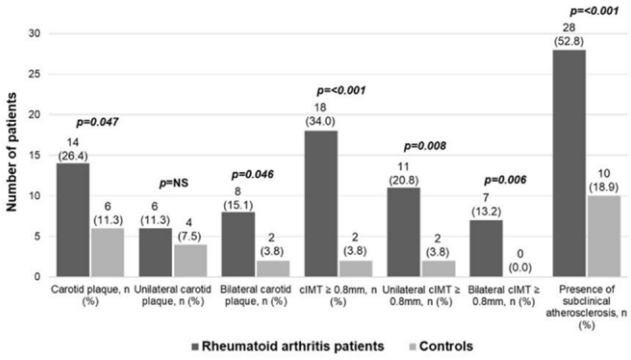
Table 1. Demographic and clinical characteristics.

	RA (n=53)	Controls (n=53)	*p*
Age years, mean ± SD	54.48 ± 9.09	54.86 ± 6.83	NS
Women, n (%)	49 (92.5)	49 (92.5)	NS
T2DM, n (%)	8 (15.1)	7 (13.2)	NS
HTN, n (%)	17 (32.1)	17 (32.1)	NS
Dyslipidemia, n (%)	19 (35.8)	19 (35.8)	NS
Obesity, n (%)	21 (39.6)	20 (37.7)	NS
Active smoking, n (%)	3 (5.7)	4 (7.5)	NS
BMI kg/m^2, median (p25-p75)	28.78 (25.92-33.21)	27.59 (24.55-33.34)	NS
Disease duration, mean ± SD	2.48 ± 1.31	-	-
DAS28-CRP, median (p25-p75)	3.21 (1.89-4.12)	-	-
MTX, n (%)	39 (73.6)	-	-
Glucocorticoids, n (%)	29 (54.7)	-	-

NS, not significant; T2DM, type 2 diabetes mellitus; HTN, hypertension; BMI, body mass index; DAS28, disease activity score using 28 joints; CPR, C-reactive protein; MTX, methotrexate.

Figure 1. Carotid ultrasound findings.



0.60mm, *p*=0.001 in the left carotid artery), and in the presence of subclinical atherosclerosis overall, being more prevalent in RA patients (52.8% vs 18.9%, *p*=<0.001) (Figure 1).

Conclusion: Patients with RA in the first five years of diagnosis have a higher prevalence of subclinical atherosclerosis than the general population. CV evaluation including a carotid US should be done at the time of diagnosis of RA patients, and subsequently it must be individualized according to the CV risk of each patient, with a maximum of five years to identify those patients who would benefit from an opportune treatment.

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POS0484

THE ASSOCIATION BETWEEN SOCIAL STRESSORS AND DISEASE REMISSION AMONG MEN AND WOMEN WITH EARLY RHEUMATOID ARTHRITIS

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Background: The role of psychosocial conditions on the disease course of rheumatoid arthritis (RA) is getting increased attention. In our previous study, low social support and low decision latitude at work were associated with known modifiable risk factors for RA disease development, such as smoking and low educational level (1). Further, smoking and low educational level have previously been shown to be associated with worse RA disease outcome (2-4). Whether psychosocial characteristics are related to RA disease outcome needs further investigation.

Objectives: To investigate the relationship between two psychosocial characteristics: low social support and low decision latitude at work, and achievement of remission in patients with RA.

Methods: At inclusion in the Swedish EIRA study, incident RA cases (N=3724) and controls (N=5937), matched for age, sex and residential area, responded to a questionnaire including questions on social support and decision latitude at work. The answers were recoded into separate scores and the distribution of the scores among controls were used to define the exposures. Low social support and low decision latitude at work, respectively, among patients, were set as the level corresponding to the lowest quartile among controls, and were compared with scores corresponding to the remaining three quartiles.

The outcome, disease activity score 28-joint count (DAS28) remission, defined as DAS28<2.6, was captured through linkage with the Swedish Rheumatology Quality Register (SRQ) with data available from diagnosis for 2693 out of 3700 cases for social support and for 847 out of 1248 cases for decision latitude at work.

Logistic regression was used to evaluate the association between low social support or low decision latitude at work, respectively, and the chance of remission at the time-points 3 months, 12 months and 60 months after inclusion. All results were adjusted for age, sex and residential area and the fully adjusted models were also adjusted for smoking, obesity, physical activity and educational level.

Results: Low social support (n=655) was associated with a reduced chance for remission at all three time points in the model adjusted for age, sex and residential area; OR 3 months 0.77 (95% CI 0.61-0.97), OR 12 months 0.78 (95% CI 0.64-0.95) OR 60 months 0.77 (95% CI 0.59-0.99). This association was diminished after further adjustment. After stratifying for sex, this association was enhanced in women but inverse among men (Figure 1).

No association between low decision latitude at work (n=166) and chance for remission was observed neither in the analyses stratified for matching variables, nor in the full model. This result was only marginally changed after stratifying for sex (Figure 1).

