Conclusions: The association of baseline CXCL13 levels with RA disease activity was stronger in the early RA population than in the DMARD-IR population. Changes in CXCL13 and sICAM1 correlated significantly with changes in DAS28-ESR at Week 24. However, baseline levels of CXCL13 and sICAM1 did not predict response to TCZ at Week 24, suggesting that although these biomarkers are associated with disease activity, they do not predict response to TCZ in all RA populations.

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THU0132

THE PATIENT GLOBAL ASSESSMENT RATING VARIES MINIMALLY IF USING ARTHRITIS OR GLOBAL HEALTH CONDITION AND AGREEMENT IS HIGH BETWEEN COMMON COMPOSITE DISEASE ACTIVITY MEASURES AND REMISSION CLASSIFICATION USING EITHER: RESULTS FROM A NATIONAL EARLY RA COHORT STUDY

V.P. Bykerk^{1,2}, O. Schieir³, M.-F. Valois⁴, E.C. Keystone², G. Boire⁵, J.E. Pope⁶, D. Tin⁷, B. Haraoui⁸, C. Hitchon⁹, C. Thorne⁷, S.J. Bartlett⁴, on behalf of on behalf of CATCH Investigators. ¹Rheumatology, Hospital for Special Surgery, New York, USA; ²Rheumatology, U Toronto, Toronto; ³Epidemiology, McGill University, Montreal; ⁴Rheumatology, U Sherbrooke, Sherbrooke; ⁵Rheumatology, U Western Ontario, London; ⁶South Lake Regional Health Ctr, Newmarket; ⁷Institute de Rheumatologie, Montreal; ⁸Rheumatology, U Winnipeg, Winnipeg, Canada

Background: The patient global assessment (PtGA) is a core domain in several RA composite disease activity (CDA) measures for trials, treat-to-target paradigms and practice, and can be asked differently, either referring to the patient's global health or condition (PtGA-GH), or specifically to arthritis disease activity (PtGA-AR).

Objectives: To assess agreement between PtGA-GH vs. PtGA-AR ratings and commonly used CDA indices calculated using both versions of the PtGA.

Methods: We included classifiable RA patients enrolled in CATCH (Canadian Early Inflammatory Arthritis Cohort) between 2011 and 2017 who simultaneously completed both PtGA-GH and PtGA-AR using a 10 cm VAS (scored 0–10) at each of baseline, 6- and 12 months visits. Differences in descriptive statistics were compared using Wilcoxon-sign rank tests and chi-square tests for baseline characteristics, PtGA ratings and CDA indices. Agreement was assessed using Intraclass correlation coefficients (ICC) for continuous measures and weighted kappa coefficients for categorical measures. Stratified analyses were also performed by age (older >65) and sex.

Results: Of 571 eligible early RA patients, 71% were female, 83% were white, 17% were current smokers, 17% had erosions, and 60% had completed high-school. Baseline mean(SD) age was 55(¹⁵), symptom duration was 5 (3) months and there were 2 (2) comorbid conditions. Agreement between PtGA ratings, composite CDA measures and remission classification by PtGA-GH and PtGA-AR are summarised in table 1. Mean(SD) PtGA-GH ratings were only marginally higher than PtGA-AR ratings and agreement was high between PtGA ratings at baseline and over the first year follow up (all ICCs>0.8). Agreement in CDA scores calculated with either PtGA was higher at baseline and over time (all ICCs>0.95). Concordance in classification of remission using either PtGA was also high at all time points (Kappa's>0.85). Results of stratified analyses showed that relative to men, women tended to report slightly higher differences in PtGA-GH vs. PtGA-AR (all p's<0.0001) but overall agreement in PtGA ratings, CDA scores and remission classification was high and similar in both sexes. Age stratified analyses were similar to those in the whole sample.

Conclusions: Results from this large longitudinal study of early RA patients followed in routine practice settings, showed patients rated the PtGA-GH marginally higher than PtGA-AR but differences had minimal impact on commonly used CDA indices and remission classification. These findings suggest that common composite measures of RA disease activity can be calculated using either the PtGA-GH or PtGA-AR.

