cells and the CD33+CD11b+myeloid derived suppressor cells were assessed using flow cytometry.

**Results:** After 20 weeks of exercise intervention there was a decrease in the frequency of Foxp3+CD25+CD127 regulatory T cells and CD24hiCD38hi B cells but no change was observed in the active control group. The reduction in Tregs by exercise was most pronounced in the female participants. Despite lower levels of adaptive immune cell populations the disease activity did not increase.

**Conclusions:** Aerobic and resistance exercise in elderly patients with rheumatoid arthritis lead to a decreased number of regulatory Foxp3+CD25+CD127 regulatory T cells and CD24hiCD38hi B cells. This decrease was not associated with an increased disease activity score or increased inflammation.

**Disclosure of Interest:** None declared

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**FR0086**

**A STUDY OF THE RELATIONSHIP BETWEEN SERUM VITAMIN D LEVEL AND DISEASE ACTIVITY IN RHEUMATOID ARTHRITIS PATIENTS**

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**Background:** Vitamin D is an essential component of our body. Approximately 3% of the human genome is directly or indirectly regulated by the Vitamin D endocrine system, which supports the idea that Vitamin D insufficiency has widespread adverse consequences for human health. Till date several studies have been done regarding the relation of Vitamin D and Rheumatoid Arthritis but there are limited studies in Eastern India. Hence this study is being done to examine the relation of serum 25 hydroxy Vitamin D level and Disease Activity in Rheumatoid Arthritis patients.

**Objectives:**
- To examine the relationship between Serum 25 Hydroxy Vitamin D level and SDAI (Simplified Disease Activity Index) in Rheumatoid Arthritis patients.
- To examine the relationship between Serum 25 Hydroxy Vitamin D level and Tender Joint Count(TJC), Swollen Joint count(SJC) and CRP in Rheumatoid Arthritis patients.
- To evaluate the relation of serum vitamin D level with various socio demographic factors like Gender, Diet, Occupation, Season, Height, Weight, BMI in Rheumatoid Arthritis Patients.

**Methods:** Ninety six RA patients attending The Rheumatology Clinic of Out Patient Department of An Urban Tertiary care hospital (Latitude of KOLKATA is 22°32'N) from October 2013 to September 2014, fulfilling the ACR – EULAR 2010 criteria for classification of RA, were included in the study. 25(OH)vitamin D levels were measured. Disease activity of RA was assessed by SDAI score.

**Results:** More than Ninety Percent of the RA patients were found to have either Vitamin D deficiency or insufficiency. The mean serum vitamin D level of these RA patients was 20.02 (±9.82) ng/ml. The RA patients with High Disease Activity (SDAI between 26.1 and 86) had significantly low (p<0.001) mean serum vitamin D level [11.1 (±6.08) ng/ml] than those with Moderate (SDAI between 11.1 and 26) or Low Disease Activity (SDAI between 3.4 and 11.0) whose serum vitamin D level was 21.15 (±7.47) ng/ml and 25.58 (±7.30) ng/ml respectively. There is a significant negative correlation between the Serum Vitamin D level and SDAI score (r= – 0.669, p<0.0001) in the whole group of the study population. However On analysing the data separately in RA patients with Vitamin D deficiency, insufficiency and sufficiency, this significant relation is separately evident only in the RA patients with Vitamin D deficiency (serum vitamin D level <20 ng/ml) but not in those who were in the insufficient or sufficient groups. There is an independent negative impact of Simplified Disease Activity Index (SDAI) on Serum Vitamin D level (Adjusted R²=0.464, p<0.0001).

**Conclusions:** RA patients having high disease activity in terms of SDAI Score had significantly low vitamin D level compared to patients of RA having low or moderate disease activity. Lower levels of serum vitamin D was associated with increased disease activity in RA patients. On subgroup analysis, there is significant negative correlation separately evident only in the RA patients with Vitamin D deficiency (serum vitamin D level <20 ng/ml) but not in those who were in the insufficient or sufficient groups.

**REFERENCE:**

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**FR0087**

**REGIONAL AGE- AND SEX-SPECIFIC INTRA-MEDIA THICKNESS CRITERIA IN YOUNG PATIENTS WITH RHEUMATOID ARTHRITIS**

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**Background:** Rheumatoid arthritis (RA) is associated with early progression of cardiovascular (CV) diseases. The CV risk calculators had been verified on a specific population and should be applied predominantly for them. Systematic Coronary Risk Evaluation (SCORE) was recommended by EULAR for use in RA patients with multiplying coefficient 1.5. Nevertheless, SCORE don’t consider RA-specific factors and couldn’t be used in young patient. For timely prevention...
additional criteria is needed to evaluate CV risk in RA-patients. A presence of atherosclerotic plaque (API) or intima-media thickening, assessed by carotid ultrasonography, may be used as a high CV risk marker after adjustment by age and sex factors.

