Abstract THU0108 – Figure 1. Concordance between physician- and patient-DAS-28 using the Bland and Altman method.

The physician-patient DAS-mean is plotted on the X-axis. The physician-patient DAS-difference is plotted on the Y-Axis. The horizontal black line corresponds to the mean DAS difference (-0.09 [95% CI -0.14; -0.04]). The horizontal blue lines correspond to ± 1.96 SD. The vertical red line corresponds to the DAS-28 cut-off for remission (2.6).

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.6055

Rheumatoid arthritis – comorbidity and clinical aspects

THU0109 INCREASED MODIFIED HEALTH ASSESSMENT QUESTIONNAIRE (MHAQ) SCORE IS INDEPENDENTLY ASSOCIATED WITH HIGH RISK OF SEVERE INFECTION IN RHEUMATOID ARTHRITIS (RA) PATIENTS

Yuji Yoshida¹, Shiro Ohshima¹, Eri Oguro¹, Kentaro Kuzuya¹, Yasutaka Okita¹, Hidetoshi Matsuoka¹, Satoru Teshigawara¹, Maiko Yoshimura¹, Kentaro Isoda¹, Yoshinori Harada¹, Jun Hashimoto¹, Yukihiko Saeki². ¹National Hospital Organization Osaka Minami Medical Center, Rheumatology and Allergology, Osaka, Japan; ²National Hospital Organization Osaka Minami Medical Center, Clinical Research, Osaka, Japan

Background: Severe infections that complicate rheumatoid arthritis may cause significant morbidity and mortality. The Modified Health Assessment Questionnaire (MHAQ) is one of the scores most used for measuring the functional status of rheumatoid arthritis (RA) patients. However, the relationship between the MHAQ score and severe infection risk has not been well studied [1].

Objectives: To examine the relationship between disease-associated functional status (MHAQ) and severe infection events (SIE) in rheumatoid arthritis patients.

Methods: We used data from the “MiRAi” cohort in Japan. In total, 2174 RA outpatients were examined at the Osaka Minami Medical Center between January 2012 and October 2017. The risk factors were identified and evaluated by multivariate logistic regression, linearity analysis. Interactions of SIE risk between MHAQ and treatment were also observed.

Results: The cohort contributed to 8206 patient-years of follow-up. Overall, 251 SIEs were observed and the incidence of SIE was 3.0 infections per 100 patient-years. The mean age at first observation was 61.7 years and the mean disease duration was 10.3 years. The use of glucocorticoids (GCs), methotrexate (MTX), and biologic and targeted synthetic disease-modifying antirheumatic drugs (bDMARDs/tsDMARDs) was 59.2%, 63.8%, and 40.3%, respectively. The mean Clinical Disease Activity Index (CDAI), Simplified Disease Activity Index (SDAI), Disease Activity Scores of 28 joints (DAS28), and MHAQ at first observation were 9.76 ± 6.39 , 10.1 ± 6.87 , 2.67 ± 0.96 , and 0.43 ± 0.58 , respectively. Disease duration, the MHAQ score, and prednisolone dose ($p=0.015$, 0.007 , and <0.001 , respectively) were significantly associated with SIE risk (Figure). Age, sex, stage, bDMARDs/tsDMARDs use, DAS28-CRP, and MTX dose (mg/week) did not predict a significant increase in SIE. The risk of SIE increased linearly with the MHAQ. The SIE risk increased rapidly from 0 to 5 mg of prednisolone, and then increased gradually over 5 mg. The SIE risk peaked at around 20 years disease duration. No significant interaction between MHAQ and bDMARDs/tsDMARDs or glucocorticoid use were observed ($p=0.307$, 0.282 , respectively).

Conclusion: An increased MHAQ score was linearly associated with SIE, and did not show significant interactions with bDMARD/tsDMARD use or the oral glucocorticoid dose. Therefore, the MHAQ score is considered to be a strong, independent risk factor for infection in RA patients.

Abstract THU0109 – Figure 1.

REFERENCE:

- [1] Yamanaka H, Asklung J, Berglind N, Franzen S, Frisell T, Garwood C, Greenberg JD, Ho M, Holmqvist M, Novelli Horne L, et al: Infection rates in patients from five rheumatoid arthritis (R017, 3(2):e000498A) registries: contextualising an RA clinical trial programme. *RMD Open* 2017, 3(2): e000498.