Table 1. Agreement in Patient Global Assessment, RA Composite Disease Activity Indices and Classification of Remission calculated using PtGA-GH vs PtGA-AR

Variable	Baseline (N = 571)		6-Months (N = 571)		12-Months (N = 571)	
	PtGA – GH	PtGA – AR	PtGA – GH	PtGA – AR	PtGA – GH	PtGA – AR
Patient Global Assessment (VAS 0-10cm)						
Mean (SD)	5.7 (2.8)	5.2 (2.8)	3.0 (2.7)	2.8 (2.6)	2.7 (2.6)	2.4 (2.5)
Intraclass correlation coefficient	0.80		0.88		0.88	
Composite Disease Activity (CDA) Indices						
DAS28-ESR						
Mean (SD)	5.0 (1.3)	4.9 (1.3)	2.9 (1.4)	2.9 (1.4)	2.6 (1.4)	2.6 (1.4)
Intraclass correlation coefficient	0.98		0.99		0.99	
Remission, Frequency (%)	23 (4%)	23 (4%)	193 (34%)	196 (34%)	243 (43%)	247 (43%)
Kappa (95% CI)	0.93 (0.91, 0.95)		0.97 (0.96, 0.98)		0.98 (0.97, 0.98)	
SDAI						
Mean (SD)	28.7 (14.4)	28.1 (14.4)	10.5 (10.4)	10.2 (10.4)	8.2 (8.8)	7.9 (9.7)
Intraclass correlation coefficient	0.99		0.99		0.99	
Remission, Frequency (%)	6 (1%)	6 (1%)	143 (25%)	155 (27%)	192 (34%)	203 (36%)
Kappa (95% CI)	0.95 (0.93, 0.97)		0.95 (0.94, 0.97)		0.95 (0.94, 0.97)	
CDAI						
Mean (SD)	27.1 (13.7)	26.6 (13.7)	9.7 (10.3)	9.5 (10.3)	7.3 (9.2)	7.0 (9.1)
Intraclass correlation coefficient	0.99		0.99		0.99	
Remission, Frequency (%)	5 (1%)	6 (1%)	158 (28%)	173 (30%)	210 (37%)	215 (38%)
Kappa (95% CI)	0.93 (0.909, 0.96)		0.92 (0.901, 0.94)		0.92 (0.90, 0.94)	
RAPID III						
Mean (SD)	4.6 (2.4)	4.5 (2.3)	2.5 (2.2)	2.4 (2.2)	2.2 (2.1)	2.1 (2.1)
Intraclass correlation coefficient	0.97		0.98		0.98	
Remission, Frequency (%)	52 (9%)	53 (9%)	199 (35%)	206 (36%)	231 (41%)	237 (42%)
Kappa (95% CI)	0.85 (0.81, 0.89)		0.86 (0.83, 0.90)		0.85 (0.815, 0.89)	
Boolean Remission						
N, % Remission (REM)	6 (1%)	7 (1%)	114 (23%)	123 (25%)	159 (33%)	167 (34%)
Kappa (95% CI)	0.99 (0.97, 1.00)		0.95 (0.93, 0.98)		0.94 (0.91, 0.96)	

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THU0134

ULTRASOUND DETECTED TENOSYNOVITIS PREDICTS ARTHRITIS ONSET IN INDIVIDUALS AT RISK OF DEVELOPING RHEUMATOID ARTHRITIS

Y. Kisten¹, H. Rezaei¹, E. af Klint¹, G. Fei^{1,2}, A. Antovic^{1,2}, A.H. Hensvold^{1,2}, A. I. Catrina^{1,2}. ¹Rheumatology Unit, Department of Medicine, Karolinska University Hospital, Karolinska Institute; ²Academic Specialist Centre, Stockholm Health Services, Stockholm, Sweden

Background: The pathophysiological processes leading from musculoskeletal (MSK) complaints to clinically manifest rheumatoid arthritis (RA) are not fully understood. The urgency for imaging and serological markers that predict arthritis development in individuals at risk of RA is of clinical importance.

