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Background: Osteoporosis is a common comorbidity in patients with systemic lupus erythematosus (SLE). Available evidence showed that autoimmunity and associated inflammation play main effect in the pathogenesis of negative skeletal effects in SLE patients. However, the potential contribution of disease-associated factors to bone status in SLE is not well known since the reported risk factors from different studies differ greatly.

Objectives: The aim of this study was to examine frequency of reduced bone mass in SLE women, and determine their potential associations with disease activity, damage accrual and SLE-related clinical markers.

Methods: A cross-sectional study including a total 121 Caucasian pre-menopausal and postmenopausal women was conducted (mean age 49.29±12.43 years). The SLE Disease Activity Index (SLEDAI-2K) and the SDI Damage Index were used to assess disease activity and disease-related damage, respectively. Bone mineral density (BMD) of the left femoral neck and lumbar spine (L2–L4) were measured by dual-energy X-ray absorptiometry (Hologic QDR 400).

Results: Ten patients (8.3%) had osteoporosis, 63 (52.1%) patients had osteopenia and 6.8% of women had history of previous fracture. Patients with low bone mass had a significantly higher mean SDI (1.36±1.26 versus 0.70±1.09 p=0.003). T-score at lumbar spine was inversely correlated with SDI score (r=-0.222, p=0.014) and complement C3 level (r=-0.206, p=0.024). Results of bivariate correlations showed that T-score at lumbar spine was inversely correlated with SDI score (r=-0.222, p=0.014) and complement C3 level (r=-0.206, p=0.024). SDI scores were significantly different between patients with osteoporosis, osteopenia and normal BMD after adjusting for age, menstrual status, BMI, time since diagnosis and corticoid use (p=0.004).

Conclusion: There is a high prevalence of low BMD in Caucasian women with SLE and this status of osteopenia/osteoporosis was associated with higher damage accrual scores, supporting that disease damage may itself be a major contributor to the low BMD. SLE women with organ damage require regular bone status monitoring to prevent further musculoskeletal damage. Since diminished BMD is a main comorbidity it is therefore essential to study, monitor and prevent osteoporosis in SLE women to avoid fractures leading to reduced quality of life.

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AB0316

ADHERENCE TO THE MEDITERRANEAN DIET AND ITS ASSOCIATION WITH DISEASE ACTIVITY AND DAMAGE ACCRUAL IN WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background: There is limited evidence regarding the impact of the Mediterranean Diet (Med Diet) on autoimmune diseases although it has been proposed that adherence to the Med Diet may decrease the risk of certain autoimmune diseases. However, the potential usefulness of the Med Diet as a high-quality dietary pattern for other autoimmune diseases such as SLE has not yet been investigated.

Objectives: The aim of this study was to evaluate the potential association between the adherence to the Med Diet and disease activity, damage accrual and SLE-related clinical markers in a large cohort of women with SLE.

Methods: In this cross-sectional study, we assessed Med Diet adherence through a 14-item questionnaire in 253 women with SLE (mean age 46.74 ± 12.70 years). The SLE Disease Activity Index (SLEDAI-2K) and the SDI Damage Index were used to assess disease activity and disease-related damage, respectively. Levels of C-reactive protein (CRP; mg/dL), homocysteine (Hcy; mol/L), anti-double stranded DNA antibodies (anti-dsDNA) (IU/mL), complement C3 (mg/dL), and complement C4 (mg/dL) were determined.

Results: The Med Diet adherence score was classified as follows: low adherence (≤ 5 points); medium adherence (6–9 points) and good adherence (≥ 10 points). Only 50.2% of the SLE women had good adherence to the Med Diet. The ANCOVA models showed significant differences between patients with good adherence to the Med Diet and those with medium and low adherence in SLEDAI (p ≤ 0.001) and SDI (p ≤ 0.001). Age, medical treatment (immunosuppressors, corticoids, or antimalarials), smoking status, and body mass index (BMI) were included as confounding factors. The odds ratio (OR) for having active SLE (SLEDAI ≥ 5) or the presence of damage (SDI ≥ 1) was lower among patients whose Med Diet score was higher (p ≤ 0.001).

Conclusion: Adherence to the Med Diet influences disease activity and damage accrual in SLE women. Thus, these patients would benefit from nutritional counselling and education on modification, to help adapt their lifestyles towards the Med Diet pattern. This would help slow the progression of SLE and the damage it causes.

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AB0317

ADHERENCE TO MEDITERRANEAN DIET AND NUTRITIONAL STATE IN ITALIAN WOMEN WITH ISOLATED SJÖGREN'S SYNDROME

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Background: The Mediterranean Diet (MD) has anti-inflammatory and immunomodulatory effects^{1,2} suggesting a protective role in rheumatic diseases. There is limited knowledge about the eating habits and the nutritional state in patients with isolated Sjögren Syndrome (SS) living within the Mediterranean area.