Disclosure of Interests: Yuji Yoshida: None declared, Shiro Ohshima Grant/research support from: AbbVie, Eisai, Asahikasei, Speakers bureau: AbbVie, Eisai, Bristol-Meyers, Novartis, Astellas, Nippon-Kayaku, Pfizer, UCB, Ayumi, Daiichi-Sankyo, Takeda, Tanabe-Matsubishi, Chugai, Eri Oguro: None declared, Kentaro Kuzuya: None declared, Yasutaka Okita: None declared, Hidetoshi Matsuoka: None declared, Satoru Teshigawara: None declared, Maiko Yoshimura: None declared, Kentaro Isoda: None declared, Yoshinori Harada: None declared, Jun Hashimoto: None declared, Yukihiko Saeki: None declared

DOI: 10.1136/annrheumdis-2019-eular.3157

THU0110 DISEASE ACTIVITY AND PATIENT-REPORTED OUTCOMES IN PATIENTS WITH RA WITH SJÖGREN'S SYNDROME ENROLLED IN A LARGE OBSERVATIONAL US REGISTRY

Leslie R Harrold^{1,2}, Ying Shan², Sabrina Rebello², Neil Kramer³, Sean Connolly⁴, Evo Alemão⁴, Sheila Kelly⁴, Joel Kremer⁵, Elliot D Rosenstein³. ¹University of Massachusetts, Worcester, United States of America; ²Corrona, LLC, Waltham, United States of America; ³Institute for Rheumatic and Autoimmune Diseases, Overlook Medical Center, Summit, United States of America; ⁴Bristol-Myers Squibb, Princeton, United States of America; ⁵Albany Medical College and the Center for Rheumatology, Albany, United States of America

Background: Sjögren's syndrome (SS) is known to occur secondary to RA diagnosis, but its impact on RA outcomes is poorly understood. In the US-based Corrona registry, SS has a prevalence rate of 0.30 in patients (pts) with RA.¹

Objectives: To compare disease activity and patient-reported outcomes (PROs) in pts with and without SS, in a national sample of pts with RA.

Methods: We identified adult pts with rheumatologist-diagnosed RA from a large observational US registry (Corrona RA), with at least one visit with known SS status between 22 Apr 2010 and 31 Jul 2018 and a visit 12 (± 3) months after index date. SS status was captured using physician forms at enrollment and follow-up visits. The index date was the date of first capture of SS diagnosis, or first visit in which SS status was recorded for pts without a diagnosis of SS (non-SS pts). Both those with and without SS were required to have initiated a targeted synthetic (ts) or biologic (b)DMARD. Non-SS pts had to be enrolled for ≥ 12 months. Pts were frequency matched 1:1 based on RA duration prior to 1:1 propensity score matching (PSM) based on variables associated with treatment response. Outcomes 12 months after index visit were compared in pts with and without SS. Primary outcome was mean change in CDAI score from index visit to Month 12; secondary outcome was mean change in PROs (pain, fatigue, pt global assessment and morning stiffness).

Abstract THU0110 –Table 1.

Table 1. Baseline characteristics of the matched RA cohort

	Patients with RA + SS (n=283)	Patients with RA only (n=283)
Age, years, mean (SD)	58.4 (12.2)	58.7 (12.8)
Sex, female	235 (83.0)	235 (83.0)
Duration of RA, years, mean (SD)	10.5 (10.0)	10.3 (9.7)
Co-morbidities		
CV disease*	32 (11.3)	31 (11.0)
Malignancy†	29 (10.2)	31 (11.0)
Serious infections‡	24 (8.5)	24 (8.5)
Anti-cyclic citrullinated peptide +, n/m (%)	56/114 (49.1)	66/119 (55.5)
RF+, n/m (%)	91/137 (66.4)	80/144 (55.6)
Erosive disease, n/m (%)	74/216 (34.3)	64/197 (32.5)
Subcutaneous nodules, n/m (%)	69/283 (24.4)	73/283 (25.8)
CDAI score, mean (SD)	24.0 (14.9)	24.1 (14.7)
Number of prior b/tsDMARDs		
0	116 (41.0)	121 (42.8)
1	77 (27.2)	70 (24.7)
≥2	90 (31.8)	92 (32.5)
Number of prior csDMARDs		
0	16 (5.7)	16 (5.7)
1	116 (41.0)	110 (38.9)
≥2	151 (53.4)	157 (55.5)

Data are n (%) unless otherwise stated

*History of coronary artery disease, myocardial infarction, congestive heart failure requiring hospitalisation, acute coronary syndrome, unstable angina, cardiac revascularisation procedure, cardiac arrest, ventricular arrhythmia, stroke, transient ischemic attack or other CV event
†History of lung cancer, breast cancer, lymphoma, skin cancer (melanoma and squamous cell carcinoma) or other cancer
‡Infection required hospitalisation or IV treatment

b/tsDMARD=biologic or targeted synthetic DMARD; csDMARD=conventional synthetic DMARD; CV=cardiovascular; n/m=number of patients/total number of patients with available data; SS=Sjögren's syndrome

Abstract THU0110 –Table 2.

Table 2. Mean (SD) change in CDAI score and PROs from index visit to 12 month follow-up visit

	Patients with SS + RA (n=283)	Patients with RA only (n=283)	p value*
CDAI	8.8 (14.6)	9.3 (14.3)	0.704
Patient pain	6.5 (29.2)	14.0 (28.0)	0.002
Patient fatigue	4.3 (29.9)	13.0 (29.9)	0.001
Patient global assessment	5.5 (29.1)	13.0 (28.5)	0.002
Morning stiffness (min)	19.8 (245.2)	21.2 (250.7)	0.947

*Estimated using Student's t-tests

PRO=patient-reported outcome

Results: After PSM, baseline characteristics in 283 pairs of pts with and without SS were well balanced (Table 1). Mean change in CDAI score was numerically lower in SS than non-SS pts (8.8 vs 9.3; Table 2), but this did not reach statistical significance. Improvements in pain, fatigue and stiffness were 2–2.5-fold greater for non-SS than SS pts (Table 2).