Objectives: To identify ultrasound (US) markers that can predict arthritis development.

Methods: Patients presenting with MSK complaints and a positive Anti-Citrullinated Protein Antibody (ACPA) test were referred from primary care units to the Rheumatology Unit. Those lacking clinical signs of arthritis, confirmed by absence of synovial hypertrophy with Doppler activity on US examination, were recruited into the Risk-RA prospective program. A total of 66 patients with complete US records were included between years 2015 up to December 2016. Hands and feet, including symptomatic joints were US-evaluated for synovitis, hyperemia and bone erosions. The presence of wrist (compartments 1–6) and finger (flexor and extensor) tenosynovitis, according to OMERACT guidelines were also recorded in all patients. Serum samples from inclusion were analysed on a multiplex immunoassay

Results: 66 Risk-RA patients (85% female, median age 50 years, range 22–82) were included and followed up to arthritis onset (median 8 months, range 1–27), or to the end of year 2017 (median 25 months, range 11–43). 27 patients (41%, 86% female, median age 52 years, range 22–74) developed arthritis. Of these 7 had tenosynovitis detected by US at inclusion and 7 more developed tenosynovitis at follow-up visits (in total n=14). At the time of diagnosis, 20 out of 27 patients presented with both tenosynovitis and synovitis.

A large majority of patients with tenosynovitis (12 out of 14, 86%) and a minority without tenosynovitis (15 out of 52, 29%) developed arthritis, resulting in an increased relative risk of 3.0 (95% CI 1.8–4.8) to develop arthritis for patients presenting with tenosynovitis at baseline or follow-up visits (p=0.001).

Concentrations of the anti-CCP antibodies, anti-CEP antibodies and anti-citrullinated vimentin^{60–75} antibodies tended to be higher in patients with tenosynovitis developing arthritis (n=12, median of 70 AU/ml, range 2–175 for anti-CCP, median of 68 AU/ml, range 0–673 for anti-CEP, median of 53, range 0–644 for anti-vim) than those without tenosynovitis developing arthritis (n=15, median of 35 AU/ml, range 1–100 for anti CCP, median of 12, range of 0–1179 for anti-CEP, median of 29, range 0–332 for anti-vimentin). Same trend was observed when comparing

patients with tenosynovitis developing arthritis to those without-tenosynovitis not-developing arthritis. The 2 patients with tenosynovitis not developing arthritis, had lower levels of the antibodies as compared to those with tenosynovitis developing arthritis. No significant differences in other patient baseline characteristics were seen between those with, and those without tenosynovitis (86 vs 85% female, median (range) 54 years²⁹⁻⁷¹ vs 50 years,²²⁻⁸² mean visual analogue scale pain 34 vs 31, mean c-reactive protein 2.7 vs 3.2; tender joint count 1.2 vs 0.7).

Conclusions: Ultrasound detected tenosynovitis in the context of ACPA positivity is a good clinical predictor of rapid arthritis onset in individuals at risk of developing RA.

Disclosure of Interest: None declared

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THURSDAY, 14 JUNE 2018

Rheumatoid arthritis – comorbidity and clinical aspects

THU0135 USING FRAX® AND PERIPHERAL BONE MINERAL DENSITY FOR IDENTIFYING POTENTIAL CANDIDATES FOR OSTEOPOROSIS THERAPY AMONG RHEUMATOID ARTHRITIS PATIENTS

O. Nikitinskaya, N. Toroptsova. Nasonova Research Institute of Rheumatology, Moscow, Russian Federation

Background: Rheumatoid arthritis (RA) and glucocorticoids (GC) therapy are proven risk factors (RF) for osteoporosis (OP) and osteoporotic fractures (OPF). Along with these factors, patients with RA have other diseases and conditions that can affect the increase of the risk of OPF.