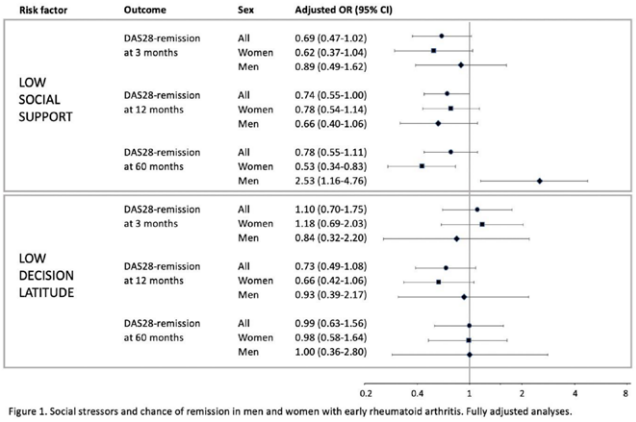

Figure 1. Social stressors and chance of remission in men and women with early rheumatoid arthritis. Fully adjusted analyses.

Figure 1. Odds ratios for assiciation between social stressors and DAS 28 remission

Conclusion: Low social support was associated with lower chance of remission in early RA, but the association was not independent of other risk factors for worse outcome (smoking, physical activity, obesity and low educational level). The interrelationship between social stressors and previously known risk factors for worse outcome highlights the importance of supportive actions at many levels to increase the possibility for the individual to make healthy decisions.

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POS0485 TRAJECTORY CLUSTERS OF RADIOGRAPHIC PROGRESSION IN RHEUMATOID ARTHRITIS PATIENTS: ASSOCIATIONS WITH CLINICAL VARIABLES

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Background: Joint damage is a defining feature of rheumatoid arthritis (RA), a major driver of functional impairment and of reduction of quality of life. Many factors are associated with damage accrual however, the course of structural damage of individual patients over time and factors associated with such trajectories have not been investigated.
Objectives: Identification of trajectories of radiographic damage in RA by clustering patients according to the shape of their curve of Sharp-van der Heijde scores (SHS) over time. Developing models to predict their progression cluster from baseline characteristics.
Methods: Patient-level data over a two-year period from 5 large randomized controlled trials on TNF-inhibitors in RA (ERA, PREMIER, TEMPO, GO-BEFORE and GO-FORWARD) were used. SHSs were clustered in a shape-respecting manner to identify distinct clusters of radiographic progression. Characteristics of patients within different progression clusters were compared at baseline and over time. Logistic regression models were developed to predict trajectory of radiographic progression using information at baseline.
Results: In total 1887 patients with 7738 x-rays were used for cluster analyses. We identified 4 distinct clusters with characteristic shapes of radiographic progression: one with a stable SHS over the whole 2-year period (C0/lowChange; 86%); one with relentless progression (C1/rise; 5.8%); one with decreasing SHS (C2/improvement; 6.9%); and one going up and down (C3/bothWays; 1.4%) of the SHS. Robustness of clusters and shapes of progression over time were confirmed using different clustering methods and cut-offs to define radiographic progression (Figure 1). Regression models identified disease duration, baseline CRP and SHS and treatment status as predictors for cluster assignment (Table 1), showing good performance (PCC 87.5%; Nagelkerke r^2 0.36*)*.
Conclusion: We were able to identify 4 different clusters of radiographic progression over time in patients with RA, most remarkably one with relentless progression and another one with amelioration of joint damage over time, suggesting the existence of distinct patterns of joint damage accrual in RA. The nature of the identified trajectories is mostly explained by inflammatory load, disease duration and especially type of treatment.

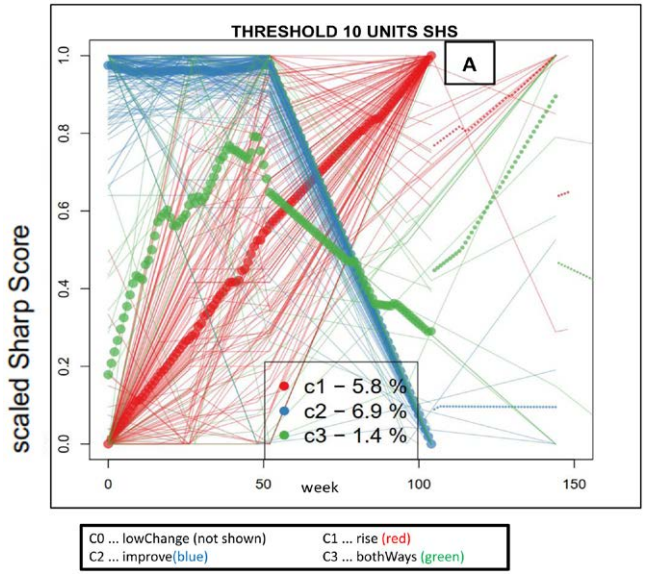

Figure 1. Representations of the major three clusters of radiologic progression curves.*(A) shows the curves of all patients with a SHS-range >= 10, colored by their cluster. Values between visits were linearly interpolated. Big dotted line is the median of particular cluster, thinner lines represent single patient values. Cluster C0 /lowChange are patients without enough variation in SHS to be seen as a curve, therefor not shown in the diagrams.*

