RA and in biologic-treated patients than in controls ($p=0.005$). On brain MRI scans, there were significantly more vascular lesions both in the left and the right side in RA patients (55.1% vs 53.1%) than in controls (23.5% vs 20.1%) ($p<0.05$), the cerebral atrophy is much more common in RA (0.26 vs. 0.03; $p=0.005$).

Conclusions: These findings suggest that the presence of neuropsychiatric manifestations and cognitive impairment in RA patients is significant. Biologic-treated patients may represent a more severe RA subset thus having cognitive dysfunction more commonly. Brain atrophy, emolition and vascular lesions are more often in RA patients than controls.

Disclosure of Interest: None declared

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FRI0090 ASSOCIATION OF BODY COMPOSITION WITH DISEASE ACTIVITY AND DISABILITY IN RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is a chronic form of inflammatory arthritis characterised by multiple joint involvement and significant disability. Previous studies showed that RA is associated with considerable changes in body composition, lipid profile, adipokines and insulin sensitivity

Objectives: To explore the association of body composition with pain, disease activity and disability in rheumatoid arthritis (RA)

Methods: Three hundred thirty five patients with RA visiting the Hallym University Sacred Hospital underwent body composition measurement with inbody analyzer and examined the disease activity score (DAS28). The association of body mass index (BMI), body fat mass and skeletal muscle mass with DAS28, DAS28-P (an index derived to measure subjective component of DAS28), pain VAS and disability measured with the health assessment questionnaire (HAQ) was explored. Obesity was defined as BMI ≥ 25 kg/m². Pain VAS was dichotomized as ≤ 40 and >40 . Low HAQ score was defined as ≤ 0.5 . Logistic regression was divided in female versus male.

Results: Mean age of patients was 56 ± 11.9 years and 84.8% were female. The median(IQR) disease durations was 6 (3.5–9) years and mean DAS28 score was 3.55 ± 1.14 . Mean BMI was 23.6 ± 3.7 kg/m² and 109 patients (32.5%) were obese. Obese patients had higher CRP level (1.68 ml/dL vs 0 ml/dL, $p=0.013$), ESR level (25 mm/hr vs 18 mm/hr, $p=0.032$), pain VAS score (40 vs 35, $p=0.045$), and higher DAS28-ESR score (3.75 ± 1.18 vs 3.46 ± 1.11 , $p=0.031$), than non obese patients. In multivariable regression analysis, DAS28 score in female was positively associated with current steroid dose, HAQ and body fat mass. In univariable logistic regression, higher pain VAS category in female was associated with older age, higher BMI and higher body fat mass. In multivariable logistic regression analysis, higher HAQ score in female was associated with older age, higher DAS28, higher body fat/skeletal muscle ratio and lower skeletal muscle mass. In multivariable regression analysis, DAS28-P score in female was positively associated with higher body fat/skeletal muscle ratio and negatively associated with positivity of anti-CCP.

Conclusions: Body compositions such as body fat mass and skeletal muscle mass are significantly associated with pain and disability in RA patients

Disclosure of Interest: None declared

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FRI0091 SOMATOSENSORY DYSFUNCTION IN RHEUMATOID ARTHRITIS – A QUANTITATIVE SENSORY TESTING ASSESSMENT

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Background: Significant pain persists in a substantial proportion of Rheumatoid Arthritis (RA) patients and features suggestive of neuropathic pain (NP) were described. Few studies applied quantitative sensory testing (QST) to evaluate the somatosensory phenotype of RA pain.

Objectives: To explore the sensory abnormalities in RA and study its association with clinical and disease activity parameters.

Methods: Cross-sectional study was performed with RA patients followed at our rheumatology department. QST was performed in patients classified with NP (according to LANSS and/or pain DETECT scores) in both the most painful and non-painful contralateral joint areas. The evaluation followed the protocol of the German Research Network on Neuropathic Pain. Patients with diagnosed neuropathy or non-RA risk factors for NP were excluded. Proportions of abnormal detection/pain thresholds were calculated after z-transformation of QST data

based on gender, age and site reference values. Correlations were studied (Spearman correlation coefficient) and comparison between groups was performed (Mann-Whitney and χ^2 tests).