Objectives: To investigate the prevalence of carotid intima-media thickening, using regional age- and sex-specific criteria.

Methods: One hundred forty eight Caucasian patients with RA (age – 53 years; 60% DAS28 5.01 [3.91; 9.90]) without API (API were included in our study. Patients had ACR-defined RA (1987 classification criteria). All patients gave written informed consent before enrollment. SCORE with multiplying coefficient 1.5 was used for the CV risk determining. Range of atherosclerotic progression was assessed by ultrasonography with measurement of carotid intima-media thickness (IMT). IMT measured had been compared with ranges followed: <35/35–44/45–54/55–64/65–74/75–80, 80/86/1.0 mm for the right artery and 0.530/0.730/0.85/0.89/1.0 mm for the left one (men); 0.47/0.51/0.71/0.78/0.87/0.87 mm for the right artery and 0.50/0.55/0.71/0.80/0.91/0.98 mm for the left one (women), respectively.3 Descriptive statistics, Chi-squared test, Spearman rank correlation coefficient were used for data analysis. Results are presented as median and 25th/75th percentiles (Me [25th percentile; 75th percentile]).

Results: IMT significantly correlated with age (r=0.63; p<0.001), systolic blood pressure (r=0.22; p=0.017), but not with other parameters (sex, smoking, cholestrol, etc). Risk was estimated by SCORE for 109 RA patients older than 40 years (age – 57 years; 63), and was 0%–15% (1.95% [0.75; 3.15]). An intima-media thickening had been revealed in 86 from 109 (78.9%) patients and correlated with SCORE value (r=0.42; p<0.001). 34 patients (23.0%) were younger than 40 years (age – 30.5 years; 30–36), therefore the relative CV risk scale had been used for ones. Risk evaluated was medium (1.5%–3%) for all young patient. An intima-media thickening had been revealed in 31 from 34 (91.2%) patients and didn’t correlate with SCORE value (r=0.37; p=0.104). Number of patients with carotid thickening between two groups didn’t significantly difference (p=0.13).

Conclusions: Using age- and sex-specific criteria for the IMT evaluation may be useful in young patients with RA.

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Disclosure of Interest: None declared


FR10089

ASSESSMENT OF COGNITIVE FUNCTION IN RHEUMATOID ARTHRITIS

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Background: For long, rheumatoid arthritis (RA) was thought not to associate with central nervous system (CNS) involvement. In recent years some studies suggest that cognitive function is impaired in RA patients. Accelerated atherosclerosis and reduced function of intracranial vessels in RA can be associated with vascular dementia.

Objectives: We assessed RA patients and healthy controls by neuropsychological tests, cognitive function such as attention, intelligence, memory tests and also by anxiety and depression tests. We wished to explore the prevalence of neuro-psychiatric manifestations and cognitive impairment in patients with RA. Intracerebral vascular lesions were investigated by brain MRI.

Methods: Sixty RA female patients were included. Among them, 20 were MTX-treated, biologic-free, 40 patients received biologics. The controls included 39 non-RA healthy women. The following standardised tests were used: the Montreal Cognitive Assessment (MoCA) Test, the Virginia Stroop Test (VST), the Spielberger State-Trait Anxiety Inventory (STAI), the Benton Visual Retention Test (BVRT), the Beck Depression Inventory (BDI), the Bríg’s and Nebe’s Test, the Trail Making Test (TMT) and B, the Word fluency with the letter (WF-L) and with category naming tests (WF-C), the Rey-Osterreich Auditory Verbal Learning Test (RAVLT), the Weschler Adult Intelligence Scale (WAIS). We also performed brain MRI in all patients in order to associate cognitive function with MRI changes.

Results: The MoCa total score was significantly lower in RA patients (23.3±3.8) especially in biologic-treated group (22.6±4.3) compared to controls (25.6±2.4) (p<0.002; 0.001). The attention MoCa test score was significantly lower in biologic- (4.5±1.6) compared to MTX-treated patients (5.7±0.6) (p<0.001). The STAI scores were significantly higher in RA (STAI: 45.5±8.5; STAI: 48.0±11.0) compared to controls (STAI: 36.9±9.1; STAI: 41.1±9.0) (p<0.001; 0.002). The BDI score was significantly higher in RA (13.2±8.8) and in biologic-treated patients (13.7±8.7) than in controls (8.9±6.5) (p<0.05). The TMT scores were significantly higher in RA (TMT-A: 69.0±26.3; TMT-B: 100.2±48.5) compared to controls (TMT-A: 53.1±14.3; TMT-B: 53.1±22.7) (p<0.05). The VST scores were also significantly higher in RA vs controls. The WAIS and Benton scores were significantly lower in