Methods: The study consisted of 35 RA cases in MCSA and 104 MCSA participants without RA matched 1:3 for age, sex, education, cognitive status (≥ 50 years old) at baseline and the availability of at least one magnetic resonance imaging (MRI). The primary outcome measures were well established dementia-related neuroimaging biomarkers, including global beta-amyloid ($A\beta$) using PIB-positron-emission tomography (PET; $n=47$); neurodegeneration (hypometabolism via FDG-PET ($n=45$), hippocampal volume ($n=139$), and cortical thickness via structural MRI [$n=138$], and cerebrovascular pathology via FLAIR-MRI (white matter hyperintensity [WMH; $n=49$] burden, subcortical, and cortical infarctions ($n=55$)). Elevated ^{11}C -PiB-PET was defined as standardized uptake value ratio ≥ 1.48 in an Alzheimer's disease (AD)-related region of interest and reduced AD signature cortical thickness as ≤ 2.68 mm (neurodegeneration; N+). Kruskal-Wallis rank sum and Pearson's chi-squared tests were used to compare the neuroimaging measures between participants with and without RA.

Results: Participants with vs. without-RA did not differ in age, sex, years of education, major comorbidities, $A\beta$ burden, hippocampal volume, and neurodegeneration measures (Table 1). Although the sample size was small, we observed that RA participants (vs. without-RA) had greater mean WMH volume (relative to the total intracranial volume (TIV) (mean (SD) %: 1.12 (0.57) % vs 0.76 (0.69) % of TIV, $p=0.011$), were more likely to have cortical infarctions (4 vs.1; $p=0.013$) and had a higher mean number of cortical infarctions (mean (SD): 0.24 (0.44) vs. 0.05 (0.32), $p=0.017$).

Conclusion: Our preliminary data suggest significant differences in cerebrovascular biomarker measures by RA status. Further studies would add valuable information to our understanding and insight into the development of interventions for the prevention of cerebrovascular pathology in RA patients.

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Table 1. Participants' baseline characteristics.

	With RA	Without RA	Total	p value*
Age, mean (SD)	76.3 (7.9)	75.9 (7.9)	139	0.82
Male	13 (37%)	37 (36%)	139	0.87
Education (years), mean (SD)	14.5 (2.5)	14.3 (2.4)	139	0.75
Apolipoprotein E $\epsilon 4$ carrier	6 (17%)	28 (27%)	139	0.24
Cognitively unimpaired	27 (77%)	83 (80%)	110	0.94
Mild cognitive impairment	7 (20%)	18 (17%)	25	
Dementia	1 (3%)	3 (3%)	4	
Reduced AD signature cortical thickness	20 (57%)	60 (58%)	138	0.91
Elevated β -amyloid	4 (33%)	11 (31%)	47	0.90
FDG PET SUVR	1.52 (0.16)	1.59 (0.18)	45	0.46
White matter hyperintensity volume % of TIV	1.12 (0.57)	0.76 (0.69)	49	0.011
With cortical infarctions	4 (24%)	1 (3%)	55	0.013

N (%) unless otherwise stated; * Kruskal-Wallis rank sum or Pearson's Chi-squared test. SD=standard deviation; AD= Alzheimer's disease; SUVR=standardized uptake value ratio; TIV=Total intracranial volume.

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POS0312

HOW DOES THE PRESENCE OF DEPRESSION IMPACT ON DISEASE ACTIVITY SCORES IN PATIENTS WITH RHEUMATOID ARTHRITIS?

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Background: Depression is present in up to half of patients with Rheumatoid Arthritis (RA). The association between this mood disorder and disease activity scores, including DAS28, SDAI and CDAI, has previously been described by various authors.

Objectives: The aim of our study was assessed the effect of depression on the components of different disease activity scores.

Methods: We performed a cross-sectional study of consecutive adults with RA, according to ACR/EULAR 2010 criteria. Sociodemographic data, comorbidities and current treatment were recorded. Disease activity was evaluated using DAS28-ESR, DAS28-CRP, SDAI and CDAI. Depression was assessed using PHQ-9 questionnaire. The PHQ-9 values were categorized in 4 groups as follows: 5 to 9, 10 to 14, 15 to 19, 20 or greater, represents mild, moderate, moderate/severe, and severe depression, respectively. A cutoff value of 10 or greater was set to define major depression. *Statistical analysis:* Student's T, ANOVA and χ^2 tests. Multiple logistic regression.

Results: Two hundred fifty eight patients were included, with a median (*m*) disease duration of 9 years (IQR 3.6-16.7). The *m* PHQ-9 score was 6 (IQR 2-12.3) and the prevalence of major depression was 33.7%. Patients with major depression had more tender and swollen joint count (TJC and SJC) (mean 4.9 $\pm$ 4.3 vs 2.3 $\pm$ 3.7, $p<0.0001$ and 2.9 $\pm$ 3.3 vs 1.7 $\pm$ 3.4, $p=0.009$), more pain (VAS [cm] mean 5.6 $\pm$ 2.7 vs 3.3 $\pm$ 2.6, $p<0.0001$), higher patient and physician global assessment (PGA and PhGA) (VAS [cm] mean 5.4 $\pm$ 2.9 vs 3.1 $\pm$ 2.5, $p<0.0001$ and 4.4 $\pm$ 2.7 vs 2.4 $\pm$ 2.4, $p<0.0001$) and CRP (mean 1.7 $\pm$ 3.3 vs 0.7 $\pm$ 1.1 mg/dl, $p=0.01$). ESR values were higher in the group with major depression, but the difference did not reach significance. Disease activity was higher in the depression group by all scores: DAS28-ESR (mean 4.3 $\pm$ 1.4 vs 3.3 $\pm$ 1.3, $p<0.0001$), DAS28-CRP (mean 3.9 $\pm$ 1.4 vs 2.8 $\pm$ 1.7, $p<0.0001$), SDAI (mean 19.2 $\pm$ 12.7 vs 10.3 $\pm$ 10.1, $p<0.0001$) and CDAI (mean 17.6 $\pm$ 10.9 vs 9.6 $\pm$ 9.9, $p<0.0001$). While 41 (15.9%) patients had high disease activity according to DAS28-ESR, only 34 (13.2%) had SDAI $>$ 26. In the multivariate analysis, evaluating the association of major depression with the different components of DAS28-ESR, DAS28-CRP, SDAI and CDAI, we observed that the presence of this mood disorder remained significantly associated with higher PGA in all the scores. In addition, a significant association was seen with higher TJC in both DAS28 scores.

Conclusion: Patients with major depression had higher disease activity. It's presence has a significantly association with the subjective items of the disease activity scores, particularly PGA. CRP value was the only objective component associated with depression.

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POS0313

INCIDENCE AND PREVALENCE OF POLYAUTOIMMUNITY IN SEROPOSITIVE COMPARED WITH SERONEGATIVE PATIENTS WITH RHEUMATOID ARTHRITIS: A NATIONWIDE COHORT STUDY

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