Results: From 112 evaluated RA patients, 47% were classified with NP and 39 performed QST. Thirty four (87%) were women, with a mean age of 53.5 ± 11.8 years and median disease duration of 11 years; ²⁻³¹ 74% were seropositive for Rheumatoid Factor and/or ACPA; 90% were treated with conventional synthetic Disease-Modifying Antirheumatic Drugs (DMARDs) and 39% with biological DMARDs (bDMARDs). Mean DAS28 CRP was 3.44 ± 0.7 . For non-nociceptive parameters, 23 (59%) patients exhibited sensory loss (Lo), 6 to thermal stimuli (L1), 10 to mechanical stimuli (L2) and the reminder for both (L3). Concerning nociceptive parameters, hyperalgesia (Ga) was noted in almost all the patients (97%), 1 to thermal (G1), 20 to mechanical (G2) and 17 for both stimuli (G3). Twenty two (60%) patients presented both Lo and Ga findings. Higher proportion of Lo was noted in bDMARDs group (86% vs 46%, $p=0.02$). Lo patients had significant lower median CRP and ESR levels, but no differences were observed concerning disease activity scores. Thermal Lo (L1 and L3) was also more frequent in the bDMARDs group (57% vs 21%, $p=0.04$) and cold Lo in hydroxychloroquine (HCQ) treated patients (90% vs 21% $p=0.02$). Cold Ga was more frequent in patients under methotrexate (MTX) (48% vs 6%, $p=0.04$) and less frequent in the bDMARDs group (7% vs 46%, $p<0.05$). A weak correlation of Z cold detection and Z warm detection values with CRP and ESR levels was noted ($r=0.34$ and $r=0.35$, $p=0.04$). Time exposure to HCQ, MTX and bDMARDs was negatively correlated with Z cold detection ($r=-0.34$, $p=0.03$), Z pressure pain ($r=-0.33$, $p=0.04$) and Z vibration detection ($r=-0.32$, $p=0.04$), respectively.

Conclusions: Almost all patients presented hyperalgesia, but a sizable proportion also had sensory loss, frequently involving A β fibres. CRP and ESR levels possibly influence small fibre function, but no association with disease activity scores was found. Possible association of bDMARDs and HCQ treatment with sensory detection loss and of MTX with lower pain thresholds was pointed.

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FRI0092 THE ASSOCIATION OF PSYCHOLOGICAL STRESS WITH INFLAMMATION IN PATIENTS WITH CLINICALLY SUSPECT ARTHRALGIA – A STUDY DURING RHEUMATOID ARTHRITIS DEVELOPMENT

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Background: Within established Rheumatoid Arthritis (RA), stress can have pro-inflammatory effects by activating the immune system via the hypothalamic-pituitary-adrenal axis and the autonomic nervous system. It is unknown if stress-levels promote also inflammation during RA-development.

Objectives: We studied whether the psychological stress response was increased in Clinically Suspect Arthralgia (CSA) and if this associated with inflammation at presentation with arthralgia and with progression to clinical arthritis.

Methods: In 241 CSA-patients, psychological stress was measured by the Mental Health Inventory (MHI-5) and the Perceived Stress Scale (PSS-10) at first presentation and during follow-up. Systemic inflammation was measured by C-reactive protein (CRP) and joint inflammation by 1.5T-MRI of wrist-, MCP- and MTP-joints.

Results: At baseline, 10% of CSA-patients had a high psychological stress-response according to the MHI-5. This was not different for patients presenting with or without an elevated CRP, with or without subclinical MRI-detected inflammation and for patients who did or did not develop arthritis. Similar findings were obtained with the PSS-10. When developing clinical arthritis, the percentage of patients with 'high psychological stress' increased to 31% ($p=0.025$); during the first year of treatment this decreased to 8% ($p=0.020$). 'High psychological stress' in non-progressors remained infrequent over time (range 7%–13%). Stress was associated with fatigue ($p=0.003$) and wellbeing ($p<0.001$).