Objectives: To determine the frequency of RA in the epidemiological random sample of persons aged ≥50 years and to identify among them patients who need the prevention of OPF.

Methods: The epidemiological sample included 18 018 people (13 941 women and 4 077 men, mean age 62±10 years). A survey was conducted using a unified questionnaire that included possible risk factors for osteoporosis (age, body mass index, individual or family history of fragility fracture, smoking, alcohol misuse, confirmed diagnosis of RA, long-term use of GC, premature menopause, physical inactivity, disorder strongly associated with osteoporosis) and daily calcium intake with food. The 10 year probability of fracture was calculated using the FRAX. Bone mineral density (BMD) was measured in the distal forearm using Osteometer Meditech DTX-200 as a screening method.

Results: The prevalence of RA in the epidemiological sample was 1.7% (1.9% for women and 1.2% for men, $p=0.0047$). The mean FRAX values for the major OPF in RA patients were significantly higher than those without RA: $18.4\pm10\%$ and $13.2\pm7.9\%$, respectively ($p<0.0001$) for women and 8.9 ± 6.4 and 6.2 ± 3.7 , respectively ($p<0.0001$) for men. Forty-two percent of RA patients had a high risk of OPF: 48% of women and 8% of men. The percentage of women with RA who had FRAX above the threshold of therapeutic intervention was significantly higher than among those without RA (31%), $p=0.00001$. At the same time, in men, the frequency of high fracture risk was the same in patients with RA and without RA (8% and 7%, respectively, $p>0.05$). Among the most common RF OP and OPF in RA patients were previous fractures (33%), causes of secondary OP (30%) and taking GC (18%), for men an additional factor - smoking (33%). Women with RA had significantly more concomitant diseases and other secondary causes of OP and OPF (33%) than those without RA (23%), $p=0.0004$. More of them used GC compared to control (17% and 8%, respectively, $p<0.0001$). Among men significant differences were obtained only for the using of GC: 20% in RA patients and 5% in control group ($p<0.0001$). Other RF were found with the same frequency. The average calcium intake with food was 683 ± 231 mg per day among women and 635 ± 276 mg per day in men without statistical differences between RA patients and control. 20% of men and 16% of women had less than half of daily calcium intake norm ($p=0.53$). OP in the distal forearm was diagnosed in 47% RA women and 20% RA men compared to control: in 22% women ($p<0.0001$) and 19% men ($p>0.05$). Among RA patients, 13% of women and 20% of men had low FRAX and OP in the distal forearm.

Conclusions: Every third woman with RA had at least one more comorbid disease or condition associated with an increased risk of OPF and about every second - low BMD. 48% of women and 8% of men with RA had a high risk of OPF and needed prevention of OP. Additionally, among RA patients, 13% of women and 20% of men with low BMD in the distal forearm require axial densitometry.

Disclosure of Interest: None declared

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THU0136 MAJOR CARDIOVASCULAR EVENTS IN 434 RHEUMATOID ARTHRITIS PATIENTS TREATED WITH RITUXIMAB FROM A SINGLE-CENTRE

A. Giollo^{1,2,3}, S. Gandrala⁴, T. Vojinovic⁵, A. Burska^{1,2}, M.Y. Md Yusof^{1,2}, E. M. Vital^{1,2}, E.M.A. Hensor^{1,2}, M.H. Buch^{1,2}. ¹Leeds Institute of Rheumatic and Musculoskeletal Medicine, University of Leeds; ²NIHR Leeds Biomedical Research Centre, Leeds, UK; ³Rheumatology Unit, University of Verona, Verona, Italy; ⁴Leeds Teaching Hospitals NHS Trust, Leeds, UK; ⁵University of Pavia, Pavia, Italy

Background: Increased cardiovascular (CV) risk due to excess atherosclerosis in rheumatoid arthritis (RA) is attributed to systemic inflammation. Effective disease modifying drugs have been associated with reduced CV burden. Pre-clinical models of atherosclerosis suggest atheroprotective IgM and atherogenic IgG B-cell populations; with reduced atherosclerosis in murine models treated with depleting anti-CD20 monoclonal antibody suggesting relative preservation of protective B-cell population. The specific impact of rituximab (RTX) on the development of CV disease in RA has not been evaluated thus far.

