carefully observed to lower their DM risk.

Keywords: rheumatoid arthritis, diabetes risk factors, insulin resistance.

PT6A:061

THE EFFECT OF TOCILIZUMAB THERAPY ON THE BODY MASS INDEX, WAIST AND HIP CIRCUMFERENCE, LIPIDS PROFILES IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Objective. To determine the dynamics of Body Mass Index (BMI), waist circumference (WC), hip circumference (HC), serum lipid profile and antibodies against oxidized low-density lipoprotein (oxLDL-IgG) in patients (pts) with rheumatoid arthritis(RA) receiving tocilizumab (TCZ) for 12 months(m).
Design and Method. Twenty two RApts (19women/3men, median age 55[49;64] years), mean disease duration 72[24;108]m; DAS28 5.8[5.3;6.3]; positive for RF(100%)/ACCP(87%) were enrolled in the study. They were treated with TCZ (8mg/kg) every 4 weeks: 50% were administered TCZ monotherapy and 50% - TCZ in combination with methotrexate (20[18;25]mg/week). 41%pts were kept on low-dose oral glucocorticoids (2[1;4]mg/day). 36% pts were receiving statins.
Results. Significant positive changes in major clinical and laboratory parameters of disease activity were found in RA pts after 12 m of TCZ infusion: 54% of pts developed remission (DAS28<2.6) and 46% of pts managed to decrease activity to low level (DAS28<3.2). Increase in the BMI, HC, HDL cholesterol levels and reductions in Atherogenic Index were documented after 12m of TCZ therapy (Tab. I). WC, other components of the lipid profile, oxLDL-IgG and glucose levels did not changed after 12 m of TCZ therapy as compared to baseline values. WC was positively correlated with levels of glucose (r=0.61, p<0.05], Triglycerides (r=0.53, p<0.05) and C-reactive protein (r=0.46, p<0.05).
No direct correlation between changes in BMI, HC, lipid profile and disease activity/inflammatory markers dynamics was established. Mono-TCZ or combined therapy failed to produce whatever difference in BMI, WC, HC and lipid profiles. Positive shift in pts lipid profile was documented after 12m of TCZ therapy in pts taking additional statins: HDL-C levels (2.2[1.6;2.6]mmol/l) were higher and the Atherogenic Index (1.0[0.6;1.4]) was lower in pts treated TCZ with statins (n=8) as compared to TCZ therapy only (n=14) (1.9[1.5;2.3], p=0.045 and 1.7[1.3;2.3], p=0.03, respectively).

	Baseline	12 months	p
BMI, kg/m²	24,5 [22,0;28,1]	25,5 [21,5;30,6]	<0,001
WC, cm	84 [75;99]	85 [70;95]	ns
HC, cm	103 [96;111]	105 [97;115]	0,01
HDL-C, mmol/l	1,7 [1,2;1,9]	1,9 [1,7;2,4]	0,01
Atherogenic Index	2,3 [1,6;2,7]	1,7 [1,2;2,3]	0,03
oxLDL-IgG, mU/ml	255 [98;609]	152 [99;1200]	ns

Conclusions. These preliminary results showed that 12m of TCZ therapy resulted in increased BMI, HC. In addition, an increase in serum HDL cholesterol and decreased Atherogenic Index was detected, more significantly pronounced in pts with co-administration of statins. This study is ongoing to produce more data on additional effects of TCZ therapy on BMI and lipid metabolism of pts with RA.

Keywords: body mass index, lipid profile, tocilizumab.

PT6A:063

SMOKING AND RHEUMATOID ARTHRITIS

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Objective. The aim of this study was to examine the effects of smoking on the development of rheumatoid arthritis, following clinical aspects (onset, extraarticular manifestations, stage of disease expressed through present erosions) and paraclinics (seropositivity expressed by the presence of rheumatoid factor and anticitrullinated protein antibodies - ACPAs).
Design and Method. A prospective study was performed on a group of 285 patients with rheumatoid arthritis, registered in the Rheumatology Department of the Medical Clinic II, St. Andrew's Hospital, Constanta. Demographic, clinical and biological variables have been analyzed, with particular reference to their correlation with smoker status.
We have entered the information into a database using the Microsoft Office Excel program. We used MedCalc software to calculate the odds ratio to assess the differences between smokers and non-smokers. We considered statistically significant $p<0.05$.
Results. Most patients are women (85.6%) with an average age of 62.02 years and come from urban areas (80.4%).
Rheumatoid arthritis is the established form of 255 cases and seropositive for rheumatoid factor (81%). 218 patients (76.5%) have erosions and 98 (34.4%) have ankylosis. The most frequent extraarticular manifestation is the presence of rheumatoid nodules (24.9%)
Depending on smoking habits, we have watched smoker / non-smoking status at the onset (24.91%), ever (33.68%) and now (11.92%).
Smokers develop rheumatoid arthritis earlier 4.56 years than non-smokers. Smoker status (onset) correlates with the presence of rheumatoid factor ($p=0.0283$) and ACPAs ($p=0.0404$).
Current smoker status correlates with the presence of extraarticular manifestations ($p=0.0471$) and the rheumatoid nodules are associated with the smoker status (ever and onset). The presence of ankylosis and erosions does not correlate with smoker status.
Moderate activity disease is associated with the smoker status (ever – $p=0.0456$ and onset $p=0.0463$).
It seems that smoking habits do not influence the presence of biological inflammatory syndrome (accelerated ESR and positive CRP).
Conclusions. Smoking influences the onset and the evolution of rheumatoid arthritis.

Keywords: smoking, onset, evolution.

PT6A:064

A PATIENT PRESENTING WITH JAW PAIN. DIAGNOSIS, TREATMENT AND REVIEW OF THE LITERATURE.

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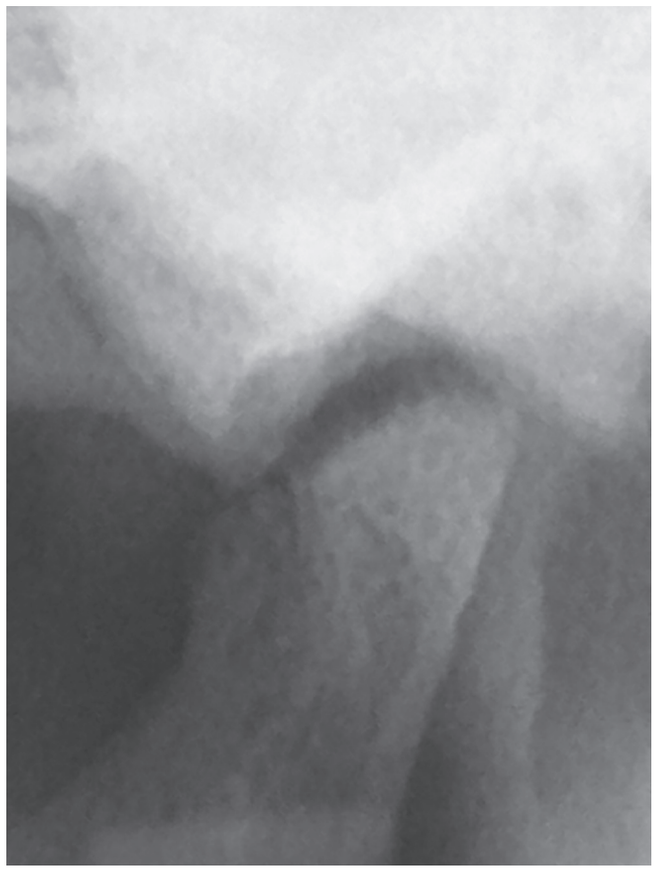
Objective. Present a young lady with an atypical presentation of rheumatoid arthritis and then review the literature on issues related to this atypical presentation. Rheumatologists need to be aware of atypical presentations of common diseases.
Design and Method. Presentation of a 38-year-old lady with pain in the left temporomandibular joint (TMJ) of 1 year duration. PubMed literature review on issues related to this lady's atypical presentation.
Results. A 38-year-old lady presented in December 2016 to the clinic with pain in the left jaw of 1 year duration. She had difficulty in eating, opening and closing her mouth. She started physiotherapy in October 2016 with some benefit. She described pains in her shoulders and knees and early morning stiffness of 2-3 minutes. On clinical examination flexion of the knees was normal with slight crepitus on flexion of the right knee. There was mild edema of the ankles without pain and with a normal range of movement. There was reduced range of movement in opening and closing her mouth with discomfort on the left. In closing her mouth the upper jaw was not touching the lower jaw.
Her blood investigations revealed: ESR 44, CRP 2.2mg/L(0-5), 25 OH VITD 13.6ng/ml, URIC ACID 4.3mg/dL, ANA -VE, DNA -VE, RF 179 IU/ml(<14), CCP 637 U/mL(0-10). Panoramic X-ray revealed erosion and reduced joint space of left TMJ. If we consider the TMJ to be a small joint then she fulfils 7 2010 ACR/EULAR classification criteria for seropositive Rheumatoid arthritis.
Her treatment included: physiotherapy for the TMJ, a single intramuscular de-



pomedrone injection at a dose of 120mg, methotrexate 15mg once weekly which was later reduced to 12.5mg due to neutropenia, folic acid 5mg twice weekly and diclofenac gel. Before initiating treatment her DAS 28 was 3.05 (TJC 0 SJC 0 VAS 30 ESR 43) and on 10/10/2017 the DAS 28 was 2.38 (TJC 0 SJC 0 VAS 20 ESR 20). She is feeling well and is able to open and close her mouth normally.
Conclusions. We present a lady with an unusual presentation of rheumatoid arthritis with involvement of the left TMJ. She responded well to methotrexate and physiotherapy.

Keywords: rheumatoid arthritis, temporomandibular joint, jaw pain.

PT6A:065

THE INFLUENCE OF ABATACEPT ON BIOMARKERS LEVEL IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Objective. To assess the changes in biomarkers level in patients treated with ABA.
Design and Method. Patients (n=44) with active RA and an inadequate response to synthetic DMARDs or biologics were enrolled in the study. Most of them were middle aged females (46.9±13.9 years) with median RA duration 2 years (1,4-3), high disease activity (DAS28=5.2±0.8), RF-positive (80%) and ACPA-positive (79.5%). 16 healthy individuals were included in the study as control. The serum levels of IL-1, IL-6, IL-17, TNF-α, VEGF, IP-10, YKL-40 (pg/ml) were measured by immunoassay at baseline and 24 weeks. Disease activity was measured by DAS28, results were assessed every 12 weeks by EULAR criteria. ABA was administered intravenously every 4 week
Results. Levels of IL-6 (2.4 (1.1-6.4) vs 0.7 (0.62-1.0), $p=0.0002$), YKL-40 (97 (68.4-97.9) vs. 64 (52.4-107.5), $p=0.03$), IP-10 (21 (12.9-49.8) vs 14 (9.2-15.2), $p=0.005$) were significantly higher in patients with RA compared to control. ABA significant reduced disease activity already after 12 weeks of therapy ($p<0.05$). After 24 weeks of ABA therapy good and moderate response by EULAR criteria

was achieved in 86%, low disease activity by DAS28 in 52%. By the 6-th month ABA significant decreased levels of IL-6 (1.29 (0.9-2,2, p=0.0006), IP-10 (14 (7.5-28), p=0.007) as well as MMP3: before 30.1 (13-82), after 24 weeks 10 (7.4-55), p=0.0003 and RF: before 218 (9.6-187), after 24 weeks 159 (9.7-155), p=0.02. Lowering of the IL-6 (r=0.5) and IP-10 (r=0.32) levels were significantly (p<0.05) associated with a decrease of DAS28.
Conclusions. ABA therapy leads to a significant reduction in serum levels of IL-6, IP-10, MMP3 and RF. The serum levels of IL-6 and IP-10 correlate with decrease activity of RA.

Keywords: abatacept, cytokine profile, rheumatoid arthritis.

PT6A:066

THE INFLUENCE OF SMOKING ON CLINICAL RESPONSE TO ETANERCEPT THERAPY IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Objective. To determine whether cigarette smoking influences the response to etanercept treatment in patients with RA.
Design and Method. A history of cigarette smoking was obtained from a questionnaire completed by each patient starting therapy with etanercept since 2008 (n=136). A core set of demographic and clinical variables was recorded at baseline and at 3 and 12 months. The extent of smoking was quantified in pack-years (py), with 1 py equivalent to 20 cigarettes per day for 1 year. The influence of cigarette smoking (current or past) on the response to therapy was evaluated by logistic regression, with never smokers as the referent group. Response to therapy was defined according to the European League Against Rheumatism improvement criteria, based on their 3- or 12-month Disease Activity Score (DAS28) and absolute change in DAS28 from baseline.
Results. A history of smoking was found in 68/136 (50%) patients. Of these, 50/136 (36.8%) were current smokers at the start of etanercept therapy. There was no significant difference in age, age of onset, sex and disease duration between nonsmokers, past smokers and current smokers. However, there was an increase in the frequency of patients with IgM-RF and ACPA who had smoked, although this did not achieve statistical significance. Compared with never smokers, current smokers were less likely to achieve a good response at 3 months following the start of etanercept therapy (27% versus 41%; p<0.05). Past smoking did not affect the chance of good response to etanercept therapy. The lower likelihood of a good response remained at later followup visits. Evaluating remission or joint counts yielded similar findings. The change in DAS28 over the first 3 months was inversely associated with the number of py (r=-0.31; p<0.05). The association of py history with response failure was independent of age, sex, disease duration, baseline DAS28, Health Assessment Questionnaire score and IgM-RF at baseline.
Conclusions. RA patients with a history of smoking were more likely to show a poor response to etanercept. Response failure was associated with the intensity of smoking.

Keywords: smoking, risk factor, rheumatoid arthritis.

PT6A:067

SECONDARY SARCOPENIA IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Objective. Secondary sarcopenia may be caused by low physical activity, eating disorders, chronic inflammation. In patients with rheumatoid arthritis (RA), pain and joint deformities lead to motor activity reduction which results in the decrease in both muscle mass and strength contributing to sarcopenia development. Large amounts of pro-inflammatory cytokines playing an important role in the pathogenesis of RA are involved in the development of sarcopenia as well as osteoporosis since sarcopenia and osteoporosis have common pathophysiological mechanisms of the development. In patients with RA, sarcopenia co-occurs with osteoporosis as well as obesity and, in most cases, both osteoporosis and obesity co-occur with sarcopenia.
Design and Method. There were examined 30 women with stage II-III RA, Rtg stage II-III, functional limitation stage II. The patients' average age was 40.7±2.25 years. The algorithm for diagnosing sarcopenia recommended by the European Working Group on Sarcopenia in Older People (2009) was used. Body mass index was determined. Dynamometry (the measurement of hand-grip strength using handgrip dynamometer) was performed. The evaluation of physical fitness consisted of 3 tests, namely the tandem walking test, the 4-meter walk test, the classic chair test (getting up out of a chair without using hands or arms). Serum levels of leptin and creatine phosphokinase MM (CPK MM) fraction were determined.
Results. According to the results of laboratory tests and methods of evaluating functional muscle disorders, 86.6% of patients were diagnosed with sarcopenia. The mean values of dynamometry were within 18.3±0.7 kg being significantly lower as compared to healthy individuals – 28.3±0.5 kg. After the evaluation of physical fitness, the average score was 7.9±0.7, while in healthy individuals, it was 11.3±0.4.The mean CPK MM concentration was 115±2.34 U/l, while in healthy individuals, it was 144±3.5 U/l.
Conclusions. RA leads to muscle metabolism disorders which result in the development of secondary sarcopenia. Therefore, a high-protein diet, physical exercise, namely aerobic exercise (swimming, cycling) and medical preparations that improve muscle metabolism should be included in therapeutic measures.

Keywords: sarcopenia, rheumatoid arthritis, muscle metabolism.

PT6A:068

DIET IN CHILDREN WITH IJA: AN INNOVATIVE 4 STEPS PROJECT TO OVERCOME CULTURAL BARRIERS

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Objective. Although setting on values lower than other European and extra-European countires, the percentage of Italian children who are overweight or obese ins growing up and this growth does not exclude children with IJA, probably due to the wrong habit of their relatives to limit their physical activity and to give them all they want to eat, because they are sick.
With this project we aim to overcome this wrong approach, educating children and their relatives to have a correct diet.
In the same time, we prepare educating papers both for relatives and children and we hope to teach to the relatives the right way to encourage children to eat in a healthy way.
Design and Method. Step1 An expert panel (rheumatologists, dieticians, nutritionists, parents) elaborate papers, intended for families and teenagers, containing all scientific principles to be kept as a driver in choosing food.
Step 2 the same panel, implemented with a pedagogist and an illustrator of children's books, produce a booklet especially done for children.
Step 3 ANMAR organize at least one meeting in each Italian region, open to all population (particularly to children with IJA and their relatives), structured in two parallel sessions: one for adults and teenagers, the second for children. The aim of this meetings is to educate to a healthy diet and to explain because to choose a food rather than another.
Step 4 Topping off the day, a celebrity chef will hold a free cookery class for parents and relatives, to teach them ho to cook in a tasty, pleasant and funny way also the foods (fruit, vegetables, legumes) that his/her children don't love at all. All the participants can taste the menu prepared by the student cooks.
Results. We expect:
- at least 5000 prints of both the adult and children booklet
- all participants following a correct diet for his/her own children and for itsef too
- awareness that a diet is neither a punishment nor a discrimination
- all participants knowing how to make sweetest also the least beloved foods

Conclusions. The sharing and the direct experience drive more easily to new lifestyles: this project is a practical example.

Keywords: IJA, children, families.

PT6A:069

27-YEAR-OLD FEMALE WITH POLYARTHRITIS, DRYNESS SYNDROME AND ACUTE LOSS OF VISUAL ACUITY

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Objective. The purpose of this case report is the presentation of a complex medical case diagnostically as well as therapeutically.
Design and Method. Case report.
Results. Here we report a 27-year-old Greek woman with medical history of Raynaud's syndrome, hyperthyroidism, chronic urticaria, bronchectasis and family history of rheumatoid arthritis. In a course of two months she developed initially bilateral dacryoadenitis and later additive polyarthritis, dryness of mucosal surfaces and acute painful bilateral loss of visual acuity was developed. The serological test results were unremarkable and salivary and lacrimal gland biopsies confirmed Sjögren syndrome. The clinical picture was evolving with further loss of visual acuity and relapses of polyarthritis although the patient received treatment with medium and high doses of oral corticosteroids, IV methylprednisolone treatment for 3 days (1g/d), ciclosporin and methotraxate. The initiation of bDmard (infliximab) therapy was decided with the diagnosis of seronegative rheumatoid arthritis with secondary Sjögren syndrome. Promptly, there was a partial clinical remission which perdured for 6 months. Finally, the bDmard was changed to rituximab with satisfactory outcomes up to date.
Conclusions. In the face of the spectrum of manifestations of the rheumatic disease, the clinical thought may be the determining factor in the evaluation and treatment of the rheumatologic patient, even at the lack of obvious serological evidence.

Keywords: rheumatoid arthritis, loss of visual acuity, dryness syndrome.

Poster Tour 6B: Rheumatoid arthritis

PT6B:070

RHEUMATOID ARTHRITIS PATIENT WITH MASS ON THE ANTERIOR CHEST WALL

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Objective. The risk of developing lymphoproliferative malignancies, including Hodgkin and non-Hodgkin lymphoma (NHL), is increased in patients with RA. Histologically, diffuse large B cell lymphoma (DLBCL) is the most frequent type of lymphoma in patients with RA.
Design and Method. History of Present Illness: The patient is a 62-year-old woman with a 25-year history of rheumatoid arthritis (RA) who presented with right shoulder pain, limited range of motion (ROM) of right shoulder and mass on the right side of the anterior chest wall. She noticed the mass six months before her admission to Manisa State Hospital, but that the mass enlarged over time. The mass was accompanied by night sweats and weight loss for three mounths. Fifteen days before admission she increased the dose of deflazacort from 6 mg/day to 30 mg/day because of severe right shoulder pain. Despite the dose of steroid increase her shoulder was worsened.
Physical Examination: Joint examination was remarkable for the following: Right shoulder limited abduction and external rotation with pain in all planes of motion, ulnar deviation in both hands and tenderness on small joints of hands. There was soft tissue mass 5x6 cm in size fixed on the 3nd and 3rd ribs was located in right parasternal location on the anterior chest wall. Lymphadenopathy, hepatomegaly, and splenomegaly were not found.
Results. Investigations: The blood test results, including full blood count and renal and liver profiles, were unremarkable apart from elevated inflammatory markers (erythrocyte sedimentation rate: 67 mm/hour; C-reactive protein: 77 mg/dl). Because of developing cough and dyspnea, thorax CT was performed. No lesions were found except the slightly ground glass opacities in the postero-basal sides of both lung on the lung window. The soft tissue mass on the anterior chest wall was seen on the mediastinal window (Fig. 1).
Conclusions. Bone scan demonstrated increased radiotracer activity in axial and appendicular skeleton, and multiple ribs compatible with metastasis. The morphological and immunohistochemical findings supported a diagnosis of diffuse large B cell lymphoma (DLBCL). The biopsy showed infiltration by pleomorphic lymphocytes that were positive for CD20 and CD79a, which confirmed a B cell lineage.

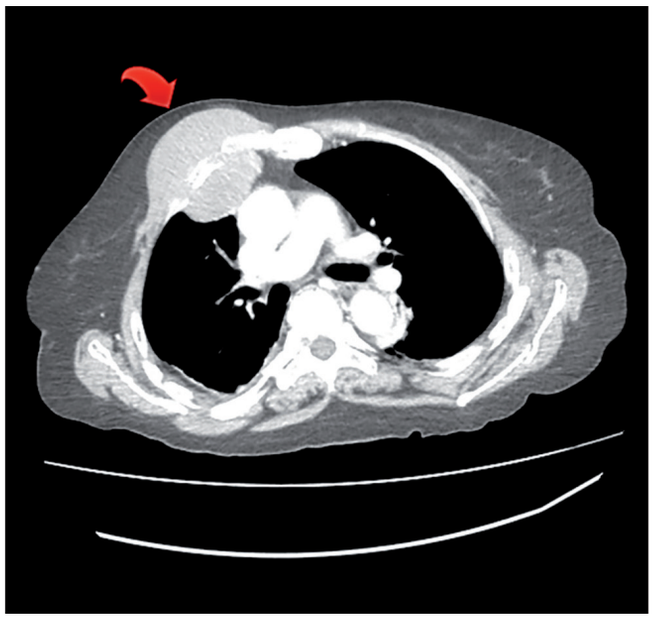

Fig. 1. The soft tissue mass on the anterior chest wall invading the rib on the mediastinal window of thorax CT.

Keywords: rheumatoid arthritis, lymphoma, mass.

PT6B:071

A STRUCTURED PROTOCOL FOR THE EVALUATION OF CARDIO-VASCULAR RISK IN ARTHRITIS PATIENTS

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Objective. To describe the implementation of a specific program for patients with chronic inflammatory arthritis aimed at detecting classic CVRF, stratifying the risks and optimizing treatment of classic CVRF.
Design and Method. Patients with the diagnosis of RA, SpA or PsA were offered participation in this program. In a single visit to a nurse-led clinic CV risk was evaluated through a clinical interview. Patients were asked about smoking status, diet, exercise, prior diagnosis of hypertension (HBP), diabetes (DM), dyslipemia (Dlp), personal CV events. Weight, height, and blood pressure were registered. Laboratory tests were reviewed. Risk was stratified according to the European guidelines with the aid of the SCORE index and EULAR recommendations. A carotid ultrasonography was performed in patients with a low, medium or high risk.
Results. 309 patients (191 female, age 58.9 years (SD 12.2)) have been included diagnosed of 190 RA, 58 PsA and 61 SpA. At baseline, 25 patients had a history of CV events, 44 patients had a prior diagnosis of DM (14 with a poor glycemic control, 135 had HBP (57 with BP>140/90 at the nurse visit), 127 had Dlp. 83 patients were active smokers and 112 were obese (BMI>30).
In the patients without prior DM, the nurse clinic detected 4 patients (4/265, 2%) with glycemia >125mg/dL. In patients without prior HBP 39 patients (39/174, 22%) had BP>140/90. In patients without prior Dlp 34 patients (34/182, 19%) had total cholesterol levels >220mg/dL.
Overall CV risk was assessed intermediate in 159 patients, high in 66 and very high in 52 patients. No patients had a low risk. Ultrasound was performed in 106 patients; subclinical atheromatous plaques were detected in 33 patients (31%), which were all reclassified as very high risk.
Conclusions. A single-visit screening program allows the detection of classic CVRF in a high proportion of patients. Carotid ultrasound improves CV risk stratification in arthritis patients. If proper treatment for the classic CVF is initiated, this might result in a decrease of CV events with a favorable impact on the general health of chronic arthritis patients.

Keywords: cardiovascular risk, screening, carotid ultrasound.

PT6B:072

EFFECTS OF MEDITERRANEAN DIET AND PHYSICAL THERAPY IN EARLY STAGES OF OLIGOARTICULAR JUVENILE IDIOPATHIC ARTHRITIS

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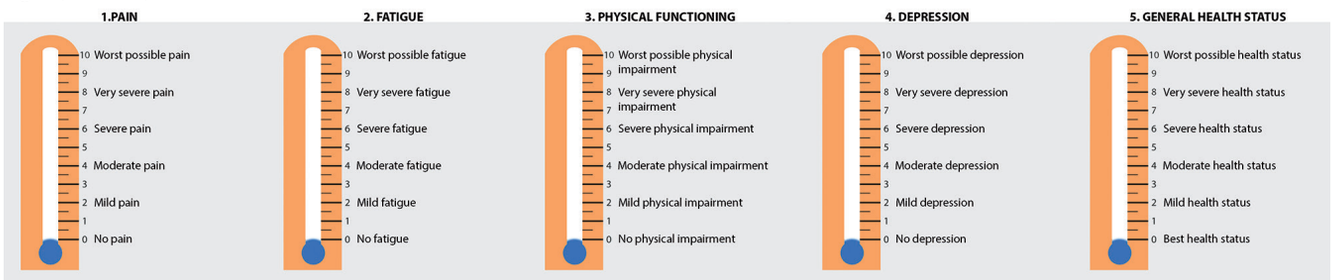
Objective. Purpose. The aim of this study was to evaluate the effects of changing lifestyle in early stages of oligoarticular Juvenile Idiopathic Arthritis (OJIA), including Mediterranean diet and an individualized moderate intensity physical therapy, as integral part of overall treatment and home care model to be followed.
Methods. Sixty children with an average age of 12.4 years, diagnosed with OJIA were included in a randomized controlled trial from September 2014 to November 2017. The patients fulfilled the diagnostic criteria and the American College of Rheumatology (ACR) JIA treatment recommendations and were randomly divided into two groups: Group 1 (31 patients) received Mediterranean diet, individualized moderate intensity physical therapy and specific drug treatment, comparatively with Group 2 (29 patients) - control group, which received only conventional medical treatment. Disease activity was evaluated at 0, 3, 6 and 12 months with JADAS10 score, including: physician's global assessment and parent's global assessment of well-being, both measured on 0-10-cm VAS, normalized ESR (0-10) and active joint count 0-10, yielding to a global score of 0-40. Patients/parents completed also the Child Health Assessment Questionnaire (CHAQ) (scores 0-3) for functional ability in daily living activities; pain and trigger point tenderness were objectively assessed with Commander Algometer, when occurring at vitro-pressure using a probe of 1 cm2, which easily measures pressure thresholds and tolerances reported by patients, featuring a fine resolution that identifies small yet clinically significant changes in pressure sensitivity.
Results. In the end of study, 80.64% of patients in Group I achieved a JADAS10 score ? 0.5 (inactive disease) and a significantly improvement in pain levels, increased muscle strength and mobility in the affected joints by inflammatory processes, compared with only 55.17% in the control group. Mediterranean diet together with individualized moderate intensity physical therapy reduced disease activity in OJIA, thus preventing the risks of osteoarticular destruction, locomotor disability and pharmacotherapy complications statistically significant ($p<0.05$) compared to the control group.
Conclusions. Mediterranean diet with a range of foods rich in certain nutrients has shown beneficial effects due to antioxidant capacity, anti-inflammatory role and support of cartilage and bone metabolism.
An essential task of the physician and the physical therapist is working with the child and the family, to increase their awareness of the importance of diet and physical therapy as an integral part of the overall treatment and a home care model, for a favorable evolution and the remission of OJIA in early stages.

Keywords: rheumatoid, oligoarthritis, diet, physical therapy.

