(61.7%) were negative for both RF and ACPA. Among autoantibody-negative patients, 193 (40.5%) scored less than 6 points according to the 2010 criteria, with 82 (42.4%) scoring 5 points. 35.4% of these patients were captured by the 1987 criteria at baseline. Reasons for not fulfilling 1987 criteria in the remaining were morning stiffness <60 min in the majority of the cases (62.3%). As expected, autoantibody-negative patients scoring 5 points had lower disease activity with respect to autoantibody-negative patients fulfilling RA criteria (Table 1). Rather, disease activity, pain and loss of function were comparable to those of autoantibody-positive early RA patients (Table 1). After 2 months of follow-up, 58.1% of autoantibody-negative patients scoring 5 points remained in moderate disease activity (DAS28 >3.2).

Conclusion: In autoantibody-negative patients with new-onset arthritis scoring 5 of the 10 points of the 2010 criteria for RA classification, arthritis is equally severe and disabling compared to autoantibody-positive patients classified as RA from baseline. In the majority of these patients, arthritis persists in the short term. Prospective data are thus awaited in order to assess whether the cut point of the 2010 criteria needs to be lowered in autoantibody-negative inflammatory polyarthritis.

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Abstract Table 1. Baseline characteristics of the study cohort

	autoantibody-negative 2010 ACR/ EULAR score=5	autoantibody-negative 2010 ACR/ EULAR score ≥6	p	autoantibody-positive 2010 ACR/ EULAR score ≥6	p
symptoms' duration, median (IQR), weeks	30.6 (10.7 to 37.1)	15.6 (9.9-26.3)	0.04	15.3 (8.5 to 28.8)	0.04
DAS28, mean (SD)	4.53 (0.83)	5.25 (1.08)	<0.001	4.72 (1.15)	0.05
VAS pain, median (IQR)	51.5 (32.5-70.5)	62 (50-80)	0.01	50 (31-77.5)	0.76
HAQ, median (IQR)	1 (0.47-1.5)	1.25 (0.75-1.88)	0.003	1 (0.5-1.5)	0.44

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THU0080 DEVELOPMENT OF ULTRASOUND DETECTABLE ARTHRITIS AMONG ACPA POSITIVE SUBJECTS WITH MUSCULOSKELETAL SYMPTOMS: THE RISK RA PROSPECTIVE STUDY

Aase Hensvold[1,2], Yogan Kisten[2], Alexandra Circiumaru[2], Monika Hansson[2], Meng Sun[2], Guozhong Fei[1], Nancy Vivar[2], Erik Af Klint[2], Hamed Rezaei[2], Lars Klareskog[2], Aleksandra Antovic[1], Anca Catrina[1,2]. *[1]Center for Rheumatology, Academic Specialist Center, Stockholm Health Services., Stockholm, Sweden*; *[2]Rheumatology unit Karolinska University Hospital and Karolinska Institutet, Stockholm, Sweden*

Background: Retrospective studies have shown that anti-citrullinated protein antibodies (ACPA) are a risk factor for the development of clinical arthritis.

Objectives: We aimed to investigate in a prospective setting if ACPA and other biomarkers could predict development of ultrasound detected arthritis.

Methods: Subjects with positive ACPA-test referred from primary care to the Rheumatology clinic that lacked arthritis in hands, feet and any other symptomatic joints by clinical and ultrasound examination (according to EULAR-OMERACT definition), were recruited into the Risk-RA research program during 2015-2016 and were followed up to the end of 2017. At inclusion a detailed clinical examination was performed and blood samples were analyzed for 13 specific ACPA reactivities (using a custom made peptide microarray) as well as 92 inflammation-associated protein biomarkers (using a multiplex immunoassay with Olink proximity extension technology). Presence of HLA-SE was analyzed using DR low-resolution kit. Univariate and multivariate analysis were used to investigate the association between clinical and laboratory parameters and development of ultrasound detected arthritis adjusting for the follow-up time.

Results: 42% (27 out of 65) of the Risk RA subjects developed ultrasound detectable arthritis during a median follow up of 8 months. The remaining 58% (38 out of 65) were followed for a median of 25 months (range 12-44) without any signs of ultrasound detectable arthritis. Subjects developing arthritis had higher prevalence of HLA-SE (89% vs 56%) and increased occurrence of ultrasound detected tenosynovitis (44% vs 5%), as compared to those not developing arthritis. ACPA reactivities to citrullinated vimentin peptides (cit vim 2-17: 22% vs 6%; and cit vim 60-75: 70% vs 43%) and citrullinated histone peptides (cit H4 31-50: 89% vs 49%; and cit H3 21-44: 48% vs 23%) were a more common occurrence in subjects developing ultrasound detectable arthritis. Backward selection in a Cox regression model showed that ultrasound detectable arthritis could be predicted in a model including HLA-SE, tenosynovitis and ACPA reactivity to cit H4 31-50. Hazard ratio (HR) for arthritis development were 3.4 (95% CI 1.0-12, p 0.06) for HLA-SE carriers, 2.9 (95% CI 1.3-6.7, p 0.01) for tenosynovitis and 4.1 (95% CI 1.2-14, p 0.02) for Anti-citrullinated H4 31-50 positivity. Only modest differences were observed for few of the tested inflammatory markers in those developing as compared to those not developing ultrasound detectable arthritis: Interleukin-6 (3.9 vs 3.3 AU/ML), Programmed death-ligand 1 (4.9 vs 5.2 AU/ML) and Chemokine (C-X-C motif) ligand 6 (9.2 vs 9.5 AU/ML).

