RF are originated as a result of such post-translational modifications [1]. From the above-mentioned RA markers only synthesis of anti-CarP is a result of chemical protein modification. The synthesis of anti-PADI4 may facilitate the production of citrullinated proteins and contribute to the formation of ACPA. All of the above markers appear before RA onset [2].
Objectives: The aim of our study is to discover the potential utility of using additional markers (anti-CarP and anti-PADI4) in RA diagnosis.
Methods: 121 RA patients, 82.4% female, aged 52.2±12.3 years (mean ±SD) and 30 healthy controls (HC), 76.7% female, aged 53.2±8.1 years, were enrolled in the study. ACPA, RF, anti-CarP and anti-PADI4 antibodies were determined in serum by enzyme-linked immunosorbent immunoassay (ELISA).
Results: The markers positivity rate was 85.95%, 67%, 55.37% and 46.28% in ACPA, RF, anti-PADI4 and anti-CarP respectively. Among ACPA negative patients we found 44.44% and 16.67% anti-CarP and anti-PADI4 positive results respectively. The data concerning ACPA are gathered in Table 1.

RA patients, n=121		
RA markers positivity	**ACPA(+), n=103 (85,95%)**	**ACPA(-), n=18 (14,88%)**
Anti-CarP(+)	48 (46,6%)	8 (44,44%)
RF(+)	77 (74,76%)	4 (22,22%)
Anti-PADI4(+)	64 (62,14%)	3 (16,67%)
Anti-CarP(+) and RF(+)	41 (39,81%)	3 (16,67%)
Anti-CarP(+) and anti-PADI4(+)	33 (32,04%)	1 (5,56%)
RF(+) and anti-PADI4(+)	54 (52,43%)	2 (11,11%)
Anti-CarP(+) and RF(+) and anti-PADi4(+)	30 (29,13%)	1 (5,56%)

Table 1. The profile of anti-CarP, RF, anti-PADI4 positivity in ACPA(+) and ACPA(-) RA patients.

In HC group we found 0%, 0%, 7.14% and 7.14% positivity in ACPA, RF, anti-PADI4 and anti-CarP respectively. We found 91.7% positivity for ACPA(+) or anti-CarP (+) vs 88.4% for ACPA(+) or RF(+).
Conclusion: The measurement of anti-CarP antibodies may be useful in RA diagnosis. The positivity for ACPA/anti-CarP is even higher than ACPA/RF. This might be caused by the similarity of the origins of ACPA and RF (enzymatic citrullination), while anti-CarP origin is different (chemical carbamylation). It is known that anti-CarP appears years before RA onset and might be used as a potential biomarker for pre-RA diagnosis. We didn't confirmed the usefulness of anti-PADI4 as RA biomarker.

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THU0140 INSULIN RESISTANCE AND LIPID PROFILE IN RHEUMATOID ARTHRITIS PATIENTS WITHOUT DIABETES MELLITUS OR FASTING HYPERGLYCEMIA