Fig. 1. (PT6B:073)



PT6B:073

CONSTRUCT VALIDITY, REPRODUCIBILITY AND FEASIBILITY OF THE PRO-THERMOMETER-5 ITEM (5T-PROS) IN THE EVALUATION OF THE HEALTH STATUS IN PATIENTS WITH RHEUMATOID ARTHRITIS, SPONDYLOARTHRITIS AND FIBROMYAL

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Objective. The aim of the study was to evaluate construct validity, reliability and feasibility of the patient-reported outcomes Thermometer-5item (5T-PROs) in the evaluation of the overall state of health in patients affected by rheumatoid arthritis (RA), psoriatic arthritis (PsA), axial spondyloarthritis (AxSpA) and fibromyalgia (FM).
Design and Method. 1,199 patients (572 with RA, 251 with axSpA, 150 with PsA, and 226 with FM) were examined. The 5T-PROs consists of items that explore five dimensions of health arranged on a 11-level numerical scale-thermometer (Fig. 1). The following analyses were performed to establish the validity of the 5T-PROs: 1) principal component factor analysis was used to identify the presence of a relatively small number of underlying latent factors than can be used to represent relations among sets of many variables; 2) Cronbach's alpha was calculated as indicator of internal consistency; and 3) Pearson product-moment correlations were conducted to assess the convergent validity. The 5T-PROs was also administered a second time (two weeks) to a subset of sample (n=426) to allow for calculation of test–retest reliability. The intra-class correlation coefficient (ICC) was used for the evaluation of the agreement. Additionally, discriminant validity was tested using analysis of variance, in different disease conditions.
Results. From the factorial analysis yielded two factors which accounted for 62.54% of the variance of the 5T-PROs. The first factor "Symptom Summary Score" (35.5% of the variance) revealed a good internal consistency (alpha=0.88), the internal consistency of the second factor "Psycological Summary Score" (26.9% of the variance) was moderate (alpha=0.69). The reliability of the whole instrument was good (alpha=0.82). A very high correlation was obtained between Symptom Summary Score and SF-36 PCS and between pain thermometer intensity and SF-36 bodily pain. For all five items and summary scale scores of the SF-36, there was strong evidence that the mean rank of the scores differs significantly between the groups ($p<0.001$). It was also noted that it was inversely correlated ($p=0.01$) to years of formal education.
Conclusions. The 5 items of the 5T-PROs have proven to be valid and reliable for a quick assessment of health status in patients suffering from rheumatic inflammatory diseases and FM.

Keywords: Pro-Thermometer 5 Item, inflammatory rheumatic disease, fibromyalgia.

PT6B:074

CONSTRUCT VALIDITY AND INTERPRETABILITY OF THE QUICKDASH IN THE ASSESSMENT OF RHEUMATOID ARTHRITIS HAND DISABILITY

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Objective. The aim of this study was to evaluate, in a real-life setting, the construct validity and the interpretability of the shortened Disability of Arm, Shoulder and Hand Questionnaire (QuickDASH) in the assessment of rheumatoid arthritis hand disability.
Design and Method. 440 consecutive RA patients (89 men and 351 women, mean age of 57.0±12.7 years, 277 on biologic treatment), were collected the QuickDASH and other patient-reported outcomes (PROs), such as Health As-

sessment Questionnaire (HAQ) and Recent Onset Arthritis Disability (ROAD) upper extremity function. Each patient underwent to articular and clinical disease assessment.
Results. Following the Simplified Disease Activity Index (SDAI) definition, 98 patients (22.3%) resulted in remission (REM), 115 subjects (26.1%) in low disease activity (LDA), 74 patients (16.8%) in moderate disease activity (MDA), and 153 subjects (34.8%) in high disease activity (HAD). Mean QuickDASH differed significantly between patients classified as REM, LDA, MDA or HDA (p<0.001). In determining convergent validity, significant high correlations were found comparing QuickDASH to composite indices of disease activity such as DAS28 (Disease Acitivity Score-28 joints) (rho=0.779; p<0.001), CDAI (Clinical Disease Activity Index) (rho=0.778; p<0.001), SDAI (rho=0.748; p<0.001) and PRO-CLARA (PRO-CLinical ARthritis Activity) (rho=0.808; p<0.001), with a high ability to measure physical health function (HAQ rho=0.867; p<0.0001). Of special interest are the correlations between the comparable dimension of the QuickDASH and the ROAD Upper Extremity Function (rho = 0.876; p 0<0.001) (convergent construct validity). Based on the distributions of QuickDASH in the four disease state groups, we propose cut-off values of </=13 for REM, >13 and </=18.5 for LDA, >18.5 and </=31.5 for MDA and >31.5 for HDA.
Conclusions. The QuickDASH is practical to use, and positively correlates with the disease activity in RA. Our results suggest that QuickDASH could be preferred as it is a simple and easy scale to use. It may be a surrogate for evaluating upper extremity impairment, disability index and disease control in RA patients.

Keywords: QuickDASH, rheumatoid arthritis, hand disabilities.

PT6B:075

EVOLUTION OF PAIN IN RHEUMATOID ARTHRITIS TREATED WITH ANTI-INTERLEUKIN 6

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Objective. Rheumatoid arthritis (RA) is the most common chronic inflammatory rheumatism. Pain during RA is a major concern. Anti-interleukin 6 (tocilizumab) is a treatment that has revolutionized the management of this condition.
To evaluate the effect of anti-IL6 on pain during RA and to study the relationship between pain and quality of life.
Design and Method. Prospective, descriptive and analytical study. Are included patients with severe RA complying with the ACR 1987 and / or ACR / EULAR 2010 criteria who received tocilizumab after intolerance or failure with conventional treatments or other biological therapy.
The demographic characteristics (age, sex), the duration of evolution of the disease and the immunological balance were collected. Each patient was assessed for pain using a visual analogue scale (EVA-P, 0: no pain, 100: maximum pain) before treatment (T0), during treatment at 3 months (T1), 6 months (T2), 9 months (T3) and 12 months (T4). Were evaluated at the same time: disease activity (DAS 28_vs) and quality of life (HAQ).
Results. 38 patients were collected (30 women and 8 men), the sex ratio (W / M) is 3.74. The average age is 45.5 years (extreme ages: 30-74 years), the average duration of progression of RA is 10.1 years, 84% of patients had ACPA positive with an average rate of 251 UR / ml, 52% were seropositive to rheumatoid factor. The disease was active in all patients before treatment with a mean DAS28 at 5.62.
The mean EVA-D is: at T0: 70.26, at T1: 47.56, at T2: 35.55, at T3: 33.12, at T4: 33.10.
The average HAQ is: at T0: 1.79, at T1: 1.15, at T2: 0.85, at T3: 0.78, at T4: 0.52.
There is a correlation between EVA-P and HAQ: at T0: p: 0.02, at T2 p: 0.00, at T3: p: 0.007,
at T4: p: 0.012.
Conclusions. Through this study, we found the efficacy of tocilizumab on pain during RA, which correlates with improving the quality of life of patients.

Keywords: pain, rheumatoid arthritis, anti-interleukin 6.

PT6B:076

PATIENTS' SATISFACTION WITH HEALTH CARE PROVIDED IN AN OUTPATIENT CLINIC FOR RHEUMATOLOGY: RESULTS OF A QUESTIONNAIRE STUDY OF SPECIFIC ASPECTS OF CARE

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Objective. Rheumatoid arthritis (RA) is a disease that requires regular monitoring of therapheutic efficacy and patients' quality of life (QOL). Aim of the study is to determine the influence of disease activity and duration as well as functional disabillity on the patients' perception of satisfaction with care, to evaluate the satisfaction with respect to the patient-physician relationship and the factors that affect the patients' satisfaction level.
Design and Method. An observational non-interventional study included 53 consecutive RA patients who regularly attend the outpatient clinic. Prior to the scheduled examination patients completed a standardized Patient Satisfaction Questionnaire and a Health Care Assessment Questionnaire (HAQ). Patients were divided into three groups according to HAQ score and in two groups according to disease activity measured by DAS28 score. Furthermore, patients were divided into two groups depending on whether their treatment regimen included a bDMARD and in two groups according to disease duration.
Results. The results showed that the patients were largely satisfied with the service provided, with an average rating of 4 on a scale of 5. The highest scores were achieved in the categories of technical quality and competence of the physician and of the doctor's attitude towards the patient. The lowest scores were related to inability of an easy telephone access or emergency consultation, time spent in the waiting room and provided information on drug side effects. The level of disease activity did not significantly affect the degree of satisfaction with provided health care. In contrast, patients who are classified to have severe to very severe disabilities by HAQ score had slightly lower satisfaction rates in all examined categories. Furthermore, patients treated with a bDMARD and those with disease lasting more than five years reported higher satisfaction rates in all categories and the difference was statistically significant.
Conclusions. Patients with a higher degree of disability experience a lower level of satisfaction with medical care, whereas patients with a longstanding disease and those treated with a bDMARD report higher levels of satisfaction with specialist care. Satisfaction with professional service provided in a specialist rheumatology unit can contribute to improvement of the patients' perception of satisfaction with QOL.

Keywords: rheumatoid arthritis, disease activity, patient satisfaction.

PT6B:077

PREDICTIVE FACTORS OF EVOLUTION OF EARLY INFLAMMATORY ARTHRITIS TO RHEUMATOID ARTHRITIS

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Objective. to investigate Predictive factors of evolution of early inflammatory arthritis (EIA) to rheumatoid arthritis (RA).
Design and Method. we conducted Longitudinal prospective concerning EIA not meeting the criteria of classification of the defined rheumatisms. The demographic, biological, immunological and radiographic data were collected in the inclusion. The activity of the disease was considered by the DAS 28-CRP, the functional handicap calculated by HAQ, and the osteoarticular damage estimated by the score of Sharp Van der Heidje (SDVH) and by the articular ultrasound, was initially estimated then in 1 year. A logistic regression was realized for the research for the predictive factors of evolution towards one RA.
Results. Among the 172 included patients (24 men, 148 women), median age was of 43.13 years ± 14.07 and mean duration of the diagnosis is 10.24 months ± 6.84. The mean of ESR was 46.81/h±31.16, and the mean of CRP was 22.84 mg/l±39.8. The rheumatoide factors (RF) and the ACPA was present respectively at 48.8% and 53% of patients. The score SVDH erosion, joint space narrowing, and total was respectively at 3.38±3.48, 5.08±3.32, et 5.95±4.94. One hundred and sixty one patients were followed during 12 months, the analyse of multivariate regression demonstrated that the DAS28-CRP>5.2 (OR = 28.6; IC95% 8.7-94.5), the RF>60UI/L (OR=11.2; IC95% 4.3-87.5), and the ACPA>60 UI/L (OR =5.4 ; IC95% 1.9-15.3) was predict of evolution to RA.

Conclusions. Our study suggests that the clinical evaluation of the activity of the EIA from his diagnosis by the DAS28-CRP, as well as the search for antibody allows to predict evolution to RA.

Keywords: early inflammatory arthritis, rheumatoid arthritis, predictive factors.

PT6B:078

ULTRASONOGRAPHIC FINDINGS OF HIP JOINTS IN PATIENTS WITH RHEUMATOID ARTRITIS

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Objective. To assess ultrasonographic (US) finding of hip in rheumatoid arthritis (RA) pts. and to investigate US by clinical and US by X-ray correlations
Design and Method. The cross-sectional clinical study enrolled 46 in pts. with RA (ACR criteria). Physical examination, X-ray and US of hip joints were performed. US examination was done using an ESAOTE My Lab 70 machine with 4-10 MHz linear probe. The distance between the hip joint capsule and the femur of >7 mm (US distance), and difference between the hips of >1 mm suggest an intracapsular effusion in the joint.
Results. Seventy eight percent (36/46) out of pts were female, with mean age of 56±14.03 yr. The mean duration of RA was 104±87.3 mounts. Eighty-two percent of all pts. had no complains with normal physical examination in 82.6% pts. The X-ray changes associated with RA were found in 4 (8.7%), degenerative and degenerative associated with RA changes were found in one patient each. Eighty-seven percent of patients had no evidence of X-ray changes. Ultrasonographic evidence of joint effusion was found in 35 (76.1%) out of all pts. Three pts with positive clinical findings (pain in groin and limitation of motion in hip joint) had some of X-ray changes and US evidence of effusion in both hip. One pts had US evidence of effusion without X-ray changes. US evidence of joint effusion had 24 pts.in right hip and 22 pts in left hip joint with normal X-ray and clinical findings. There was no correlation between US distance and age of pts., laboratory parameters and RA duration.
Conclusions. Ultrasonographic evidence of joint effusion in hip joints was found in high frequency in our pts. with RA. Most of them were asymptomatic and had neither motion limitation nor radiographic changes. Musculoskeletal ultrasonography is more sensitive method than clinical and X-ray examination in discovery joint effusion in hip joint which could be of some importance in the early diagnosis of coxitis.

Keywords: rheumatoid arthritis, hip joint, ultrasound.

PT6B:080

RITUXIMAB: COMPARISON CLINICAL AND ANTI-DESTRUCTIVE EFFECTS AND B-CELL COUNT IN RHEUMATOID ARTHRITIS PATIENTS

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Objective. The purpose of our study was to study the effect of anti-B-cell therapy (RTM) on the processes of joint destruction in comparison with the peculiarities of the clinical effect and the level of B-cells
Design and Method. The study included 61 RA pts (average disease duration 10.1±7.7 y., mean DAS28 6.3±0.94, RF-positive - 87%, ACCP–positive 93%) undergoing RTM therapy. Clinical effect was scored by EULAR criteria, radiographic progression was assessed using Sharp/van der Heijde (SvH) modified scoring method. B-cell level was measured with flow cytometry.
Results. By the 48th week after RTX treatment, good effect was noted in 29.7%, good and satisfactory in 85.3% of patients; remission reached 14.6% pts. Radiographic progression was absent in all patients in remission, in 83% of patients with low activity and in 43% with moderate activity. The clinical and anti-destructive effects of RT therapy often did not coincide: bone destruction was inhibited in 54% of patients without clinical improvement. There were no significant differences between the clinical effect of different doses of RT (1000 mg x2 or 500 mg x2). Anti-destructive effect was more pronounced in patients receiving high doses of RT. There was no significant effect of the degree of B-cell reduction on radiologic progression. However, B cell depletion in patients with RA in the state of remission (median 0% of B cells) was significantly more pronounced than in patients with signs of disease activity (0.8% B cells).
Conclusions. The clinical and anti-destructive effects of anti-B-cell therapy do not always coincide. The therapeutic effect of different doses of RT was not different, but the anti-destructive effect was higher at higher doses of the drug. Radiologic progression did not show any dependence on the degree of B-cell reduction. The most pronounced depletion of B cells was observed in RA patients in a state of remission.

Keywords: rituximab, anti-destructive effects, B-cells.

PT6B:081

EFFECT OF A DYNAMIC EXERCISE PROGRAM IN COMBINATION WITH A MEDITERRANEAN DIET IN WEIGHT AND HANDGRIP STRENGTH IN WOMEN WITH RHEUMATOID ARTHRITIS

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Objective. Rheumatoid arthritis (RA) is a chronic inflammatory disease, which can cause cartilage and bone damage. It primarily involves the joints, but it is important to consider other comorbidities such as cardiovascular disease and metabolic alterations that can lead to rheumatoid cachexia. Dynamic exercise is a safe therapy that improves muscular function and strength. Also, a diet like the Mediterranean is recommended to reduce inflammation. The aim of this study was to assess the effect of a dynamic exercise program in combination with a Mediterranean Diet in body weight and strength in women with RA.
Design and Method. A randomized controlled trial was performed including 98 women with a RA diagnosis (2010 ACR/EULAR classification criteria). Clinical information including disease duration, treatment and disease activity were assessed. Anthropometric data and handgrip strength were evaluated at baseline and 6 months follow-up. Patients were classified into four groups: G1 (n=24) with a dynamic exercise and Mediterranean diet; G2 (n=27) with dynamic exercise only; G3 (n=24) with only Mediterranean diet and G4 (n=23) control. All patients received standard medical treatment. Percentage change was calculated to assess the magnitude of effect and ANOVA test was used for comparison between groups. Post hoc multiple comparisons were made.
Results. 98 women were included, with a mean age of 48.66±12.24 years, mean disease duration of 13.85±9.26 years, mean BMI of 27.09±26.69 and mean DAS28 of 2.63±1.00 in remission. Significant differences between groups were found in handgrip strength (G1=7.36, G2=18.35, G3=-2.83, G4=-0.68% of change, p=0.04), and in BMI (G1=0.14, G2=0.11, G3=-2.80, G4=-0.08% of change, p=0.05). Post hoc test showed significant difference in handgrip strength between G2 and G3 (p=0.01) and G4 (p=0.02) and in BMI between G3 and G1 (p=0.02), G2 (p=0.01) and G4 (p=0.04).
Conclusions. Mediterranean diet alone was effective for reducing weight, however, these patients lost handgrip strength, while patients that carried both therapies not only did not lose handgrip strength, but they gained it. We conclude that dynamic exercise in combination with Mediterranean diet is a good intervention for women with RA to improve physical capacity and muscular strength.

Keywords: rheumatoid arthritis, Mediterranean diet, dynamic exercise.

PT6B:082

RHEUMATOID ARTHRITIS: FREQUENCY AND INFLUENCE OF TOBACCO AND BODY MASS INDEX (BMI) IN THE ACTIVITY OF THE DISEASE

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Objective. To determine the degree of activity and remission according to DAS 28 in the whole sample and in the groups of patients according to their smoking habit according to Tobacco Active (TA) ExSmokers (ES), NoSmokers (NS) and detect possible associations between smoking and BMI in patients with RA.
Design and Method. A prospective cross-sectional descriptive observational study in RA of one year or more of diagnosis, regardless of the treatment settled down. Analyzed smoking habit: TA; ES; NS; DAS 28 and BMI, ESD, EVA and HAQ.
Variables: Pearson's, Chi Square test, the Student's *t*-test, and ANOVA analysis was used.
Results. 100 patients were analyzed, 84% women (average age of 52.9 ± SD 12.5 EE 1.25 *p*=0.0001 and time evolution 6.95 ± SD 6.57 EE 0.66 *p*=0.0001). 14% had remission and 33% had high activity. Regarding the BMI, 1% had low weight; 67% were overweight. The AS were 33% (76% women), average age of 51.15 ± SD 10.17 IC 95% *p*=0.0001 and time of evolution in ys 5.27±5.39 IC 95% *p*=0.0001.
Intensity was measured according to packet consumption / year, average: 13.59±12.26; average time of smoking in ys of 17.81±10.17. 12.12% had remission and 51.52% (*p*=0.006) had high activity. Regarding BMI, 63.64% were overweight. The ES were 30%; average age 56.27 ± SD 9.28 95% CI *p*=0.0001 and disease progression time of 8.13±6.99 95% CI 0.0001. With DAS28 5.06±5.70. 23.33% had DAS28> 5.1 and 13.33% <2.6.
The NS were 37%; average age 50.08 ± SD 15.78 95% CI p0,0001 and disease progression time 7.49±7.04 CI 95% *p*=0.0001; DAS28 4.15±1.50. 24.32% had DAS28 >5.1 and 16.22% <2.6.
AS had a greater proportion of high activity than former smokers and non-smokers (*p*=0.022).
Conclusions. RA could be influenced by tobacco consumption, with higher DAS28, EVA and HAQ and greater need for NSAID consumption in patients in the TA group with statistical significance. The rate of disease remission according to DAS28 was higher in the NT group. No significant difference was observed in the different groups regarding the BMI.

Keywords: rheumatoid arthritis, tobacco, BMI.

PT6B:083

PERIODONTITIS IN EARLY RHEUMATOID ARTHRITIS: CASE-CONTROL STUDY

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Objective. This study was conducted to look for an association between periodontal disease and rheumatoid arthritis, and to determine the prevalence of Porphyromonas gingivalis
Design and Method. In this case-control study on paired series, 69 patients with early RA (ERA), naive to biologic DMARDs were compared with 138 matched healthy controls. Periodontal status was determined and classified as healthy/mild, moderate, or severe periodontitis. Rheumatoid disease activity was assessed by DAS-28 score system. Subgingival plaque samples were analysed to seek for P. gingivalis in both population in the case of periodontitis. Smokers, diabetics, those who received antibiotics in the last three months or underwent periodontal therapy in the last twelve months were excluded from the study.
Results. Periodontitis was associated with ERA (OR=2.46,95%CI 1.12-5.39).
The prevalence of moderate periodontitis was less in RA patients compared to controls (43.33% vs 70%, *p*<0,001). There was no association between rheumatoid disease activity and the severity of periodontal disease (*p*=0.49). Frequency of P. gingivalis was not different between ERA and controls (59.25% vs 57.89%, *p*=0,45)
Conclusions. This study showed that ERA individuals have significant periodontitis compared to healthy controls. However, we did not detect any association between P gingivalis and ERA.

Keywords: early rheumatoid arthritis, periodontitis, porphyromonas gingivalis.

PT6B:084

CONTRIBUTON OF VITAMIN D RECEPTOR FOKI GENE POLYMORPHISM ON DISEASE SEVERITY AND LONG TERM DISEASE OUTCOME IN JUVENILE IDIOPATHIC ARTHRITIS (JIA)

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Objective. To study the possible genetic contribution of FokI Vitamin D receptor (VDR) gene polymorphism on disease severity and long-term disease outcome in JIA patients under biological treatment.
Design and Method. Retrospectively analyzed data of 78 JIA patients treated with biologics in whom 6 years follow-up data were obtained and genomic deoxyribonucleic acid (DNA) was extracted to test FokI VDR polymorphism. Disease activity and therapy efficacy were assessed by American College of Rheumatology Pediatric 50%, 70%, and 100% improvement criteria, while disease remission was defined as a condition to stop treatment with biologics.
Results. Results indicated that there were no significant distribution differences of FokI VDR gene polymorphisms among different JIA subtypes. JIA patients with FF (*p*=0.006) and Ff (*p*=0,036) genotypes had a reduction of disease activity and more frequently have reached clinical response to biologics with respect to the ff genotype at the end of the observational period. There was different distribution of FokI VDR polymorphism on possibility to achieve remission at the end of the observational period. Patients resistant to biologics had significantly more frequent ff genotype, while those achieved remission had significantly more frequent Ff genotype (*p*=0.038). Furthermore, logistic regression analysis has shown that homozygous ff FokI genotype (OR 0.091, *p*=0.010) was negative genetic predictor of achieving remission during the follow up period.
Conclusions. JIA patients carrying VDR ff genotype despite biological treatment, have lesser chance to achieve remission.

Keywords: juvenile idiopathic arthritis, FokI VDR polymorphism, disease severity and outcome.

PT6B:085

IS PROTEIN C REACTIVE RELATED TO METABOLIC SYNDROME IN RHUMATOID ARTHRITIS?

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Objective. Rheumatoid arthritis is a systemic inflammatory chronic disease considered to be an independent cardiovascular risk factor. Early and accelerated atherosclerosis has been related to the presence of metabolic syndrome (MS).
Design and Method. A retrospective bi-centric study of patients diagnosed with rheumatoid arthritis according to ACR criteria in 2017 were carried out. Clinical and biological variables were collected. This work was aiming at evaluating the relation between CRP and MS.
Results. A total of 100 patients were involved, 73 women (73%), mean age was 59.5 years. Metabolic syndrome was identified in 55%. Hypertension was found in 32 patients (32%), obesity in 26 patients (26%), dyslipidemia in 25%, and diabetes mellitus in 21 patients (21%). Disease course was inferior to 10 years in 31 patients (29.2%), between 10 and 20 years in 18 patients (*p*=0.3430, DE:1). In patients with MS, 39(40.2%) had a CRP inferior to 3 mg/L and 16(14.9%) superior to 3 mg/L with no statistical relation between CRP and MS (*p*=0.6026, DE:1).
Conclusions. Metabolic syndrome is frequent in patients with rheumatoid arthritis. CRP is not correlated to the presence of metabolic syndrome.

Keywords: rheumatoid arthritis, metabolic syndrome, CRP.

PT6B:086

THE EFFICACY AND SAFETY OF METHOTREXATE IN A DOSE 25 MG PER WEEK AND MORE IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Objective. to assess the adverse events (AEs) frequency in patients who was treated with subcutaneous methotrexate (SC MT).
Design and Method. An open 12-month study included 106 RA patients (DAS28 more than 3.2), up to 3 years old, meeting the ACR/EULAR 2010 or ACR 1987 criteria, not previously received SC MT. 68% had a BMI over 25 kg/m2, 8% were smokers. Oral glucocorticoids (no more than 8 mg of methylprednisolone), was administrated in 25%. All pts were administered SC MT monotherapy once a week, Folic acid (min 5 mg/week) was administered at any day(s) except for the day of SC MT injection for AEs prophylaxis. After 12 months therapy, patients were divided into 2 groups: group 1 included those who received 25 mg per week and more, (62 pts). In group 2, less than 25 mg per week (44 pts). Disease activity was scored using DAS28.
Results. DAS28 less than 2.6 was 23% in group 1 and 30% in group 2 (p=0.45). GEBD has been administrated in 44% in group 1 and 39% in group 2 (p=0.61). AEs were found in 23% in group 1 and 55% in group 2 (p=0.0007). There was no any significant difference in the frequency of remission between groups. After 3 months of therapy, AEs occurred in 15% of group 1 and in 22% of group 2. After 6 months of therapy, AEs occurred in 8% of group 1 and in 31% of group 2. After 12 months of therapy, AEs occurred in 14% of group 1 and in 41% of group 2 (p=0.05). The severity of the AEs was the same.
Conclusions. The data confirm the possibility of prescribing high doses of SC MT to achieve the targets of therapy without occurrence of serious AEs.

Keywords: methotrexate, rheumatoid arthritis, safety dosage of methotrexate.

Poster Tour 6C: Rheumatoid arthritis

PT6C:087

IMPAIRED WOUND HEALING DUE TO LEFLUNOMIDE USE IN PATIENTS WITH RHEUMATOID ARTHRITIS

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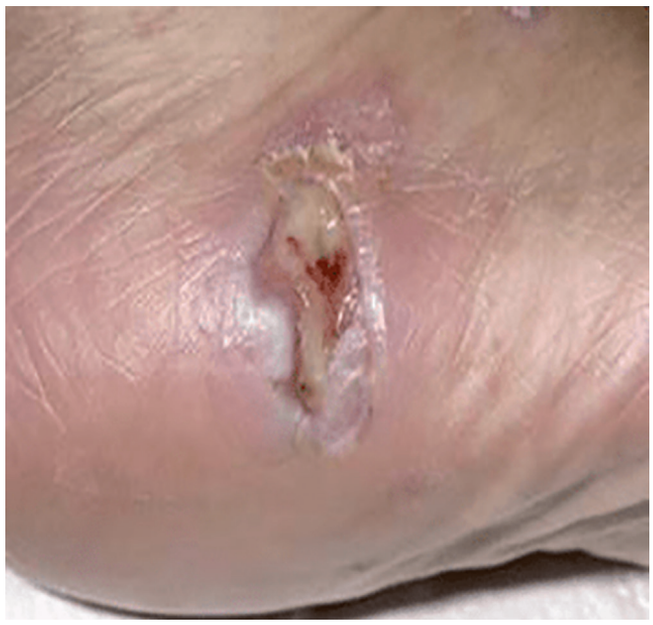
Objective. Despite the positive effects of DMARDs on rheumatoid arthritis, it should not be overlooked that there are some important side effects. In particular, there are case reports that the use of Leflunomide (LEF) is impaired in wound healing.
Design and Method. A 56-year-old woman with RA was admitted to our clinic due to a non-healing wound on her right heel for six months. Although antibiotics were given for 1 month, there was no improvement, so the rheumatologist considered rheumatoid vasculitis and treated with high dose methyl prednisolone. The patient was examined because the wound did not improve. There was a wound of size 1.3 × 2.0 cm on the right heel. It is learned that with anamnesis, 8 mg/day MP and 20 mg/day LEF are currently being used. There was no other systemic disease. I decided that this wound was not healed due to use of LEF. The patient underwent an 11-day LEF purifying procedure. After 1 month, it was observed that the wound started to heal and 2 months later it completely disappeared.
Results. LEF is a new generation DMARD use in cases of severe rheumatoid arthritis. Normal white blood cell (WBC) function and normal fibroblast function are necessary for a normal inflammatory response and wound healing. However, it has been shown that LEF inhibits the proliferation of a large number of leukocyte cell populations. In addition pyrimidine synthesis, blocked by LEF, is a key process in synovial cell production and in fibroblast collagen production. On the one hand, LEF inhibits synovial proliferation and the progression of rheumatoid arthritis, on the other hand it inhibits wound healing and fibrosis by its effect on fibroblasts. In a study, the risk of postoperative wound-healing complications in patients undergoing LEF therapy was significantly higher (40.6%) than the MTX group (13.6%) (p=0.01).It is recommended that LEF medication for patients with RA is interrupted preoperatively to reduce the risk of wound-healing complications.



Conclusions. In conclusion, when a wound healing disorder is detected in a patient with RA, it should be remembered that this condition may not be only related to the disease or vasculitic process, but also may be due to the agents used in therapy, especially LEF

Keywords: rheumatoid arthritis, leflunomide, wound healing.

PT6C:088

THE EFFECT OF GENDER ON ANEMIA FREQUENCY IN RHEUMATOID ARTHRITIS

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Objective. In most of the most of the patients with rheumatic arthritis (RA), normocytic hypochromic anemia is present, which is correlated with erythrocyte sedimentation rate.and.disease activity. Anemia is mostly anemia of chronic. Hemoglobin concentration is rarely below 10 g/dL In our study, in RA, the effect of gender on anemia was aimed to be studied.
Design and Method. 123 consecutive patients with RA were included in the study. As exclusion criteria, acute infection, diabetes, cancer, or chronic diseases were taken. 100 of patients were female and 23 of them were male. Mean age of the females was 53±10 and that of males was 57±11. That Hg level in females was below 12 g/d was accepted as anemia and below 13 g/dL in males. According to the female and male gender, anemia frequency was compared.
Results. When the cases are examined in terms of anemia, 29 (29%) out of 100 female patients was anemic and 6 (26%) out of 23 male patients. Mean Hbs in the females and males were 12.7±1.1 g/dL and 13.8±1.2 g/dL, respectively and these values were found low in the females in statistically significant by means of independent sample T-test (p:0.02). However, that the numbers of the female and male cases are not near each other requires to question the accuracy of test.
Conclusions. RA patients can show the hematological anomalies. Among the changes that are connected with active disease, anemia of chronic disease, thrombocytosis, and leukocytosis are present. In the past, anemia more seen in RA patients is seen less together with introduction of the use of newer medicaments. The most seen anemia is anemia of chronic disease that is generally asymptomatic and anemia of iron deficiency. Although anemia was more frequently seen in the female RAs, due to the fact that the number of male RAs is less in our study, in order to clarify the effect of gender on anemia, it is necessary for our study to be confirmed in the group of patient including more RA.

