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SAT0084

SERUM ADIPOKINES PROFILE IN PATIENTS WITH RHEUMATOID ARTHRITIS TREATED WITH TNF-INHIBITORS

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Background: In recent years, the relationship between obesity and autoimmune diseases has taken interest, since adipose tissue has been identified as an endocrine organ that secretes cytokines (adipokines), among which leptin stands out as a soluble pro-inflammatory mediator associated with the body mass index (BMI).

Objectives: The main objectives of this study are: i) to analyse the influence of BMI on clinical response in Rheumatoid Arthritis (RA) patients who initiate TNF-inhibitor (TNFi) therapy; ii) to analyse the differences in the serum profile of adipokines (leptin and adiponectin) according to BMI and their association with response to treatment.

Methods: Observational study of a prospective cohort of 73 RA patients who initiated biological treatment with TNFi from the Complex Therapy Unit (CTU) of our Hospital. Patients were classified according to their BMI in normal-weight (BMI<25) and overweight/obesity (O/O) (IMC≥25). Demographic, clinical and laboratory variables were collected at baseline and at 6 months. Our outcome measures were DAS28-VSG remission (DAS28<2.6) at 6 months after TNFi initiation. Serum leptin and adiponectin levels were measured by Enzyme-Linked Immuno Sorbent Assay (ELISA) at baseline and 6 months. A descriptive sample analysis comparing the characteristics of both patient subgroups was performed using Chi-square, T-test for independent samples and U-Mann Whitney. Likewise, a bivariate analysis was carried out by means of binary logistic regression to assess the probable association of the parameters studied with remission.

Results: Of the 73 patients studied, 51% were classified in O/O group. The O/O patients presented higher levels of baseline CRP (16.69±6.16 vs 8.74±3.81, p=0.01). No statistically significant differences were observed in the remaining variables (sex, age at the beginning of the TNFi, disease duration, baseline DAS-28), as well as therapeutic variables (use of previous DMARDs and doses of methotrexate and/or steroids). Patients with overweight/obesity presented higher DAS28-ESR values at 6 months of treatment (3.59±1.14 vs 2.93±1.27, p=0.02) and achieved remission less frequently (18.9% vs 48.6%, p=0.007). Serum leptin levels were significantly higher in O/O patients, both baseline (29.39±21.50 vs 13.49±8.78, p<0.001) and 6 months (33.06±22.03 vs 14.77±9.50, p<0.001) after TNFi initiation. In addition, O/O patients were less likely to reach remission at 6 months than normal-weight patients. [OR= 4.04 IC95% (1.40-11.64); p=0.009]. Lower frequency of remission was associated to greater leptin levels at 6 months [OR=0.94 CI95% (0.90-0.98); p=0.012]. No differences in serum adiponectin were found between both subgroups of patients.

Conclusion: In this RA patient cohort, overweight/obesity is associated with i) a reduced response to TNFi therapy and ii) a lower short-term remission rate. Within the adipokine profile, leptin seems to play a relevant role in the maintenance of pro-inflammatory activity with a negative influence on the response to TNFi therapy in O/O patients.

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SAT0085

METABOLIC SYNDROME AND ITS ASSOCIATION WITH RHEUMATIC DISEASES IN PARAGUAYAN PATIENTS

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Background: Metabolic syndrome (MS) is associated with increased abdominal adipose tissue and production of inflammatory cytokines. Patients with MS are at increased risk for developing cardiovascular disease and diabetes mellitus, which are among the leading causes of death in chronic rheumatic diseases.

Objectives: To characterize patients with rheumatic disease and MS and its association with inflammatory markers.

Methods: Descriptive, cross sectional, prospective study, in 3 Paraguayan cohorts of patients with rheumatoid arthritis (RA), systemic sclerosis (SSc) and systemic lupus erythematosus (SLE). This study had two phases: the first one, included a standardized questionnaire according to the variables included in the Cardiovascular Risk project (PINV15-0346), from the Consejo Nacional de Ciencias y Tecnología (CONACYT), and physical examination; the second one included laboratory sample collection performed by a specialized laboratory for serum biomarkers measurement for cardiovascular risk prediction (i.e endothelin, alpha-TNF, E-selectin, t-PA, VCAM, PAI-1 and high sensitivity-CRP levels). MS patients were categorized according to 2007 ALAD criteria. All patients signed informed consent. SPSS Statistics v23 was used for data analysis. Quantitative variables were presented as means and qualitative variables as frequencies. Chi square test was performed for comparisons between dichotomous variables. A p value ≤ 0.05 was used for statistical significance.