Objectives: assessment of adherence to the MD and analysis of the nutritional state in women with SS and their correlations with the clinical, laboratory and histological data of the disease.

Methods: patients classified as isolated SS according to AECG criteria 2002³ who had undergone to minor salivary gland biopsy during the previous twelve months were consecutively enrolled during follow-up visits. The adherence to the MD was assessed by the Med Diet (MDiet)⁴ which includes eleven groups of foods; to each group is assigned a value ranging between 0 and 5 based on the frequency of monthly intake. The total score spans from 0 (poor adherence) to 55 (maximum adherence). The level of physical activity was measured by the 6-minutes walking test (6MWT) and by the International Physical Activity Questionnaire (IPAQ). Systemic disease activity was evaluated with the EULAR SS disease activity index (ESSDAI); EULAR SS patient-reported index (ESSPRI) was calculated as well. A subgroup of patients was asked to fill a daily food

diary processed with FOOD CONS software which allows to study in detail their eating habits. Nutritional state, muscle strength and basal metabolic rate were assessed. Alcoholism or drug abuse, diabetes mellitus, specific dietary models, treatment with drugs and/or food supplements with anti-inflammatory and/or antioxidant activity were considered exclusion criteria. Multivariate linear regression was performed with R project for Statistical Computing.

RESULTS:

N= 40 N= 26

Age, median (range) 53 (25-80) 33 (25-71)
BMI, median (range) 21 (19-29.3) 25.1 (19-33.7)
MedDiet score, median (range) 33 (26-43) 33 (23-40)
ESSDAI, median (range) 2 (0-16) 1 (0-16)
ESSPRI, median (range) 6 (0-8.6) 5.3 (1.6-9)
ESSPRI dryness, median (range) 6 (0-10) 6 (2-10)
Focus score, median (range) 2.5 (0-9.6) 1.7 (0.8-6.24)
ASM kg, median (range) - 16.8 (13.3-21.7)
IPAQ meters, median (range) - 1386 (99-11865)
6MWT meters, median (range) - 595 (536-680)

BMI, body mass index; ASM appendicular skeletal mass; IPAQ International Physical Activity Questionnaire; 6MWT, six minute walking test.

MDiet was administered to 40 female SS outpatients. Even if not reaching significance, patients with a higher focus score in their MSG have a lower value of MDiet score ($p = 0.058$, $r = -1.00$). The MDiet score is not associated with ESSDAI ($p = 0.85$, $r = 0.02$), but only with lower serum levels of C3 ($p = 0.004$, $r = -0.08$). In 26 patients, daily food questionnaire shows that their diet consists of 43% of carbohydrates while fats represent 40% of total energy intake, the remaining 17% daily energy comes from proteins. Fat consumption is higher compared to the levels of energy and nutrient intake for the Italian population⁵. Six patients had a reduction in muscle mass; sarcopenia is not associated to ESSDAI ($p = 0.610$). The MDiet score and the amount eaten of polyunsaturated fatty acids (PUFA) were reduced in patients with high value of subscale dryness of ESSPRI ($p = 0.057$, $r = -1.21$; $p = 0.610$, $r = -1.00$).

Conclusion: This study highlights a lower degree of glandular lymphocytic infiltration (expressed as focus score) in minor salivary glands in patients following MD, so its anti-inflammatory role of seems to be confirmed. SS patients have an unbalanced diet because of a higher intake of fat foods, likely for their lubricating effect. Despite the absence of correlation with objective parameters, the increased dryness in patients with a reduced intake of PUFA arouses our interest in a future study including omega-3 supplementation.

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AB0318

RISK FOR CONCOMITANT AUTOIMMUNITY IN PATIENTS WITH ANTIPHOSPHOLIPID SYNDROME; A SWEDISH COHORT STUDY

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Background: In patients with the antiphospholipid syndrome (APS), concomitant systemic autoimmune rheumatic diseases (SARD) are common and often associated with more disease associated damage.

Less is known about the prevalence of non-rheumatic autoimmune diseases (NRAID) in patients with APS.

Objectives: To evaluate the incidence and prevalence of concomitant autoimmune diseases (AID) in a cohort of APS patients. The risk of AID was also evaluated with respect to the antiphospholipid antibodies (aPL) profiles.

Methods: This retrospective cohort study comprises consecutive patients identified with APS through review of electronic medical records at Karolinska University Hospital, Sweden between 2014 and 2020. Exclusion criteria were misdiagnosis and age <18. Descriptive statistics was used for baseline data and multivariable Cox proportional hazard regression analysis to investigate the risk factors to develop new onset AID. Ethical approval was obtained from the Swedish Ethical Review Authority (2020-02333).