Conclusion: Certain ACPA fine specificities, HLA-SE and tenosynovitis predict the development of ultrasound detectable arthritis in seropositive individuals with musculoskeletal symptom who are at risk for RA.

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THU0081 ELEVATED SERUM TREM-1 LEVELS ARE ASSOCIATED WITH DAS28 AND PERIODONTITIS IN RHEUMATOID ARTHRITIS

Nevsun Inanc[1,1], Gonca Mumcu[2], Meryem Can[3], Haner Direskeneli[1], Nagihan Bostanci[4]. *[1]Marmara University, School of Medicine, Department of Internal Medicine, Division of Rheumatology, Istanbul, Turkey*; *[2]Marmara University, Faculty of Health Sciences, Department of Health Management, Istanbul, Turkey*; *[3]Medipol University, Medical Faculty, Department of Rheumatology, Istanbul, Turkey*; *[4]Karolinska Institutet, Section of Periodontology and Dental Hygiene, Division of Oral Diseases, Department of Dental Medicine, Stockholm, Sweden*

Background: The Triggering Receptor Expressed on Myeloid cells 1 (TREM-1) along with its putative ligand peptidoglycan recognition protein 1 (PGLYRP1) are involved in the propagation of the inflammatory response to microbial exposure(1). Periodontal disease (PD) has been suggested as an environmental risk factor for rheumatoid arthritis (RA), yet further studies are required to dissect the mechanisms underlying the association between the two(2).

Objectives: The present study aimed to investigate whether serum levels of TREM–1 and PGLYRP1 in patients with RA correlate with the presence and severity of PD, as well as bacterial load in saliva.

Methods: Serum and saliva samples were collected from 65 individuals with RA (F/M: 48/17), under sDMARD treatment for more than 6 months and never used biologic treatment), with Behcet syndrome (BS, n= 45, F/M: 31/12) and with systemic health (HC, n= 59, F/M: 40/19). RA disease activity was assessed by using 28-joint disease activity score (DAS-28). Oral health was evaluated by dental and periodontal indices. TREM-1 and PGLYRP1 were measured by ELISA, while total oral bacteria in saliva was assessed by quantitative real-time polymerase chain reaction and normalized against tooth number. For statistical analysis, non-parametric Kruskal Wallis, Mann-Whitney U and Spearman correlation tests were used.

Results: Patients with RA presented with a smaller number of teeth than the BS and HC groups (18.67±8.45; 24.02±3.7; 25.36±3.83, respectively) (p<0.001). Prevalence of severe periodontitis was higher in the RA group (33,8%) compared to BS (20,9%) and HC (5,1%). Total bacterial load was significantly higher in saliva of RA than HC (p<0.05). Serum TREM-1 and PGLYRP1 levels were significantly higher in RA (167,1±95,0 pg/ml; 157,5±228,8 pg/ml) than BS (102,8±44,4 pg/ml; 52,4±26,01pg/ml) and HC

(90,7±56,5 pg/ml; 68,8±37,7 pg/ml) (p<0.05). Correlation analysis showed a significant positive correlations between TREM-1 and and DAS-28 scores (p<0.05). In the RA group, while TREM-1 levels (127,9±61,7 pg/ml vs 198,4±105,7 pg/ml) were significantly reduced by methotrexate intake, but presence of severe periodontitis resulted in higher TREM-1 and PGLYRP1 (p<0.05).

Conclusion: The present study demonstrated that there is an increased levels of TREM-1 and PGLYRP1 in serum of patients with RA which is further potentiated by periodontitis. Moreover, TREM-1 correlates with clinical disease activity. MTX therapy of patients with RA is accompanied by reduced TREM-1 levels in serum.

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THU0082 EFFECT OF TREAT-TO-TARGET STRATEGY ON DISEASE ACTIVITY AND RADIOLOGIC OUTCOMES IN RHEUMATOID ARTHRITIS: RESULTS FROM A 9-YEAR CHINESE COHORT

Lanlan Ji, Wenhui Xie, LI Guangtao, Zhuoli Zhang. *Peking University First Hospital, Beijing, China*

Background: Treat-to-target (T2T) strategy has been implied in clinical practice for 9 years. However, a recent study showed that the radiologic outcome didn't associate with the adherence to protocolized treatment in clinical practice[1]. Furthermore, in clinical practice, nonadherence to a T2T protocol has been reported[2]. The reasons varied. In our previous study, there was a substantially decrease of RA activity over 8 years after tight control applied[3]. However, whether T2T strategy can improve the long term radiographic outcomes in daily practice is still unknown.