Keywords: anemia, gender, rheumatoid arthritis.

PT6C:089

THE RELATIONSHIP OF ANEMIA FREQUENCY AND DISEASE ACTIVITY IN THE PATIENTS WITH RHEUMATOID ARTHRITIS

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Objective. Anemia is one of extra articular findings frequently seen in rheumatoid arthritis (RA). Anemia frequency ranges between 16-6%. In RA, although iron depot of body increases, iron in marrow cannot be not given for the use. Anemia can be improved by an effective treatment. In this study, it was aimed to identify the relationship between anemia frequency and disease activity in RA patients.
Design and Method. 55 patients with rheumatic arthritis applying to rheumatology clinic were included. In anemia threshold, in the women identified as the value of Hgb <12 g/dL and in the men, the Hgb <13 g/dL. In determination of disease activity, DAS 28 was used.

Table I. Characteristics of the patients with or without anemia.

	With anemia	Without anemia
Number of Patient (%)	17 (30)	38 (70)
Age	53,9 ± 12	55,6 ± 10,6
Gender (K/E) (%)	15/2 (88/12)	31/7 (82/18)
Disease time (yd)	5,5 ± 4	7,9 ± 8
RF positive (%)	8 (47)	26 (68)
Anti-CCP positive (%)	9 (52)	19 (50)
Hgb g/dL	11,4 ± 0,4	13,6 ± 0,9
CRP mg/L	19,9 ± 18,4	8,3 ± 7,8
ESH mm/h	29 ± 21	18 ± 10
DAS 28	3,5 ± 1,3	**3,4 ± 0,9**

Results. For 55 patients (F/M = 46/9) in the study, mean age was 55,1±11,0; disease time, 7,23±7,8 years; RF(+), 61%; Anti CCP (+), 50.9%; and mean DAS 28: 3,4±1,05. In 17 (30%) of them, anemia was identified. DAS 28 value of 13 out of 17 patients with anemia was >2.6. Mean CRP and ESH values were also found at high level in anemia group. Medicament distribution of the cases with anemia was in the form of methotrexate for 1 patient; sulfasalazine for 1 patient; hydroxychloroquine for 1 patient; combination of methotrexate and hydroxychloroquine for 3 patients; combination of methotrexate and sulfasalazine for 1 patient; combination of abatacept and leflumomide for 1 patient; combination of sulfasalazine and hydroxychloroquine for 1 patient; combination of methotrexate, sulfasalazine, hydroxychloroquine, and steroid for 2 patients; combination of methotrexate, hydroxychloroquine, and steroid for 1 patient; combination of methotrexate, sulfasalazine and steroid for 2 patients; and combination of hydroxychloroquine and steroid. 12 of these cases took place in the class of normocytic anemia and 5 of them in microcytic anemia. The characteristics of the patients with anemia and without anemia are presented in Table I.
Conclusions. Anemia of chronic disease is generally seen in RA. Disease activity is associated with anemia. In our study, beside normocytic anemia, seen anemia of chronic disease, microcytic anemia was also seen. Therefore, in RA patients, beside anemia of chronic disease, it is necessary to investigate the other causes of anemia.

Keywords: anemia, disease activity, rheumatoid arthritis.

PT6C:090

KIR GENE DISTRIBUTION IN TURKISH PATIENTS WITH RHEUMATOID ARTHRITIS

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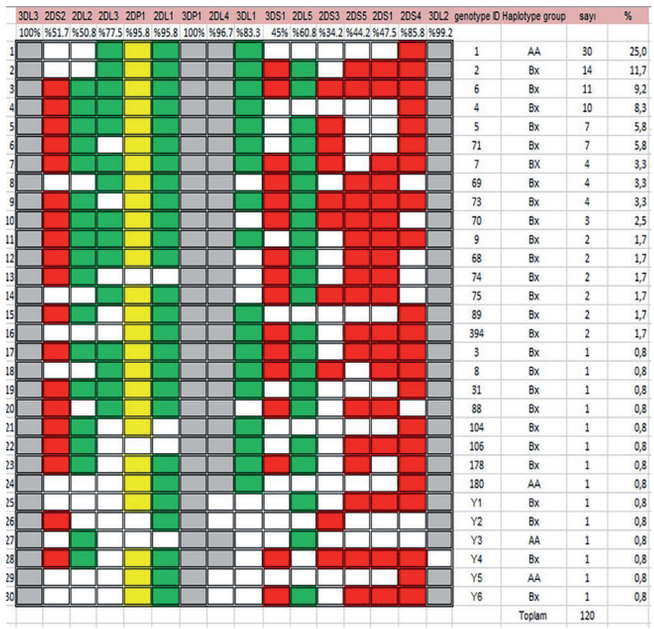
Objective. Killer cell immunoglobulin-like receptors (KIRs) are a family of inhibitor and activating receptors expressed on natural killer (NK) cells that regulate NK cell activity. KIRs are also present on some subpopulations of T lymphocytes. The KIR molecules have been considered to be potentially important in susceptibility to infection and autoimmunity. KIR genes have many variations among different ethnic groups. These variations may cause a genetic imbalance and change the course of some diseases. Associations of KIR genes in patients with rheumatoid arthritis (RA) were previously reported in populations from Iranian, Indian, Taiwan and Mexican origin. The aim of this study was to identify 16 different KIR genes in Turkish RA patients and to evaluate the relationship between KIR genes and clinical characteristics of the disease.
Design and Method. One-hundred-and twenty patients with RA and 120 age and gender matched healthy controls were included. KIR typing of these subjects was evaluated by SSOP (Luminex100, Tepnel Lifecodes). Fisher Exact test was used to evaluate the variation of the KIR gene distribution.
Results. KIR2DS5 gene was significantly more frequent in the RA group than the healthy group (p=0.045). Meanwhile, the KIR3DL1 gene frequency was significantly lower in the patient group (p=0.046). AA genotype was present in 27.4% and BX genotype was present in 72.6% of the RA patients. KIR genes were not associated with DAS28 scores, CRP and RF values in the patient group. KIR2DS4 gene was significantly more frequent in the anti-CCP negative RA patients compared to the anti-CCP positive ones (p=0.014).
Conclusions. KIR genes may play a role in the pathogenesis of RA. The higher rate of the KIR2DS4 gene in the Anti-CCP negative group suggests that it may have a protective role in severe disease. When we compare our results to previously reported publications, our results are partly similar to those studied in Indian and Iranian populations.



	3DL3	2DS2	2DL2	2DL3	2DP1	2DL1	3DP1	2DL4	3DL1	3DS1	2DL5	2DS3	2DS5	2DS1	2DS4	3DL2	genotype ID	Haplotype group	sayı	%
	100%	%51.7	%50.8	%77.5	%95.8	%95.8	100%	%96.7	%83.3	45%	%60.8	%34.2	%44.2	%47.5	%85.8	%99.2				
1																	1	AA	30	25,0
2																	2	Bx	14	11,7
3																	6	Bx	11	9,2
4																	4	Bx	10	8,3
5																	5	Bx	7	5,8
6																	71	Bx	7	5,8
7																	7	BX	4	3,3
8																	69	Bx	4	3,3
9																	73	Bx	4	3,3
10																	70	Bx	3	2,5
11																	9	Bx	2	1,7
12																	68	Bx	2	1,7
13																	74	Bx	2	1,7
14																	75	Bx	2	1,7
15																	89	Bx	2	1,7
16																	394	Bx	2	1,7
17																	3	Bx	1	0,8
18																	8	Bx	1	0,8
19																	31	Bx	1	0,8
20																	88	Bx	1	0,8
21																	104	Bx	1	0,8
22																	106	Bx	1	0,8
23																	178	Bx	1	0,8
24																	180	AA	1	0,8
25																	Y1	Bx	1	0,8
26																	Y2	Bx	1	0,8
27																	Y3	AA	1	0,8
28																	Y4	Bx	1	0,8
29																	Y5	AA	1	0,8
30																	Y6	Bx	1	0,8
																		Toplam	120	

Keywords: rheumatoid arthritis, pathogenesis, KIR gene.

PT6C:091

FACTORS CONTRIBUTING TO DISABILITY IN RHEUMATOID ARTHRITIS PATIENTS: AN EGYPTIAN MULTICENTER STUDY

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Objective. Objective: Rheumatoid arthritis (RA) is an autoimmune disorder characterized mainly by targeting the joints Minimizing disability and enhancing physical function to its optimal levels is still a challenge in management of RA. The aim is to identify factors leading to disability in RA.
Design and Method. This is a cross-sectional Egyptian multicenter study carried out on 215 RA patients attending to our inpatient and outpatient rheumatology clinics during 4 months starting from April to July 2017 who agreed to participate in the study; 170 patients were from Cairo University hospitals and 45 from Zagazig University hospitals. We recorded a number of possible risk factors including demographic, clinical, serological and therapeutic factors. The assessment of patients' disability was done using Modified HAQ (MHAQ). Written consent was taken from all participants.
Results. A significant positive correlation was found between MHAQ and different markers of activity in addition to age and depression score (p<0.001). Illiteracy accounted for higher MHAQ scores (p=0.001). A higher MHAQ was found in patients with ischemic heart disease (p<0.05). Patients with erosions on

X-rays had significantly higher MHAQ scores. Subluxations also accounted for higher MHAQ scores (p=0.000).
Conclusions. Aging, illiteracy, disease activity, erosions, subluxations, depression and ischemic heart disease were all related to higher disability. Good control of disease activity which in turn reduces erosions and subluxations is mandatory. Screening for depression and proper use of anti-depressants is of great value. Proper screening and prophylaxis against ischemic heart disease by controlling modifiable risk factors like obesity, dyslipidemia, hypertension, smoking and sedentary lifestyle are recommended.

Keywords: rheumatoid arthritis, disability.

PT6C:092

NEW DYNAMOMETRIC PARAMETERS IN EVALUATION OF HAND FUNCTION IN RHEUMATOID ARTHRITIS BASED ON DYNAMIC MEASUREMENTS – A PILOT EVALUATION STUDY

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Objective. In rheumatoid arthritis (RA) inflammation and damage lead to functional impairment. The hand is a typical site of the involvement, and therefore lower grip strength is often found in these patients. Better detailing of evaluation parameters such as the velocity and stability of hand grip in relation to present static measurements of grip force might be helpful for rehabilitation evaluation of the hand. The aim of this paper was to produce an analysis and interpretation method for measured data using a specially designed electrodynamometer that gives an objective and a more detailed evaluation of the functional state of the hand.
Design and Method. An expert electronic measuring system for obtaining dynamic time series of the hand grip force was developed. We tested it in the sample of 24 participants, 12 patients with RA and 12 age- and sex-matched healthy controls. The main dynamometric parameters obtained were: maximal grip force, fatigue, grip velocity, functional potential. These were measured at the baseline and at 60, 120 and 180 days.
Results. Compared to the control group, the patients with RA had significantly lower maximal grip force (68.2 vs. 97.3), sooner occurrence of fatigue (22.4 vs. 24.9), lower grip velocity (14.8 vs. 22.2) and functional potential (808.2 vs. 1876.3) at the baseline. The significant improvement in all measured variables was observed during the follow-up period.

Conclusions. In our pilot-study we tested a new-developed electrodynamometer measuring system and found that it can demonstrate hand condition objectively and in details. This system has a potential to be used as a relevant indicator of hand function in patients with RA and to help tailor their rehabilitation.

Keywords: dynamometer, rehabilitation, grip force.

PT6C:093

PYODERMA GANGRENOSUM: A PARADOXICAL SIDE EFFECT IN A RHEUMATOID ARTHRITIS PATIENT TREATED WITH GOLIMUMAB

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[3]2nd Propedeutic Department of Surgery, Hippokration University Hospital, Medical School, Aristotle University, Thesaloniki, GREECE;
[4]4th Department of Internal Medicine, Hippokration University Hospital, Medical School, Aristotle University, Thessaloniki, GREECE

Objective. Biologic drugs have changed the course and the physical history of inflammatory arthropathies, however they are also associated with adverse events namely, opportunistic infections and autoimmune reactions including a number of paradoxical manifestations. We present a case of a seronegative rheumatoid arthritis (RA) patient presented with pyoderma gangrenosum (PG) and severe sepsis whistle on treatent with golimumab, a human monoclonal antibody targeting TNF-alpha. A 55-year-old woman presented in the emergency department of our hospital with septic fever of recent onset ranging between 38.5 and 39.5 °C and a painful necrotic lesion on the dorsum of the left foot and some scondary lessions in the left foot (Figure 1). Erythrocyte sedimentation rate was 80 mm/h, and C-reactive protein 270 mg/L(normal values <5). Surgical debridement was performed and cultures from the lesion as well as blood and urine were negative for any pathogens. She was treated with antibiotics. Although fever subsided, ulcers in the legs continue to deteriorate and histology revealed dense neutrophilic infiltrates without signs of vasculitis. On the basis of clinical presentation, negative cultures and pathology, the diagnosis of PG was established.
Design and Method.
Results. The patient was treated with iv prednisolone (1 mg/kg/day) followed by gradual tapering, switch to oral administration and the addition of oral cyclosporine. The therapeutic strategy also included regular surgical debridement of necrotic tissue and physiotherapy interventions to restore functional status. Over the next 6–8 weeks our patient improved significantly; skin wounds gradually healed (Fig. 2) and she managed to regain a significant degree of functionality to the point that she was able to move around with walking sticks. During this long period of rehabilitation and intensive local treatment she developed pain in the joints and inflammatory markers (erythrocyte sedimentation rate and C-reactive protein) increased on reducing prednisolone at 5 mg/day. Methotrexate 15mg/week was started. Patient was discharged on the 80th day after admission on aforementioned treatment.

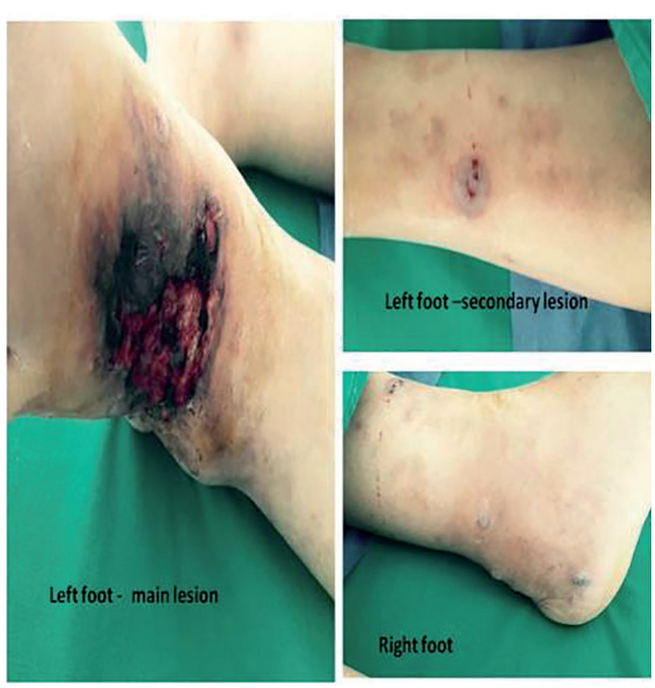

Fig. 1. Skin lesions at the presentation of the patient.

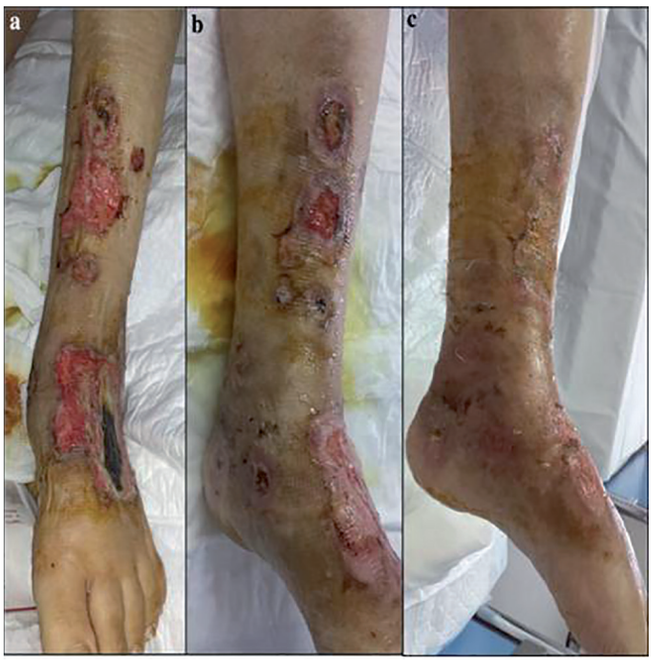

Fig. 2. The ulceronecrotic cutaneous lesions on the left tibia and dorsum of the foot. **a.** prior to initiation of high doses of prednizolone and ciclosporine **b.** 1 month later **c.** 2 months later.

Conclusions. This case confirms that treatment of systemic inflammatory conditions with anti-TNFs may result in paradoxical reactions associated with derangement of cytokine balance and modification of immune-mediated pathways that may lead to unexpected clinical syndromes.

Keywords: rheumatoid arthritis, pyoderma gangrenosum, TNF-inhibitors.

PT6C:094

METHOTREXATE INTOXICATION: BEYOND THE ADVERSE EVENTS

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Objective. Methotrexate (MTX) is the first line disease-modifying anti-rheumatic drug in RA. However, this anchor may bring about some side effects ranging from nausea to mortality. The clinical features of MTX toxicity are under-researched. To contribute to the relevant literature, we aimed to find out the potential predisposing factors and outcomes of the MTX toxicity on 31 patients.
Design and Method. The data were collected from 31 patients whose age ranged from 25 to 81. The patients were suffering from immune-mediated inflammatory diseases and major MTX-related toxicity.
Results. Out of 31 patients, six patients (19.4%) used MTX every day unconsciously and 13 (41.9%) patients had renal insufficiency, who were admitted to the hospital because of mucositis (90.3%), fever (71%). Four patients (12.9%) died and 27 patients (87.1%) were discharged after the treatment.
Conclusions. Although MTX has high efficacy for the toxicity ratio, wrong use and dose of MTX may be harmful to the patients. We recommend physicians explaining the patients about the proper use of MTX.

Keywords: methotrexate, methotrexate toxicity, renal insufficiency.

PT6C:095

ORAL STATUS IN RHEUMATOID ARTHRITIS PATIENTS: RESULTS OF AN ALGERIAN STUDY

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Objective. Rheumatoid arthritis (RA) and periodontitis (PD) are two chronic inflammatory diseases that share many similarities. The main objective of this study was to estimate the periodontitis and tooth loss prevalence and secondary to assess their relationship with RA severity, treatment and patient characteristics
Design and Method. This is a multicenter, cross-sectional, prospective study including adults RA meeting the 1987 American College of Rheumatology (ACR) and/or 2010 ACR /EULAR criteria. We identified socio-demographic factors, periodontal disease status, detection of anaerobic bacteria, disease activity score (DAS 28-VS), Health Assessment Questionnaire (HAQ), extra-articular manifestations, Sharp Score. To study the link between two qualitative variables, we used the χ^2 test (significant difference if $p<5\%$) and a multivariate analysis and logistic regression was performed.
Results. 204 RA (88% females, 12% males) were identified. Mean age: 50,33±12,42. 9,8% were menopausal women, 40% of patients had osteoporosis, 4,9% had diabetes. 0,9% were smokers. 24,59% of patients were illiterate. 22,99% had primary level. 36, 36% patients had secondary level. 16,04% had university level.
RA mean duration = 10.259±8.232 ans. DAS 28-VS: 4.615±1.440 (0.77-7.73). Mean HAQ: 1.140±0.821 (0.0-2.87). Sharp score = 112.995±93.965 (0.00-448). The mean ACPA rate: 229.855±241.902 (2.00-1600). Rheumatoid factor was positive in 50%. 43% of RA had extra-articular manifestations (Sjögren syndrome in 87.5%). 77.4% patients were under corticosteroids, 84.3% under DMARDs and 32.8% under a biological treatment.
Tooth loss frequency: 31.4%, CI 95% (25.4-38,3), periodontitis: 37.3%, CI 95% (30.7-44.3). 59.2% samples were collected among patients with periodontitis and porphyromonas gingivalis (PG) was found in 51.1%. Multivariant analysis did not show a significant relationship between periodontitis and RA but a significant relationship was observed between tooth loss and RA, concerning age (p=0,002 (OR: 1.087), instruction level p=0.041 (OR: 0.520), corticosteroids: p=0.020 (OR: 3.157) and corticosteroids dose p=0.020 (OR=3, 15). Sharp score p=0.036 (OR: 1.007).
Conclusions. These results suggest a high periodontitis and tooth loss frequency in RA. In our population, periodontitis is often linked to PG. Tooth loss is correlated with RA severity and corticosteroid treatment.

Keywords: rheumatoid arthritis, periodontitis, porphyromonas gingivalis.

PT6C:096

LOW RHEUMATOID ARTHRITIS PREVALENCE IN ALGERIA: A MEDITERRANEAN SINGULARITY?

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[3]National Health Insurance of Non Salaried Fund Casnos, ALGERIA

Objective. The aim of this study is to assess the prevalence and the management of rheumatoid arthritis (RA) in Algerian adult population and to evaluate its distribution by basic socio-demographic characteristics.
Design and Method. This cross-sectional and observational study was conducted in the capital of Algeria (Algiers) at Bab El Oued city, area comprising five municipalities. It concerns adult population (over 18 yrs) covered by health insurance. Were included patients with RA code (C12- 02), selected on health insurance claims database and meeting the 1987 American College of Rheumatology (ACR) and/or 2010 ACR /EULAR criteria.
All RA patients files were reviewed, controlled by a rheumatologist expert (laboratory tests, radiography, ultrasonography). For further evaluation (if necessary) patients were referred to the rheumatologist expert. We studied gender, age distribution, comorbidities, RA characteristics and treatment. The study was performed between January and April 2017.

Results. A total of 157 991 subjects covered by health insurance were involved (CNAS, CASNOS). RA was diagnosed in 244 individuals. Female gender was prevalent (89.34%). The estimated prevalence of RA was 15% (95% CI 0.13-0.17). The mean age was 60.54±15.12 years (extremes: 23-95). RA mean duration was 10.75±5.90 years (extremes 1-34). RA prevalence was significantly higher in females than males (p<0.0001), and increased significantly with age. 37,7% patients had hypertension, 16.5% diabetes, 7.6% dyslipidemia and 35.59% osteoporosis. 84.32% patients were treated by a rheumatologist, 10% by an internal physician, and the other patients by a general physician or an orthopedic surgeon. Corticosteroids were used in 92% of cases, csDMARDs in 54%, and biological treatment in 5%. 35.59% were under bisphosphonates.
Conclusions. This study suggests that RA prevalence in Algeria is lower than in other Mediterranean countries. That merits further investigation. However, patients not covered by health insurance were not included

Keywords: rheumatoid arthritis, prevalence, health insurance.

PT6C:097

IMMUNOCORRECTIVE THERAPY IN THE COMPLEX TREATMENT OF RHEUMATIC DISEASES IN CHILDREN

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Objective. The problem of rheumatic diseases (RD) in childhood is associated with an increase in their prevalence, the severity of the course and the frequency of adverse outcomes and complications. Juvenile idiopathic arthritis (JIA), systemic lupus erythematosus (SLE) and juvenile scleroderma (JSD) are more common among rheumatic diseases. Concomitant virus-bacterial infections make it difficult to administer basic antirheumatic drugs, limiting their use, but often determine the adverse outcomes of diseases.
Design and Method. The aim of the study was to evaluate the role of intravenous immunoglobulins in the treatment of rheumatic diseases in children. 31 children from the JIA, 16 children with JSD and 13 children with SLE were examined in the rheumatological department of the 4th city children's clinical hospital in Minsk.
Results. An increase in ESR (41±4.3 mm/h), an increase in the level of CRP (51.4±5.7 mg/l) in children with RD was detected during a laboratory examination. The presence of IgG in serum to herpes simplex virus, Epstein-Barr virus and cytomegalovirus was detected in most children according to the results of ELISA. A significant decrease in $CD8^+$cells and an increase in $CD4^+$cells, as well as a significant increase in the number of B-lymphocytes in children with RD compared to those in the control group was established during immunological examination. Intravenous immunoglobulin «octagam» was administered to patients with RD with high immunological activity and detection of persistent viral infection. The drug was prescribed from the calculation of 0.4 g per 1 kg of body weight per day intravenously drip for 3-5 days monthly for 6 months. After the introduction of an «octagam», there was a decrease in the level of ESR, the level of CRP, and improvement of immunological parameters compared with patients who did not receive «octagam».
Conclusions. The results of the study indicate a positive effect of intravenous immunoglobulin on the course of rheumatic diseases (JIA, JSD and SLE) in children.

Keywords: juvenile idiopathic arthritis, systemic lupus erythematosus, juvenile scleroderma.

PT6C:098

CLINICAL AND ULTRASOUND CONCORDANCE IN RHEUMATOID ARTHRITIS

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Objective. Evaluate the concordance between the clinical exam and the ultrasound exam in a heterogeneous group of rheumatoid arthritis patients.
Design and Method. It is a monocentric transversal prospective study that evaluated 920 joints from 23 patient suffering from rheumatoid arthritis. For each patient the synovitis was scored by using the clinical exam (ECA), B mode ultrasound (EB), the Doppler power (ED), and the association B mode +DP. The concordance between the joint swelling appreciated by the clinical exam, the synovial thickness appreciated by EB (grade 1 and more) and the inflammation appreciated by the ED (grade1 and more) was evaluated by calculating the coefficient KAPPA(k)
Results. Concerning the study of the 920 joints the EB has found 3.6 times more synovitis compared to the ECA. This result was more remarkable in the shoulder joint, the elbow and the MTP, with 12 to 46 time more synovitis in the ultrasound compared to the ECA.THE other joints has a ratio of 1.9 to3.6 in the ultrasound except in the ankle where the ECA find more synovitis compared to the ultrasound:EB ratio at 0.5. Concerning the concordance between ECA and EB and the concordance was very low in the shoulder (no kappa with the absence of a clinically pathologic shoulder), the elbows (0.12 to 0.48), MTPs (0.03 on EB and _0,12 on ED). The concordance was modest in MCPs (0.34 to 0.43), wrist (0.25 to 0.43) and the IPP (0.55) with a good concordance for the IPP2 joints (0.66 to 0.78) and the IPP4 (0.56).
Conclusions. The evaluation of a heterogeneous group of rheumatoid arthritis has showed that the ultrasound exam completes the information given by the clinical exam, particularly in shoulders, elbows, ankles, and MTPs. The concordance was modest to good concerning the other joints.

Keywords: arthritis, ultrasound, concordance.

PT6C:099

A PRACTICAL CONSENSUAL APPROACH TO MANAGE COMORBIDITY IN RHEUMATOID ARTHRITIS

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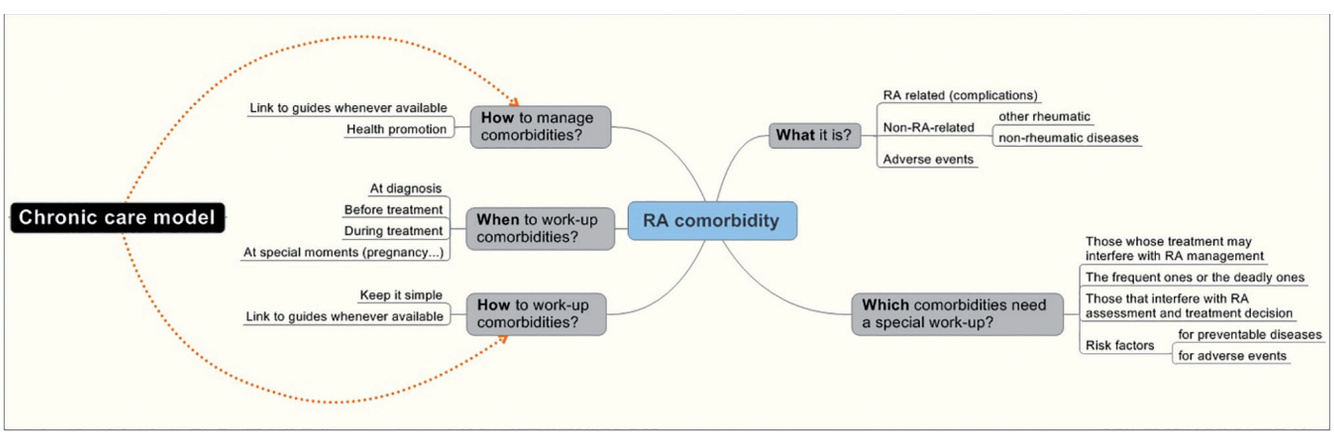
Objective. To develop evidence-based and practical recommendations for the detection and management of comorbidity in patients with rheumatoid arthritis (RA) in daily practice.
Design and Method. We used a modified RAND/UCLA methodology and systematic review (SR). The process map and specific recommendations, based on the SR, were established in discussion groups. A two round Delphi survey permitted (1) to prioritize the recommendations, (2) to refine them, and (3) to evaluate their agreement by a large group of users.
Results. The framework of the discussions is shown in the figure:



The recommendations cover: (1) which comorbidities should be investigated in clinical practice at the first and following visits (including treatments, risk factors and patient's features that might interfere with RA management); (2) how and when should comorbidities and risk factors be investigated; (3) how to manage specific comorbidities, related or non-related to RA, including major adverse events of RA treatment, and to promote health (general and musculoskeletal health); and (4) specific recommendations to assure an integral care approach for RA patients with any comorbidity, such as health care models for chronic inflammatory patients, early arthritis units, relationships with primary care, specialized nursing care, and self-management.
Conclusions. These recommendations are intended to guide rheumatologists, patients, and other stakeholders, on the early diagnosis and management of comorbidity in RA, in order to improve disease outcomes.