Results: Of 271 included patients, 66% were women and the median age at diagnosis of APS was 43 years (IQR 31–55). At inclusion, 130 (48%) patients

presented with other AID; 101 (37%) of them had a concomitant SARD while 54 (19%) had a NRAID. Systemic lupus erythematosus (SLE) was the most frequent in 30% of patients, followed by autoimmune thyroid disease (ATD) in 10% of patients.

In addition, 35 (13%) APS-patients developed AID during the study period, corresponding to an incidence rate of 28.4 (95% CI; 19.3-40.3) per 1.000 person-years with mean time at risk of 4 (± 2) years. Twenty-one (8%) patients developed a SARD and further 14 (5%) were diagnosed with a NRAID.

The cumulative incidence for AID was significantly higher in patients with high titers of IgG aPL. Patients that developed SARD had significantly higher median titers of a- $\beta 2$ GPI IgG isotype, $p=0.05$. In the NRAID group, median a- $\beta 2$ GPI and aCL IgG isotypes were significantly increased, $p=0.02$ and $p=0.04$, respectively. The hazard ratio to develop diagnosis of AID was significantly increased in patients with high titers of the IgG isotype aPL (HR 2.4 95% CI; 1.1-5.3). Obstetric APS manifestations were associated with a significantly increased hazard ratio of 2.8 (95% CI; 1.1-7.7) to develop SARD, and also trendwise for AID, as a compound variable.

During the study period, 52 patients had at least one new APS manifestation, as defined by the Sydney criteria (1). In comparison to patients without new manifestations, these patients had significantly higher median titers of aPL of the IgG isotype, and concomitant AID at first visit ($p=0.01$, $p=0.02$, respectively).

Conclusion: APS patients are at high risk to develop other AID, and APS patients with concomitant AID had an increased risk to develop new clinical APS manifestations. These findings might be helpful when considering risk stratification and alternate treatment options in this patient group.

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AB0319

HEALTH-RELATED QUALITY OF LIFE ASSESSED BY LUPUSQOL IN 1102 LUPUS PATIENTS FROM RUSSIAN FEDERATION (RF), KIRGHIZSTAN AND KAZAKHSTAN (RENAISSANCE COHORT)

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Background: Health related quality of life (HRQoL) is an aspect that is generally underexplored in the routine clinical practice but it is attracting more and more attention. Lack of concordance between physician derived outcomes of disease activity and patient HRQoL outcomes is commonly found in SLE. This is due to the fact that the former is influenced by the immunologic pathogenic inflammatory mechanisms while the latter may be affected by a variety of psychological, social and co-morbid conditions.

Objectives: The aim of this study was to compare health-related quality of life assessed by LupusQoL in 1102 Lupus patients (pts) from the Russian Federation, Kirghizstan and Kazakhstan (RENAISSANCE cohort).

Methods: 1102 SLE pts who fulfilled SLICC 2012 criteria were enrolled into the study. The SLEDAI 2K index activity, SLICC damage index, and HRQoL using the LupusQoL questionnaire (validated for the Russian-speaking population in 2018) were evaluated. Descriptive statistics, Spearman's correlation coefficients were performed to analyze the data.

Results: 400/600/102 Lupus pts from RF, Kirghizstan and Kazakhstan respectively were studied. The pts were predominantly female (91%/93%/98%) and of indigenous nationality (Russian 83%/ Kirghiz 88%/ Kazakh 76%) with a mean $\pm$ SD age of 34,2 $\pm$ 11,5/35,07 $\pm$ 12,2/33,8 $\pm$ 10,5 years ($p=0,36$; $p=0,96$) respectively. The mean disease duration (Me) in RF/ Kazakhstan was 6 [3;12]/ 5[2;9] years ($p=0,15$), in Kirghizstan - 2[0;6]; 7] years($p\leq 0,05$). Kazakh pts ($p=0,00$) have higher disease activity (SLEDAI 2K) 17,6 $\pm$ 8,8 than Kirghiz pts 15,1 $\pm$ 8,3 and Russian pts 9,4 $\pm$ 8,1. SLICC damage index 2,39 $\pm$ 1,61 in Kazakh pts ($p=0,00$) was higher than in Russian 1,57 $\pm$ 1,54 and Kirghiz 0,79 $\pm$ 0,32 pts. 54% pts from RF and 58 % from Kazakhstan had high education. Only 33% pts from Kirghizstan also had high education. 45%/24%/33% pts from RF, Kirghizstan and Kazakhstan respectively had steady employment, 53%/30%/32% pts received disability benefits. HRQoL assessed by LupusQoL was low in all patients with SLE. The mean scores for each of the domains of LupusQoL are shown in Table 1. The statistically significant lowest HRQoL in all 8 domains is obtained among