AB1351 SYSTEMIC RHEUMATIC DISEASES AND CUMULATIVE CHILDHOOD STRESS

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Background: It has been suggested that the adaptive stress response may be disrupted by life adverse events. Childhood maltreatment has been linked to increased inflammatory markers such as C reactive protein levels and increased prevalence of autoimmune disorders in adulthood. The mechanisms that underlie such association are not clear but it has been postulated that a dysregulated hypothalamic-pituitary-adrenal axis, accelerated immune cell ageing and altered immune cell gene expression pattern may play a role.

Objectives: To study the prevalence of adverse childhood experiences (ACEs) in a sample of patients with systemic lupus erythematosus (SLE), spondyloarthritis (SpA), scleroderma (SSc) and rheumatoid arthritis (RA) comparing them with controls.

Methods: After approval from the local Committee of Ethics in Research, we interviewed 315 patients with rheumatic disease (100 SLE; 40 SSc; 60 SpA; 115 RA) and 272 controls applying the ACEs Study questionnaire with questions on childhood abuse, negligence, domestic violence and household dysfunctions. This questionnaire score ranges from zero (best result) to 8 (worst scenario). Controls were paired for age ($p=0.39$), gender ($p=0.64$), monetary income ($p=0.20$), religiosity ($p=0.19$) and years of formal education ($p=0.62$).

Results: In the whole group of rheumatic patients the median number of ACEs was 3 (IQR 2.5–5); in the controls was 3 (IQR=2–5) with $p=0.45$. About 201/315 (63.8%) of patients had ACEs score ≥ 3 ; the controls had 163/272 (59.9%) with $p=0.31$. In the SLE group 64/100 (64%) of the patients have had at least 3 ACEs; in SSc group 24/40 (60%); in SpA 36/60 (60%); in RA 77/115 (66.9%) and in controls 163/272 (59.9%). Studying the prevalence of ACEs according to the rheumatic disease it was found that patients did not differ from controls in SLE ($p=0.47$ for ACEs scale and 0.87 in the number of ACEs ≥ 3); in SSc ($p=0.67$ for ACEs scale and 0.72 in the number of ACEs ≥ 3); in SpA ($p=0.92$ for ACEs scale and 0.21 in the number of ACEs ≥ 3); neither in RA ($p=0.06$ for ACEs scale and 0.14 in the number of ACEs ≥ 3).

Conclusions: In this sample, it was not possible to associate the occurrence of ACEs with the appearance of rheumatic diseases in adulthood.

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AB1352 EVALUATION OF MRI RAMRIS SCORE AND CLINICAL RESPONSE IN PATIENTS WITH ACPA POSITIVE UNDIFFERENTIATED ARTHRITIS TREATED WITH INFILIXIMAB VERSUS PLACEBO

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Background: Patients (Pts) with Undifferentiated Arthritis (UA), positive for ACPA antibodies are at high risk of progressing to Rheumatoid Arthritis (RA). TNF play a key role in the pathogenesis of RA. Very early treatment with the combination of Methotrexate and Infliximab (IFX) in a small cohort of UA showed a benefit in clinical symptoms and reduction of MRI evidence of synovitis and erosions.

Objectives: To assess whether IFX as a monotherapy is more effective than placebo (Pbo) in UA pts positive for ACPA. Here we evaluate the clinical response, the MRI RAMRIS score MRI and the risk to develop RA.

Methods: This was a randomised, double-blind, Pbo-controlled, two-arm parallel design study of 12 months to the primary endpoint (proportion of pts who developed RA by ARA 2007 criteria). Pts with UA and symptomatic clinical synovitis of ≥ 1 joints and ACPA positivity were randomised 1:1 to IFX (3 mg/kg) or Pbo at week

0, 2, 6, 14 and 22, after which treatment was terminated. NSAIDs/stable low-dose oral corticosteroid (≤ 5 mg/day prednisone or equivalent) were permitted but no DMARDs.

Disease activity measures (DAS28-CRP) were evaluated at BL, Wks 2 and 4, and every 4 wks until Wk 52. OMERACT RAMRIS scores (components: erosion, osteitis, synovitis, tenosynovitis) and peritendinitis scores were evaluated at BL and Mth 4. Pts who developed RA at any time were discontinued and could receive standard of care.