Keywords: comorbidity, recommendations, healthy life-style.

PT6C:100

SAFETY AND EFFICACY OF A TRIVALENT, INACTIVATED INFLUENZA VACCINE IN PATIENTS WITH RHEUMATIC DISEASES (PRELIMINARY RESULTS)

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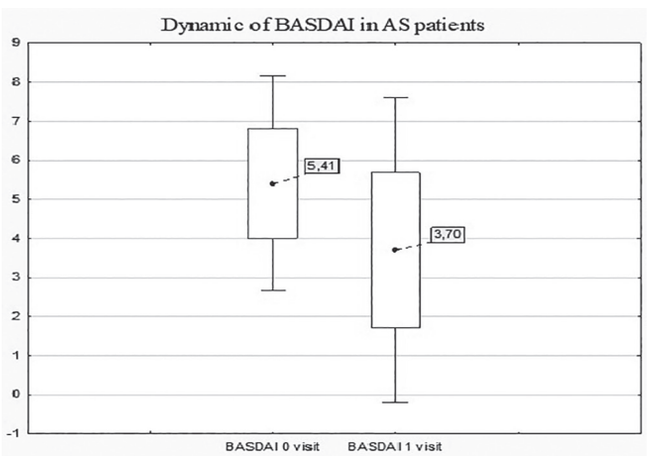
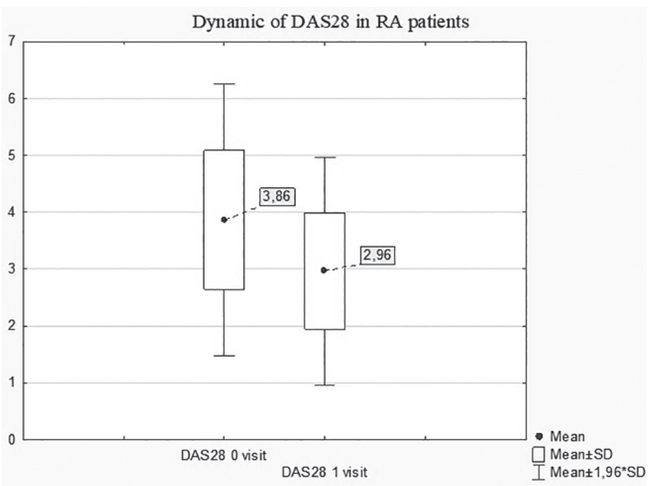
Objective. In rheumatology, comorbid infections have significant impact on patients' morbidity, mortality and quality of life. Prevention of infection is an integral part of supervision of these patients. The aim of our study is to investigate the clinical efficacy and safety of an inactivated split-vaccine against influenza for patients with autoimmune inflammatory rheumatic diseases (AIRD).





Design and Method. The investigation enrolled 93 patients (women - 67, men - 26, aged 22-83 years), including 32 patients with rheumatoid arthritis (RA), 24 with ankylosing spondylitis (AS), 7 with systemic scleroderma (SSD), 30 control subjects people without systemic inflammatory rheumatic diseases (a control group) with a recent history of acute respiratory viral infections and influenza. When included, all the patients with RA and AS received anti-inflammatory therapy: 23 patients with RA received methotrexate, 4 - leflunomide, 11 - TNF-α inhibitors, 1 – abatacept, 12 patients with AS received NSAIDs, 12 - TNF-α inhibitors. A single 0.5-ml dose of the inactivated split-vaccine against influenza Vaxigrip (Sanofi Pasteur) with actual influenza strains was administered subcutaneously during continuous therapy for the underlying disease. The follow-up period after vaccination was 6 months. During control visits (1 and 3 months and 6 month after administration of the vaccine), the patients underwent physical examination and routine clinical and laboratory studies.
Results. In 76 cases (81.8%) patient tolerated the vaccine without complications. In 10 cases (10.7%) pain, swelling and redness of the skin were observed, in 7 cases (7.5%) – low-grade fever. These reactions did not require changes in the treatment scheme and resolved within 24 hours without additional treatment, no therapy modification was required. There were no episodes of exacerbation of AIRD or the occurrence of new autoimmune disorders during the follow-up (Table I).
Conclusions. Preliminary results indicate good tolerability and effectiveness of the vaccine against influenza Vaxigrip in patients with AIRD. For a more complete assessment of the effectiveness and safety of vaccine, further clinical studies are recommended.

Keywords: vaccination, influenza, infection.

PT6C:101

ACUTE LIVER FAILURE AS REACTION TO TOCILIZUMAB THERAPY

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Objective. Tocilizumab is a humanized monoclonal antibody against the interleukin-6 receptor (IL-6R). Interleukin 6 (IL-6) is a cytokine that plays an important role in immune response and is implicated in the pathogenesis of many diseases including rheumatoid arthritis.
Design and Method. Case report study.
Results. A 32-year-old man was diagnosed with seropositive rheumatoid arthritis in 1993. He was treated with corticosteroids and Methotrexate, with max dose of Methotrexate at 25mg. In June 2012 he started using tocilizumab combined with Methotrexate. Effects of the therapy were good, but because of pancytopenia in January 2014 Methotrexate was removed from the therapy and he was on monotherapy with tocilizumab. On July 2014 patient complained of nausea, temperature, abdominal pain and discomfort, icterus, and pain and swelling of right limb. Laboratory results showed: White blood cells 13000, Plates 93000, CRP 213, Albumin 18, AST 126 U/L, ALT 133 U/L, ALP 1042 U/L, GGT 217 U/L, total bilirubin 160, direct bilirubin 110, prothrombin time was 15.0 with an International normalized ratio of 1.5. CT scan and MRCP showed hepatosplenomegaly, with dilated portal system, without signs of thrombosis, or dilated intra or extrahepatic bile ducts. He had negative immunology results for liver autoimmune diseases, viral hepatitis (A, B, E, C) as well as HIV, CMV, EBV, HSV and leptospira. Echocardiogram was normal. He had no history of alcohol or other hepatotoxic drug usage. Unfortunately biopsy was not preformed. After 20 days of symptomatic therapy his laboratory levels were normal.
Conclusions. As there was no evidence of any other possible traumatic, infective, metabolic, autoimmune, organic or vascular etiology for his condition and the patient was on drug that is known to give serious averse hepatic effects, we did Causality assessment by the Naranjo score and the Liverpool Adverse Drug Reaction Causality Assessment Tool. Both indicated tocilizumab as a probable cause of patient's acute liver failure.

Keywords: acute liver failure, rheumatoid arthritis, tocilizumab.

PT6C:102

FACTORS ASSOCIATED WITH INTOLERANCE OF METHOTREXATE IN PATIENTS WITH INFLAMMATORY JOINT DISEASE

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Objective. Methotrexate (MTX) is by far the most prescribed drug in the treatment of various inflammatory conditions, the data on assessment of factors associated with its intolerance or better tolerance in patients with inflammatory joint disease (IJD) is lacking. The aim of this study was to appreciate the frequency of MTX intolerance and to define the factors linked to it in people followed for IJD.
Design and Method. We have identified all patients treated by MTX alone (oral or subcutaneous administration) for all IJD needing this DMARD for at least three months, we have evaluated the adverse events by laboratory monitoring and Methotrexate Intolerance Severity Score (MISS), we selected all people with MTX intolerance but also everyone with good tolerance and we compared the both groups, we have deduced the factors associated with intolerance of this treatment.
Results. One hundred twenty five patients was included, 95 women and 30 men, mean age was 45±13.3; 65 Rheumatoid Arthritis, 21 Ankylosing Spondylitis, 15 Psoriatic Arthritis and 24 Sjögren Syndrome among them, 51% have showed an intolerance with MTX with MISS above of 6 (with 19% cessation of therapy) against 49% of better tolerance. Factors linked to bad tolerance was: patients with advanced age (p below 0.001) and MTX dose given once weekly (p=0.02).
Conclusions. The frequency of intolerance of MTX is relatively high (half of our population), this is particulary true for advanced age of patients and the absence of splitting dose of MTX.

Keywords: methotrexate, tolerance, MISS.

PT6C:103

SCREENING FOR SKIN MALIGNANCIES AMONG PATIENTS TREATED WITH BIOLOGICS – PILOT STUDY FROM A SINGLE CROATIAN RHEUMATOLOGY CENTER

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Objective. The introduction of biologics in the treatment of inflammatory arthritides brought a great improvement in the field of Rheumatology and enhanced quality of life of the patients. Unfortunately the increased risk for the development of skin tumors has been reported after a prolonged usage of biologics.
Design and Method. A non-randomized group of patients from a single Rheumatology center in Croatia was referred to a Dermatology unit for a detailed dermatological history taking, examination and dermatoscopy using a portable dermatoscope.
Results. The data from fifty referred patients was analyzed. The majority of the patients had rheumatoid arthritis and ankylosing spondylitis and were treated with TNF-alpha blocking therapy. Other used medication included tocilizumab and rituximab.
Conclusions. Our pilot study on fifty non-randomized patients with inflammatory artritides treated with biologics and referred to a dermatologist for a dermatoscopy did not find any new patients with skin malignancies. The pilot study did not indicate increased risk of the skin malignancies which is in concordance with the recent medical data. This data will be a foundation for an annual dermatological examination for all of our patients treated with biologics for all indications.

Keywords: biologics, skin malignances, screening.

Poster Tour 7: Sjögren Syndrome and Endocrine Rheumatic Disorders

PT7:104

IS SALIVARY GLAND INHOMOGENEITY AN EARLY ULTRASONOGRAPHIC SIGN IN SJÖGREN SYNDROME?

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Objective. The selected patients diagnosed with either primary or secondary Sjögren syndrome (SS) undergo salivary gland (SG) ultrasound. Our objective is to assess the B mode glandular inhomogeneity and relate the data to clinical and biological findings.
Design and Method. Patients diagnosed with SS are recruited consecutively. SG is performed in all major glands (parotid and submandibular). Inhomogeneity of glandular parenchyma is quantified as present/absent on each gland. Clinical scores ESSDAI and ESSPRI scores are calculated. Statistical data was analysed with SPSS.
Results. Twenty-five consecutive patients were included (57.15% secondary SS, majority female sex). Disease duration mean is 5.33 years, maximum 12 years. Antibody SSA/SSB presence was found in 86% of patients with primary SS. ESSDAI mean was 8.67±8.9 (0-29), ESSPRI 10.13±5.59(0-20). Biopsy was performed on a small number of patients with pSS (8 patients, 7 of them with positive result). Frequently inhomogeneity was found in both parotid (77% left) and submandibular glands (33% right). During the first 3 years of diseases, 7/13 patients had alterations compatible with mild inhomogeneity, whilst all patients with SS over 3years, but less than 8 years showed moderate inhomogeneity (5/5). Disregarding the diseases duration, 88.8% patients with pSS and 84.03% with sSS showed inhomogeneity in salivary gland US.
Conclusions. Presence of inhomogeneity of salivary glands is a constant pattern in SS. It seems to appear in the early period of diagnosis (less than 3 years). Inhomogeneity with US showed no major differences between primary and secondary SS. Further studies are required that include a larger number of patients.

Keywords: ultrasound, salivary glands, Sjögren syndrome.

PT7:105

RENAL INVOLVEMENT IN PRIMARY SJÖGREN SYNDROME: A CASE REPORT

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Objective. Sjögren syndrome, a chronic inflammatory disease, can occur alone (named primary Sjögren syndrome (pSS)) or secondary to other autoimmune disease. It is characterized by lymphocytic infiltration of epithelial tissue in exocrine glands and extraglandular locations. Classic clinical manifestations of pSS include sicca symptoms. Renal involvement in pSS seems to be a rare event with an estimated incidence under 10% and with a wide presentation spectrum.
Design and Method. We present a rare case of renal involvement in pSS.
Results. A 59 year-old-male presented with a new onset of proteinuria with progressive impairment of renal function, after 4 months being diagnosed with pSS that was stablished according ACR criteria: positive Anti-SSA/Ro and Schirmer's test less than 5mm/5 minutes in both eyes. He had history of arterial hypertension, chronic kidney disease (G3b stage) secondary to arterial hypertension with three years evolution, dyslipidemia, hyperuricemia and left parotid malt lymphoma in remission (surgical treatment without radiotherapy). There were no systemic, joint, respiratory, gastrointestinal or genitourinary complaints. The physical exam did not have any relevant alteration. He had proteinuria 1.8g per 24hours with normal urinary sediment. Laboratory investigations revealed erythrocyte sedimentation rate 43mm/h, serum creatinine 3.31mg/dL, blood urea nitrogen 31mg/dL, polyclonal hypergammaglobulinemia, positive antinuclear antibodies by indirect immunofluorescence (titer >1280 and homogeneous pattern), positive Anti-SSA/Ro, negative rheumatoid factor and normal complement. Cryoglobulin screening was negative. The kidney biopsy showed multifocal infiltrates (predominantly lymphocytes and plasma cells), tubular atrophy and interstitial renal fibrosis, endocapilar and mesangial proliferation and IgA, C3, IgG and IgM mesangial deposits. No thrombi were present. These histopatho-

logic findings were compatible with membranoproliferative glomerulonephritis and tubulointerstitial nephritis. He initiated treatment with prednisolone 1 mg/kg/day with a tapering scheme according to the available recommendations and azathioprine 1mg/kg/day with an improvement of renal function after 3 months of treatment (serum creatinine 1.8mg/dL (his baseline value) and proteinuria 0.8g per 24hours).
Conclusions. We presented a case of membranoproliferative glomerulonephritis and tubulointerstitial nephritis in a patient with pSS. Although renal manifestations in this syndrome are rare, they have a significant impact on patient prognosis. So, clinicians should be alert because a prompt diagnosis remains important for a better treatment approach and outcome.

Keywords: Sjögren syndrome, renal involvement, tubulointerstitial nephritis.

PT7:106

ANCA-ASSOCIATED VASCULITIS IN A PATIENT WITH PRIMARY SJÖGREN SYNDROME

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Objective. ANCA-associated vasculitis is a common cause of glomerulonephritis in patients older than 50 years of age. It is the commonest cause of rapidly progressing glomerulonephritis. It can present at any age but its frequency increases with increasing age. The aim was to present a case of ANCA-associated vasculitis in a patient with primary Sjögren syndrome.
Design and Method. A patient, female, aged 63, presented with primary Sjögren syndrome, diagnosis being based on positive biopsy of the salivary glands. Antinuclear antibodies were negative and anti-CCP antibodies negative. A year after diagnosis the patient presented with proteinuria and anemia, Ht being 26.4% and blood Hb 7.4 g/dl. She did not have other symptoms, while urine albumin was 604.8 mg/24h and urinalysis was negative for red blood cell casts. Further laboratory investigations revealed pANCA positive, cANCA negative, antinuclear antibodies negative. A renal biopsy was performed which revealed the presence of crescents and was compatible with the presence of focal, segmental crescentic immunopenic glomerulonephritis compatible with vasculitis. The diagnosis of pANCA vasculitis limited to the kidneys was made in a patient with primary Sjögren syndrome.
Results. Induction therapy with pulse cyclophosphamide 750 mg/m2 iv once monthly was initiated. Concurrently, methylprednisolone 48 mg/d was administered along with hydroxychloroquine 200 mg/d and trimethoprime/sulfamethoxazole 800/160 mg/d 3 times/wk orally. Proteinuria responded favorably to the treatment, urine albumin decreasing to 414 mg/24h after the first cyclophosphamide pulse, to 392 mg/24h after the second, to 167.2 mg/24h after the fourth and to 52 mg/24h after the sixth pulse. Anemia improved. Urinalysis was negative for blood cells casts. The patient did not report any symptoms and methylprednisolone was tapered to 4 mg/d.
Conclusions. In conclusion, a case of ANCA-associated vasculitis is presented in a patient with primary Sjögren syndrome. It was a case of renal limited vasculitis. The patient responded favorably to cyclophosphamide. Renal limited vasculitis may be managed by cyclophosphamide, rituximab or mycophenolate mofetil and methylprednisolone, the choice of treatment resting on collaboration between patient and physician. The prognosis is worse if ANCA titles increase.

Keywords: Sjögren syndrome, vasculitis, glomerulonephritis.

PT7:107

SECONDARY SJÖGREN SYNDROME: CLINICAL FEATURES AND PREDICTIVE FACTORS

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[2]Internal Medicine, Centre Hospitalier Chétien, Belgium, Liège, BELGIUM

Objective. Sjögren syndrome (SSj) is an autoimmune disease (AID) characterized with sicca syndrome. It can be secondary (SSjD) or primary (PSjD) if associated or not with another AID. We aimed to study clinical and biological characteristics of SSJD patients and to determine their predictive factors
Design and Method. A descriptive and comparative retrospective study between PSjD and SSjD patients followed in the Internal Medicine department of Fattouma Bourguiba University Hospital in Monastir from 2004 to 2016. All the patients were diagnosed according to the American European Consensus Group (AECG) of 2002.
Results. Among 83 patients with SSj, 38 patients (45.7%) were diagnosed with SSjD. Sex ratio F/M=10.23. The average age was 46.89 years ± 12 years (23 to 73 years). Glandular involvement was diagnosed in 100%. Extra glandular manifestations were pulmonary in 68.9%, joint 53.3%, neurological 28.9%, and psychiatric 2.2%. Biological inflammatory syndrome was found in 60% of cases with hypergammaglobulinemia in 73.3% of cases. Hashimoto's thyroiditis was the most common connective tissue disease associated with SSJ (53.2%). Multivariate analysis showed that associated factors with SSjD were young age (OR=1.05, 95% CI=1.01-1.09, p=0.012) and polyclonal hyper gamma globulinemia (OR=0.58, 95 % IC=0.38-0.89, p=0.012). Lymphocyte interstitial pneumonitis appears to be predictive of primary character of SSj (OR=9.73, 95% CI=2.2-42.94, p=0.003).
Conclusions. Heterogeneity of the SSJS group might explain the difficulty of comparing SSJP with SSJS. Nevertheless, according to the results of our multivariate analysis, SSJS would be rather a distinct entity frequently associated with Hashimoto thyroiditis and characterized with a younger age of onset, less lung involvement, and higher rates of hyperammaglobulinemia.

Keywords: Sjögren syndrome, sicca syndrome, predictive factors.

PT7:108

VITAMIN D STATUS IN A LUCANIAN COHORT OF ANTI-DFS70/LEDGF POSITIVE ADULT SUBJECTS

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Objective. The aim of this study is to explore links between anti-DFS70/LEDGF autoantibodies and vitamin D (25(OH)D) levels in a Mediterranean adults' cohort living in Basilicata, a region of Southern Italy.
Design and Method. The cohort consisted of consecutive 34 anti-DFS70 positive adults and 34 age and sex matched healthy controls. Anti-DFS70 antibodies positive sera assessed by indirect immunofluorescence (IIF) (HEp-2000 Fluorescent ANA-Ro Test System, Immuno Concepts N.A., Sacramento, CA, USA) were then confirmed by Immunoblotting (IB) (Alphadia, Wavre, Belgium). 25(OH)D levels were quantified in a single run (testing 3 times each sample) by using chemiluminescence immunoassay and an automatic analyser (LIAISON, Diasorin, Italy). 25(OH)D concentrations were stratified in Vitamin D deficiency (<20 ng/ml), insufficiency (21-29 ng/ml), or recommended levels (30-80 ng/ml). According to study protocol, in all recruited participants, relevant demographics and daily living practices including hours spent in the outdoors environment, body mass index (BMI), comorbid medical history and use of some medications were recorded. The exclusion criteria included vitamin D supplements, drug interfering with vitamin D metabolism, renal failure and malabsorption diseases. Informed consent was obtained from all participants. Statistical analysis was carried out by Mann-Whitney U tests and Fisher's test.
Results. Mean serum levels of 25(OH)D was found significantly higher in anti-DFS70 positive subjects (mean ± SD: 22.1 ± 9.8 ng/ml) when compared with healthy controls (mean ± SD: 17.3±6.7 ng/ml). BMI at enrolment was 25.1±4.2 and 26.5±6.5 for control and anti-DFS70 positive subjects respectively, showing no statistically differences between the groups. There were no other statistically differences in clinical and demographic parameters (Table I).

Table I. Demographic characteristics of the study population.

	Control group	DFS-70-positive group	Difference between groups (p)
Reference cohorts	34	34	
Gender M/F	5/29	5/29	
Age (years), (mean ± SD)	48 ± 16	48 ± 16	
Body mass Index (BMI), (mean ± SD)	25.1 ± 4.2	26.5 ± 6.5	>0.05
Regular sunlight exposure, n (%)	24 (70.6)	25 (75.8)	>0.05
Vitamin D 25(OH)D ng/mL, (mean ± SD)	17.3 ± 6.7	22.1 ± 9.8	0.0308*
Deficient 25(OH)D (<20ng/ml), n (%)	23 (67.6)	13 (38.2)	0.0280*
Insufficient 25(OH)D (21-29ng/ml), n (%)	9 (26.5)	13 (38.2)	>0.05
Recommended (30-80ng/ml), n (%)	2 (5.9)	8 (23.6)	0.0482*

*Statistically significant values.

Conclusions. Our data showed higher statistically significant mean levels of vitamin D in anti-DFS70 positive subjects than healthy population. Further researches are needed in order to confirm this difference.

Keywords: vitamin D, dense fine speckled (DFS70), autoimmunity.

PT7:109

SYSTEMIC SCLEROSIS IN ELDERLY: A RETROSPECTIVE BI-CENTRIC COHORT

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Objective. Systemic sclerosis (Sscl) is a rare connective disease frequently affecting patients between 40 and 60 years. We aimed to study its characteristics in elderly.
Design and Method. A retrospective bi centric cohort of patients diagnosed as systemic sclerosis according to ACR and EULAR criteria between January 2004 and December 2017 were involved. Elderly were defined as patients aged 65 years or more.
Results. Out of 65 patients diagnosed as SScl, 14 were aged more than 65 years (21.5%). Mean age was 72.6 years and sex ratio F/M = 3.6. Sscl was diffuse in 71.4% of the patients with 19.33 mean Rodnan score. Regarding the clinical picture, pulmonary fibrosis was present in 50%, calcinosis in 7.1%, digital pit scars in 14.3%, sclerodactylie in 35.7%, myositis in 14.3%, digestive involvement in 21.4% and Raynaud phenomenon in 21.4%. Nuclear antibodies were positive in all cases. Immunological spectrum was as follow: scl70 antibodies positives in 42.9%, anti ThT0 in 7.1%, anti PmScl in 14.3%, anti Jo1 in 7.1% and anti RP11, anti Nor 90 and anti PM100 in 85.7% respectively. Sjögren syndrome in 7.1% and rheumatoid polyarthritis in 7.1% of patients were the most common associated autoimmune diseases Treatment was based on methotrexate, low doses of steroids and hydroxychloroquine.
Conclusions. Sscl rarely affects elderly persons, however, it is characterized by higher morbidity and mortality.

Keywords: Sjögren syndrome, sicca syndrome, elderly.

Poster Tour 8A: Systemic Lupus Erythematosus / Antiphospholipid Syndrome

PT8A:110

INFECTIOUS COMORBIDITIES IN SLE PATIENTS - CLINICAL CASES IN A ROMANIAN REFERENCE CENTER

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Objective. To identify the frequency of infectious comorbidities and establishing a correlation between the duration of the disease, the treatment administered, the risk factors and infectious comorbidities.
Design and Method. Retrospective and descriptive study by enrolling 158 patients registered with SLE diagnosis in our department. Demographic parameters, data on risk factors, infections and treatment were collected. The data was extracted from the clinical observation files and patients were tracked in dynamics from the time of first presentation until the last hospitalization registered in our department.
Results. The study included 158 cases, 145 females and 9 males. Mean age at the time of diagnosis was 33.46 and mean duration of disease was 12.27. Most patients followed treatment with cortisone and Hydroxychloroquine (97%), other treatments were Azathioprine (37%), Cyclophosphamide (25%), Methotrexate (11%), Mycophenolate mofetil (5%) and Belimumab (5%). 68.3% patients developed bacterial (43.6%), viral (10.12%), fungal (12.02%) or parasitic (2.5%) infections. Most common bacterial infections were those of lower urinary (59.4%) and respiratory tract 27.5%. Regarding tuberculosis, the 13% of patients that developed the disease were divided as follows: 10.14% pulmonary and 2.89% extrapulmonary. Cases of pulmonary tuberculosis have been associated with immunosuppressive therapy (Cyclophosphamide, Azathioprine, Belimumab). There has also been a case of infection of the nervous system. Most common viral infections were with varicella-zoster virus (62.5%), the reactivation of this virus was found to be strongly associated with Cyclophosphamide, Azathioprine and Methotrexate. The most frequent fungal infections found were extensive candidiasis also associated with Cyclophosphamide, Azathioprine and Belimumab. 4 cases of parasitic infections (50% with Echinococcus granulosus, 25% with Toxoplasma gondii, 25% with Toxocara canis) were described.
Conclusions. Most common infections were bacterial. Association with immunosuppressant treatment for each type of infection has been observed, the maximum frequency being for Cyclophosphamide, Azathioprine, corticosteroid therapy and Methotrexate.

Keywords: infections, comorbidities, immunosuppressive therapy.

PT8A:111

GANGRENE IN SYSTEMIC LUPUS ERYTHEMATOSUS: ABOUT TWO CASES

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Objective. Gangrene is a complication that can be observed during connective tissue disease. In some cases the mechanisms are entangled, which complicates the etiological diagnosis. We report the case of two patients with SLE presenting gangrene of the extremities.
Design and Method. Clinical case 1:
Miss M.F. 23 years old, followed by the onset of SLE 5 years, hospitalized for gangrene of the 2nd right toe.
Clinical examination revealed arthritis of the 3rd left PIP, gangrene of the 2nd right toe, maculopapular rash of the upper and lower limbs, Raynaud's phenomenon, and generalized alopecia.
ESR: 105 mm 1st hour, CRP: 26.12 mg / l. An abnormal rate of antinuclear factor (ANA), with a high titre of anti DNA and anti-cardiolipins antibodies. CT Angiography of the lower limb: normal.
Treatment: subcutaneous Low molecular weight heparin (LMWH), without any improvement, therefore amputation of the toe was necessary. After healing, relay with VKA was undertaken, associated with high dose of corticosteroids, cyclophosphamide. A marked improvement occurred.
Results. Clinical case 2:
Mrs A.R, 31 years old had evidence of SLE for 3 years, Raynaud's phenomenon, and a calcifying pannuculitis, admitted for a multiple cutaneous ulcers.
Clinical examination asthenia, diffuse erythema of the face and multiple superinfected ulcers on the dorsal side of the hands, acrocyanosis of the fingers and toes, hard subcutaneous masses on the antero-external side of the thighs.
ESR: 75 mm 1st hour, CRP > 6mg/l, a mild leucopenia, positive Coombs test.
anti DNA natif antibodies: 139 UI/ml.
Treatment: Local care and antibiotic treatment of the ulcers, subcutaneous LMWH 0.6 UI a day, ilomédine 1.5ng/kg/min.
Despite treatment she continues to deteriorate, presenting necrosis of the fifth right finger, and an amputation of the gangrened finger was performed.
3 days later she presented necrosis of the wound banks, therefore a high glucorticoid dose was introduced, in association with LMWH, a second amputation of the fifth right finger, and cyclophosphamid .
Conclusions. Gangrene during SLE involves complex etiologic mechanisms. The etiological approach is the essential step for a better management. Antiphospholipid syndrome is the most common cause.

Keywords: systemic lupus erythematosus, gangrene, antiphospholipid syndrome.

PT8A:112

VITAMIN D DEFICIENCY IN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS AND RELATIONSHIP WITH DISEASE ACTIVITY

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Objective. Systemic lupus erythematosus (SLE) is a multisystem autoimmune disorder which mainly affects women in the reproductive age. Vitamin D appears to have an immunomodulatory action, low levels of vitamin D having been described in patients with autoimmune rheumatic diseases. The aim was to report

vitamin D levels and their relationship with disease activity in a cohort of SLE patients.

Design and Method. A cohort of 28 patients, 25 female and 3 male is described. The patients were diagnosed with SLE and had arthralgias, cutaneous manifestations, fatigue and decreased complement levels. Blood levels of 25(OH)D3 were measured in all patients. 25(OH)D3 levels were measured by radioimmunoassay. The measurement of 25(OH)D3 by radioimmunoassay consisted of a two-step procedure. The first step involved a rapid extraction of 25(OH)D and other hydroxylated metabolites from serum or plasma with acetonitrile. Following extraction, the treated samples were then assayed by competitive RIA using an antibody with specificity to 25OHD. The sample, antibody and tracer were incubated for 90 min at 20-25 0C. Phase separation was accomplished after 20 min incubation at 20-25 0C with a second antibody precipitating complex. The sensitivity of the assay was <1.6 ng/ml. The recovery was approximately 100% for 25(OH)D3. Within and between batch precision was <12% and <11%, respectively.

Results. In the cohort of SLE patients low blood levels of 25(OH)D3 were observed. A positive relationship between 25(OH)D3 blood levels and complement levels was observed, namely low 25(OH)D3 levels were positively correlated with low complement levels. An inverse relationship was observed between 25(OH)D3 levels and disease activity, namely low 25(OH)D3 levels were related with high disease activity. In 3 patients osteoporotic fractures were observed.