Results: We included a total of 253 patients, 100 with RA, 100 with SLE and 52 with SSc. Metabolic syndrome was found in 23,58% (50/212). There was no significant difference in MS prevalence between diseases, but there was a higher frequency of increased abdominal circumference in RA and low HDL in SLE. Frequencies for different features of MS in RA, SLE and SSc are detailed in table 1.

Table 1. Frequencies of MS component in SLE, SSc and RA.

	SLE	SSc	RA	p
Abdominal circumference criteria	43,4% (43/99)	46,66% (21/46)	64% (64/100)	0,009
Hypertension criteria	67% (67/100)	67,3% (35/52)	55% (55/100)	0,152
HDL criteria	55,22% (37/67)	52,63% (20/38)	16,12% (15/93)	0,000
TAG criteria	22,38% (15/67)	28,94% (11/38)	22,58% (21/93)	0,703
Glycemia criteria	7,69% (4/52)	13,15% (5/38)	25,67% (19/74)	0,114
Metabolic Syndrome	24,35% (19/78)	25% (9/36)	22,44% (22/98)	0,934

Regarding inflammatory biomarkers, there was a significant difference between biomarkers elevated in each disease: hsCRP was found more frequently in RA, E-Selectin in SSc and VCAM and PAI-1 were more prevalent in SLE.

Table 2. Frequency of high serum inflammatory biomarkers in SLE, RA and SSc.

	SLE	SSc	RA	p
hsCRP	23,52% (16/68)	26,31% (10/38)	42,85% (36/84)	0,027
E-Selectin	5,88% (4/68)	21,05% (8/38)	5,95% (5/84)	0,014
t-PA	0% (0/68)	2,63% (1/38)	5,95% (5/84)	0,111
VCAM	20,58% (14/68)	8,1% (3/37)	0% (0/83)	0,000
TNF-α	7,35% (5/68)	18,42% (7/38)	13,09% (11/84)	0,229
Endothelin	20,58% (14/68)	31,57% (12/38)	19,75% (16/81)	0,192
PAI-1	11,36% (5/44)	0% (0/38)	0% (0/83)	0,002

Conclusion: We found a similar frequency of metabolic syndrome in our cohorts of RA, SSc and SLE Paraguayan patients but they had a different clinical and serological profile, suggesting that the pathways leading to metabolic syndrome are dissimilar in each disease. We need more studies to confirm this hypothesis.

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SAT0086

THE PRESENCE OF COMORBIDITIES IN PATIENTS WITH RHEUMATOID ARTHRITIS IS ASSOCIATED WITH BAD PATIENT-REPORTED OUTCOMES (PROS)

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Background: Patients with rheumatoid arthritis have more cardiovascular comorbidities which contributes to hospitalization and mortality.

Objectives: This study aims to investigate whether there is an association between cardiovascular comorbidities in RA with subgroup of patients and clinical findings of the disease

Methods: This study is a cross-sectional part of Rheumatoid Arthritis in Real Life (REAL), which is a multicenter prospective study conducted in Brazil, involving 13 centers specialized in the care of patients with RA. All subjects met the ARA (1987) or ACR/EULAR (2010) RA classification criteria. Subjects were submitted to clinical interview with physical exam and review of medical records. A sample of 1116 patients was selected for convenience. The association between cardiovascular comorbidities (systemic arterial hypertension (HA), diabetes mellitus (DM) type2, dyslipidemia, stroke and heart failure), the clinical characteristics and laboratory parameters of RA was evaluated through chi-square hypothesis tests, Student's t-test, Fischer exact test, correlations test and ANOVA. Also, correction Bonferroni test was used for multiple comparisons. Differences were considered statistically significant only when $p \leq 0.05$.

Results: 89% of the patients were female, with a mean age of 58 years. 62% of patients with RA had comorbidities, with HA the most prevalent. There were statistically significant association between cardiovascular comorbidities with age (61.71 ± 9.69 years old vs 53.03 ± 12.10) ($p < 0.001$), lower educational level ($n=282 \pm 66.5$ vs 143 ± 33.5) ($p < 0.001$), lower physical activity ($n=132 \pm 73.3$ vs 48 ± 26.7) ($p < 0.001$), disease duration (18.5 ± 9.75 years vs 14.4 ± 8.61) ($p < 0.001$), positive anti-CCP test (60.5% vs 39.5%) ($p = 0.027$), high clinical disease activity index CDAI ($65.9\% \pm 34.1\%$) ($p < 0.001$), DAS28VHS (3.72 ± 1.46 vs 3.45 ± 1.58) ($p = 0.008$) and HAQ score (1.00 ± 0.76) vs 0.83 ± 0.77 ($p < 0.001$).