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Background: Diabetes mellitus (DM) is known to be associated with proatherogenic lipid profile and cardiovascular complications. Insulin resistance (IR) is the major pathophysiological mechanism contributing to type II DM development. Established in general population correlation between IR and dyslipidemia sometimes even without DM, should nevertheless be confirmed in patients (pts) with rheumatoid arthritis (RA).
Objectives: To analyze IR rates and identify IR predictive lipid profile in RA patients without DM or hyperglycemia.
Methods: Totally 47 RA pts (41 women, 6 men, 56 [39; 62] years old) without established DM and with normal fasting glucose levels (<6,1 mmol/l) were enrolled in the study. Median disease duration was 6 [5;14] years. The majority of pts were IgM RF (83%) and anti-CCP (83%) seropositive, had low (40,4%) or moderate (42,6%) RA activity based on DAS28-ESR scores. RA pts were treated with glucocorticoids (51,1%), methotrexate (57,4%) or other disease-modifying antirheumatic drugs (23,4%), biological agents (17,0%) and statins (10,6%). IR was defined as Homeostasis Model Assessment of Insulin Resistance (HOMA-IR) index ≥2,77. Lipid profile included evaluation of the following parameters: serum levels of total cholesterol (TC), low-density lipoprotein cholesterol (LDL-C), high-density lipoprotein cholesterol (HDL-C) and triglycerides (TG). Additionally, non-HDL-C = TC - HDL-C and TG/HDL-C ratio were also evaluated.
Results: Median HOMA-IR levels were 1,7 [1,1;3,2]. HOMA-IR index correlates with age (r=0,3, p=0,04), body mass index (r=0,6, p<0,001), waist circumference (r=0,6, p<0,001), TC (r=0,3, p=0,02), non-HDL (r=0,3, p=0,03), TG concentrations (r=0,5, p<0,001) and TG/HDL-C ratio (r=0,4, p=0,006). IR was detected in 15 (31,9%) RA pts. RA pts with (group 1, n=15) or without IR (group 2, n=32) were comparable in terms of age, sex, disease duration and activity, therapy, and comorbidities including arterial hypertension, myocardial infarction + coronary revascularization. Hypertriglyceridemia (≥1,7mmol/l) was more often present in pts with IR compared to pts without IR (33,3% vs 6,3%, p=0,03).
Conclusion: More than 30% of RA pts without DM and with normal serum fasting glucose concentration had IR. The IR was associated with increased TG levels and elevated TG/HDL-C ratio in RA pts. This proatherogenic lipid profile could be responsible for earlier development of cardiovascular complications.
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THU0141 SEVERELY DESTRUCTIVE UNILATERAL WRIST ARTHRITIS AS A RARE MANIFESTATION IN PATIENTS WITH RHEUMATOID ARTHRITIS – ANALYSIS OF CLINICAL AND IMAGING FEATURES AT A SINGLE CENTER

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Background: Rheumatoid arthritis (RA) is characterized by symmetrical involvement of small and large joints. New treatment modalities have not only allowed to achieve clinical remission or low disease activity, but also to halt the radiographic progression of joint destruction. In some patients, the disease progresses and leads to joint destruction despite treatment with disease-modifying antirheumatic drugs (DMARDs). Occasionally, wrist arthritis leads to severe destruction of carpal bones with ankyloses, so-called "os carpale". Severely destructive wrist arthritis in an asymmetrical, unilateral pattern has only rarely been reported in the literature and has not been systematically assessed (1). A severely destructive yet often symmetrical arthritis has been described in seronegative RA patients (2).
Objectives: To systematically analyze the presence of severely destructive unilateral wrist arthritis in a single-center, seropositive RA population and to identify risk factors for its development.
Methods: This is a single-center retrospective cohort study using routine clinical data. We performed a database search of our RA population for the presence of rheumatoid factor (RF) and/or anti-CCP antibodies (ACPA) from 2011 to 2017. Radiographs were assessed independently by two investigators for the presence of severely destructive unilateral wrist arthritis. Discrepancies were resolved by discussion. Epidemiological data including age, gender, disease duration, occupation, dexterity and smoking status were recorded. Patients with psoriasis, a family history of psoriasis or posttraumatic osteoarthritis were excluded. Past and current treatments were recorded. Conventional radiographs of the hands were scored using the modified Sharp score, magnetic resonance images were examined if available.
Results: We identified 1247 patients with either positive RF, ACPA, or both. After exclusion of non-RA diagnoses and radiograph review, 17 eligible patients were included in the study. Of these, 7 were excluded because of incomplete clinical data. All of the remaining ten patients were female (100%). Median age was 58.1 years (33-70), median disease duration was 15.5 years (1-22). Seven patients were right-handed, one was left-handed, in two patients, dexterity was not known. Six patients were smokers, two patients were non-smokers, in two patients, smoking status was not known. Median ACPA levels were 134,6 IU/ml (normal range <5), median RF 54.2 IU/mL (NR <16). All but two patients were positive for both antibodies; in three patients, ACPA were only mildly elevated (6, 11, and 14, respectively). 6/8 (75%) patients with severe destruction were smokers. In 5/7 (71.4%) right-handed patients, destruction occurred in the dominant wrist, whereas in 2/7 (28.5%) right-