Conclusions. Vitamin D is a hormone directly related to the regulation of the musculoskeletal system, and has extraskeletal actions. The immunomodulatory action of vitamin D is a key action of the hormone. In the work presented herein low blood levels of vitamin D were observed in SLE patients which were positively related to complement levels and inversely related to disease activity. Additionally, low blood vitamin D levels may have contributed to the development of osteoporotic fractures in some of the patients.

Keywords: systemic lupus erythematosus, vitamin D, disease activity.

PT8A:113

NAILFOLD CAPILLAROSCOPY IN SYSTEMIC LUPUS ERYTHEMATOSUS: A SYSTEMATIC REVIEW AND CRITICAL APPRAISAL

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Objective. The aim of this study is to systematically review and critically appraise the literature on capillaroscopic changes described in Systemic Lupus Erythematosus (SLE).

Design and Method. A sensitive search, on behalf of the EULAR study group on microcirculation in Rheumatic Diseases, was developed by two reviewers in three databases to identify all original research studies (written in English) in which SLE patients had capillaroscopy. All included articles underwent quality appraisal. Results were summarised according to the following capillaroscopic parameters: density, dimensions, morphology, haemorrhages, semi-quantitative assessment and qualitative assessment. Secondly, an overview was given on the

				Significant	Non-significant	Conclusion
Quantitative evaluation	Density	Mean density		4 studies	4 studies	Non-conclusive
		Avascularity		2 studies	0 studies	
	Dimensions	Diameter	Mean limb diameter	4 studies	2 studies	Non-conclusive
			Mean loop width	2 studies	2 studies	
			Enlarged width	4 studies	0 studies	
			Giant	1 study	0 studies	
		Length		3 studies	2 studies	Non-conclusive
	Morphology[1]	Normal morphology		3 studies	0 studies	
			Hairpin shaped	2 studies	0 studies	Significant more hairpin morphology in healthy controls compared to SLE patients
			Tortuous	1 study	0 studies	Significant more tortuous capillaries in SLE patients compared to healthy controls
		Abnormal morphology		5 studies	0 studies	Significant more abnormal morphology in SLE patients compared to controls
	Haemorrhages			2 studies	0 studies	Significant more haemorrhages in SLE patients compared to controls
	NFC score			1 study	0 studies	Significant higher NFC score (based on density, dimension, morphology and haemorrhages) in SLE patients compared to controls
Qualitative evaluation	Other patterns[2]			1 study	0 studies	Significant more presence of a pattern with tortuous and crossing, abnormal morphology ('meandering'), enlarged capillaries and focal haemorrhages and more presence of a scleroderma-like pattern[2] in SLE patients compared to controls
Clinical parameter	Raynaud's phenomenon	Positive vs negative		2 studies	7 studies	Non-conclusive
		Frequency of Raynaud's phenomenon		1 study	0 studies	Significantly more dilated capillaries in patients with frequent Raynaud attacks (> 1/week) compared to patients without Raynaud's phenomenon and compared to healthy controls
	Systemic organ involvement			4 studies	4 studies	Non-conclusive
	Disease duration			1 study	7 studies	Non-conclusive
	Disease activity			8 studies	0 studies	Significant association of disease activity (SLEDAI/ECLAM/SLAM) with NFC score (7 studies), with abnormal morphology ('meandering') (1 study) and with haemorrhages (1 study)
	Immunosuppressive agents			2 studies	1 study	Non-conclusive
	Splinter haemorrhages			0 studies	1 study	No significant correlation between splinter haemorrhages (clinical sign) and capillary loop width
	Cutaneous manifestations			0 studies	4 studies	No significant correlation between cutaneous manifestations and capillaroscopic findings
	Gangrene			1 study	0 studies	Significant wider diameters in patients with gangrene
Laboratory findings	Antibodies	Anti-cardiolipin		4 studies	2 study	Non-conclusive
		Antinuclear antibodies		0 studies	4 studies	No significant correlation between antinuclear antibodies and capillaroscopic findings
		Anti-Sm		1 study	1 study	Non-conclusive
		Anti-Ro/Anti-SSA		1 study	1 study	Possible significant correlation between anti-SSA and lower density of capillaries
	Lupus anticoagulant			0 studies	1 study	No significant correlation between lupus anticoagulant and capillary abnormalities
	Anti-dsDNA			1 study	3 studies	Non-conclusive
	Anti-U1-RNP			3 studies	1 study	Non-conclusive
	Complement activity			0 studies	3 studies	No significant correlation between complement activity and capillaroscopic findings
	Hemoglobin			1 study	1 study	Non-conclusive
	Erythrocyte sedimentation rate			2 studies	2 studies	Non-conclusive
	24 hours proteinuria			1 study	0 studies	Significant negative correlation of abnormal morphology ('meandering') with 24h proteinuria
	Leukocyte and thrombocyte count			0 studies	1 study	No significant correlation between leukocyte or thrombocyte count and capillaroscopic findings
	VEGF			5 studies	3 studies	Non-conclusive
	ET-1, sTM, sE-selectin			1 study	2 studies	Non-conclusive

Table. Significance of capillaroscopic changes in SLE and correlations with clinical and laboratory measures. Only studies reporting clear definitions on capillaroscopic changes and reporting a significance level of difference between SLE and healthy controls were considered in this table. When results were conclusive, the background is colored.
[1]Smith V *et al*. An EULAR study group pilot study on reliability of simple capillaroscopic definitions to describe capillary morphology in rheumatic diseases. Rheumatology 2016.
[2]Cutolo M *et al*. Nailfold videocapillaroscopy assessment of microvascular damage in systemic sclerosis. J Rheumatol 2000.

correlation of capillaroscopic parameters with clinical and laboratory parameters.
Results. From 198 articles captured, 40 articles were retained in this review. The following capillaroscopic parameters were found significantly more prevalent in SLE patients compared to healthy controls: tortuous capillaries, abnormal morphology, haemorrhages and a higher nailfold capillaroscopic score (NFC score). Hairpin-shaped capillaries were significantly more prevalent in healthy controls compared to SLE patients. In one study two patterns were significantly more present in SLE patients compared to healthy: a capillaroscopic pattern with the presence of tortuous and crossing capillaries, abnormal morphology ('meandering'), enlarged capillaries and focal haemorrhages (called by the authors a 'non-specific pattern') and a 'scleroderma-like pattern'. For clinical parameters, disease activity was correlated with NFC score in seven studies and with abnormal morphology ('meandering') and haemorrhages in one study each. Frequent attacks of Raynaud's phenomenon (RP) and gangrene were significantly correlated with dilated capillaries in one study each. For laboratory parameters, a significant negative correlation was found between 24 hours proteinuria and abnormal morphology ('meandering'). In two studies a possible correlation between anti-SSA antibodies and lower density of capillaries was withheld.
Conclusions. This first systematic review on capillaroscopy in SLE attests conclusive significant differences in morphology, haemorrhages, semi-quantitative assessment and qualitative assessment in SLE patients compared to healthy controls. Interestingly, results demonstrate an association of capillaroscopic changes with disease activity in SLE. Further large-scale research is ongoing through the EULAR study group on microcirculation in Rheumatic Diseases to further define its role in SLE.

Keywords: nailfold capillaroscopy, systematic review, SLE.

PT8A:114

EVALUATION OF PERIPHERAL BLOOD PERFUSION IN SYSTEMIC LUPUS ERYTHEMATOSUS AND PRIMARY RAYNAUD'S PHENOMENON PATIENTS

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Objective. The aim of this study was to investigate the peripheral blood perfusion (BP) in different skin areas of the hands and face in patients with systemic lupus erythematosus (SLE), primary Raynaud's phenomenon (PRP) and healthy subjects (CNT).
Design and Method. 14 SLE patients without RP (SLICC 2012 criteria) (1) (mean age 51±14SD years, mean disease duration 7±4 years), 14 PRP patients (LeRoy criteria) (2) (mean age 53±21SD years, mean Raynaud duration 6±5 years) and 14 CNT (mean age 53±17 years), were enrolled during the winter period. BP was assessed by laser speckle contrast analysis (LASCA) at the level of fingertips, periungual areas, dorsum and palm of hands, and the average BP was calculated as perfusion units (PU) (3). All vasodilator drugs had been suspended at least 2 week before study entry.
Results. Both SLE and PRP patients showed a statistically significant lower BP than CNT at the level of the fingertips ($p<0.0001$), periungual ($p=0.005$), dorsal ($p=0.001$) and palm areas ($p<0.0001$). Conversely, the SLE, PRP and CNT groups had similar BP values at the level of the face ($p=0.4$). SLE patients had higher BP values than PRP patients in all hand areas (finger $p=0.03$, palm $p=0.02$, periungual $p=0.006$, dorsum $p=0.05$) but not at the level of the whole face ($p=0.9$).
Conclusions. Our data show a lower skin BP of the hand in SLE patients without RP than in controls. The clinical value of this new early finding is undergoing further analysis.

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Keywords: systemic lupus erythematosus, primary Raynaud's phenomenon, peripheral blood perfusion.

PT8A:115

EXPRESSION OF TNF-A AND IL-6 IN PATIENTS WITH UNTREATED SYSTEMIC LUPUS ERYTHEMATOSUS (SLE): RELATIONSHIP WITH DISEASE ACTIVITY

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Objective. Cytokines have an important role in the SLE pathogenesis and are possible therapeutic targets and disease biomarkers. The T helper cells 1 (Th1) produce tumor necrosis factor-α (TNF-α), Th2 – interleukin-6 (IL-6). TNF-α, IL-6 are the cytokines suggested to be connected with the pathogenesis of SLE with both proinflammatory and immunoregulatory actions with differential effects on B and T cells.
We evaluated the levels of IL-6 and TNF-α in patients with untreated SLE and their possible association with disease activity, excluding the influence of the therapy.
Design and Method. The study included 28 pts (86% females, age 30.0[26.0-33.5] years (median[interquartile range 25%-75%])) with untreated SLE (ACR criteria, 1997) and 20 healthy controls (100%females, 30.0[25.0-39.5]years). None of SLE pts was treated with either prednisone or cytotoxic drugs at the moment of the study, 3 (11%) pts received hydroxychloroquine 200 mg/day. SLE-related factors, including disease duration, clinical features, disease activity by SLEDAI 2K and SLICC damage index were evaluated in parallel with relevant laboratory findings. Serum levels of IL-6, TNF-α (pg/ml) were measured by ELISA (Bender MedSystem GmbH, Austria). Statistical analyses were performed with STATISTICA program, version 8.0.
Results. Median SLE duration was 15.0[6.0-48.0] months, SLEDAI 2K – 10.0[6.5-19.0], SLICC/DI score - 0[0-0]. SLE pts had higher IL-6 level vs control (2.78[1.62-7.48] vs 1.37[0.72-2.12]pg/ml, $p<0.01$) and lower TNF-α level (1.44[0.17-2.23] vs 4.46[3.51-6.37]pg/ml, $p<0.00001$). In SLE pts IL-6 level correlated with alkaline phosphatase (r=0.63, $p<0.05$), K+ (r=0.53, $p<0.05$) and TNF-α concentration (r=0.46, $p<0.05$); TNF-α level correlated with aspartate aminotransferase (r=0.38, $p<0.05$), glucose (r=0.43, $p<0.05$), hemoglobin (r=0.37, $p<0.05$), IL-6 (r=0.46, $p<0.05$) and APRIL concentrations (r=0.40, $p<0.05$). We divided SLE pts on two groups: the 1st- pts (n=19) with high activity (SLEDAI 2K>=8), the 2nd – pts (n=9) with low (SLEDAI 2K<8), with no difference in IL-6 and TNF-α levels between the groups.
Conclusions. SLE patients demonstrated higher IL-6 ($p<0.01$) and lower TNF-α levels ($p<0.00001$) as compared to healthy control. There was no correlation in disease activity and any SLE features with these cytokines concentration. Increased IL-6 levels do not correlate with acute phase proteins. We suggest an immunoregulatory, not proinflammatory role of IL-6 level in SLE and possible protective role of TNF-α in SLE pathogenesis (it's deficiency can lead to the development of SLE).

Keywords: SLE, TNF-α, IL-6.

PT8A:116

INCREASED CARDIOVASCULAR AND METABOLIC COMORBIDITIES IN ROMANIAN LUPUS PATIENTS

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Objective. Systemic lupus (SLE) is an autoimmune disorder commonly associated with a very broad spectrum of disease manifestations. Recent data also suggest that several particular comorbidities could be found more frequent in lupus patients that in adjusted general population. Objective of this study is to evaluate the lupus associated comorbidities in a cohort of Romanian patients.
Design and Method. The study was based on evaluation of all lupus files registered during one year in one Romanian center. Patients below 18 years, with overlap syndromes, with incomplete medical files and those with already known cardiovascular comorbidities at the moment of SLE diagnosis were excluded. Demographic, lupus-related data and associated diseases were collected. We only focused on cardiovascular (cv) and metabolic comorbidities.
Results. After exclusion criteria were applied, 158 patients (94.6% females) were selected. Mean cohort age was 45.72±12.78 with mean disease duration of 12.27±9.6. 41% of all patients associated at least one cardiovascular comorbidity, see table. No correlation was found between the main manifestation of SLE debut and Regarding cv risk factors only 17% were smokers, mean BMI was 23.4 kg/m^2 but 13% of all patients had a BMI>30, 20% had family history of cv disease and 66% had dyslipidemia. Metabolic pathology strongly correlated

with chronic cortisone use and was as follows: 60% hypercholesterolemia, 43% hypertriglyceridemia and 4% diabetes.

Table.

	Patients	%	Mean age at diagnosis	Mean lupus evolution (years)
Ischemic heart disease	27	17%	52 ± 8.5	12 ± 5.8
Myocardial infarction	4	3%	58 ± 4.5	21 ± 3.3
Arteriopathy	24	24%	48 ± 11.7	11 ± 0.3
Arterial hypertension	57	57%	45 ± 12.6	8 ± 7.3
Stroke	11	11%	45 ± 15	9.3 ± 9
Cardiac Failure	7	7%	56 ± 7	14 ± 12.3

Conclusions. Cardiovascular comorbidities are more frequent in lupus patients and the moment of debut is earlier as compared with known data from general population. They correlate with disease duration and corticosteroid use. The most early and frequent is arterial hypertension, either primary or secondary to lupus nefritis. Stroke was also early associated with SLE especially if secondary antiphosfolipid syndrome was also diagnosed. All this findings suggest that lupus patients should be closely monitored and treated in order to target cardiovascular and metabolic involvement.

Keywords: lupus, cardiovascular, comorbidities.

PT8A:117

CLINICAL MANIFESTATIONS AND LABORATORY MARKERS THAT IMPACT LONG TERM DAMAGE IN PATIENTS WITH ANTIPHOSPHOLIPID SYNDROME

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Objective. The aim of this study was to investigate the impact of clinical manifestations and laboratory markers on long-term damage in patients with primary and secondary antiphospholipid syndrome (APS).
Design and Method. All consecutive patients known with APS were included in our monocentric cohort. Data on medical history, clinical manifestations, aPL profile and medication were collected. For the estimation of cumulative damage in patients with primary and secondary APS, Damage Index in patients with Thrombotic Antiphospholipid Syndrome (DIAPS) was used. It includes 38 clinical items expanded to show the complexity of clinical manifestations in APS patients. DIAPS score was used to measure damage in each patient. The relationship between clinical manifestations, laboratory markers and DIAPS score was analysed.
Results. 11 patients with primary APS and 65 patients with secondary APS were included. The most frequent clinical manifestation was the peripheral vascular manifestations found in 61.8% of patients, followed by the neuropsychiatric (46.1%), Raynaud phenomena (31.6%), cardiac (21.1%), renal (18.4%) and obstretical manifestations (15.88%). Regarding cardiovascular events, 28.9% of the patients had venous thrombosis as the first clinical manifestation, 15.8% had stroke, 9.2% had obstretical thrombotic events, and 5.3% had transient ischemic attack. A significant correlation was found between DIAPS score and ischemic stroke as first clinical manifestation (R=0.398, $p<0.05$). Further more, DIAPS score correlated significantly to neuropsyhiatric manifestations (R=0.416, $p<0.05$). There were 36 patients known with a single positive antiphospholipid (aPL) antibody (47.4%), 27 patients (35.5%)with 2 positive aPL and only 2 patients with triple positivity. There were no significant differences regarding antibody profile between patients with primary and secondary APS. Higher values of DIAPS were seen in patients with beta2 GPI ($p=0.042$) and with positivity for 2 aPL ($p=0.003$). DIAPS value correlated to the presence of beta2 GPI ($p=0.042$, R=0.233) and to positivity for two aPL ($p=0.003$, R=0.341).
Conclusions. Our study suggests that neuropsyhiatric manifestations in APS patients have a great impact on cumulative damage especially in patients presenting with ischemic stroke or transient ischemic attack as the first manifestation of APS. Also, double positivity for aPL antibodies, especially the presence of beta2 GPI has a great impact on consequent damage score.

Keywords: damage, antibodies, score.

PT8A:118

THE IMPACT OF THE PLACE OF RESIDENCE ON SYSTEMIC LUPUS ERYTHEMATOSUS

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Objective. Environmental factors have been implicated in the pathogenesis of autoimmune diseases such as Systemic Lupus Erythematosus (SLE). In this context, the impact of the place of residence on SLE phenotype has been scarcely examined. The aim of the study was to examine the effect of rural versus urban place of residence on SLE outcomes.
Design and Method. Cross-sectional study employing data from the Cretan Lupus registry. Crete has a population of 0.6M, 61% residing in rural (population <15,000) and 39% in urban regions. Residency history was obtained from interviews and clinical data were extracted from medical records. Patients (n=301) with exclusively urban or rural residence were compared.
Results. Results. A significantly lower age of SLE diagnosis was found in patients who had lived exclusively in urban [median (IQR), 39 (19) years] versus rural areas [46 (24) years], $p<0.001$]. Likewise, patients whose upbringing was exclusively at urban place had about five years earlier age of diagnosis as compared to those who had grown up in villages. Notably, female-to-male ratio was 6.8:1 in urban vs. 18:1 in rural regions ($p=0.008$). In terms of clinical manifestations, renal involvement was twice as common at disease onset in urban than in rural environment (ratio 2.06:1, $p<0.02$). Conversely, photosensitivity and malar rash were more frequent in rural than urban environment (cumulative incidence: 80% vs. 64%, $p=0.001$, and 70% vs. 54 %, $p=0.03$, respectively). Antiphospholipids antibodies were found in 21% of urban- vs. 14% of rural-living patients ($p=0.04$). The two groups displayed differences in the frequency of several risk factors and comorbidities, such as lower prevalence of past/current smoking (36.9% vs. 45.5%, $p=0.07$), allergic rhinitis 28.6% vs. 57.1%, $p=0.04$) and autoimmune thyroiditis (1.6% vs. 12.2% $p<0.001$), and increased prevalence of obesity (39.8% vs. 28.7%, $p=0.049$) and past infection with infectious mononucleosis (6.4% vs. 1.6%, $p=0.02$) in rural versus urban regions, respectively. After adjustment for several confounding variables, urban living was associated with lower risk for moderate/severe forms of SLE (odds ratio 0.50; CI 95% 0.28-0.90) but not for irreversible organ damage.
Conclusions. Residence is a commonly overlooked health determinant of SLE burden. These findings have possible implications in elucidating disease pathogenesis.

Keywords: epidemiology, rurality, urban environment.

PT8A:119

OUTCOME OF CHILDHOOD LUPUS NEPHRITIS IN SAUDI CHILDREN

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Objective. To report the long-term renal outcome of a cohort of Saudi children with systemic lupus erythematosus (SLE)
Design and Method. All patients with childhood lupus nephritis (cLN) proved by renal biopsy seen between January 2000 and June 2015 were reviewed for age at disease onset, age at diagnosis, follow–up duration and renal biopsy findings, including the histopathological class according to the lupus nephritis classification in ISN/RPS, activity and chronicity indices of nephritis. The renal outcome was assessed according to serum creatinine level, protein/ creatinine ratio at the last follow-up visit, and/ or evidence of renal impairment during follow-up period and end stage renal disease (ESRD). Additional outcome measures include accrual damage measured by Pediatric adaptation of the Systemic Lupus International Collaborating Clinics American College of Rheumatology Damage Index (pSDI) and death related to SLE was determined.
Results. A total of 84 (72 females) cLN patients with a follow-up duration of

9.3 years (± 5.2) were included. The mean current age was 19.4 years (± 5.5) and mean age at onset was 9.2 years (± 2.4). The most frequent histopathological class was proliferative glomerulonephritis (64.3%) followed by membranous nephritis (27.4%). The mean activity and chronicity indices were 6 (± 3.9) and 4 (± 2.2) respectively. Renal microthrombosis was found in 9 (10.7%) patients. All patients treated with immunosuppressive medications; cyclophosphamide used in 64 followed by mycophenolate mofetil in 42 then azathioprine in 19 patients while rituximab used in 24 patients. At last follow-up visit, the mean serum creatinine was 147 (± 197) and the mean protein/ creatinine ratio was 0.8 (± 1.1) while the mean total pSDI was 1.89 (±1.9) and mean renal SDI was 0.7 (± 1.1). Sixteen (19%) patients had ESRD, 8 of them had class IV nephritis. However, there was no significant difference in ESRD by histological class. The overall survival rates were 5 years: 94% and 10 years: 87%. Infection was the leading cause of mortality.
Conclusions. Our results showed that cLN is severe and required intensive treatment. Despite the survival rate is comparable to other studies, ESRD is more frequent and this may be attributed to genetic or ethnic factors.

Keywords: childhood lupus, lupus nephritis.

PT8A:120

PHARMACEUTICAL DISRUPTION OF B2GPI CXCL4 COMPLEX USING COMPUTATIONALLY DESIGNED OLIGOPEPTIDES

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Objective. Antiphospholipid syndrome (APS) is an autoimmune thrombophilia characterized by antibodies to B2-Glycoprotein-I (B2GPI), which in complex with CXCL4 chemokine and B2GPI activate platelets leading to platelet activation and thrombus formation. Herein, we aimed to investigate the pharmaceutical disruption of the B2GPI-CXCL4 interaction.
Design and Method. An *in vitro* binding assay was developed for the study of B2GPI-CXCL4 interaction. Briefly, 1μg/ml B2GPI was coated overnight on high binding polystyrene plates and CXCL4 was incubated in various concentrations for 2 hours. Detection of CXCL4 was performed using a biotinylated polyclonal goat anti-human antibody against CXCL4 followed by Streptavidin-HRP incubation with TMB as substrate. Next in silico molecular docking experiments using the MAESTRO and GLIDE (Schrodinger Inc.) software determined the exact interaction residues of CXCL4 and B2GPI. A number of oligopeptide CXCL4 fragments was screened according to their capacity to bind on B2GPI on the interaction interface with CXCL4. The amino acid sequence of the most promising was further modified in order to achieve high binding strength and optimal solubility properties. Finally, four oligopeptides were designed and synthesized. These oligopeptides were tested using the aforementioned assay for their ability to bind on B2GPI and consequently to inhibit B2GPI-CXCL4 interaction. B2GPI was incubated with the oligopeptides prior to the addition of 10ng/ml of CXCL4.
Results. Preincubation of B2GPI with the peptides resulted in partial inhibition of B2GPI-CXCL4 interaction in all cases. Among them one presented the highest inhibiting properties which resulted in 40% inhibition of CXCL4 binding on B2GPI.
Conclusions. Preliminary results show that the designed peptides exhibit inhibiting properties. Further experiments and possibly amino acid alterations are required to determine their exact efficiency. Once desirable inhibition and solubility properties are achieved these oligopeptides could be tested as lead compounds for potential therapeutic agents.

Keywords: B2GPI, CXCL4, pharmaceutical disruption.

PT8A:121

WHOLE TRANSCRIPTOME ANALYSIS OF APL TREATED HUVECS MAPS PROINFLAMMATORY AND PROCOAGULANT PATHWAYS

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Objective. B2GPI is the major autoantigen in antiphospholipid syndrome (APS) and forms complexes with anti-B2GPI autoantibodies that activate platelets, monocytes and endothelial cells. Previous studies have shown that anti-B2GPI-B2GPI complexes activate TLR4 and TLR6 on endothelial cells leading to NFkB, MAPK activation and Tissue Factor (TF) and proinflammatory cytokine expression. To evaluate the whole transcriptome of endothelial cells that have been stimulated with aPL-B2GPI complexes.
Design and Method. Human umbilical Vein Endothelial cells (HUVECs) were isolated from 2-APS patients and 4-healthy-donors (HD) upon delivery. HD-HUVEC were stimulated with IgG isolated from APS patients with high aPL-titers and healthy individuals in the presence of B2GPI. Total mRNA was isolated, cDNA libraries were created and whole transcriptome sequencing (RNASeq) was performed. Gene expression data were validated in protein levels with immunohistochemistry in placenta tissues from APS patients and healthy individuals.
Results. Whole transcriptome analysis of HUVECs stimulated with aPL-B2GPI complexes and IgG from healthy individuals revealed 680 differentially expressed genes, among which 377 were upregulated and 303 downregulated in the aPL-stimulated endothelial cells. Characteristic examples of the upregulated genes are IL-6, IL-8, VCAM1, SELE and TGFB2 and TGFBR1. Bioinformatics analysis revealed that the upregulated genes belong mainly to the cytokine-cytokine receptor interaction (hsa053323), MAPK signaling pathway (hsa04010), TNF signaling pathway (hsa04668) and NOD-like receptor pathway (hsa04621). Characteristic examples of the downregulated genes include the CBX4, CBX8, BCOR and HDAC7 genes. Interestingly some of the proteins encoded by these genes play role in the epigenetic modification of DNA. Immunohistochemical staining on placenta biopsies from APS patients and healthy individuals for IL-6, IL-8, IL-18, NFkB, TF, TNF-α, E-SELECTIN, MAPK8, TGFB2 and TGFBR1 showed increased intensity in the signal of endothelial cells on APS specimens validating thus the RNASeq results in the tissues.
Conclusions. Our findings reveal a thoroughly analyzed proinflammatory and procoagulant phenotype of endothelial cells. Differential expression of DNA modifying proteins suggests the possible epigenetic regulation of gene expression on endothelial cells in APS syndrome. Ongoing experiments aim to analyze histone acetylation and methylation status of the promoters of the selected genes that were shown to be differentially expressed.

Keywords: antiphospholipid syndrome, transcriptome, HUVECs.

Poster Tour 8B: Systemic Lupus Erythematosus / Antiphospholipid Syndrome

PT8B:122

IMPACT OF SEVERE ORGANIC CNS INVOLVEMENT IN COGNITIVE FUNCTION IN A COHORT OF SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS, WITH THE ACR-SLE BATTERY

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Objective. Our purpose was to investigate cognitive dysfunction (CD) in a cohort of Neuropsychiatric Systemic Lupus Erythematosus (NPSLE) patients (n=16) with severe central nervous system (CNS) involvement.
Design and Method. Of a 16 patient cohort with a well-documented history of CNS involvement (NPSLE), 11 patients participated in the study. Eleven non-NPSLE patients and 28 healthy controls, all female, with mean age 41.2 (±11.4) years were included. Healthy controls were age, sex and education matched. Participants were administered a 1-hour neuropsychological battery as proposed by the American College of Rheumatology (ACR-SLE battery). Data on depression using the Center of Epidemiological Studies of Depression (CESD) questionnaire, cognitive failures as reported from participants using the Cognitive Failures Questionnaire (CFQ) and levels of fatigue using the Facit Fatigue (FF) questionnaire were also collected. A Visual Analogue Scale (VAS) was used for pain assessment. Patients were evaluated for the presence of anti-dsDNA, Neuromyelitis Optica (NMO)-IgG, anti-ribosomal P and anticardiolipin antibodies (aCL). Presence of concurrent Antiphospholipid Antibody Syndrome (APS) was documented. Disease activity was assessed using the Systemic Lupus Erythematosus Disease Activity Index (SLEDAI), and permanent damage due to SLE using the SLICC/ACR Damage Index.
Results. Significant differences were found between groups in Stroop color, Greek verbal learning test (GVLT) 1,2, Rey osterrieth complex figure (ROCF) copy trial, and in the FF questionnaire. When post-hoc analysis was performed, a tendency maintained for the ROCF copy trial (p=0.06). In aCL positive patients

values in the immediate recall trial of the GVLT, (p=0.01) and in the immediate ROCF trial (p=0.02) were lower, as compared to the non-aCL patients. Also, APS patients had lower digit symbol test and higher CESD results compared to the non-APS patients (p=0.01 and 0.04, respectively). Finally higher SDI scores were positively correlated to CESD scores (p=0.03) and SLEDAI scores were negatively correlated to Word Reading Efficiency (WRE) and Stroop color-words scores.
Conclusions. Severe organic involvement does not produce severe cognitive dysfunction. NPSLE patients showed a tendency to deficient visual-spatial processing. Patients with aCL antibodies showed deficits in memory processes. APS patients showed worse psychomotor speed. Both patients with APS and patients with higher SDI scores showed more depression.

Keywords: SLE, CNS involvement, cognitive function.