Results: 28 pts were randomised (mean age: 48 ± 12 years; mean duration of arthritis: 0.34 ± 0.53 year; mean CRP level: 1.67 ± 2.23 mg/dL). By 1 year, 11/15 (73%) pts treated with IFX developed RA vs 10/15 (67%) Pbo-treated pts (Kaplan Meier, log rank $p=0.868$). At wk 14, ACR 20, 50, 70 responses were observed respectively in 71.4%, 42.9%, 28.6% pts treated with IFX vs 21.4%, 0%, 0% treated with Pbo. Remission DAS28CRP rate was observed in 50% in the IFX group vs 21.4% in the Pbo group. Pts in the IFX arm experienced significantly greater improvements in RAMRIS score versus pbo at wk 16 (see graph). No severe safety issues were observed except one case of severe hepatotoxicity induced by Isoniazid.

Abstract AB1352 – Figure 1

Conclusions: In this small randomised cohort of UA ACPA positive pts, we noted a significant difference in the RAMRIS scoring after 4 months in the IFX group vs PBo. This is the first study to report a worsening of disease activity based on the RAMRIS scores in the PBo group but changes were minimal and not observed in all pts. IFX has higher efficacy but did not prevent the progression to definite RA. Further analyses are ongoing to determine MRI predictors for severity.

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AB1353 HOW MUCH TEMPERATURE CAN TRULY IMPACT ON RAYNAUD'S PHENOMENON SECONDARY TO SYSTEMIC SCLEROSIS?

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Background: Raynaud's phenomenon (RP) is considered a prominent feature of systemic sclerosis (SSc).¹ SSc-RP is related to considerable disease-related morbidity including pain, impaired hand function, reduced social participation, body image dissatisfaction, increased reliance on others and reduced quality of life.² In most cases RP is triggered by low environmental temperature or sudden variation of it. According to EULAR recommendations, intravenous (IV) iloprost (ILO) should be used to control severe RP, after oral therapy failure.³ Unfortunately no validated IV ILO regimens have been so far published.

Objectives: Aim of our study was to estimate the impact of environmental temperature on RP in patients with SSc treated with two different IV ILO regimens and in patients not treated with IV ILO.

Methods: We conducted a monocentric, prospective, pragmatic and non-randomised study, after the local ethical committee approval, between September 2016 and February 2017. In the present 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. Group A and C patients were evaluated at baseline and after 3 months. Group B were evaluated at every infusion for 3 months. Environmental temperature for each patient was calculated as the mean temperature during the week before the evaluation in the place of residence (data supplied by Meteo Operations Italia (MOPI) Srl – Centro Epson Meteo). Moreover for each participations demographic and disease characteristics were collected at baseline.

Results: 96 patients were enrolled in the study: 52 in group A, 24 in group B, and 20 in group C. Of these 35, 21 and 16 respectively completed the study.

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 environmental temperature. This information could support the seasonal administration of IV ILO only during the coolest periods of the year.

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AB1354 RHEUMATOID ARTHRITIS IN ADULTS IN AN URBAN AREA: TRENDS FOR INCIDENCE, PREVALENCE AND HOSPITALISATION RATES FOR A 10-YEAR PERIOD

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Background: Rheumatoid arthritis (RA) is the most common inflammatory polyarthropathy. According to the previously published data its prevalence was 0.3%–1.5% and incidence – about 0.01%–0.02%^{1,2} with some variations due to genetic and ethnical factors.³ During last decades significant progress has been achieved in early diagnostic and treatment of RA. Nevertheless a tendency for the increase of both incidence and prevalence of RA was reported lately by some national registers.⁴

Objectives: We estimated incidence, prevalence and hospitalisation rates for RA in Minsk (the Republic of Belarus) for a 10 year period.

Methods: Minsk is a typical urban area which is considered to be representative for the urban population of the whole country. The data on the new onset RA and the first visit for RA in a corresponding year were collected from all rheumatologic services of Minsk for the period 2005–2015. Only patients older than 18 years old with the diagnosis of RA according to the ICD-10 (M05-M06) were included. Demographic data on the population of the Republic of Belarus were obtained from the annual Statistical bulletins of the National Statistical Committee. Hospitalisation rates were calculated on the base of statistical reports on discharges for the corresponding years.

Results: Population size for adults in Minsk in 2005 was 1467390 with 135 new onset RA cases revealed and corresponding RA incidence was 9.2 (CI_{95%} 8.6–9.8) per 100 000 adults. Population size in 2010 increased to 1529470, 131 new onset RA cases were revealed and RA incidence was 8.6 (CI_{95%} 8.4–8.7) per 100 000 adults. Population size in 2015 also increased at the same rate and amounted to 1598120, 206 new onset RA cases were revealed and corresponding RA incidence increased to 12.9 (CI_{95%} 12.7–13.1) per 100 000 adults ($p<0.001$).