Table 1. ***Simple logistic regression models to predict assignment to clusters of radiologic progression using information at baseline. Variables entered but not selected by a stepwise approach were: rheumatoid factor, age, gender, tender joint count*;**

c0/low change vs:	C1/rise Cluster		C2/improve Cluster	
parameters	**OR**	**95%CI**	**OR**	**95%CI**
X-ray Score	1.02	1.01-1.03	1.03	1.02-1.03
CRP (mg/dl)	1.12	1.07-1.16	0.98	0.90-1.07
Duration (years)	0.87	0.80-0.95	1.09	1.05-1.12
Treatment				
Combination	REF	REF	REF	REF
csDMARD	4.98	2.88-8.63	0.05	0.01-0.23
bDMARD Mono	2.28	1.29-4.04	0.64	0.38-1.08

Disclosure of Interests: Stephan Blüml Speakers bureau: Novartis, MSD, Abvie, Pfizer, Consultant of: MSD, Lilly, Novartis, Alexander Platzer: None declared, Farideh Alasti: None declared, Daniel Aletaha Speakers bureau: Abbvie, Amgen, Lilly, Merck, Novartis, Pfizer, Roche, Sandoz, Consultant of: Abbvie, Amgen, Lilly, Merck, Novartis, Pfizer, Roche, Sandoz, Grant/research support from: Abbvie, Amgen, Lilly, Novartis, Roche, SoBi, Sanofi, Josef S. Smolen Speakers bureau: AbbVie, Amgen, AstraZeneca, Astro, Bristol-Myers Squibb, Celgene, Celltrion, Chugai, Gilead, ILTOO Pharma, Janssen, Lilly, Merck Sharp & Dohme, Novartis-Sandoz, Pfizer, Roche, Samsung, Sanofi, and UCB., Consultant of: AbbVie, Amgen, AstraZeneca, Astro, Bristol-Myers Squibb, Celgene, Celltrion, Chugai, Gilead, ILTOO Pharma, Janssen, Lilly, Merck Sharp & Dohme, Novartis-Sandoz, Pfizer, Roche, Samsung, Sanofi, and UCB., Grant/research support from: Dr Smolen received grants to his institution from Abbvie, AstraZeneca, Janssen, Lilly, Merck Sharpe & Dohme, Pfizer, and Roche, Helga Radner: None declared
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POS0486 FACTORS ASSOCIATED WITH CHRONOTROPIC RESPONSE IN PEOPLE WITH RHEUMATOID ARTHRITIS

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Background: People with rheumatoid arthritis (RA) are at high risk for cardiovascular diseases (CVD) and CVD mortality. Reduced Chronotropic response (CR), which produces exercise intolerance, is known as a contributing factor to CVD and mortality. Studies have shown that people with RA have reduced CR. However, knowledge about the factors associated with CR in people with RA is limited.
Objectives: To explore the factors associated with CR including CVD risk factors, inflammatory markers and cardiorespiratory fitness (VO_2 peak).
Methods: 106 people with RA completed a treadmill exercise tolerance test while heart rate (HR) was monitored via 12 leads ECG. CR was defined as the percentage of [(achieved peak HR minus resting HR) divided by (age-predicted maximum HR minus resting HR)]. Serological CVD risk factors and inflammatory markers including lipids profile, markers of insulin resistance and sensitivity (HOMA, QUICKi), high sensitivity C-reactive protein (hsCRP), erythrocyte sedimentation rate (ESR), fibrinogen and white blood cells (WBC) were examined via a fasted blood sample. VO_2 peak was assessed via breath-by-breath gas analysis.
Results: 34% had reduced CR based on the cut-off value (≤ 80%) and the average CR was 86.2 ± 21%. Body mass index (r=-0.33, p=.001), HOMA (r=-0.26, p=.009), hsCRP (r=-0.23, p=.02), ESR (r=-0.21, p=.04), fibrinogen (r=-0.2, p=.05), WBC (r=-0.21, p=.04) were inversely associated with CR, whereas, high density lipoprotein (HDL) (r=0.43, p<.001), QUICKi (r=0.31, p=.002), and VO_2 peak (r=0.4, p<.001) were positively associated with CR. When all the variables were entered into a stepwise linear regression, HDL (p<.001) and VO_2 peak (p=.009) were independently associated with CR.
Conclusion: The current findings suggest that CR in RA was associated with many CVD risk factors, inflammatory markers, and cardiorespiratory fitness. Among all the varibales, HDL and cardiorespiratory fitness were moderately and independently associated with CR. Future studies should investigate the effect of improving these associated variables on CR in people with RA via exercise training programes.
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