PT8B:123

ANTI-PHOSPHOLIPID ANTIBODIES ARE INDEPENDENTLY ASSOCIATED WITH ATHEROSCLEROSIS IN THE GENERAL POPULATION

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Objective. The serum anti-phospholipid antibody (aPLs) prevalence in the general population and the association with cardiovascular (CV) disease is unclear. We aimed to determine the prevalence of aPLs and CV and metabolic comorbidities in a Northern Italian city.
Design and Method. We performed a cross-sectional study on 1,712 adult subjects randomly enrolled in 2010 from the voting lists of Abbiategrasso. All subjects completed a questionnaire for medical history and ongoing/past medications and underwent physical examination and abdomen and carotid ultrasound. Anti-cardiolipin (aCL), anti-beta2 glycoprotein I (aGPI), antiphosphatidylserine-prothrombin (aSP) IgG, IgM, and IgA antibodies were tested in all subjects by ELISA.
Results. APLs were positive in 15.1% of subjects, with no differences between sexes and with highest prevalence rates in older groups. A history of CV events was more frequent in aPLs positive subjects (odds ratio (OR) 1.67, 95%confidence interval (CI) 1.08-2.54, p=0.012), particularly peripheral vasculopathy (crude OR in aPLs positive subjects 2.02; 95CI 1.14-3.57, p=0.015). In subjects with the highest CV risk profile *(i.e.* with a Framingham risk score >20 and/or diabetes and/or BMI >35), aPLs positivity was associated with the highest risk of CV events (OR 2.52, 95% CI 1.24-5.11, p=0.011). Of interest, aGPI IgA were associated with increased carotid intima-media thickness (adjusted beta 0.51, p= 0.003).
Conclusions. APLs prevalence in our cohort is higher than previously reported, especially in older subjects, but with an equal distribution between sexes. CV events are more frequent in aPLs positive subjects, especially when combined with a high CV risk profile.

Keywords: epidemiology, cardiovascular risk, antibodies.

PT8B:124

SHOULD WE SCREEN FOR ATHEROSCLEROSIS AT AN EARLIER AGE FOR WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS?

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Objective. Atherosclerosis in SLE is a multifactorial process that not only depends on traditional atherosclerotic risk factors, but also on non-traditional SLE-related risk factors.
We aimed to detect the prevalence of clinical atherosclerosis in a sample of 103 patients with SLE, to describe the distribution of atherosclerotic vascular events in different age groups, to determine gender differences in the prevalence of atherosclerosis in SLE patients.
Design and Method. This is a cross-sectional study that involved a group of 103 patients diagnosed with SLE. Patients were selected randomly regardless of gender, age or duration of the disease. Data were collected retrospectively and included: history of the disease, demographic factors, traditional atherosclerotic risk factors and non-traditional (SLE-related) atherosclerotic risk factors like disease duration, activity (SLEDAI), damage (SLICC damage index SDI), duration and dosage of corticotherapy (steroidal cumulative dose), association with antiphospholipid antibody, history and type of atherosclerotic vascular events. Data analysis was performed with SPSS.
Results. The study involved 95 females (92.2%) and 8 males (7.8%), mean age in the study population was 45.6±13.6 years. Mean disease duration was 8.66±8.361 years. Atherosclerotic events were present in 44 out of the 95 females from the study (46.3%) and in 5 out of the 8 males (62.5%). The peak prevalence was in the group of patients 51-60 years old (45%), but a second peak was in the group 41-50 years old (14%). Women with atherosclerosis had younger mean age at the time of SLE diagnosis, had longer disease duration, used corticosteroids for longer period of time and had higher SLICC scores at the time of admission (p<0.05 for all this variables) then men. No statistical difference was found regarding age of atherosclerotic event between females and males
Conclusions. These data confirmed that SLE is an important risk factor for atherosclerosis in females. When it comes to SLE women we should start screening for atherosclerotic disease at an earlier age in order to improve survival and quality of life.

Keywords: systemic lupus erythematosus, atherosclerosis, female.

PT8B:125

LUPUS NEPHRITIS: SERIES OF 12 CLINICAL CASES IN A ROMANIAN REFERENCE CENTER

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Objective. The aim of this study was to characterize a single center cohort of biopsied lupus nephritis patients regarding clinical, biological and therapeutic features.
Design and Method. We realized a cross-sectional study by consequently enrolling all the patients registered in Department of Rheumatology of "Sfânta Maria" Hospital with SLE diagnosis and renal biopsy conducted. Demographic, disease-related and therapeutic-related parameters were collected. The data was extracted from the clinical observation files.
Results. The study sample included 12 cases, 11 females and 1 male. Mean age at the time of diagnosis was around 27. The most frequent clinical manifestation identified where musculoskeletal and renal. Malar rash prevailed in cutaneous features. All 12 patients had a kidney diagnostic biopsy performed; Biopsy analysis revealed lesions belonging I-V classes: III (6 patients), IV (3), I (1) and V (1). Serologic detection revealed all 12 cases ANA positive with 12 cases of dsDNA; 4 patients presented other positive serology. 3 patients (25%) developed hyperuricemia. 10 patients (83%) received antimalarials (HCQ). A combination of glucocorticoids and pulse IV cyclophosphamide was used in most of the cases for remission-induction treatment. Other pharmacological therapies were used, including biological agents: Belimumab (2) and Abatacept (1). In 1 case dialysis was necessary. 8 patients (67%) developed treatment related complications.
Conclusions. All patients presented lupus nephritis histologically diagnosed and all were dsDNA positive. Most lesions revealed at kidney biopsy were compatible with third class. CYC and HHQ were used in almost all patients. 11 patients (92%) presented at least 1 relapse. Most of the patients developed treatment related complications.

Keywords: lupus, nephritis, biopsy.

PT8B:126

FEATURES ASSOCIATED WITH OUT-OF-HOSPITAL DEATH IN A GROUP OF PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS DECEASED OVER A 10-YEAR PERIOD

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Objective. The extent of out-of-hospital death (OHD) of SLE patients can be viewed as an indicator of mild disease and/or suboptimal access to rheumatology service. We assessed the extent and predictors of OHD in a group of 90 deceased SLE patients followed-up at our tertiary center.
Design and Method. We retrospectively analyzed 90 SLE patients (68 females) deceased from 2002 to 2011. All patients fulfilled at least 4 classification criteria

of the American College of Rheumatology (ACR). A comprehensive set of parameters were compared between patients deceased out of hospital and patients deceased in the hospital: demographics, ACR criteria and damage according to the SLICC/ACR index (at the last visit to our center), disease activity at diagnosis (ECLAM index), and causes of death. Frequencies were compared using the chi-square and Fisher's exact test, and continuous variables using the t-test and Mann-Whitney U-test. Variables associated with OHD were included in a multivariate logistic model.
Results. We identified 27/90 patients deceased out of hospital (22 females). Patients deceased out of hospital had a longer time span between the last visit to our center and death, when compared to patients deceased in the hospital (1.19±1.11 vs. 0.33±0.62 years). Compared to patients deceased in the hospital, patients deceased out of hospital had a lower proportion of urinary casts (7/27 vs. 33/63), renal damage (2/27 vs. 19/63), peripheral vascular damage (1/27 vs. 7/63), and death due to active SLE (3/27 vs. 23/63) (p<0.05). Pulmonary hypertension and death due to infection (DDI) were observed only in patients deceased in the hospital (9/63 and 30/63, respectively). The time span between the last visit to our center and death was the only parameter associated with OHD in the multivariate model (OR 2.511, 95% CI 1.285-4.908). Pulmonary hypertension and DDI could not have been included in the multivariate regression model due to their absence in the OHD group.
Conclusions. One third of SLE patients died out of hospital. In addition to the association of OHD with less severe disease, the longer time span between the last visit to the rheumatologist and death may be an important determinant of OHD.

Keywords: out-of-hospital death, outcome, mortality.

PT8B:127

FEMALE LUPUS PATIENT OPTIONS REGARDING TREATMENT AND NEGATIVE PREGNANCY OUTCOME

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Objective. Systemic lupus does not have a detrimental impact on fertility, but there are several major concerns including specific risks related to the disease itself and to medication like cyclophosphamide.
To evaluate the awareness of lupus pregnancy issues in a group of patients and their willingness to treat or to have same procedures according to their doctor's recommendation when poor prognosis factors are associated.
Design and Method. 106 consecutive fertile female lupus patients (mean age 28+/- 8.56) from 3 rheumatology centers responded to a questionnaire regarding their knowledge about possible pregnancy outcomes and their consequent options.
Results: The majority (89%) was informed by their rheumatologist about the lupus and pregnancy safety concerns. 56% of the patients asked about fertility safety of various medication used and 65.15% would accept cyclophosphamide as treatment if strongly recommended by their doctor regardless the risk infertility. This group of patients correlates with low level of education (p<0.001). Most of them, 84.84%, wanted to have children before getting ill, but just 21%, a not statistically significant percentage (p=0.09, r=0.21), changed their option after diagnosis. Half of the patients would accept the pregnancy if it would affect only themselves but not the fetus, otherwise, only 19.69% would accept the pregnancy if it would be dangerous just for the baby. 71% of patients would accept abortion in case their own life is in danger. 24.24% of all patients had a spontaneous abortion before diagnosis and in this particular cohort a therapeutical abortion was not statistically associated with willingness to terminate the pregnancy if indicated (p=0.071). A significant (p=0.0261, CI 0.0222-0.345) number of patients with spontaneous abortion had by their own will babies after lupus was diagnosed. The majority (93.93%) would prefer a team of rheumatologist and gynecologist during the pregnancy.
Conclusions. Most lupus patients are aware of issues associated with pregnancy but half of them are willing to accept the risk if it would be only for the mother and not for the child. Fertility is a concern for lupus women and low level of education is associated with more compliant patients. Therapeutic abortion could be an acceptable option except for patients with antecedents of spontaneous pregnancy loss.

Keywords: lupus, pregnancy, female.

PT8B:128

AUTOANTIBODIES AS BIOMARKERS IN THE PREDICTION OF CLINICAL MANIFESTATIONS IN SYSTEMIC LUPUS ERYTHEMATOSUS

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Objective. I Systemic lupus erythematosus (SLE) is a condition characterized by the passive loss of self-tolerance and the occurrence of autoimmune/wide range of autoantibodies. The gravity of the disease results from the possibility of multiorganic damage.
The aim of the present study was to evaluate the incidence of autoantibodies in diagnosed patients with SLE, and to establish the relationship between those autoantibodies and the systemic manifestations.
Design and Method. The study was retrospective, 01.01.2016 - 31.12.2016 on patients diagnosed with SLE according to ACR criteria 1997. The data were collected from the virtual database of the Rheumatology Department of observation sheets, hospital exit tickets, medical letters. The characteristics noted in the study were: age, sex, year of SLE diagnosis, type of autoantibodies specific in SLE, significant clinical manifestations. Antibodies were determined by the ELIZA and Imunoblot method. The data were arranged in the Excel table, the statistical program was used to perform descriptive analysis, calculate the average, and establish associations and correlations between variables, p<0.05 being considered statistically significant.
Results. The study group consisted in 5 men and 45 women with mean age (years) 49±11.8SD with an average disease duration (months) of 171±116.8 SD. Positive serology was AAN 52%, ANDdc 58%, ACA IgG 20%. Clinical manifestations: cutaneous 40%, neurologic 22%, abdominal 14%, cardiac 12%, renal 7%, vascular 20%, articular 88%, lung 20%, ocular 22%, palpable lymph nodes 2%. We found statistically significant positive association between renal manifestations and AAN p=0.0003, ADNdc p<0.0001; AAN and neurological and abdominal manifestations p=0.003 and p=0.001 respectively, we found no association between AAN and cutaneous manifestations p=0.31, and ACA IgG and cardiovascular manifestations p=0.41. We found a positive ADNdc correlation and nephritic damage r=0.21, p<0.0001.
Conclusions. SLE is an autoimmune, multifactorial disease with multiorganic affection, with many immunological and clinical manifestations, the presence of antibodies being correlated with lupus disease activity and its clinical manifestations.

Keywords: antibodies, clinical manifestations, SLE.

PT8B:129

LUPUS NEPHRITIS : CLINICAL MANIFESTATIONS AND RISK FACTORS

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Objective. Renal involvement is frequent in systemic lupus erythematosus (SLE). Our objective is to describe clinical features of lupus nephritis (LN) and its risk factors.
Design and Method. retrospective analysis of 89 medical records of patients diagnosed SLE according to the ACR criteria (mean age: 35.2 years and sex ratio F/M= 8/1). Patients with lupus nephritis (LN) were compared with those without lupus nephritis (WLN) to assess risk factors for renal involvement by univariate then multivariate analysis.
Results. renal involvement was diagnosed in 26 patients (28.9%) (mean age=31.6 years ± 12 years, sex ratio F/M=4.2). Mean proteinuria level was 2.74 g/d. Nephritic syndrome was diagnosed in 11 patients (42.3%) and renal insufficiency in 8 patients (30.76%). Renal biopsy done in 19 patients (73%) showed glomerulonephritis class I in 11.5% of cases, class II in 7.7%, class III in 23.1%, class IV in 15.4% and class V in 15.4%. Comparative study between patients with LN and those WLN revealed the following risk factors: oral ulceration (OR=17.1, 95% CI= [2.55- 114.9], p=0.003), infectious complications (OR=5.22, 95% CI= [1.14- 23.9], p=0.033), C3 decrease (OR=7.98, 95% CI= [1.97- 32.18], p=0.004) and lymphopenia (OR=16.1, 95% CI= [1.25- 207.9], p=0.033).
Conclusions. LN is frequent in our cohort involving the third of our patients. Those with oral ulceration, infectious complications, C3 decrease and lymphopenia seem to be at high risk to develop LN needing therefor a close monitoring

Keywords: systemic lupus erythematosus, lupus nephritis, proteinuria.

PT8B:130

TWO CASES OF THROMBOTIC THROMBOCYTOPENIC PURPURA IN PATIENTS WITH SLE

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Objective. To report successful management of two patients with SLE who developed thrombotic thrombocytopenic purpura (TTP).
Design and Method. Retrospective review of medical documentation of patients treated for TTP and SLE at Department of Rheumatology and Immunology, University Hospital Osijek during the period from 2016. – 2017.
Results. Two patients with previous history of SLE presented with microangiopathic hemolytic anemia (MAHA) and thrombocytopenia (after having SLE diagnosed for 7 and 15 years respectively). The first patient had diffuse proliferative lupus glomerulonephritis and was treated with cyclophosphamide (EUROLUPUS protocol). Few days after the fourth cycle of cyclophosphamide the patient developed TTP. The samples for ADAMTS13 activity were normal and ADAMTS13 antibodies were negative. She was treated with pulse steroid therapy and received four rounds of plasma exchange therapy (PEX) followed by IVIG and recovered fully. The second patient had SLE without signs of internal organ involvement and was previously treated with low dose steroid therapy and hydroxychloroquine. She developed TTP with ADAMTS13 activity of 0% and positive ADAMTS-13 antibodies. Initial treatment involved plasma exchange therapy followed by pulse steroid treatment and IVIG and made a full recovery.
Conclusions. TTP development in SLE patients is extremely rare and there are only few cases in reported literature. We present two patients with SLE who developed TTP. The clinical course was similar in both cases but underlying pathophysiological process was different in these patients. In the first patient diagnostic testing is highly suggestive of drug induced TTP and the second patient developed TTP due to SLE activity. Both patients made a full recovery.

Keywords: TTP, SLE, PEX.

PT8B:132

PITYRIASIS LICHENOIDES ET VARIOLIFORMIS ACUTA (PLEVA) DEVELOPING DEPENDING ON THE USE OF HYDROXYCHLOROQUINE

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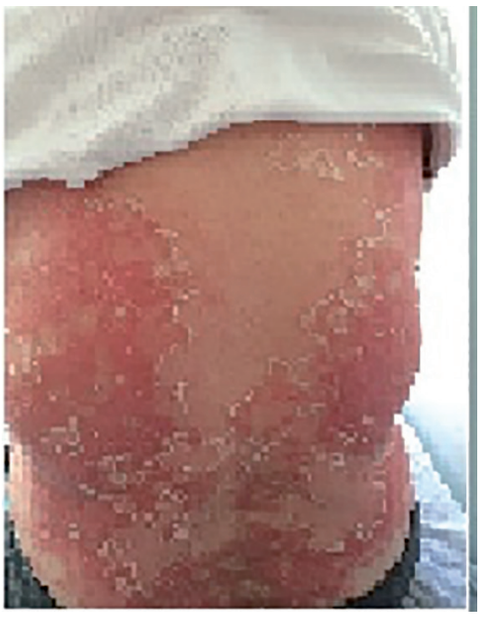
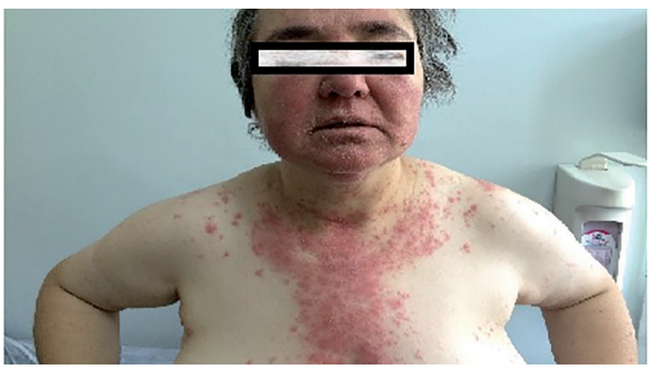
Objective. During the use of hydroxychloroquine, skin rashes can be seen; itching (pruritus), color changes on skin and mucosal membranes and alopecia were reported. Bullous eruptions including erythema multiforme, Stevens-Johnson syndrome, and photosensitivity and isolated exfoliative dermatitis were very rarely reported
Design and Method. A female patient in 50 years old applied to us with rubescent itching lesions in her face, body, back, and legs. It was learnt that in a center she referred to two weeks ago, due to arthralgia, morning stiffness and ANA positivity, which has been continuing for one year, 400 mg/day of hydroxylchloroquine was begun toward undifferentiated tissue disease. After treatment, she stated that the rashes and itching that began on the face rapidly spread to the neck, body, and legs (Picture 1-2). She did not describe any infection in the last one month. At hemogram, leukocytosis was seen, in which neutrophil was dominant. Acute phase response was normal. At skin biopsy, epidemicity, hyperkeratosis, irregular acanthosis, exocytosis, and spongiosis were seen. On basal layer, vacuolar degeneration attracted attention. On dermis, light edema, interstitial and perivascular mononuclear inflammatory cell infiltration and ekstravasa erythrocytes were seen. They were find in compatible with PLEVA. Steroid treatment of I mg/kg was begun and an improvement was seen in skin finding. Hydroxychloraquine was stopped.
Results. Pityriasis lichenoides et varioliformis acuta (PLEVA) is also known as Mucha-Habermann disease. Its incidence and prevalence are not known. Beginning from multiple erythematous macule, it is later rapidly seen an eruption consisting of inflammatory papules and papulovesicles. Hemorrhagic and necrotic scar forms. Mucosal involvement is not generally seen. Skin findings appear and disappear in a few weeks. Besides the lesions disappeared, new lesions form and thus, lesions are seen together in the different phases. After lesions regress, hypopigmentation or hyperpigmentation may continue. It may improve without remaining any scar. Just as skin findings can be asymptomatic, itching and burning feeling may be seen. Diagnosis is made skin biopsy. There is not any specific serologic test. Generally, self-limiting limited lesions can be followed without treatment.
Conclusions. We have presented the case of PLEVA developing depending on the use of hydroxychloroquine





Keywords: hydroxychloroquine, pityriasis lichenoides, PLEVA.

PT8B:133

LUPUS PREGNANCY: ACHIEVEMENTS AND OPEN ISSUES IN THE MULTIDISCIPLINARY MANAGEMENT

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Objective. To analyze the pregnancy outcome of patients with Systemic Lupus Erythematosus (SLE): 1) by comparing the outcome of prospectively-followed pregnancies (PFP) and anamnestic pregnancies (AP); 2) by comparing the outcome of PFP with the general obstetric population (GOP); 3) by evaluating the disease features, maternal risk factors and treatment of pregnancies with adverse pregnancy outcome (APO) in PFP.
Design and Method. A monocentric, retrospective and observational study of 94 SLE patients with a total of 135 pregnancies followed prospectively by multidisciplinary team. In addition, 33 AP in the same SLE patients and 3939 pregnancies

among GOP were evaluated. Clinical and serological data were obtained from medical records.

Table I. General and SLE-correlated risk factors in 'APO' and 'without APO' groups.

General risk factors	APO %	Without APO %	p-value
Age >35 years	35,3	30,5	0,491
Hypertension	17,6	16,1	0,722
Diabete mellitus	0,0	0,8	1,000
Obesity	11,7	5,9	0,712
Thyroid disease	0,0	5,9	1,000
Cigarettes smoking	41,2	20,3	0,187
SLEDAI >0	86,7	83,9	1,000
SLEDAI >6	14,3	14,8	1,000
dsDNA	84,6	62,6	0,172
Lupus nephritis	52,9	33,0	0,167
Low C3 and/or C4	50,0	54,6	0,790
Ro/SSA and/or La/SSB	53,8	41,9	1,000
aPL	64,6	51,6	0,278
Triple aPL	23,5	11,8	0,244
LAC	23,5	21,2	0,760
Previous thrombosis	0,0	3,4	1,000
Previous APO*	35,3	21,2	0,221

*APO were defined as premature miscarriage (<10^ weeks), fetal death (>10^ weeks), preterm delivery (<34^ weeks) with or without preeclampsia, HELLP Syndrome, perinatal death (<30^ day).

Results. The comparison between PFP and AP showed lower frequency of premature miscarriage (6.7% vs 27.3%, *p*-value 0,0021) and fetal death (3.7% vs 36.4%, *p*-value <0.0001) and higher frequency of live birth (88.9% vs 36.4%, *p*-value <0,0001) in the first group. As compared with GOP, SLE-PFP displayed similar rate of early miscarriage (9.0% vs 6.7%) and fetal loss (5.0% vs 3.7%) but higher frequency of preeclampsia (1.0% vs 5.0%, *p*-value 0.0029), preterm birth (7.0% vs 18.4%, *p* value <0.0001) and Caesarian section (31.0% vs 41.7%, *p*-value 0.0288).
APO occurred in 17 (12.6%) of the 135 PFP. Despite the lack of statistical significance, there was a tendency toward higher frequency of anti-dsDNA positivity (84.6% vs 62.6%), history of lupus nephritis (52.9% vs 33.0%) and triple anti-phospholipid antibody (aPL) positivity (23.5% vs 11.8%) in pregnancies with APO (Table I). Analyzing treatment during pregnancy, the group with APO received higher doses of prednisone (without significant *p*-value) and required higher use of immunosuppressants (64.7% vs 31.3%, p-value 0.032).
Conclusions. The outcome of PFP in SLE has dramatically improved as compared to AP, thanks to pregnancy planning, multidisciplinary management and close monitoring during pregnancy. The occurrence of APO was restricted to a minority of PFP (12,6%). SLE-PFP had similar rates of pregnancy losses as compared to GOP, but there are still open issues on some pregnancy complications that affect SLE patients more frequently.

Keywords: SLE, pregnancy, outcome.

Poster Tour 9A: Systemic Sclerosis and Raynaud's phenomenon

PT9A:134

MACROVASCULAR IMPAIRMENT AND LIPID PROFILE IN SYSTEMIC SCLEROSIS PATIENTS

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Objective. Systemic sclerosis (SSc) is a chronic connective tissue disorder characterized by microvascular damage and tissue fibrosis of multiple internal organs; microvascular damage is a result of endothelial disfunction and immune dysregulation. Similar vascular abnormalities are described in atherosclerosis patients (1) and carotid intima-media thickness (cIMT) is a surrogate of early atherosclerosis in subclinical stage of disease (2). The aim of the study is to investigate lipid profile and subclinical atherosclerosis in SSc patients.

Design and Method. Twenty-seven consecutive SSc patients were included in the study (77.7% limited (lSSc) and 22.2% diffuse (dSSc)); patients with history of atherosclerosis or prior cardiovascular diseases, hypertension, smoker, ex- smoker or conditions that altered lipid profile were excluded. None of the patients receiving medication affecting lipid metabolism. A control matched for age and sex group was also recruited for IMT evaluation. Fasting blood samples were obtained from SSc patients in order to test the lipid profile. All subjects underwent B-mode ultrasonography (Esaote, Genoa) both at right and left common carotid artery, the mean value from the two measurements was adopted to obtain the mean IMT value (m-IMT). The atherogenic index was calculated by this formule: log Tg/cHDL (3). The value was considered low risk if <0.11.
Results. The mean age of SSc patients was 66.46±12.16 years with mean disease duration from non Raynaud's symptom 97.35±69.6 months. The lipid profile assessment was normal (cTot 193.9± 31.8 mg/dl; cHDL 61.5±11.9 mg/dl; cLDL 115.6±26.07 mg/dl; Tg 98.7±36.2 mg/dl; Apo A 11.5±0.21 g/L; Apo B 0.90±0.19 g/L) and the mean atherogenic index was very low (-0.15±0.21). No significant correlation was observed between atherogenic index both cIMT either renal failure (Renal Resistance Index). The study confirmed previous data from Bartoli F *et al*. regarding significantly increased IMT values and prevalence of carotid artery disease in SSc (4). However, the primary results in this pilot cohort, did not show any dyslipidemic profile in SSc patients.
Conclusions. In conclusion, the impairment of cIMT seems cannot be explained by the presence of subclinical atherosclerosis, due to traditional risk factors, but probably sustained by vascular walls disfunction related to SSc macrovascular involvement.

Keywords: macrovascular impairment, lipid profile, systemic sclerosis.

PT9A:135

PREDICTORS OF MORBIDITY AND MORTALITY IN PATIENTS WITH EARLY SYSTEMIC SCLEROSIS: LONG-TERM FOLLOW-UP FROM A SINGLE CENTRE INCEPTION COHORT STUDY

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Objective. To identify predictors of morbidity and mortality in a single centre inception cohort of early Systemic sclerosis (SSc) patients at long-term follow-up
Design and Method. All patients fulfilled the American College of Rheumatology criteria (1980) for SSc, were recruited within 12 months of disease onset and followed prospectively for at least 3 years. Clinical manifestations, laboratory and lung function tests were recorded at baseline and every consecutive year of follow-up. Multivariate regression analysis and Cox proportional hazard models were used to identify predictors at disease onset of morbidity and mortality in SSc
Results. A total of 115 patients (97 female, mean age at diagnosis 48.1±13.5 years, 54 diffuse subtype) were recruited, from January 1997 to June 2014. All patients were followed for at least 3 and 84 patients for at least 6 years. During a mean follow up of 101.8±48.5 months 23 patients died. In multivariate regression analysis predictors for major SSc outcomes at 6 years were: diffuse subtype (OR: 4.4, *p*=0.033), esophageal dysfunction (OR: 4.79, *p*=0.038) and digital ulcers (OR: 7.9, *p*=0.014) at baseline for the development of pulmonary fibrosis (PF). The presence of cardiac rhythm disorders at baseline was a predictor for development of pulmonary hypertension (PH) (OR=6.05, *p*=0.022) while older age at disease onset (OR: 1.12, *p*=0.002) and antiScl70 positivity (OR=4.3, *p*=0.038) for development of rhythm disorders. Cox proportional hazards regression revealed 6 factors at disease onset as independent predictors of mortality: age at diagnosis (HR: 3.05, *p*=0.098), male gender (HR: 3.63 *p*=0.025), diffuse type (HR: 2.83, *p*=0.095), PF (HR: 3.7, *p*=0.032), PH (HR=7.49, *p*=0.008) and DLCO <60% of predicted value (HR: 3.17, *p*=0.035). Mortality rates at 3 and 6 years were 46% and 53% for patients with 4 to 6 factors present at disease onset while for patients with 3 factors the respective rates were 14% and 24%.
Conclusions. Results from a single centre inception cohort indicate that diffuse SSc, esophageal involvement and digital ulcers at baseline are independent predictors for development of PF while rhythm disorders are predictors for development of PH. Male gender, diffuse subtype, PF, PH and decreased DLCO at baseline are independent predictors of mortality.

Keywords: predictors, morbidity, mortality.

PT9A:136

VITAMIN D DEFICIENCY AND GASTROINTESTINAL INVOLVEMENT IN SYSTEMIC SCLEROSIS. REAL LIFE DATA FROM A REFERRAL CENTER IN NORTHERN GREECE

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Objective. Systemic sclerosis is an orphan systemic connective tissue disease of unknown etiology. It affects the skin causing digital ulcers, the lungs and the gastrointestinal system. The disease is characterized by significant morbidity and mortality, which is related, amongst other factors to pulmonary system involvement. Recently, drugs related to the prevention and inhibition of the progression of skin lesions and pulmonary disease have been introduced in the management of systemic sclerosis. Agents indicated for the management of systemic sclerosis may be characterized by gastrointestinal adverse effects. Gastrointestinal involvement is common amongst patients with systemic sclerosis and gastroesophageal reflux disease is prevalent. Vitamin D deficiency may also be present in systemic sclerosis. The aim was to describe the prevalence and type of gastrointestinal system involvement and vitamin D deficiency in systemic sclerosis, as it occurred in a referral center in northern Greece.
Design and Method. A cohort of 57 patients, 52 female aged 30-80 years and 5 male aged 45-75 years with systemic sclerosis was studied. In the cohort of systemic sclerosis patients the presence and type of gastrointestinal system involvement was studied and described. Blood vitamin D, 25(OH)D3 levels were measured.
Results. In the cohort of 57 patients with systemic sclerosis described, 26 (45.6%) developed gastrointestinal manifestations. Among this cohort of 57 patients with systemic sclerosis 11 (19.3%) developed gastroesophageal reflux disease, 10 (17.54%) esophagitis, 2 (3.5%) stomach and duodenal ulcers and 3 (5.26%) developed esophageal dysmotility and dysfunction of the cardioesophageal sphincter. In the cohort of systemic sclerosis patients studied vitamin D deficiency and osteoporosis with fractures were also observed.
Conclusions. Within the cohort of systemic sclerosis patients studied the involvement of the gastrointestinal system was common. Gastroesophageal reflux disease was prevalent and it may have been related to esophageal dysmotility. In systemic sclerosis vitamin D deficiency and osteoporosis with fractures were also observed. The results show that systemic sclerosis patients should be investigated for vitamin D deficiency and gastrointestinal involvement and should be treated accordingly, so that the administration of drugs for the management of systemic sclerosis is made feasible.

