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### SARCOPENIA IN PATIENTS WITH RHEUMATOID ARTHRITIS OVER 65 YEARS OF AGE: PREVALENCE AND PREDISPOSING FACTORS.

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**Background:** Sarcopenia is a muscle disease which is characterized by loss of muscle mass and function. This condition is associated with chronic disease and ageing which predicts inability, hospitalization and death.

**Objectives:** Describe sarcopenia prevalence and risk factors in patients with rheumatoid arthritis (RA) over 65 years of age.

**Methods: Design:**

A case-control study.

**Subjects**

**Cases:** Recruitment was performed by random sampling between patients over 65 years of age with RA (ACR/EULAR 2010 criteria) attended at 4 Spanish University Hospitals.

**Controls:** Recruitment of subjects without rheumatoid disease was performed asking for case patients who attended to medical center with a similar-age (age of range +/- 5 years) and same-gender person from same social or family environment.

**Variables:** The main variable was sarcopenia which was defined according to European Working Group on Sarcopenia in Older People (EWGSP) 2019. Sarcopenia risk factors assessed were: economic status, malnutrition, measured with Mini Nutritional Assessment (MNA), dual-energy x-ray absorptiometry (DEXA) in spine and hip to osteoporose screening, toxic habits, comorbidities and Charlson index, physical activity measured with Global physical activity questionnaire (GPAQ) and Short Physical Performance Battery (SPPB).

Other variables were: haemoglobin, calcium, D and B12 vitamins, total proteins, albumin, C reactive protein, body mass index (BMI), polymedication, quality of life measured with EQ-5D and RA related factors, activity disease measured with DAS28, SDAI and CDAI; physical function measured with HAQ (Health assessment questionnaire) and global functional status according ACR criteria.

**Statistical analysis:**

Descriptive and multivariate analysis was performed to identify factors associated to sarcopenia in RA.

**Results:** 76 patients and 76 controls were included in the study, 120 were women (78,9%), with media  $\pm$  SD of age 74,7  $\pm$  6,98 of media and 32 (21,1%) were men, with age 70,1  $\pm$  3,78 of media. In comparison with controls, RA patients presented more frequency of sarcopenia (30 [19,53%] vs 6 [3,94%];  $p=0,005$ ). RA patients who presented sarcopenia, were upper average age ( $p=0,001$ ), worse results in Short Physical Performance Battery (SPPB) ( $p=0,037$ ), higher DAS28 (3,55  $\pm$  1,09 vs 2,78  $\pm$  1,05;  $p=0,017$ ), higher score HAQ (1,18  $\pm$  0,79 vs 1,69  $\pm$  0,68;  $p=0,024$ ), worse score in EQ5D (0,27  $\pm$  0,28 vs. 0,54  $\pm$  0,25;  $p=0,001$ ) and Visual analogic scale VAS EQ5D (45,7  $\pm$  17,4 vs. 56,9  $\pm$  17,6;  $p=0,035$ ).

By the way, RA patients presented lower levels of total proteins ( $p=0,018$ ), worse results in MNA ( $p=0,001$ ) and they performed less physical activity by GPAQ ( $p=0,011$ ). Multivariate models (Table 1) identified as independent predictors of sarcopenia in RA: age ( $p=0,014$ ), proteins levels ( $p=0,044$ ) and disease activity measured by DAS28 ( $p=0,030$ ). This model could explain 37% of sarcopenia in RA ( $R^2=0,37$ ).

**Table 1. Multivariate analysis (VD: Sarcopenia)**

	OR(IC)	p
Age, years	1,213 (1,041-1,414)	0,014
Proteins (g/dL)	0,185 (0,036-0,958)	0,044
DAS28	2,146(1,076-4,881)	0,030

$R^2=0,37$

**Conclusion:** Sarcopenia is more prevalence in over 65 years-old RA people. Older age and higher activity disease measured by DAS28 more risk of sarcopenia. Proteins levels have a protected association with sarcopenia.