Objectives: the arm of our study was to determine the effect of treat to target (T2T) protocol on disease activity and radiographic outcomes in a 9-year Chinese RA cohort.

Methods: RA patients who were followed-up for more than 1 year in a longitudinal observational cohort were included in our study. The adherence rate of the patients was evaluated by the calculation of the percentage of whether the patients followed the time schedule to clinic. Adherence rate≥0.7 was defined as adherent to T2T. The overall disease activity was evaluated by time adjusted mean (TAM) method. The radiological change was evaluated by radiographies of the hands regularly, with the interval between 1 and 3 years. We defined the primary radiological outcome as △ modified total Sharp score (mTSS) >3 over the follow-up time.

Results: There were 209 patients enrolled in our study. The median interval of two radiographies was 31.0 (17.0, 50.0) months. 45.0% of patients got clinical remission using TAM DAS28(ESR) and 25.4% of patients got the radiological outcome. Adherence rate was significantly negatively correlated with the mean disease activity [β coefficient=-0.423 (-0.540, -0.298), p=0.000, using DAS28ESR]. Moreover, adherent to T2T and baseline high disease activity (HDA) were independent predictors of radiological outcome [adherent to T2T: HR=0.47 (0.27, 0.82), p=0.007; baseline HDA: HR= 2.04 (1.16, 3.62), p=0.014] (Figure 1). As for bone erosion aspect, besides baseline HDA and adherent to T2T, baseline bone erosion existing also independently associated with erosion progression [HR=1.90 (1.12, 3.23), p=0.018]. When divided the adherence rate into three subgroups, we can find that patient not following the T2T protocol were more easily to get radiological progression. There was statistically significant difference among three groups (p=0.004 using log rank, and p=0.001 using Tarone ware). To our surprise, increased adherence rate didn't provide more benefit when adherence rate was more than 0.9 (Figure 2). In patients who got overall clinical remission, we found none of these variables correlated with the radiological outcome.

Conclusion: The mTSS progression was associated with baseline HDA and adherence rate, independently. Adherence to T2T strategy may improve the remission probability and halt the radiological deterioration, especially in the patients who didn't get clinical remission.

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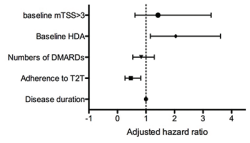

Figure 1 Predictors of radiological outcome by the multivariate COX regression. HDA, high disease activity; DMARDs, disease modifying anti-rheumatic drugs; T2T, treat to target (adherence rate≥0.7).

Abstract THU0082 – Figure 1

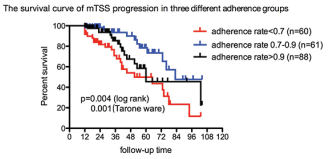

Figure 2 The survival curve of patients having radiological progression in different adherence rate groups. Patient whose adherence rate<0.7 were more easily to get △mTSS>3. There was statistically significant difference among three groups (p=0.004 using log rank, and p=0.001 using Tarone ware).

Abstract THU0082 – Figure 2

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THU0083 ROLE OF CLINICAL IMPACT, DISEASE-SPECIFIC KNOWLEDGE AND BELIEFS ABOUT MEDICATION ON THERAPEUTIC ADHERENCE IN RHEUMATOID ARTHRITIS: AN INTEGRATIVE STRUCTURAL EQUATION MODELING APPROACH

George Karpouzas[1], Elizabeth Hernandez[2], Vibeke Strand[3], Sarah Ormseth[2]. *[1]Harbor-UCLA Medical Center, Rheumatology, Torrance, United States of America*; *[1]Harbor-UCLA Medical Center, Rheumatology, Torrance, United States of America*; *[3]Stanford, Immunology/Rheumatology, Palo Alto, United States of America*

Background: Treatment of rheumatoid arthritis (RA) to remission is the optimal way to ensure control of symptoms, prevention of structural damage, optimization of function and quality of life. Adherence to medical treatment is, therefore, an integral part of a comprehensive and successful management of RA.

Objectives: We interrogated the influence of three distinct domains of RA clinical impact (disease activity, functional limitations, mood disturbance), patient specific knowledge about RA and beliefs about medications on treatment adherence.

Methods: We evaluated 285 patients with established RA from a single center. In the proposed model, disease activity DAS28(CRP), mood disturbance (Patient Health Questionnaire-9 depression scale and SF-36 Mental Health domain), functional limitations (Health Assessment Questionnaire Disability Index and SF-36 Physical Function domain) and RA-specific knowledge (Patient Knowledge Questionnaire) were expected to predict beliefs about the necessity of RA medications and concerns about them (Beliefs about Medicines Questionnaire) which, in turn, would impact adherence (Simplified Medication Adherence Questionnaire). Cross-sectional multi-group structural equation modeling evaluated the model separately in patients treated with bDMARDs and those only receiving csDMARDs.

Results: RA-specific knowledge was not significantly associated with medication beliefs or adherence and therefore was dropped from the model. Modification indices suggested addition of two supplementary paths (dashed lines) that significantly improved the proposed model fit for both