Keywords: systemic sclerosis, vitamin D, gastrointestinal involvement.

PT9A:137

OSTEOPROTEGRIN RELATES WITH BIOMARKER THAT HAVE ROLES IN OSTEOPOROSIS, FIBROSIS, AND VASCULOPATHY IN SYSTEMIC SCLEROSIS: A POTENTIAL MULTIFACETED RELATIONSHIP BETWEEN OPG/RANKL/TRAIL AND WNT INHIBITOR

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Objective. We explored the interactions of osteoprotegerin (OPG) with biomarkers of bone turnover and cytokines, including soluble receptor activator for nuclear factor kappa beta ligand (sRANKL), tumor necrosis factor-related apoptosis-induced ligand (TRAIL), and Wnt inhibitors in osteoporosis, vasculopathy and fibrosis related to systemic sclerosis.
Design and Method. The study included 46 SSc patients and 30 healthy controls. Skin thickness, pulmonary fibrosis and/or hypertension, digital ulcers, and calcinosis cutis of SSc patients were assessed. We determined bone mineral density (BMD), and OPG, sRANKL, TRAIL, secreted frizzled-related protein 1 (sFRP-1), Dickkopf-related protein 1 (DKK-1), sclerostin in the serum of both patients and controls.
Results. OPG, sclerostin, and sFRP-1 levels were similar between patients and controls (p>0.05). Femoral neck and lumbar spine BMD and vitamin D levels were lower, and the OC, NTX, sRANKL, DKK1 and TRAIL levels were significantly higher, in patients than in controls (p<0.05). In subgroup analysis, patients with higher mRodnan skin scores had higher DDK1, sclerostin, and TRAIL levels (p<0.05); those with diffuse SSc subtype had lower BMD values than those with limited SSc (p>0.05). Skin and pulmonary fibrosis linked negatively with BMD measures.

Table I. Clinical and laboratory characteristics of systemic sclerosis (SSc) patients and controls.

Age (years)	53.0 ± 10.4	50.1 ± 6.5	0.2
Sex (M/F)	0/46	0/30	
BMI (Kg/m^2)	27.9 ± 6.2	29.7 ± 5.1	0.2
Menopausal (%)	46 (100)	30 (100)	
Menopausal age (years)	44 (38–52)	46 (41–54)	0.1
Disease duration (years)	10 (2–25)		
Diffuse SSc/limited SSc	18/28		
Anti-topoisomerase 1/anticentromere antibodies	21/18		
Lung involvement (%)	26 (56)		
Pulmonary hypertension on catheterization		3	
Calcinosis or/and digital ulcers	12		
BMD-lumbar spine (g/cm^2)	-1.5 (-2.3– -0.2)	-0.9 (-1.5 – -0.1)	**0.04**
BMD-femoral neck (g/cm^2)	-1.6 (-2.4– -0.7)	-0.9 (-1.5– -0.1)	**0.03**
BALP (U/L)	161 (124–285)	128 (119–170)	0.06
Calcium (mg/L)	9.4 (9.0–9.6)	9.4 (9.2–9.6)	0.3
Phosphor (mg/dL)	3.7 ± 0.5	3.6 ± 0.50	0.6
Vitamin D (nM)	8.7 (4.5–18.2)	16.5 (9.4–21.2)	**0.02**
NTX (nM, bone collagen equivalent)	23.0 (17–38)	15.4 (14.1–20.8)	**0.001**
OC (ng/mL)	33.2 (22.3–50.4)	23.3 (20.3–29.6)	**0.01**
hPTH (pg/mL)	224 (118–318)	168 (142–233)	0.09
sRANKL (pmol/L)	1016 (773–2735)	830 (614–1216)	**0.04**
OPG (ng/mL)	74 (56–162)	74.6 (48.6–128.1)	0.2
sRANKL/OPG	10.6 (7.0–14.9)	9.4 (7.2–13)	0.7
Sclerostin (pmol/L)	20.0 (14.4–31.3)	20.2 (17.4–39.8)	0.7
sFRP1 (ng/mL)	22.3 (12.7–46.1)	24.9 (19.3–38.5)	0.4
DKK1 (pg/mL)	29.8 (23.5–50.8)	21.1 (17.8–35.1)	**0.01**
TRAIL (pg/mL)	8.9 (6.5–23.9)	7.8 (5.6–9.7)	**0.04**

Data are presented as the median (range) or mean (±) values. BMD: bone mineral density; OC: osteocalcin; BALP: bone-specific alkaline phosphatase; NTX: cross-linked N-telopeptide of type I collagen; hPTH: human parathyroid hormone; sRANKL: soluble receptor activator of nuclear factor kappa-B ligand; OPG: osteoprotegerin; sFRP1: secreted frizzled-related protein 1; DKK1: Dickkopf-related protein 1; TRAIL: tumor necrosis factor-related apoptosis-induced ligand.

Conclusions. We showed that sRANKL levels were higher and correlated with bone turnover markers. It may be related to osteoporosis in SSc. The OPG level was unaltered in SSc patients. Higher TRAIL levels associated with skin thickness may indicate vascular dysfunction or injury. Higher DKK-1 and sclerostin levels may be related to a reactive increase in cells and be prominently linked to fibrosis in SSc.

Keywords: systemic sclerosis, osteoporosis, osteoprotegerin.

PT9A:138

PERIPHERAL BLOOD PERFUSION AND HAND DERMAL THICKNESS IN SYSTEMIC SCLEROSIS PATIENTS

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Objective. The aim of this study was to identify possible correlations between peripheral blood perfusion (BP) and dermal thickness (DT) at level of hand in systemic sclerosis (SSc) patients.
Design and Method. Sixty-five SSc patients, according to 2013 ACR/EULAR criteria (mean age 63±10SD years) were enrolled. BP was measured as perfusion units (PU) by laser speckle contrast analysis (LASCA) at the level of dorsal region of hands, in particular at level of periungual areas of the 3rd finger bilaterally and dorsum of both hands (1). Both skin high frequency ultrasound (US) and modified Rodnan skin score (mRSS) were used to evaluate DT at the level of dorsum of 3rd finger and dorsum of hand bilaterally (2). US and LASCA were also performed in 65 healthy subjects.
Results. A negative correlation was observed between BP and both ultrasound-DT (p=0.0005) and mRSS (p=0.007) in SSc patients at the level of fingers, while no statistically significant correlation was found between BP and both ultrasound-DT and mRSS at level of dorsum of hands in SSc patients. In healthy subjects no

statistically significant correlation was detected between BP and DT as evaluated by both US and mRSS at the level of the two areas. SSc patients showed a statistically significant lower BP at the level of periungual areas when compared with healthy subjects (p<0.0001). No statistically significant difference in BP values was observed between SSc and healthy subjects at the dorsum of hand.
Conclusions. This study demonstrates a negative correlation between finger BP evaluated by LASCA and finger DT evaluated by both US and mRSS in SSc patients. The study also confirms a reduced finger BP in SSc patients when compared to healthy subjects.

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Keywords: blood perfusion, dermal thickness, systemic sclerosis.

PT9A:139

EVALUATION OF PERIPHERAL BLOOD PERFUSION IN PRIMARY RAYNAUD'S PHENOMENON AND IN SYSTEMIC SCLEROSIS PATIENTS

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Objective. The aim of this study is to investigate blood perfusion (BP) in different skin areas of hands in patients with primary Raynaud's phenomenon (RP), secondary RP to systemic sclerosis (SSc), and healthy subjects (CNT).
Design and Method. 31 primary RP (PRP) patients (LeRoy criteria), 70 SSc patients (ACR/EULAR criteria) and 68 CNT were enrolled during winter time, after informed consent. BP was assessed by Laser speckle contrast analysis (LASCA) at the level of fingertips, periungual areas, dorsal and palmar aspect of 3rd finger bilaterally, dorsum and palm of both hands. Nailfold videocapillaroscopy (NVC) was also performed to distinguish between PRP and SRP, and to detect the proper pattern of nailfold microangiopathy in SSc patients.
Results. Both PRP and SSc patients showed a statistically significant lower BP than CNT at the level of fingertips (p<0.0001), periungual (p<0.0001), palmar aspect of 3rd finger (p<0.0001), and palm areas (p<0.0001). On the contrary, the three groups of patients displayed similar BP values at the level of other areas of hands. Of interest, PRP patients showed lower BP values than SSc patients in all areas of hand, even if BP was found statistically different only at the level of both palmar aspects of 3rd finger (p=0.04) and palm of hands (p=0.008). The gradients of BP fingertip-phalanx-palm and periungual-phalanx-dorsum were significantly lower in PRP than in SSc patients (p<0.0001). A statistically significant progressive decrease of BP was observed in SSc patients with progressive pattern of nailfold microangiopathy ("early", "active", and "late") at the level of fingertips, periungual, palmar aspect of 3rd fingers and palm areas (p<0.05). Moreover, BP was significantly lower in PRP than in SSc patients with the "early" pattern of microangiopathy in all areas (p<0.04), with the exception of dorsal phalanx and hand dorsum.
Conclusions. By considering a small cohort of patients, BP of hand was found lower in PRP than in SSc patients with the "early" NVC pattern of microangiopathy. Also the gradients of perfusion between distal and proximal areas of hand were significantly lower in PRP than in SSc patients. The clinical value of this new early finding is matter of further analysis.

Keywords: systemic sclerosis, primary Raynaud's phenomenon, peripheral blood perfusion.

PT9A:140

A SIX MONTH FOLLOW-UP STUDY IN RAYNAUD'S PHENOMENON PATIENTS TREATED WITH AMINAPHTONE

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Objective. Laser speckle contrast analysis (LASCA) is a validated technique to measure skin blood perfusion. Aminaphtone is a vasoactive drug recently demonstrated to down-regulate endothelin-1 production. To evaluate any skin blood perfusion change and clinical symptoms related to Raynaud's phenomenon (RP) during aminaphtone treatment in RP patients, comparing them to a control group, over a six-month follow-up.
Design and Method. Forty-six patients with active RP were enrolled during routine clinical assessment in November, 2015 (11 primary RP and 35 secondary RP to systemic sclerosis). Aminaphtone was administered 75 mg twice daily in addition to current stable treatments. Blood perfusion was measured in all patients by LASCA at the fingertip level, periungual areas, dorsum and palm of hands, and face at baseline (T0), after one (T1), four (T4), twelve (T12) and twenty-four (T24) weeks of treatment. Raynaud's condition score (RCS) and both the frequency of Raynaud's attacks and their duration were assessed at the same time. Another 46 patients with active RP (9 primary RP and 37 secondary RP to systemic sclerosis) were also enrolled as a control group and evaluated at T0 and T24.
Results. A progressive statistically significant increase in blood perfusion was observed from T0 to T24 in all skin areas (p<0.001 for all areas). Noteworthy was the fact that all patients on aminaphtone had an increased blood perfusion from T0 to T1, 38/44 patients from T1 to T4, 36/43 from T4 to T12 and 8/43 patients from T12 to T24 had a further increase in blood perfusion. A progressive statistically significant decrease in RCS (p<0.0001), the frequency of Raynaud's attacks/day (p<0.0001) and their duration (p<0.0001) was also recorded from T0 to T24. The results were similar as in primary, as in secondary RP. No statistically significant change in blood perfusion from T0 to T24 (p=0.9 for all areas) was observed in the control group.
Conclusions. This study demonstrates that aminaphtone treatment enhanced skin blood perfusion and improved RP symptoms also in patients affected by systemic sclerosis. These preliminary results should be further confirmed by a randomized blind clinical trial.

Keywords: Raynaud's phenomenon, aminaphtone, LASCA.

PT9A:141

USE OF BIOELECTRICAL IMPEDANCE VECTOR ANALYSIS (BIVA) FOR THE ASSESSMENT OF BODY COMPOSITION IN A COHORT OF ITALIAN PATIENTS WITH SYSTEMIC SCLEROSIS

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Objective. The aim of the present cross-sectional study was to assess body composition in an Italian cohort of patients affected by systemic sclerosis (SSc) by means of bioelectrical impedance vector analysis (BIVA).
Design and Method. Parameters of bioelectrical impedance vector analysis (BIVA) and body mass index (BMI) were assessed in 42 patients with SSc (mean age 59.0±13.2, 38 F, 4 M) and in 42 healthy volunteers matched for sex, age and BMI for comparisons.
Weight and height were measured at the time of BIVA with minimal clothing.
BIVA was performed by the tetrapolar contact electronic approach using an impedance analyser applying an alternating electric current flux of 800 μA and an operating frequency of 50 kHz (BIA 101, Akern).
BIVA measures the Resistance (R) and reactance (Xc), standardised for height and plots them as point vectors in the R–Xc plane. Calculations of body cell mass (BCM), fat mass (FM), fat free mass (FFM), total body water (TBW), extracellular water (ECW) and phase angle (PhA) were performed by the supplier's software (Bodygram Plus) using standard BIVA equations.
BMI <18.5 was defined as underweight, BMI 18.5–24.9 as normal weight, BMI 25–29.9 as overweight, BMI>30 obese.
Results are expressed as the mean ± SD. Data were analyzed using the statistical package SPSS 13.0 (t test for paired data).
Results. BMI of SSc patients did not differ from that of controls, but 43% patients with SSc had reduced BCM values, independently from their BMI (SSc=10.0±3.5, controls=13.9±2.1, p<0.0003).
All patients had reduced PhA values (SSc=3.7±1.0, controls=5.0±0.5, p<0.0001) and 52% patients showed higher values of ECW (>50%), with moderate-severe grade of overhydration (SSc=60.3±8.8, controls=50.9±0.03, p<0.0003).
Conclusions. The majority of SSc patients showed changes in their body composition, reflecting a pathological nutritional status, not verifiable with solely standard scale. In particular PhA, which has been used to predict clinical outcomes in several pathological conditions, and BCM, a marker for the metabolically active protein-rich compartment.
In conclusion BIVA should be performed regularly to monitor the nutritional status of patients with SSc to planning nutritional specific treatment.

Keywords: systemic sclerosis, body composition, impedance.

PT9A:142

NUTRITIONAL STATUS IN SYSTEMIC SCLEROSIS – A POSSIBLE ADDITONAL TOOL IN ASSESING DISEASE SEVERITY AND PROGNOSIS

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Objective. Systemic sclerosis (SSc) is a rare connective tissue disease, clinically characterized by disorders in vascular, immunological and fibrotic pathways. Nutritional status is used as a marker for disease activity and severity, predicting mortality in patients with systemic sclerosis. The aim of this study was to determine the nutritional status (the degree of malnutrition) of SSc patients and to determine the possible association of nutritional status with the state of oral aperture, with self-assessed evaluation of health, functional disability and the degree of disease progression, as well as with severity and activity of the underlying disease.
Design and Method. In this study we determined the nutritional status (degree of malnutrition) in 25 patients with SSc using the Malnutrition Universal Screening Tool (MUST). From the obtained data on nutritional status, we searched for the correlation of the nutritional status of patients with oral aperture state, measured by the OHIP 49, with self-assessed evaluation of health, measured by the SF-36 questionnaire, and with the functional disability and the degree of disease progression, measured by the SHAQ questionnaire.
Results. Out of a total of 25 patients, a high risk for developing malnutrition was estimated in 17 patients, while the median risk for developing malnutrition was found in 8 patients. The only statistically significant differences ($p<0.05$) were obtained by the SHAQ questionnaire. The patients with high risk for developing malnutrition had significantly higher values obtained by the SHAQ questionnaire. In the MUST group with a high risk for developing malnutrition, positive anti-topoisomerase I antibodies, negative anticentromere antibodies, higher disease activity and higher incidence of general, skin and joint symptoms were observed to be significantly more common.
Conclusions. This pilot study suggests that there is a possible correlation of nutritional status (degree of malnutrition) with the disease severity and the activity of the underlying disease. Given the small number of patients involved in this study, additional studies are needed on a larger number of patients to fully confirm the conclusions of this study.

Keywords: systemic sclerosis, disease activity and severity, nutritional status.

PT9A:143

QUANTITATIVE COMPUTED TOMOGRAPHY IN INTERSTITIAL LUNG DISEASE RELATED TO SYSTEMIC SCLEROSIS: FACE AND CONTENT VALIDITY OF AN OPERATOR INDEPENDENT ALGORITHM BASED ON A FREE OPEN SOURCE SOFTWARE

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Objective. Computed Tomography (CT) is the gold standard to detect Interstitial Lung Disease (ILD) related to Systemic Sclerosis (SSc). Even if many radiological scores were developed to assess ILD extent and severity, none achieved a satisfying inter/intra-observer agreement. Quantitative CT (QCT) is an operator-independent, innovative and promising tool to assess ILD. The main aim of this study is to determine face and content validity of QCT based on a free open source software.
Design and Method. A rheumatologist and a chest radiologist experienced in QCT conceived an online survey in order to assess face and content validity. One question was about how useful QCT could be in ILD assessment; other eight questions explored the most relevant aspects (*e.g.* extent, severity, etc.) that QCT should measure in ILD-SSc. The answers were based on a 0-100 scale. The survey was submitted to a panel of experts in SSc, ILD or QCT. The face and construct validity were, respectively, the median score of the first and the other eight questions.
Results. Fourteen specialists (7 in rheumatology, 3 in radiology, 2 in respiratory medicine and 2 in internal medicine) completed the survey. The international panel (7 members from Italy, 4 from Europe and 3 from America) had a median experience of 9 years. The results of face and content validity assessment are summarized in Table I. In particular QCT seems to be able to evaluate all the important aspects (except for ILD elementary lesions assessment) that should be measured in ILD-SSc.

Table

Question	Median score	IC 95%	Min	Max
Face validity	79,5	67,6 - 87,4	24	95
Extent	89	78,9 - 95,4	33	100
Severity	78,5	60,0 - 91,0	34	100
Elementary lesions	66,5	36,4 - 76,7	0	100
ILD follow-up	85,5	69,7 - 97,3	31	100
Implementation in trials	84	58,8 - 99,1	20	100
Implementation in clinical practice	75,5	35,4 - 96,1	0	100
Better than other ILD assessment methods	93,5	71,5 - 100,0	15	100

Conclusions. The QCT operator-independent algorithm based on a free open source software has proved face and content validity in SSc-ILD. In particular the experts strongly agreed about the potentiality of QCT in SSc-ILD extent assessment as it is likely to be better than the other current methods for ILD evaluation.

Keywords: quantitative CT, interstitial lung disease, face and content validity.

PT9A:144

IS IT POSSIBLE TO DISCRIMINATE A CLINICAL SUBTYPE OF SYSTEMIC SCLEROSIS ASSOCIATED WITH PULMONARY ARTERIAL HYPERTENSION?

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Objective. Pulmonary arterial hypertension (PAH) is a severe complication of the systemic sclerosis, eventually leading to right heart failure and death. The clinical relevance of PAH falls into poor survival and high disability rates associated with high treatment costs. Despite well-established risks the PAH diagnosis is usually late in SSc pts. Therefore recognition of PAH associated SSc symptoms would facilitate identification of risk group, improving the early diagnosis and better survival of patients.
Design and Method. The study included 51 PAH-SSc pts and 65 SSc pts without PAH formed the control group. Univariate logisitic regression was used to calculate the probability (odds ratio (OR) of PAH-associated symptoms. The analysis covered 102 variables, including patients' anamnesis, as well as clinical, laboratory, instrumental and immunological SSc signs.
Results. We identified 32 SSc symptoms that were associated with PAH. Among most significant are the following: anticentromere antibodies (OR 15.2; 95% CI 5.4-42.9, $p<0.00001$), telangiectasia (OR 13.7; 95% CI 3.8-41.3, $p<0.00001$), increased ratio of forced vital capacity to diffusion lung capacity (FVC/DLCO) (OR 7.8; 95% CI 2.9-20.1, $p<0.00001$), uric acid level >340 l/L (OR 7.7; 95% CI 3.3-18.2, $p<0.00001$), duration of Raynaud's syndrome before manifestation of skin involvement >14 months (OR 3.8; 95% CI 1.7-8.5, $p<0.0005$). Symptoms associated with mitigated risks of PAH included diffuse skin form (OR 0.2; 95% CI 0.1-0.4, $p<0.00001$), contractures (OR 0.2; 95% CI 0.1-0.5, $p<0.00001$), presence of indurative lesions (sclerodactyly) (OR 0.2; 95% CI 0.1-0.4, $p<0.00001$), skin involvement at onset (OR 0.1; 95% CI 0.05-0.4, $p<0.00001$), topoisomerase-1 antibodies (OR 0.046; 95% CI 0.01-0.2, $p<0.00001$).
Conclusions. Therefore, the results of the study allow to state that PAH-SSc should be viewed as a unique phenotype, combining clinical manifestations of both SSc and PAH, in which underlying pathogenetic mechanisms modify the clinical picture and clinical course of both conditions. Identification of SSc symptoms associated with PAH used in diagnostic program, would facilitate the early identification of this life-threatening SSc manifestation by a broad range of specialties, but most important – by rheumatologists and cardiologists.

Keywords: systemic sclerosis, pulmonary hypertension, classification criteria.

PT9A:145

LUNG INVOLVEMENT PARAMET ERS AND CLINICAL CORRELATIONS IN SYSTEMIC SCLEROSIS PATIENTS: A SINGLE CENTRE STUDY

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Objective. Lung disease is the leading cause of mortality among SSc patients (1). The aim of the study was to evaluate the prevalence and clinical correlations of lung involvement in systemic sclerosis (SSc) patients.
Design and Method. 56 consecutive (51 females and 5 males, aged 63±13 years) SSc patients were enrolled, after informed consent, at the Rheumatology Division of Genoa University. SSc patients underwent clinical examination and instrumental exams. Nailfold videocapillaroscopy (NVC), pulmonary function test with diffusing capacity of the lungs for carbon monoxide (DLCO), lung CT scan, Doppler echocardiography with systolic pulmonary arterial pressure (sPAP) measurement, renal artery resistive index (RI) by echo-colour-Doppler, were performed.
Serum concentrations of ANA, ACA, Anti-Scl70 Ab, CRP, Pro-BNP, gammaglobulin percentage, were evaluated. Drug assumption related effects were assessed.
Results. FVC% values (100±25%) resulted to be correlated with age (p<0.0001, r=053), RP duration (p=0.027, r=031) and NVC patterns (Early=119±22, Active=108±19, Late= 93.7±27; p=0.037, Fig. 1A). Lower FVC values were present in patients with dcSSc (p=0.002), Scl70 Ab (p<0.0001), digital ulcers (p=0.018), interstitial lung disease (p=0.019), oesophageal involvement (p=0.039), acro-osteolysis (p=0.005). DLCO% values (71±20%) showed an inverse correlation with SSc duration (p=0.01, r=0.17), with PAPs (p<0.0001, r=-0.52) and NVC patterns (Early=71.2±22; Active=77±15; Late=60±15 %; p=0.037, Fig. 1B).
PAPs values (33±7 mmHg) were correlated with disease duration (p=0.005, r=0.37), NVC patterns (Early=33.8±4, Active=30.7±6, Late=37.6±6 mmHg; p=0.025, Fig. 1C), history of digital ulcers (p=0.009), pro-BNP (p=0.01, r=-0.6). Pro-BNP was correlated with ILD at CT scan (p=0.035), hearth involvement (p=0.002), PAPs (p=0.01, r=-0.6), presence of telangiectasias (p=0.032).
FVC values were lower in patients in which ERAs were started, but no differences for DLCO, PAPs and Pro-BNP were reported.
Conclusions. The present study confirms worse prognosis in terms of lung and systemic involvement whit earlier, FVC reduction (2). FVC was the only lung involvement parameter to correlate with Scl70 Ab and lcSSc/dcSSc disease forms. The only diagnostic tool to be correlated with most lung involvement parameters was NVC (3). DLCO, PAPs and Pro-BNP values did not worsen in patients on ERAs.

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Keywords: lung involvement, nailfold videocapillaroscopy, clinical parameters.

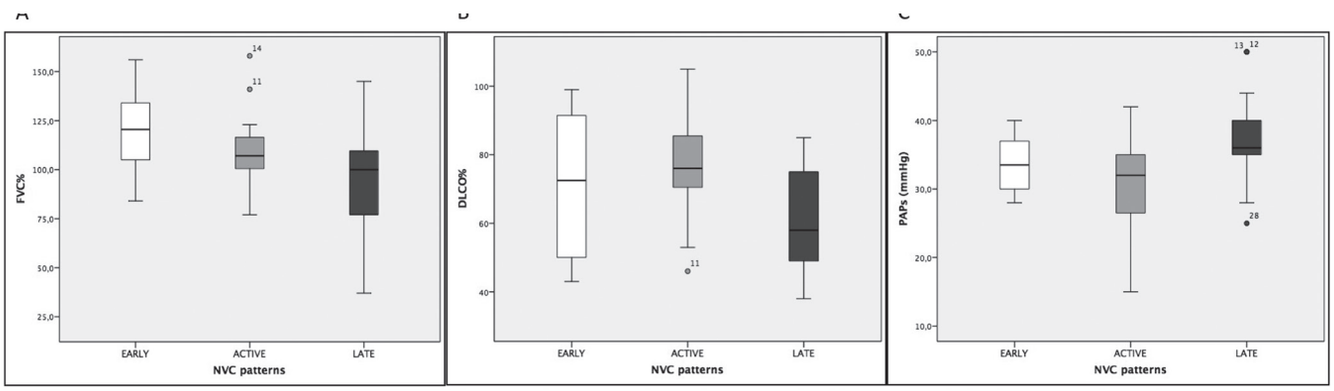

Figure 1 A, B, C

PT9A:146

SERUM KLOTHO CONCENTRATION IS INVERSELY ASSOCIATED TO THE SEVERITY OF NAILFOLD CAPILLAROSCOPIC PATTERN IN SYSTEMIC SCLEROSIS PATIENTS

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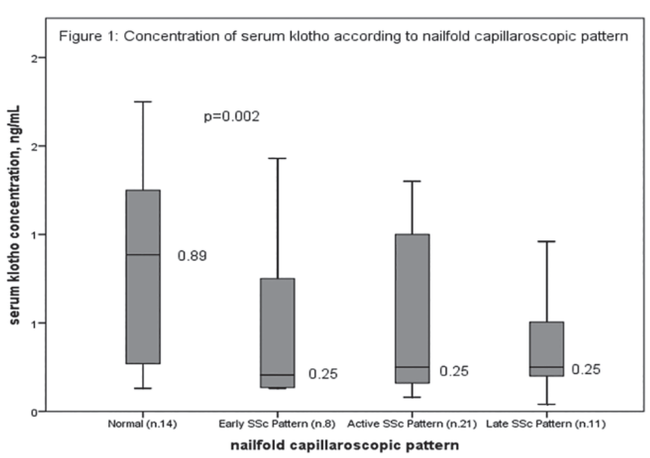
Objective. Klotho is a transmembrane and soluble glycoprotein presiding over vascular integrity. Previous studies demonstrated reduced serum klotho concentrations in systemic sclerosis (SSc) patients. Accordingly, a deficit of klotho may induce an impaired healing of digital ulcers, related to microvessel sufferance.
Our aim was to evaluate the association between serum klotho levels and nailfold capillaroscopic abnormalities in SSc patients.
Design and Method. We retrospectively evaluated a cohort of 54 consecutive SSc patients (47 females, median age 68.0 years, IQR 18; median disease duration 11.0 years, IQR 7; 11 affected by diffuse form), according to EULAR/ACR 2013 criteria. Serum klotho concentration was determined on a serum sample through an ELISA test and nailfold capillaroscopy was contestually performed.
Results. Nailfold capillaroscopy showed a normal pattern in 14 patients, an early scleroderma pattern in 8 patients, an active scleroderma pattern in 21 patients and a late scleroderma pattern in 11 patients, according to the 2000 classification by Cutolo et al. Overall median serum klotho concentrations were 0.29 ng/mL, IQR 1. Regression analysis (ANOVA) showed an inverse association between serum klotho concentration and the severity of the capillaroscopic pattern (p=0.02; t -2.2284) which was not influenced by concomitant treatment. Logistic regression did not evidence any significant association between the risk of developing digital ulcers and nailfold capillaroscopic pattern, serum klotho levels or concomitant medications. The presence of avascular areas was significantly associated to calcinosis (p=0.006).
Conclusions. In line with previous studies, our results confirm the role of klotho in preventing microvascular damage, detected with nailfold capillaroscopy.



Keywords: klotho, nailfold videocapillaroscopy, biomarkers.

Poster Tour 9B: Systemic Sclerosis and Raynaud's phenomenon

PT9B:147

A LARGE-SCALE PRTEOMIC APPROACH IDENTIFIED NEW SERUM BIOMARKERS ASSOCIATED WITH SYSTEMIC SCLEROSIS

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Objective. Systemic sclerosis (SSc) is an autoimmune disease associated with serum anti-nuclear antibodies (ANA) and anti-centromere (ACA), anti-topoisomerase I (ant-Scl70), and anti-RNA polymerase III antibodies, identifying patient subgroups. However, no reliable biomarkers can predict SSc susceptibility and internal organ involvement. Therefore, we aimed to identify serum protein biomarkers associated with SSc and interstitial lung disease (ILD).
Design and Method. We analyzed serum samples of 3 patients with SSc and ILD and 3 patients with SSc and no ILD, and 4 healthy controls (HC). All subjects were women and age matched. Serum proteomics profiling was performed using the SOMAscan platform (SomaLogic, Inc., Boulder, CO, USA).
Results. Proteomic analysis identified 33 proteins which differentiated SSc from HC and 9 proteins which differentiate SSc patients with and without ILD. Compared to healthy controls, SSc cases showed an altered expression of proteins involved in extracellular matrix formation and cell-cell adhesion, angiogenesis, and lymphocyte recruitment, activation, and signaling, including interferon and IL-1 signatures, while an overall inhibition of markers of neutrophil function was noted. Patients with SSc and ILD manifested increased protein levels related to intracellular signaling and cell cycle, along with an increase of monocyte chemoattractants and ligands for the leukocyte adhesion compared to SSc without ILD. We further observed a decrease in B cell stimulating factor and IL-22 signaling in SSc and ILD.
Conclusions. Serum proteomic profiles can differentiate SSc from healthy controls and SSc patients with and without interstitial lung disease; moreover, our results identify biomarkers with a putative pathogenic significance.