Conclusion: The frequency of cardiovascular comorbidities is high in RA patients and is associated with age, disease duration and positive anti-CCP test. It is also important to see that these comorbidities are more common in patients with lower frequency of physical activity and lower functional capacity, higher disease activity score and lower level of education. Better control of disease activity and extensive information to patients about the importance of exercise should be parallel objectives in RA.

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SAT0087

ESTIMATED SLEEP DURATION AND CARDIOVASCULAR RISK IN RHEUMATOID ARTHRITIS: A CASE CONTROL STUDY

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Background: Sleep is essential to human health and it is increasingly regarded as an important lifestyle behavior. The reduction in sleep duration have been linked to an increased risk of cardiovascular disease (CVD) and death in general population (1). Patients with rheumatoid arthritis (RA) have a higher risk of CVD and as in other pain conditions, commonly report poor sleep quality as well as feeling unrested and fatigued after sleep (2). This can be attributed to a lack of awareness of sleep hygiene.

Objectives: To determine the prevalence of self-reported estimated duration of total daily sleep, daytime naps and quality of sleep of patients with RA and without rheumatic diseases and its association with cardiovascular risk factors.

Methods: Observational, cross-sectional study. RA patients aged 40 to 75 years that fulfilled 2010 ACR/EULAR criteria and controls (without RA) were included. Sleep duration and quality, daytime naps and awareness of sleep hygiene were assessed with self-administered questionnaire. Descriptive analysis was done with frequencies (%), mean (SD), median (q25-q75). Comparisons with Chi-square, Mann-Whitney U test and Wilcoxon. Binary regression analysis was used to test association between estimated sleep duration (<6h), cardiovascular risk factors and RA diagnosis.

Results: A total of 217 subjects were included. RA patients 93 (91.2%) vs 55 (47.8%) controls were female. Mean (SD) age was RA $56.68 (\pm 10.73)$ vs $57.27 (\pm 10.06)$ controls. Estimated sleep duration (<6h) was higher in RA with 20.6% vs 8.7% in controls ($p=0.012$). There was no significant difference of the awareness of sleep hygiene 7.8% and 12.2% in the case and control group, respectively ($p=0.291$). Obstructive sleep apnea was higher in controls 9.6% ($p=0.047$). The rest of the characteristics are displayed in table 1. Binary regression showed that having RA makes you 60% more likely to sleep less than six hours OR 0.40, 95% CI (0.17-0.92) ($p=0.031$). Patients with estimated sleep duration (<6h) had higher prevalence of Hypertension 51.6% vs 48.4% ($p=0.022$)

Table 1. Cardiovascular risk factors and sleep characteristics

	RA (n=102)	Controls (n=115)	p
Obesity, n (%)	23 (25.3)	31 (31.3)	NS
Current smoker, n (%)	12 (11.8)	21 (18.3)	NS
Diabetes Mellitus, n (%)	15 (14.7)	13 (11.3)	NS
Dyslipidemia, n (%)	32 (31.5)	30 (26)	NS
Hypertension, n (%)	40 (39.2)	33 (28.7)	NS
Cardiovascular event, n (%)	5 (4.9)	3 (2.5)	NS
Obstructive Apnea Sleep, n (%)	3 (2.9)	11 (9.6)	0.047
Estimated sleep time (<6h), n (%)	21 (20.6)	10 (8.7)	0.012
Participants taking naps, n (%)	47 (46.1)	50 (43.5)	NS
Number of daytime naps at week, median (q25-q75)	0 (0-7)	1 (0-7)	0.007
Duration of daytime naps (min), median (q25-q75)	0 (0-30)	15 (0-40)	NS
Good Sleep quality, n (%)	67 (65.7)	69 (60)	NS

Conclusion: Patients with RA had a higher frequency of less estimated sleep time, this is associated with hypertension, risk of deaths and major cardiovascular events. Additionally, to inflammation and coexistence of CVD risk in RA. There was an absence of awareness of most of the individuals of sleep hygiene. Therefore, in clinical practice, assessment and education of sleep patterns may be of value