similar underlying pathologic processes and share a general deregulation of the inflammatory response.

Objectives: To evaluate PD markers in first-degree relatives (FDR) of consanguinity individuals of patients with rheumatoid arthritis to compared with controls and to establish an association to rheumatic activity according to age groups

Methods: 201 FDR individuals and 201 matched controls were included. Clinical evaluation of rheumatologic and periodontal condition was performed. *P. gingivalis*, *P. gingivalis* IgG1 and IgG2, ESR, CRP, RF, ACPAs, painful and swollen joints were assessed. A frequencies analysis, comparisons and a logistic regression model were made. The study was approved by local ethics committee.

Results: 37.3% of patients with overweight and 10.1% obese. Subjects with more than one swelling joint were 21 subjects <30 years, 5 between 31–40, 5 between 41 to 50 subjects and 9 subjects over 50, for more one painful joint were 73. The RF was present in 8.0%, ACPA in 13%, RA33 in 1%. 67.3% had a diagnosis of PD, 81.6% had a moderate-severe $p=0.003$. *P. gingivalis* was in 47.9%, and *P. gingivalis* IgG1 were in 54.7%. It was evidenced that 25.3% patients presented BMI>30, where 81.8% had periodontitis $p=0.006$. Regression analysis on the whole group shows a risk to present BMI>25 (OR 1.67 IC-95% 1.02 – 2.74 $p=0.042$), ACPAs (OR 3.7 IC-95% 1.34–10.22 $p=0.012$), at least one pain joint (OR2.51 IC-95% 1.42–4.44 $p=0.001$) and gingival index (OR4.57 IC-95% 1.76–11.80 $p=0.002$) in FDR individuals. Based on age the risk to develop PD was increasing: individuals among 30 to 40 years shows OR 2.76 (IC-95% 1.24–6.18, $p=0.013$); among 41 to 50 years, OR 4.72 (IC-95% 1.81–12.32, $p=0.001$); and for >50 years individuals an OR 6.22 (IC-95% 2.55–15.1, $p=0.0001$). The discriminating analysis by age rank shows that FDR individuals <30 years ($n=67$) exhibited high risk to have at least one pain joint (OR 3.84 IC-95% 1.28–11.47 $p=0.016$). In subjects among 30 to 40 years ($n=46$), the risk was associated with periodontal pocket (OR1.44 IC-95% 1.05–4.98 $p=0.021$), one or more pain joint (OR 3.56 IC-95% 1.22–10.40 $p=0.020$) which it was maintained until 50 years individuals ($n=35$) (OR4.32 IC-95% 1.11–16.78 $p=0.0034$), individuals >50 years ($n=53$) show high risk to present BMI>25 (OR 4.00 IC-95% 1.46–10.45 $p=0.007$).

Conclusions: Obesity, ACPA and periodontitis can be considered as relevant conditions associated with the development of RA in FDRs. However, the analysis based on age group shows that periodontal markers do not appear early in FDR individuals; however, clinical rheumatologic variables are manifested and maintained over time.

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THU0138 DAS 28 CORRELATED POORLY WITH THE OBJECTIVE EVIDENCE OF INFLAMMATION AS DETECTED BY ULTRASOUND (US) EXAMINATION OF HANDS AND FEET IN PATIENTS WITH ESTABLISHED RHEUMATOID ARTHRITIS (RA)

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Background: The Disease Activity Score including 28 joint count (DAS-28) is the most widely used outcome measure in RA. However, despite evidence that metatarsophalangeal (MTP) joints are often the first joints affected in RA, DAS-28 score does not incorporate them.

Objectives: Our study aimed to investigate the correlation between DAS-28 assessment and objective evidence of active joint inflammation using the US examination of both hands and feet, including wrists, metacarpophalangeal (MCP), proximal interphalangeal (PIP), and MTP joints.

Methods: A retrospective study was conducted, including 87 patients who were referred to the US clinic for an examination of their hands and feet in the last 6 months (46 patients with RA and 43 controls - patients with other inflammatory or degenerative arthropathies). Information about demographics, disease duration, current treatment, inflammatory markers, and DAS-28 scores was captured. The US OMERACT criteria were used for grading synovial hypertrophy, and assessing for the presence of Power Doppler (PD) signal, erosions and osteophytes. Statistical analysis methods included T-test, Mann-Whitney U test, Z score for proportions and Spearman's correlation coefficients.