Keywords: biomarkers, proteomics, interstitial lung disease.

PT9B:148

HOW MUCH TEMPERATURE CAN TRULY IMPACT ON RAYNAUD'S PHENOMENON SECONDARY TO SYSTEMIC SCLEROSIS?

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Objective. Raynaud's phenomenon (RP) is a prominent feature of systemic sclerosis (SSc). SSc-RP is related to considerable disease-related morbidity (pain, impaired hand function, reduced social participation, body image dissatisfaction, increased reliance on others and reduced quality of life). The aim of our study was to estimate the impact of outdoor temperature on RP in patients with SSc treated with two different intravenous (IV) iloprost (ILO) regimens and in patients not treated with IV ILO.
Design and Method. We conducted a monocentric, prospective, pragmatic and non-randomized study. We enrolled all consecutive SSc patients not requiring therapy with IV ILO (group A), or requiring therapy with IV ILO once monthly (group B) or therapy with IV ILO for 5 consecutive days every 3 months (group C). RP severity was evaluated through a visual analogue scale (VAS) from 0 to 10. Patients were followed up for three months. Group A and C patients were evaluated at baseline and after 3 months. Group B were evaluated at every infusion. Outdoor temperature for each patient was calculated as the mean outdoor temperature during the week before the evaluation. Temperatures were supplied by Meteo Operations Italia SrL – Centro Epson Meteo.
Results. 96 patients were enrolled in the study: 52 in group A, 24 in group B, and 20 in group C. Median RP VAS was not statistically different at baseline between the three groups (5; 0-9). RP VAS was related to the average temperature observed the week before the evaluation at place of residence. In group A, VAS RP decreases of -0.072 for a growth of one grade of the temperature (IC 95%: -0.206 - 0.061, *p*-value=0.297). In group B, VAS RP decreases of -0.278 for a growth of one grade of the temperature (IC 95%: -0.397 – -0.160, *p*-value<0.001). In group C, VAS RP decreases of -0.053 for a growth of one grade of temperature (IC 95%: -0.201 - 0.095, *p*-value=0.483).
Conclusions. RP severity, as assessed by VAS, showed a correlation with the outdoor temperature. This information could support the seasonal administration of IV ILO only during the coolest periods of the year.

Keywords: systemic sclerosis, iloprost, Raynaud's phenomenon.

PT9B:149

HEALTH RELATED QUALITY OF LIFE IN PATIENTS WITH SYSTEMIC SCLEROSIS TREATED WITH TWO DIFFERENT INTRAVENOUS ILOPROST REGIMENS

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Objective. Raynaud's phenomenon (RP) and digital ulcers (DU) can impair the health related quality of life (HRQoL) of systemic sclerosis (SSc) patients. Intravenous (IV) iloprost (ILO) can be administered to control severe RP and for DU healing. HRQoL is currently considered fundamental to assess the impact of the disease and therapy. The generic instrument EQ-5D-5L is used to assess the general HRQoL in SSc. Our object was to estimate HRQoL in SSc treated with two different IV ILO regimens and in patients not treated with IV ILO.
Design and Method. We conducted a monocentric, prospective, pragmatic and non-randomized study. We enrolled all consecutive SSc patients not requiring therapy with IV ILO (group A), requiring therapy with IV ILO once monthly (group B) or with IV ILO for 5 consecutive days every 3 months (group C). HRQoL was assessed using EQ-5D-5L through a telephone interview. Patients were followed up for three months. Multiple regression analyses were conducted to estimate the mean VAS and the mean utility in each treatment group, adjusting for possible confounders: age, sex, treatment group, baseline utility or VAS score, average outdoor temperature during the week before the evaluation at patient's place of residence (data from Meteo Operations Italia SrL – Centro Epson Meteo), RP VAS, disease duration, skin score.
Results. 96 patients were enrolled: 52 in group A, 24 in group B, and 20 in group C. Of these 35, 21 and 16 completed the study respectively. Utility and VAS score at the end of the three months, as adjusted for the possible confounders, were not statistically different in the three groups.

Table

Indipendent variable descriptions	Utility				VAS			
	Coefficient	P	95% CI		Coefficient	P	95% CI	
Age (years)	-0,001	0,149	-0,002	0,000	-0,332	0,026	-0,623	-0,041
Sex								
Female (reference)	–	–	–	–	–	–	–	–
Male	0,028	0,148	-0,010	0,067	3,637	0,521	-7,618	14,891
Treatment group								
ILO monthy (reference)	–	–	–	–	–	–	–	–
ILO for 5 days every 3 months	**0,001**	**0,975**	**-0,037**	**0,038**	**7,252**	**0,182**	**-3,486**	**17,990**
No ILO	**-0,005**	**0,771**	**-0,037**	**0,028**	**9,160**	**0,055**	**-0,185**	**18,505**
Utility at baseline	0,731	0,000	0,526	0,936	0,270	0,012	0,061	0,478
Average temperature	0,003	0,155	-0,001	0,007	0,219	0,714	-0,971	1,409
RP VAS	-0,005	0,054	-0,010	0,000	-1,114	0,131	-2,569	0,341
Disease duration	0,001	0,534	-0,001	0,002	0,172	0,510	-0,348	0,693
Skin score (mRSS)	-0,003	0,021	-0,006	-0,001	-0,161	0,695	-0,977	0,655
Constant	0,241	0,025	0,032	0,451	68,969	0,000	37,504	100,435

CI: confidence interval; ILO: Iloprost; RP: Raynaud's phenomenon; VAS: visual analogue score; mRSS: modified Rodnan Skin Score.

Conclusions. Utility and VAS score, at the three-month follow-up, were not different in the three groups as if IV ILO was able to make patients requiring IV ILO as similar as patients not requiring IV ILO. Moreover, in this model there was no difference between the two ILO regimens. These results suggest that our therapeutic approach, based on various criteria such as demographic, clinical characteristics, logistic aspects and patients' preferences, allows to reach or to maintain HRQoL at comparable levels between the three groups considered.

Keywords: systemic sclerosis, iloprost, health related quality of life.

PT9B:150

THE D-PRO QUESTIONNAIRE: ASSESSMENT OF THE VITAMIN D STATUS IN SYSTEMIC SCLEROSIS PATIENTS

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Objective. Systemic sclerosis (SSc) is a connective tissue disease characterized by endothelial cells injury, immune dysregulation and overproduction of collagen and other extracellular matrix components (1). Vitamin D has an immunomodulatory function, and low levels are detected in SSc (2, 3). The aim of this study was to evaluate the intake of vitamin D and to identify SSc patients with an increased risk of develop vitamin D deficiency-related symptoms, using D-PRO questionnaire, originally developed for rheumatoid arthritis (RA) (4).
Design and Method. D-PRO questionnaire was administered to 26 SSc patients and serum vitamin D concentrations was detected. The questionnaire consisted of three domains, Symptom Risk Score (SRS), Habitus Risk Score (HRS) and Global Risk Score (SRS+HRS=GRS). We have evaluated the correlation between vitamin D levels and the SRS, HRS and GRS using non-parametric tests
Results. Half of the patients showed normal vitamin D levels (>30 ng/ml), 73% were under vitamin D supplementation (with > 1000 UI/die of colecalciferole), 7.7% received supplementation but <1000 UI/die and 19% do not receive any vitamin D supplementation. HRS negatively correlated with Vitamin D concentrations (p<0.01). Concerning physical activity, 35% of patients spent one hour a day, the 38% 15-30 minutes, and the 27% don't practice any physical activity. Regarding sun exposure only the 11% were spending one hour at sunlight, 50% only 15-30 minutes and 38% do not have any exposition. About the dietary habits: 96% of patients take eggs and 57% eat fish only once a week, 27% use fortified cereals and very few patients (11%) introduced in daily diet soymilk and mushrooms. Any correlation was found between both SRS either GRS and Vitamin D concentrations. A positive trend, even if not statistically significative, was observed between hair changes, depressive habits and vitamin D levels. No correlation was found between skin, nails, muscle, bone pain, anxiety, sleep irregularity, fatigue and vitamin D concentrations. Finally a negative trend was found between lung (FVC and DLCO/VA) or renal (RI) impairment and vitamin D.
Conclusions. Limited by a small cohort of patients, the D-PRO questionnaire seems to be relevant to test vitamin D intake, but not adequate to monitor its effects.

Keywords: systemic sclerosis, vitamin D, diet.

PT9B:151

NAILFOLD CAPILLAROSCOPY ASPECTS IN UNDIFFERENTIATED CONNECTIVE TISSUE DISEASE: RESULTS OF A PRELIMINARY STUDY

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Objective. Nailfold capillaroscopy (NFC) is a simple, non-invasive, outpatient procedure that permits direct visualization of capillaries through the skin of terminal nailfold with the help of digital microscope. The presence of clinical and serological manifestations suggestive of systemic autoimmune diseases but not fulfilling the classification criterias for defined connective tissue disease (CTD) are common in clinical practice and are indicated as undifferentiated (U) CTDs, Raynaud's phenomenon (RP) is the most common and significant clinical condition with an indication for a microvascular analysis to be carried out as soon as possible. Microvascular alterations are detected by capillaroscopy in undifferentiated connective tissue disease (UCTD). The main objective of this study was to describe the nailfold capillaroscopy aspects in UCTD.
Design and Method. This is a cross-sectional prospective and descriptive study. Patients matching Danieli et al. UCTD criteria were included.
Results. 31 cases were identified, sex ratio: 9/1, 3 men and 28 women. Raynaud's phenomenon was present in 45% of cases.
Capillaroscopy was pathological in 38.7% of cases. No specific microangioangiopathy was observed.
The density and organization of capillaries were preserved in 90% and 93% of cases respectively.
The venous plexus was visible in 42% of cases.
Minor dystrophies were observed in 45% of cases (caduceus 92%, tortuosities 71%). Major unspecific dystrophies were observed in 29% of cases (haemorrhages 25, 8%, Exudates 25, 8%, capillary dilatation 9, 6%, ramifications 9, 6%, no megacapillary and no avascular areas were noted).
Conclusions. During undifferentiated connectivity tissue disease, microangiopathy is frequent but not specific. The diagnostic contribution of capillaroscopy is modest and remains to be determined. This study will be extended by another one including more patients.

Keywords: nailfold capillaroscopy, UCTD, microangiopathy.

PT9B:152

DETERMINANTS OF QUALITY OF LIFE IN SYSTEMIC SCLEROSIS AND PATIENT PERCEPTION OF THE DISEASE

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Objective. The purpose of this study was to assess health-related quality of life (HRQoL) and disease perception in a group of systemic sclerosis patients (SSc).
Design and Method. We performed a prospective case-control study on EUSTAR cohort 096. 100 SSc patients were evaluated between august 2015-june 2016. Socio-demographic information, disease characteristics and self-assessment questionnaires: Health assesment questionnaire (HAQ), EuroQol-5D (EQ5D) and the Brief Illness Perception Questionnaire (IPQ)-were collected.
Results. The group included 82 females, 18 males, 62 limited and 38 diffuse SSc subsets,
Medium HAQ value was 0.93(0.6). Patients with higher Rodnan skin score (p=0.002), synovitis (p=0.028), late capillaroscopic pattern (p=0.028), muscle weakness (p=0.001), gastrointestinal involvement (p=0.013) and those on immunosupresants (p=0.024) have a poor life quality.
According to EQ-5D, the quality of life was related to different determinants depending on organ involvement. mobility was influenced by lung involvement (p=0.008), digital ulcers (p=0.034) and Medsger scores (p=0.017); self-care was influenced by the Rodnan score (p=0.02), diffuse subset (p=0.023), disease activity score (p=0.019), muscle weakness (p=0.03) and gastrointestinal involvement (p=0.021); the performance was influenced by disease subset (p=0.015), Medsger score (p=0.02), cardiac involvement (p=0.026) and the use of immunosuppresants (p=0.014). Anxiety and depression were related to digital ulcers (p=0.01, respectively p=0.045)
The illness had a great impact on patients life 7.3 (2.5). The main determinant was pulmonary fibrosis (p=0.04). The patients consider that their disease will continue for quite a long time 8.73 (2.63). Most of the patiens do not feel to have a good control on their disease 6.36 (3.3) and unfortunately they do not think that the treatment is very helpful 7.92 (2.76). The intensity of the symptoms is quite severe 7.52 (2.76), mostly related to the presence of digital ulcers (p=0.039) and gastrointestinal involvement (p=0.019). Almost all patients are very concerned about their disease 9.12 (2.36) especially about digital ulcers (p=0.43). Most of them are emotionally affected by their disease 7.68 (2.67)
Conclusions. This study confirms the presence of impaired life quality in patients with SSc with impact on mobility, self-care, usual activities. The major determinants were the extent of skin involvement, musculoarticular, gastrointestinal involvement and digital ulcers. Often patients are anxious/depressed and the perception of this illness is pessimistic.

Keywords: quality, life, scleroderma.

PT9:B153

FERTILITY AND PREGNANCY IN SYSTEMIC SCLEROSIS – A EUSTAR CENTER EXPERIENCE

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Objective. Studies concerning fertility in women with systemic sclerosis (SSc) have shown mixed results regarding pregnancy rates and difficulties, both prior to and after the diagnosis. Our purpose was to determine fertility and pregnancy outcome in women with SSc in EUSTAR center 96.

Design and Method. The study group comprised 75 SSc women through a detailed self-administered questionnaire: age at diagnosis, age at pregnancy/live-birth, number and outcome of pregnancies/live-birth, type of delivery, age at menopause, impact of pregnancy upon disease.
Results. The medium age at SSc diagnosis was 48.72 (13.24) years. 34.66% of the patients reached menopause at the time of the SSc diagnosis, the medium age at menopause onset was 51.65 (5.83) years. Medium number of pregnancies was 2.68 (1.52), medium number of babies was 1.83(0.78). 13.33% of the patients never had any pregnancy. The medium age at first pregnancy was 27.56 (7.68) years. The causes of pregnancy loss were: 14.28% - spontaneous abortion, 14.28% - elective abortion (teratogenic treatment), 63.51% - on demand abortion; 7.93% - intrauterine fetal death. Most of the patients (75%) gave birth naturally.
There were only 8 cases of pregnancy after the SSc diagnosis: 3 had indication for abortion (theratogenic treatment). Among the 5 living birth, one child was diagnosed with autism. In all cases the mothers related gastroesophageal reflux exacerbation during pregnancy, 4 of them developed digital ulcers 3-6 month postpartum. None of the patients received any medication during pregnancy (by their will). All the mothers gave birth by C-section.
Conclusions. Fertility rate seems to be significantly lower after the diagnosis of SSc. Due to small number of pregnancies after the SSc onset, we could not establish if pregnancy clearly exacerbate SSc.

Keywords: fertility, pregnancy, scleroderma.

PT9:B154

SCLERONET® A MULTICENTER PILOT PROJECT HEADED BY GILS – GRUPPO ITALIANO LOTTA ALLA SCLERODERMIA

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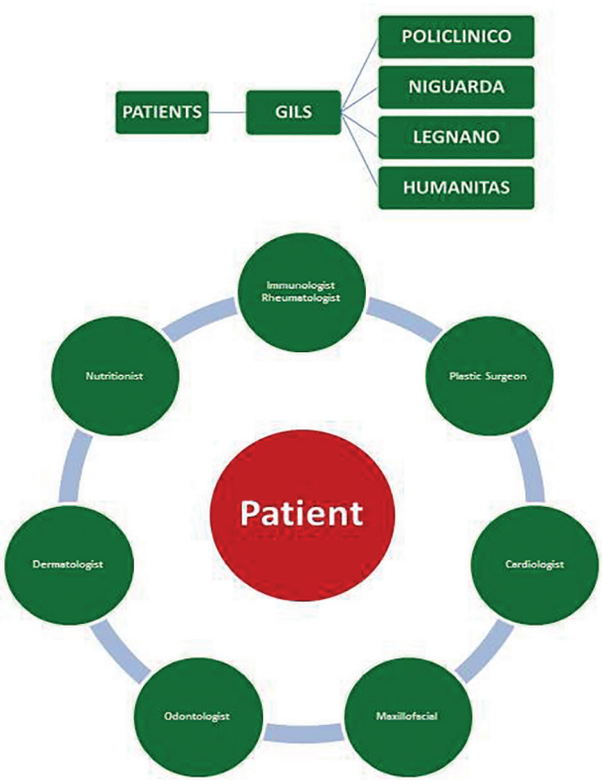
Objective. Systemic Sclerosis (SSc) is a CTD which affects skin, blood vessels and several internal organs. Because of its complexity and heterogeneity, a multidisciplinary approach is helpful to patients.
Design and Method. GILS, the Italian Patient Organisation for SSc, selected 4 expert centers in Milan area, among those able to diagnose and cure SSc and several specialists were individuated: immuno-rheumatologists, plastic surgeons, cardiologists, maxillofacial-specialists, odontologists, dermatologists, nutritionists. Priority agendas were created and patients have the consult in a short time. Specialists can share, care and cure inside this net. A meeting is held every month at the presence of a patient representative. No private datas are disclosed. Sanitary and General Managers of the Hospitals give their positive evaluation; every year they receive a report.
This pilot project is called ScleroNet®. Centers involved are: Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, ASST Grande Ospedale Metropolitano Niguarda, ASST Ovest Milanese Legnano, IRCCS Istituto Clinico Humanitas.



Results. After one year, 31 SSc patients underwent to perioral lipofilling and 10 for DU nonresponsive to classical treatment. 10 patients with suspect of non-ischemic-miocardiopathy, negative for PAH underwent a heart-MRI: 5 were diagnosed with inflammatory-miocardiopathy and got immunosuppressive therapy. 58 right-heart-catheterizations, 64 cardiopulmonary tests were performed.
UCLA and MUST questionnaires are given to all patients for a GI involvement evaluation. If necessary, they will be followed by a nutritionist. 74 patients have been screened to prevent melanoma and non-melanotic-skin cancer; a new screening will follow.
Conclusions. SSc patients present unique features and need a multidisciplinary approach. ScleroNet® helps patients to receive the best care and cure according to their specific problems inside an expert centers net in a delimited area. Common agendas help in shorting the access to these centers. Prevention is one of main aims of the net. Monthly meetings allow to understand the strength as well as the threads of the project and to find new solutions to improve it and implement it in other Italian regions. The presence of a patient representative in the meetings, allows to highlight unmet needs and focus the attention also to QoL. This project doesn't receive any financial supports. It's on a voluntary basis.

Keywords: systemic sclerosis, patient organisation, networking.

PT9:B155

FUNCTIONAL STATE OF GASTROINTESTINAL TRACT IN CHILDREN WITH SYSTEMIC SCLEROSIS AND LIMITED SCLERODERMA

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Objective. The aim of the study was to assess the functional state of the upper sections of the gas-trointestinal tract in children with systemic sclerosis (SS) and limited scleroderma (LS)
Design and Method. A total of 50 children aged 5 to 18 (mean age: 13.08±0.41 years) were examined, including 26 girls and 24 boys. 24 children with MOP (mean age: 12.58±0.6 years) consisted of the 1st group. 26 children with LS (mean age: 13.62±0.56 years) were the 2nd group. 20 healthy children of the same age made up a control group. Fibrogastroduodenoscopy (FGDS) with biopsy of the gastric mucosa was performed in all patients.
Results. Signs of the inflammatory process in the upper gastrointestinal mucosa were detected in 83.3% of patients with SS and in 65.4% of patients with LS. Most often in children of both groups there was a combined lesion of the mucous membrane of several parts of the digestive tract in the form of gastroduodenitis (45% in the 1st group and 47% in the 2nd group) or esophagogastroduodenitis (25% in the 1st group and 23, 5% in the 2nd). Associations with Helicobacter pylori (Hp) were not found in any patient. Abnormalities in the motor function of the upper digestive tract were observed in 37.5% of children with SS and in 19.2% with LS.
Pathological changes from the hepatobiliary system and pancreas were diagnosed in 88% of children with SS and in 74.3% of patients with LS. Disorders of the intestinal bioce-nosis, manifested by a decrease in the content of the liquefied microflora, were characteristic for 72% of patients with SS and 51.4% with LS.
Conclusions. The obtained data justify the necessity of instrumental examination of children with limited scleroderma with the purpose of timely diagnosis of the pathology of the gastrointestinal tract.

Keywords: systemic sclerosis, limited scleroderma, gastrointestinal tract.

PT9B:156

MODERN APPROACHES TO REHABILITATION OF CHILDREN WITH JUVENILE SKLERODERMA

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Objective. Juvenile scleroderma (JSD) is characterized by a large range of clinical manifestations and variability of the course, the defeat of many body systems, including the musculoskeletal system, which often leads to early disability.
Design and Method. Purpose: to develop optimal rehabilitation of children with juvenile scleroderma.
Twenty children with JSD were examined before and after rehabilitation. The survey included general clinical, laboratory and functional research methods. The effectiveness of the courses of treatment evaluated by increasing the amplitude of motion in the affected joints, muscle strength and improving the physical performance of patients.
Results. Rehabilitation of children with JSD consisted of complex medical therapy aimed at maintaining long-term remission of the disease and improving the quality of life of patients, physiotherapy, massage and exercise therapy, as well as psychotherapeutic care. Medical therapy consisted of a basic and symptomatic therapy. Methotrexate was the drug of choice of basic therapy with JSD. The rational use of anti-inflammatory, vascular, antifibrotic and restorative agents was used.
An alternating magnetic field (6 children with JSD) and an infrared laser (7 children with JSD) were used for articular syndrome with lesions of large and medium joints. Ultrasound through water alternating with paraffin applications (5 children with JSD) was prescribed for lesions of the joints of the hands and feet. Helium-neon laser in combination with hyaluronidase (intramuscularly or in the form of electrophoresis) was prescribed to patients with JSD on the foci of skin damage.
Therapeutic exercise was administered to all children with JSD. Regular exercises have a general strengthening effect, help to maintain joint mobility and skin elasticity, strengthen muscles and prevent the development of contractures.
Conclusions. Improving the quality of life, partial or complete restoration of the function of the musculoskeletal system in children with JSD confirms the high efficiency of the proposed rehabilitation schemes.

Keywords: juvenile scleroderma, children, rehabilitation.

PT9B:157

ILOPROST INDUCED WEIGHT LOST AND MALNUTRITION IN SYSTEMIC SCLEROSIS PATIENT: A CASE REPORT

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Objective. INTRODUCTION
Systemic sclerosis (SSc) is a multisystem autoimmune disease of unknown origin, characterized by vasculopathy and tissue fibrosis of the skin and various organs. Gastrointestinal involvement is a serious and prevalent complication of SSc, and the oesophagus is the most frequently affected organ. Stomach abnormalities occur in approximately 50% of subjects and the remaining gastro-intestinal tract disorders affect the small bowel, colon, and anorectal area. Symptoms of dysmotility have a relevant impact on the quality of life of SSc patients. Diarrhea, nausea, or weight loss may even result in severe malnutrition (1).
Design and Method. Case report: In January 2010, a 56-year-old male was diagnosed with SSc with pulmonary, esophageal, cutaneous, and vascular involvement characterized by Raynaud phenomenon, with digital ulcers on his hands. Iloprost treatment was started at a dose of 0.5-1 ng/kg/min (6 hours per day, for 5 days every 6-8 weeks). Not side effects are initially reported. However, during January 2017 she referred diarrhea without abdominal pain, with a progressive weight loss. Blood tests, stool tests, lactase deficiency test and endoscopic procedure, all were negative. Intravenous fluid and antibiotics were administered, with consequent reduction of the symptoms. However, patient reported worsening of diarrhea after the start of a new therapeutic cycle with iloprost. Based on clinical history and laboratory examinations, we hypothesized adverse reaction to iloprost and we decided to stop therapy. After one month late, patient gained about 4 kg and new diarrhea episodes, are not reported.
Results. In our clinical case, we hypothesize that intestinal hypermobility due to iloprost administration, can induce diarrhea and consequent weight loss, as a secondary effect.
Conclusions.

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Keywords: systemic sclerosis, malnutrition, iloprost.

PT9B:158

FACS CHARACTERIZATION OF CIRCULATING FIBROCYTES FROM LIMITED CUTANEOUS SCLERODERMA PATIENTS

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Objective. Circulating human fibrocytes, expressing the leukocyte common antigen CD45, the collagen I (COL I) protein, the chemokine receptor CXCR4 and class II major histocompatibility complex molecules (HLA-DP, -DQ, and -DR), seem to exert immunomodulatory effects and could have a role in fibrosing diseases (*i.e.* systemic sclerosis, SSc). Fibrocytes can migrate into affected tissues (through CXCR4/CXCL12 interaction), where could differentiate into fibroblasts/myofibroblasts, inducing matrix protein deposition and fibrosis.
The purpose of this study was to characterize fibrocytes by fluorescence-activated cell sorter analysis (FACS) from peripheral blood mononuclear cells (PBMCs) of limited cutaneous lcSSc patients and healthy subjects (HSs).
Design and Method. Blood samples were collected, after signed informed consent, at basal time (T0), from 11 lcSSc patients (treated only with different vasodilator drugs) and 5 HSs. In addition, PBMCs, isolated from 9 lcSSc patients and 5 HSs were cultured for 8 days (T8) on fibronectin-coated plates. The adherent spindle shaped cells were lifted with 0.05% ice-cold EDTA. Fibrocytes were identified by FACS, using anti-CD45, anti-COL I, anti-CXCR4 and anti-HLA-DR antibodies.
Results. At T0, among the $CD45^+$ cells, the percentage of fibrocytes, identified as $CD45^+$, COL I^+, $CXCR4^+$ was 1.0±1.2% in lcSSc patients and 0.5±0.2% in HSs. In addition, the HLA-DR expression on fibrocytes in both lcSSc patients and HSs showed low values (13.1±4.7% and 22.1±21.1%, respectively).
After 8 days (T8) of culture, fibrocytes presented adherent and spindle shaped morphology and FACS analysis demonstrated that the percentage of fibrocytes $CD45^+$, COL I^+, $CXCR4^+$ increased up to 52.8±27.1% in lcSSc patients and up to 61.9±24.4 in HSs, compared to T0.
At T8 of culture, the HLA-DR^+ expression on fibrocytes in lcSSc patients and HSs strongly increased (90.1±22.7% and 97.9±1.9, respectively), compared to T0.
Conclusions. Circulating fibrocytes resulted poorly represented in peripheral blood at basal time, but after 8 days of culture, their percentage increased up to 50 times in lcSSc (and HSs), increasing their HLA-DR expression (up to 68% in lcSSc and 85% in HSs). Probably, an early role of circulating fibrocytes in fibrosing diseases could be hypothesized, thus these cells could be considered an early cellular targets in SSc.

Keywords: fibrocytes, scleroderma, fibrosis.

PT9B:159

SYSTEMIC SCLEROSIS SINE SCLERODERMA

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Objective. Systemic sclerosis is a rare generalized disease with scleroderma, i.e. skin thickening as one of its major manifestations. The disease has two main subsets, diffuse and limited forms. The subset known as systemic sclerosis sine scleroderma is a very rare subset characterized by the total or partial absence of cutaneous manifestations of systemic sclerosis with the occurrence of internal organ involvement and serologic abnormalities. The aim was to describe the case of a patient with systemic sclerosis sine scleroderma.
Design and Method. The case of a female patient, aged 74 years, who presented with arthritis of the small joints of the hands, Raynaud's phenomenon, fatigue, chronic cough, primary hypothyroidism and sicca symptoms is presented. Schirmer's test was positive. The patient also had osteoporosis on treatment with denosumab. Antinuclear antibodies were positive 1/640, rheumatoid factor positive, anti-CCP negative, ant-Scl70 positive and anti-Ro antibodies positive. A chest high resolution computed tomography showed pulmonary fibrosis, honeycomb appearance and thickening around the bronchi. Lung diffusion capacity was decreased. Capillaroscopy revealed focal hemorrhages. Skin alterations, such as skin thickening were absent.
Results. The diagnosis of systemic sclerosis sine scleroderma was made. A regimen of azathioprine, prednisone and hydroxychloroquine was initiated. However, azathioprine was discontinued due to gastric intolerance. Five months later the patient presented with worsening dyspnea, decreased lung diffusion capacity and on chest high resolution computed tomography honeycomb appearance and ground glass opacities. Cyclophosphamide iv was administered 1g/month for 6 months. Dyspnea was stable.
Conclusions. The case of a patient with systemic sclerosis sine scleroderma is described. Systemic sclerosis sine scleroderma is a rare subtype of the disease comprising <5% of the cases. It is characterized by involvement of internal organs, in the case described herein lung involvement. Immunologic abnormalities are also evident. Systemic sclerosis sine scleroderma is difficult to diagnose, patients exhibiting clinical and demographic characteristics similar to those of the diffuse or limited forms of the disease.

Keywords: systemic sclerosis, interstitial lung disease, sine scleroderma.