handed patients, destruction occurred in the non-dominant wrist. Patients received a mean number of 4.7 DMARDs.
Conclusion: Severely destructive unilateral wrist arthritis represents a rare phenotype of RA. In our cohort, this type of joint involvement was only present in women, it occurred primarily in the dominant hand (75%), and in smokers (75%). The mean number of used DMARDs was very high. Further studies for assessing the prevalence of this entity, also in seronegative patients, are required.

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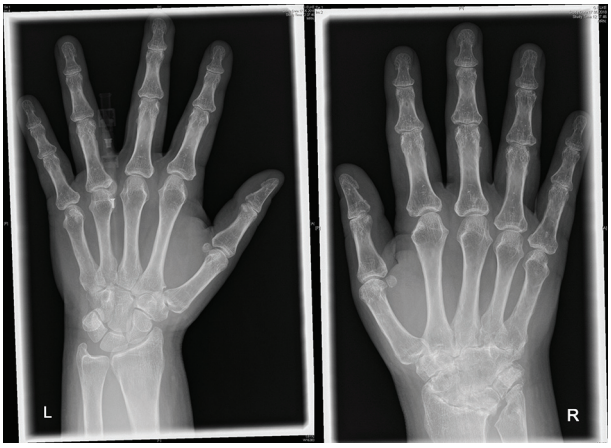

Abstract THU0141 – Figure 1. Illustrative sample radiograph showing severely destructive unilateral wrist arthritis. While there is generalized osteopenia, other joints are relatively spared.

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THU0142 DIAGNOSTIC AND PREDICTIVE VALUE OF CAROTID AND TIBIAL ARTERIES ULTRASOUND MORPHOLOGY CHANGES IN FEMALE WITH RHEUMATOID ARTHRITIS

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Background: Carotid plaque (CP) is one of the surrogate markers of atherosclerosis. The association of ultrasound carotid and tibial intima-media morphology abnormalities with clinical and laboratory markers of atherosclerosis in patients with rheumatoid arthritis (RA) is uncertain.
Objectives: To determine the diagnostic and prognostic value of the carotid and tibial arteries ultrasound changes in women with RA, depending on age, menopause and laboratory parameters.
Methods: The study was performed on 105 women with RA according to the ACR/EULAR 2010 criteria in the mean age 44,2±13,3 years without history of CVD. Female patients were divided in two groups by menopause: 51.4% premenopausal (PreM) and 48.6%; postmenopausal (PM) women. Carotid and tibial arteries ultrasonography examination included the measurement of cIMT in 3 points, detection of focal plaques in the extracranial carotid tree, blood flow velocity and morphology of the intima was performed. 30 age-matched healthy women were examined by the same parameters.
Results: The cIMT > 0.9 mm was detected in 38 (36.2%) patients. Patients with cIMT > 0.9 mm had significantly higher age, RA duration, serum levels of the total cholesterol (TC), LDL, apolipoprotein apo B and CRP. CPs were observed three times more often in patient with cIMT > 0.9 mm than without thickness of carotid intima-media (cIM) ((50% vs 16,4%, p<0.05). Carotid intima-media morphology abnormalities (fragmentation and sclerosis) were observed in 73.3% RA patients, mostly with CP (100%) and cIMT > 0.9 mm (97.4%). In the most Prem RA women (58.1%) with low CV risk according to mSCORE calcinosis of the tibial artery (TA) was identified. Among the patients with CP 86.7% had calcinosis of the TA, 92% of whom were PM. No vascular abnormalities were detected in healthy control. The TC and LDL levels were significantly higher in patients with CP, cIMT > 0.9 mm, TA fibrosis and calcinosis than without (5.4 mmol/L vs 4.6 mmol/L). The significant correlations between LDL level and cIMT > 0.9 mm (r=0.32; p= 0.04); presence of CP (r=0.38; p=0.00006), cIM fragmentation (r = 0.34; p = 0.0003), RI CA (r=0.21; p=0.03), diffuse TA fibrosis (r = 0.44; p = 0.03) were identified. The DAS28, CRP level, Vps CA, anti-CCP positivity, cIMT > 0.9 mm had high predictive value for the development TA fibrosis in PreM RA women. The TA calcinosis was positively correlated with carotid intima-media morphology abnormalities (χ2=31.6; p<0.01), presence of the CP (χ2=26.2; p<0.01), cIMT > 0.9 mm (χ2=8.5; p<0.01).
Conclusion: According to the data of multiple logistic regression the risk factors for the development of moderate, high and very high CV risk in RA women were DAS28, levels of CRP and LDL, swollen joint count, menopause, cIMT > 0.9 mm and TA fibrosis. Prem RA women with low CV risk according to mSCORE, high level of TC and/or LDL, presents of cIMT > 0.9 mm and/or carotid intima-media morphology abnormalities and/or TA calcinosis can be candidate for initiation lipid-lowering therapy.
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THU0143 LOW-ENERGY FRACTURES IN RHEUMATOID ARTHRITIS – ASSOCIATIONS WITH GENES AND CLINICAL CHARACTERISTICS