Results: In the RA group, DAS-28 had a weakly positive correlation with the cumulative PD scores of their hands and feet joints ($R=0.14$, $P=0.02$), but did not correlate with PD score of MTP joints ($R=0.03$, $P=0.09$). In the control group, DAS-28 did not correlate significantly with either the total PD scores of feet ($R=0.42$, $P=0.26$) or hands and feet joints ($R=0.5$, $P=0.25$). Sensitivity of US examination of hands alone compared to hands and feet was 74.3% for the RA group, while the sensitivity of US feet to detect the presence of PD was 59.2% when compared to the US of both hands and feet.

Conclusions: We found that DAS-28 correlated poorly with objective evidence of inflammation as detected by US of the hands and feet, and this correlation was lost when only the presence of inflammation in the feet was taken into consideration. Further validation of our results in a larger study including patients stratified based on the disease duration might help understand which patient subgroups are more likely to have their disease activity significantly under-evaluated using DAS-28 outcome measure.

Disclosure of Interest: None declared

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THU0139 DEPRESSIVE SYMPTOMS AND VITAMIN D IN PATIENTS WITH EARLY ARTHRITIS

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Background: There is a high prevalence of depression in patients with rheumatic disorders. Especially, in rheumatoid arthritis, it is one of the most prevalent co-morbidities with 16% to 38%. Vitamin D (VD) deficiency is one of the known risk factors for depressive disorders. On the other hand, a VD deficiency has often been detected in rheumatic diseases. A possible correlation between these two co-morbidities has not been investigated so far in patients with early arthritis (EA).

Objectives: The aim of this study was to examine the association between VD deficiency and depression and/or anxiety disorders in patients who have presented themselves for the first time in the EA clinic.

Methods: Patients with a suspected EA (at least one swollen joint without previous trauma or joint infection with a symptom duration of 6 weeks to 12 months) received a screening date within five work days. The VD status (25-hydroxy-VD₃) was obtained during the first EA clinic consultation. In addition, each patient completed questionnaires on the disease history, as well as evaluated self-assessment questionnaires including the health assessment questionnaire (HAQ) and the Hospital Anxiety and Depression Scale (HADS). The hereby-obtained results of disease activity, VD-status and HADS-scores were investigated. In the observation period from June 2012 to March 2015, 75 patients fulfilled the inclusion criteria of completed results and questionnaires as well as a disease duration of less than 12 months.

Results: The mean age of this EA cohort was 51.7±16.9 years (q 65.3%, mean disease duration: 4.0±3.0 months). The prevalence of VD deficiency (<75 nmol/l) was 73.3%. 48.0% of EA patients showed a positive global distress score (≥13). The mean HADS global distress score in VD sufficient patients was 10.2±8.6 vs 13.3±6.9 in deficient patients. The observed difference was not statistically significant. There was neither an association between gender, age and VD status nor was there any difference in the laboratory parameters (e.g. C-reactive protein, rheumatic factor, anti citrullinated peptide, hemoglobin) or assessment of functional status (e.g. HAQ, disease activity score by 28 joints).

Conclusions: The prevalence of VD deficiency is higher in EA patients with 73% than in the general German population (vs. 60%). The prevalence of positive distress with 50% is also higher. Interestingly, no association of deficient VD levels and positive distress in the HADS was detected in our examined EA cohort. This might be explained by the early stage of disease, but further studies are necessary to evaluate this new insight.

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THU0140 SPECKLE TRACKING ECHOCARDIOGRAPHY EVALUATION OF CORONARY TERRITORIES IN MEXICAN MESTIZO PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: The main cause of death in patients with rheumatoid arthritis (RA) is atherosclerotic cardiovascular disease. Speckle Tracking Echocardiography (STE) is an imaging technique that analyses the local and global myocardial function by assessing the myocardial deformation (strain). This technique is useful in addressing early alterations in ischemic pathologies (1,3).

Objectives: The aim of this study was to analyze if longitudinal strain abnormalities correspond with vascular territories, and compare the results between RA-patients and matched controls.

Methods: An observational cross-section case-control study was designed. Patients that fulfilled the 1987 ACR and/or 2010 ACR/EULAR classification criteria for RA, were 40–75 years old, with no overlap syndromes and no history of atherosclerotic cardiovascular disease were included. The control group was integrated by age- and sex-matched subjects, with no rheumatologic or cardiovascular diseases. A standard transthoracic echocardiogram was performed by a

board-certified echocardiographer. Affection of coronary territories was compared between groups using longitudinal strain by speckle tracking according to the European Society of Cardiology and the American Society of Echocardiography recommendations.