There were registered 2745 first visits for RA in 2005 with corresponding RA prevalence 187.1 (CI_{95%} 186.4–187.7) per 100 000 adults. There were registered 3373 first visits for RA in 2010 and 4315 visits in 2015, RA prevalence rates were 220.5 (CI_{95%} 219.9–221.2) and 270.0 (CI_{95%} 269.3–270.7) per 100 000 adults, correspondingly. These data suggest a steady increase of RA prevalence for the last 10 years ($p<0.001$).

There were 7147 hospitalizations in Minsk for RA for the period 2010–2015. Hospitalisation rates for RA increased from 75.4 (CI_{95%} 73.8–77.1) to 79.2 4 (CI_{95%} 77.5–80.9) per 100 000 adults ($p<0.001$) with the same provision of the population with the specialised rheumatologic beds – 15.7 (CI_{95%} 14.9–16.5) and 15.0 (CI_{95%} 14.3–15.8) per 100 000 adults (NS) in 2010 and 2015,

correspondingly, while hospitalisation rates among RA patients decreased from 34.2% to 29.3% ($p<0.001$).

Conclusions: We revealed the significant increase (1.4 times) in incidence and prevalence of RA in adults in Minsk (Belarus) for the period 2005–2015. Hospitalisation rates for RA in the population had the same trend for the study period.

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AB1355 BONE MINERAL DENSITY, T-SCORE AND Z-SCORE IN YOUNG MEN WITH JUVENILE IDIOPATHIC ARTHRITIS

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Background: Juvenile Idiopathic Arthritis (JIA) is term used to classify a group of heterogeneous paediatric rheumatic diseases. Many of these conditions remain active until adulthood. Presences of chronic inflammatory disease together with glucocorticoid treatment are the risk factors of development of osteoporosis in young adult males.

Objectives: Aim: to study the bone mineral density (BMD), T-score, Z-score in young adult males with JIA.

Methods: The study included 50 adult men aged 19 to 25 years, divided into two groups: I – 25 practically healthy young males; II – 25 young men from different regions of Ukraine with a history of JIA in childhood regardless of the presence or absence of active inflammation at the time of the observation. Two-energy X-ray densitometry (Prodigy, GE Lunar, Madison, USA) was performed on the basis of the Institute of Gerontology, Ukrainian Research Centre of Osteoporosis Problems with analysis of BMD, T- and Z-scores in different skeletal areas.

Results: Young men with JIA and healthy individuals did not differ in age, height, weight and BMI. In assessing the number of fractures in patients with JIA were identified 4 patients (16%), while in the control group were no fractures. Negative impact of the JIA on the BMD was found in the I group compared with II group. Lumbar spine BMD in I group was lower ($p<0.01$) than in healthy subjects, as well as the Z-score ($p<0.001$) in the L1-L4 lumbar spine region. BMD, T-score and Z-score in femoral neck region were lower in I group than in II ($p<0.001$, $p<0.001$, $p<0.01$ correspondingly). Reliable differences between the two groups were found in total body BMD ($p<0.001$), T-score ($p<0.01$), Z-score ($p<0.05$). Patients with JIA had lower ($p<0.01$) BMD and T-score ($p<0.05$) in ultradistal area of forearm. Reduction of BMD up to the level of osteopenia (Z-score <2 SD) was found in 5 out of 25 (20%) patients at the level of L1-L4 lumbar spine, in 2 (8%) patients at the level of femoral neck, in 3 (12%) patients at total body and in 2 (8%) patients at the level of ultradistal area of forearm.

Conclusions: Young men with JIA aged 19–25 years had reduced total body BMD, T-score, Z-score, which indicates the negative impact of the disease on the bone tissue compared with healthy men of the corresponding age.

Disclosure of Interest: None declared

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AB1356 AGE PECULIARITIES OF BONE MINERAL DENSITY IN YOUNG FEMALE WITH JUVENILE IDIOPATHIC ARTHRITIS

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Objectives: Aim: to study the bone mineral density (BMD) in young adult females with juvenile idiopathic arthritis (JIA) depending on the age.

Methods: 99 females aged 19–39 (40 patients with JIA and 59 practically healthy persons) were examined. All surveyed were divided into 2 groups by age: I group–20–29 years old and II group–30–39 years old. The age of disease onset, delay in diagnosis, disease duration, ILAR-variant of JIA, BMD, T-score and Z-score were estimated.

Results: The onset of JIA was at the age of 11.16 ± 4.34 years, delayed diagnosis– 23.52 ± 21.37 months, the disease duration– 11.9 ± 9.4 years, persistent