**Disclosure of Interests:** None declared

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### EFFECTS OF BIOLOGICAL-DMARDS ON THE SERUM URIC ACID LEVEL IN PATIENTS WITH RHEUMATOID ARTHRITIS

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**Background:** Hyperuricemia associated with rheumatoid arthritis (RA) has been reported to be a risk factor for cardiovascular disease. It has been reported that uric acid (UA) levels decrease with the use of leflunomide and increase with tumor necrosis factor (TNF) inhibitor therapy. However, the effects of long-term biological disease-modifying antirheumatic drugs (bDMARDs) therapy and the effects of non-TNF inhibitor biologic therapy on UA levels have not been reported.

**Objectives:** We aimed to investigate the changes in UA levels during the use of TNF inhibitors and non-TNF inhibitors therapy.

**Methods:** Patients with RA treated with bDMARDs from 2008 to 2018 were studied based on the All Showa University of RA (ASHURA) database. The association between uric acid level reduction and treatment was evaluated. Of 629 patients treated with the bDMARDs, 256 patients with available uric acid levels medical records were included. The following background factors were investigated: age; sex; type of bDMARDs; dosage of methotrexate and prednisolone; usage of conventional synthetic DMARDs, dyslipidemia drugs and nonsteroidal anti-inflammatory drugs; body mass index; smoking history; HbA1c; presence or absence of hypertension and dyslipidemia; and serum creatinine, C-reactive protein, and matrix metalloproteinase-3 levels. We also used the simplified disease activity index (SDAI) to evaluate RA disease activity. The analysis was performed in two groups, TNF inhibitor-treated group (148 patients) and non-TNF inhibitor-treated group (108 patients, tocilizumab and abatacept). The primary endpoint was UA levels before, and after 6 months and 1 year, which was determined using the repeated-measures analysis of variance (ANOVA) and secondary endpoint was proportion of patients with hyperuricemia (uric acid level of 7.0 or higher was defined), determined using spearman's correlation coefficient by rank test.

**Results:** In TNF inhibitor-treated group, the UA levels were not increased from 4.9  $\pm$  1.4 (mg/dl) to 4.9  $\pm$  1.4 and 5.1  $\pm$  1.7 before treatment and after 6 months and 1 year, respectively ( $p=0.50$ ). The number of patients with hyperuricemia increased from 7 to 12 and 16 ( $p=0.026$ ). In non-TNF inhibitor-treated group, the UA levels were not increased from 5.2  $\pm$  1.4 (mg/dl) to 5.2  $\pm$  1.4 and 5.3  $\pm$  1.4 ( $p=0.78$ ). The number of patients with hyperuricemia increased from 8 to 16 and 12 ( $p=0.193$ ). There was a difference in the type of drug, but no difference in the duration of administration by repeated-measures ANOVA.

**Conclusion:** Our study suggests that TNF inhibitor therapy may affect increased percentage of patients with hyperuricemia. On the other hand, non-TNF inhibitor therapy may not affect increased percentage of patients with hyperuricemia and bDMARD treatment has a mild effect on UA levels in patients with RA.

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### ADHERENCE TO TREATMENT IN PATIENTS WITH RHEUMATOID ARTHRITIS

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**Background:** Adherence is defined as the degree of agreement between a patient's behavior (taking medication, changing lifestyle, or adhering to treatment recommendations) and the prescriptions of a physician or medical staff. The patient's adherence to treatment is an important factor influencing the effectiveness of therapy, the course of the disease. In Russia, a universal questionnaire was developed to assess the level of adherence to drug therapy, medical care, lifestyle changes, and general adherence to treatment.

**Objectives:** To analyze the adherence to treatment, medical care and recommendations for lifestyle changes in patients with RA.

**Methods:** The cross-sectional study included 88 women with RA (ACR/EULAR 2010), the mean age - 63.0 $\pm$ 8.1 years, the duration of the disease - 22.4 $\pm$ 9.3 years. Adherence was assessed using the Russian questionnaire, which determines the low, average, and high levels of adherence to drug therapy, medical care, recommendations for lifestyle changes, and general adherence to treatment. All patients completed The Hospital Anxiety and Depression Scale (HADS) for the evaluation of anxious and depressive symptoms and HAQ (Health Assessment Questionnaire) to explore functional disability. All patients took a clinical examination, assessment of the anamnestic data, X-ray of hands, feet.