Results: A total of 53 RA-patients and 24 control subjects were included. Demographic characteristics for each group are shown in table 1. There was no statistical difference in global longitudinal strain between RA-patients and controls (-20.86 ± 2.82 vs -21.19 ± 2.46 , $p=0.62$). Comparison of longitudinal strain values of the three vascular territories evaluated between RA-patients and controls did not reach statistical difference (Table 2).

Table 1. Demographic characteristics

	RA group (n=53)	Control group (n=24)	p
Age, mean $\pm$ SD	55.54 $\pm$ 9.11	52.81 $\pm$ 6.61	0.172
Women, n (%)	51 (96.2)	26 (96.3)	0.988
Body Mass Index, mean $\pm$ SD	27.53 $\pm$ 5.85	28.05 $\pm$ 4.66	0.956
Hypertension, n (%)	18 (33.96)	5 (18.5)	0.149
Type 2 Diabetes mellitus, n (%)	7 (13.2)	4 (14.8)	0.844

Table 2 – Variable comparison

	RA group (n=53)	Control group (n=24)	p
Global Longitudinal Strain, mean $\pm$ SD	-20.86 $\pm$ 2.82	-21.19 $\pm$ 2.46	0.620
Anterior descendent territory, mean $\pm$ SD	-21.16 $\pm$ 3.13	-21.64 $\pm$ 2.91	0.510
Circumflex territory, mean $\pm$ SD	-20.12 $\pm$ 3.28	-21.09 $\pm$ 3.1	0.207
Right coronary territory, mean $\pm$ SD	-18.98 $\pm$ 2.38	-18.79 $\pm$ 2.37	0.735

Conclusions: Contrary to previous published evidence (1, 2), there was no statistical difference in global longitudinal strain between RA patients and controls. Coronary territories are not affected in RA patients in comparison with controls. Further studies with a larger cohort are necessary to determine the usefulness of strain in the evaluation of subclinical cardiovascular disease.

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THU0141 CAN WE PREDICT THROMBOTIC TENDENCY IN RHEUMATOID ARTHRITIS: A THROMBOELASTOGRAPHIC ANALYSIS

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Background: Arterial and venous thromboembolism were proven to be increased in cases with rheumatoid arthritis (RA) (1). It would be interesting to predict thrombosis in these patients by a laboratory test. Rotational thromboelastography (ROTEM) is a viscoelastometric clotting test to evaluate the kinetics of clot formation and fibrinolysis which provides global information on cellular and soluble procoagulant/anticoagulant protein interactions.

Objectives: Our aim was to determine the thrombosis predisposition in RA patients by thromboelastography and to identify the possible clinical and laboratory risk factors for thrombotic tendency in RA patients.

Methods: 85 RA patients (mean age: 54.12 $\pm$ 13 yrs; female: 66 (77.6%)) diagnosed based on 2010 ACR/EULAR classification criteria were sequentially recruited. Patients were receiving either conventional synthetic disease modifying antirheumatic drugs (csDMARD) or were receiving biological treatments. Age- and gender matched 35 healthy individuals were enrolled as a control group. Complete blood count (CBC), erythrocyte sedimentation rate (ESR), and C-reactive protein (CRP) levels were measured and DAS-28 scores were calculated. ROTEM was applied at the same time and clotting time (CT, seconds), clot formation time (CFT, seconds), and maximum clot firmness (MCF, mm) were determined. A shorter CT and/or CFT values and/or a higher MCF levels imply tendency towards hypercoagulability.

Results: RA patients with a higher disease activity were found to have a shorter I-CFT and a higher I-MCF (p values $p=0.020$, $p=0.033$, respectively). Correlation analysis revealed shorter I-CFT and E-CFT and higher I-MCF and E-MCF in those with more active disease, hence indicating a higher tendency to thrombosis.

DAS-28 score, high level of CRP, and increased platelet count were identified as variants affecting thromboelastography in favor of thrombosis susceptibility.

Conclusions: Disease activation in RA patients may lead to hypercoagulability, independent of the ongoing medication of patients. Considering the fact that the predictive value of ROTEM parameters for further thrombosis, additional studies are needed whether pro-thrombotic state in RA may herald thrombosis in the presence of inflammation.