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Background: Patients with rheumatoid arthritis (RA) have increased risk of osteoporosis and low-energy fractures. Several genes associated with bone mineralization, osteoporosis or risk of fracture in the general population have been identified.
Objectives: To analyse the association between nine selected SNPs and the risk of low-energy fracture, taking clinical patient characteristics into account.
Methods: We identified a cohort of patients (n=896, 70% women, age at inclusion 60.0±14.8 years) with RA according to ACR criteria from the catchment area of the register of Umeå injury database, Umeå, Sweden, which enabled identification of low-energy fractures (n=254). The follow-up (mean 8.8±6.1 years, total 7928 person-years) started two years after RA diagnosis but not earlier than January 1, 1993 and ended at the first of December 31, 2011, death or the first low-energy fracture. Nine SNPs were analysed in all patients with available DNA-samples (n=667) using KASPTM genotyping assays (LGC genomics Ltd, Hoddesdon, UK): rs3801387 (WNT16), rs6666455 (SOAT), rs3736228 (LRP5), rs4796995 (FAM210A), rs4792909 (SOST), rs2062377 (TNFRSF11B/OPG), rs884205 (TNFRSF11A/RANK), rs9533090 (TNFSF11/RANKL), and rs1373004 (DKK1). Anti-CCP was analysed and clinical patient characteristics (duration of RA, ever smoking, disease activity the first two years after RA diagnosis, and joint erosions) were extracted from patient files. Associations between the risk of fracture and risk alleles in the cohort were evaluated using Kaplan-Meier curves (K-M) and Cox proportional hazards models: crude, adjusted for age and sex, and for clinical patient characteristics.
Results: The SNPs: rs1373004, rs4792909, and rs2062377 were associated with the risk of fracture in K-M analyses (Figure 1). For the other genes no significant associations were observed. Patients carrying the risk allele of rs1373004 (22.6% of the patients), or who were homozygous for the risk allele of SNP rs4792909 (38.6%), had a >50% higher risk of low-energy fracture compare to other patients, irrespectively of disease characteristics (Table 1). The association between rs2062377 and the risk of fracture was not independent of clinical patient characteristics (Table 1).

Abstract THU0143 –Table 1. Cox proportional hazards models estimating the risk of low-energy fracture associated with SNPs in patients with RA

	Freq	HR1*	95% C.I.	HR2*	95% C.I.	HR3*	95% C.I.
rs1373004, T-carrier	22.6%	1.61	1.16;2.22	1.61	1.16;2.22	1.68	1.17;2.41
rs4792909, GG vs. TT+TG	38.6%	1.59	1.19;2.14	1.53	1.13;2.05	1.54	1.12;2.13