Objectives: To determine the incidence of major cardiovascular events (MACE) in RA patients treated with rituximab and factors associated with any increased risk.

Methods: This was a single-centre, cohort study of patients with RA treated with ≥1 RTX cycle recruited prospectively. MACE outcomes were retrospectively identified as myocardial infarction, cerebrovascular accident, or death due to CV disease. Patients with and without MACE were compared for age, sex, CV risk factors (diabetes mellitus, hypertension, hyperlipidaemia, smoking, prior CV disease), disease characteristics (disease duration, ACPA, RF, methotrexate use, DAS28) and immunoglobulin levels. Association between the proportion of MACE and these variables of interest was analysed using the Student T test or Chi squared test as appropriate.

Results: A total of 434 patients were studied (mean age 58 years [SD 13], 80% females). Total follow-up was 3211 patient-years (PY). Of these, 32/434 (7.4%) had a MACE (incidence rate 10 per 1000 PY). Forty-three deaths (any cause; 9.9%) were recorded, 6/43 and 26/391 deaths respectively in patients with and without MACE (14% vs 7%, $p=0.114$). Patients with MACE were older (64 [SD 9] vs 58 [SD 13] years, $p=0.001$), more likely to be diabetics (22% vs 6%, $p=0.001$), smokers (11% vs 5%, $p=0.027$), and were treated less frequently with methotrexate (4% vs 13%, $p=0.002$), but did not differ for hypertension, hyperlipidaemia, prior CV disease nor RA characteristics. Data on immunoglobulins at baseline and after the first cycle were available in the first instance in 287/434 patients. There were no significant differences in baseline immunoglobulin levels between patients with MACE and those without. However, the proportion of patients with MACE was significantly lower among those who had a reduction in their IgM levels from baseline (5% vs 21%, $p=0.006$), but not for IgG or IgA. No significant differences in the clinical profile of patients with decreased IgM and those without were observed.

Conclusions: These preliminary data suggest decrease of IgM is associated with decreased risk of MACE in RA patients treated with RTX. Planned analysis on serial Ig with cumulative RTX exposure will clarify this initial observation. Whether and how any such association is related to a specific RTX-mediated effect and/or the overall reduction in the inflammatory burden deserves further investigation.

Disclosure of Interest: None declared

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THU0137 RHEUMATOID ARTHRITIS AS AN EMERGENCY DEPARTMENT RISK FACTOR FOR ACUTE CORONARY SYNDROME

M. Bergström¹, J. Askling¹, A. Discacciati², M. Frick^{3,4}, T. Jernberg⁴, R. Linder⁴, L. Ljung^{3,5}, P. Svensson^{1,3,5}. ¹Department of Medicine; ²Institute of Environmental Medicine, Karolinska Institute, Solna; ³Department of Cardiology, Södersjukhuset; ⁴Department of Clinical Sciences, Danderyd University Hospital; ⁵Department of Clinical Science and Education, Södersjukhuset, Karolinska Institute, Stockholm, Sweden

Background: In rheumatoid arthritis (RA), the risk of myocardial infarction (MI) is 1.5–2.0 times higher than for the general population. However, it is unknown whether RA is a risk factor also in high-risk populations, such as among patients subjected to a cardiac diagnostic work-up at the emergency department (ED).

Objectives: To study 1) whether RA is a risk factor for acute coronary syndrome (ACS) in a population-based sample of individuals seen in the ED, and 2) how any association with RA relates to the presence of chest pain.

Methods: A total of 96 220 patients (of whom 1 312 had RA) seen in the ED of the four hospitals in the larger Stockholm area, due to chest pain and/or tested for