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THU0142 MATRIX METALLOPROTEINASE-3 AND ANTIBODIES (IGG) AGAINST OXIDIZED LOW-DENSITY LIPOPROTEIN LEVELS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is associated with an unexplained increased cardiovascular risk. Matrix metalloproteinase-3 (MMP-3) is the most important protease involved in RA inflammation which may play a role in the development of cardiovascular events. Antibodies against oxidized low-density lipoprotein (oxLDL) are known to be involved in the development of inflammation and atherosclerosis. Specific role of MMP-3 and antibodies against oxLDL in cardiac pathology in RA patients (pts) is not well investigated.

Objectives: To compare MMP-3 and oxLDL-IgG antibody levels, as well as lipid profiles in pts with active RA and healthy controls.

Methods: Thirty nine RA pts (33 women and 6 men, median age 56.5 [49; 65] years), with active arthritis (mean disease duration 96 [48; 190] months; DAS28 5.8 [5.3; 6.3]; HAQ 1.8 [1.3; 2.2]) were enrolled in the study. Twenty three pts (59%) received methotrexate, 5 (13%) – the combination of methotrexate with oral glucocorticoids, 10 (26%) – oral glucocorticoids monotherapy. The control group consisted of 29 volunteers (21 women and 8 men, median age 58.5 [53; 62] years). Serum MMP-3 and oxLDL-IgG levels were measured by enzyme-linked immunosorbent assay (ELISA).

Results: Elevated MMP-3 levels were detected more frequently in RA pts (31/39 (79%)) vs healthy controls (2/29 (7%)), $p<0.0001$. MMP-3 concentrations were higher in RA pts (57.0 [36.6; 114.3] ng/ml), than in the control group subjects (13.4 [9.9; 20.4] ng/ml, $p<0.0001$). MMP-3 levels demonstrated significant correlation with ESR ($r=0.64$, $p<0.05$) and CRP ($r=0.52$, $p<0.05$) values.

OxLDL-IgG levels in RA pts and healthy controls did not differ significantly (290.3 [111.3; 608.6] mU/ml, and 228.1 [125.1; 338.8] mU/ml, respectively $p>0.05$). Rates of dyslipidemia were similar in RA pts (23/39 (59%)) and control group subjects (15/29 (52%)). Concentrations of lipids were also similar in both groups and were as follows: total cholesterol was 5.2 [4.9; 6.2] mmol/l in RA pts and 6.3 [5.1; 6.6] mmol/l in the control group; HDL cholesterol - 1.7 [1.4; 2.0] mmol/l and 1.7 [1.5; 2.1] mmol/l, LDL cholesterol - 3.3 [2.8; 4.0] mmol/l and 3.6 [3.0; 4.0] mmol/l, triglycerides - 1.3 [1.0; 1.6] mmol/l and 1.4 [1.1; 1.8] mmol/l, the atherogenic index of plasma - 2.4 [1.8; 2.8] and 2.4 [1.9; 3.0], respectively. Showed no correlation between the levels of oxLDL-IgG and lipids in both groups. In the RA group, concentrations of HDL cholesterol were negatively correlated with MMP-3 ($r=-0.5$, $p<0.05$), C-reactive protein ($r=-0.53$, $p<0.05$), and DAS28 ($r=-0.4$, $p<0.05$).

Conclusions: RA pts exhibited higher serum MMP-3 levels than healthy individuals. OxLDL-IgG levels were similar in RA pts and healthy subjects. Obtained results suggest that MMP-3 and CRP may produce a negative impact on HDL-cholesterol levels in patients with active RA.

Disclosure of Interest: None declared

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THU0143 CHOLESTEROL EFFLUX CAPACITY OF HDL IS OTHERWISE IMPROVED BY DIFFERENT BIOLOGIC-DMARDS IN RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) patients have an increased mortality for cardiovascular (CV) events, not completely explained by impaired cholesterol levels or other traditional CV risk factor (1). Target therapy with effective control of systemic inflammation have been demonstrated to improve articular outcomes, but the effect on CV risk is still under investigation (2). The ability of high-density lipoprotein (HDL) to accept cholesterol from macrophages (HDL cholesterol efflux capacity; HDLc-EC) is a key step in reverse cholesterol transport, with significant consequences on incident atherosclerotic CV disease (3), but this marker in RA have still alternate evidence (4,5).

Objectives: To assess the effects of different biological DMARDs on HDLc-EC in RA