Conclusion: Among those initiating b/tsDMARD treatment, improvements in RA-related PROs were lower in pts with RA with SS than non-SS pts. Physicians may want to consider SS status secondary to RA when managing pts with RA and specifically explore whether additional intervention is needed to improve the pt experience for pts with RA.

REFERENCES:

- [1] Harrold LR, et al. *Arthritis Rheumatol.* 2018;70(suppl 10): abstract 541.

Acknowledgement: This study was sponsored by Corrona, LLC. Corrona is supported through contracted subscriptions with multiple pharmaceutical companies. The abstract was a collaborative effort between Corrona and Bristol-Myers Squibb (BMS) with financial support provided by BMS. Professional medical writing: Lola Parfitt, MRes, Caudex; funding: BMS

Disclosure of Interests: Leslie R Harrold Shareholder of: Corrona LLC, Grant/research support from: Grant funding: Pfizer, Consultant for: AbbVie, Bristol-Myers Squibb, Genentech, Employee of: Corrona LLC, Ying Shan Employee of: Corrona LLC, Sabrina Rebello Employee of: Corrona, LLC, Neil Kramer Shareholder of: Johnson & Johnson, Pfizer, Regeneron, AbbVie, Amgen, Sean Connolly Shareholder of: Bristol-Myers Squibb, Employee of: Bristol-Myers Squibb, Evo Alemas Shareholder of: Bristol-Myers Squibb, Employee of: Bristol-Myers Squibb, Sheila Kelly Shareholder of: Bristol-Myers Squibb, Employee of: Bristol-Myers Squibb, Joel Kremer Grant/research support from: AbbVie, Genentech, Lilly, Novartis, Pfizer, Consultant for: AbbVie, Amgen, BMS, Genentech, Lilly, Regeneron, Sanofi, Pfizer, Elliot D Rosenstein Grant/research support from: AbbVie, Novartis, Consultant for: Amgen, Bristol-Myers Squibb, Boehringer Ingelheim, Speakers bureau: Amgen, Bristol-Myers Squibb

DOI: 10.1136/annrheumdis-2019-eular.1957

THU0111

ANGIOGENIC T CELLS AS AN INDEPENDENT PREDICTOR OF VASCULAR STIFFNESS IN VERY EARLY RHEUMATOID ARTHRITIS

Javier Rodríguez-Carrio^{1,2}, Mercedes Alperi-López³, Patricia López¹, Ángel Pérez-Álvarez⁴, Lorena Benavente⁴, Francisco Javier Ballina-García³, Ana Suárez¹.

¹University of Oviedo, ISPA, Area of Immunology, Oviedo, Spain; ²Hospital Universitario Central de Asturias, Bone and Mineral Research Unit, Instituto Reina Sofía de Investigación Nefrológica, REDinREN del ISCIII, Oviedo, Spain; ³Hospital Universitario Central de Asturias, Department of Rheumatology, Oviedo, Spain; ⁴Hospital Universitario Central de Asturias, Department of Neurology, Oviedo, Spain

Background: Angiogenic T cells (Tang) are responsible of vascular repair and homeostasis. Decreased Tang frequencies have been reported in rheumatoid arthritis (RA), in association with disease activity and previous history of cardiovascular (CV) disease. However, excess of CV risk is already present during the early stage of RA. Whether Tang cells are associated with subclinical vascular abnormalities remains unknown.

Objectives: To evaluate whether Tang cells could be associated with subclinical CV endpoints (subclinical atherosclerosis and vascular stiffness) in the very early stage of RA.

Methods: Patients were recruited upon early referral to the rheumatology department. All patients were untreated at the time of sampling. Tang (CD3+CD31+CXCR4+) frequency was assessed by flow cytometry in peripheral blood samples. Plaque occurrence, cIMT and stiffness parameters were analyzed by Doppler ultrasound in internal carotid, middle cerebral and basilar arteries.

Results: 53 patients were recruited, 47 fulfilling 2010 ACR/EULAR classification criteria for RA (36 women, 26 FR+ and 26 ACPA+) and 6 fulfilling criteria for Clinically Suspect Arthralgia (CSA) (6 women, 3 RF+ and 2 ACPA+). Tang frequency did not differ between RA and CSA (p=0.382) and it was negatively associated with DAS28 (r=-0.448, p<0.001) and SDAI (r=-0.385, p=0.006), but not with duration of the symptoms (r=0.053, p=0.713). Tang levels were not related to individual traditional CV risk factors, body mass index, waist circumference (all p>0.050) nor with the modified SCORE (r=-0.173, p=0.244) or Framingham Risk Score (r=-0.127, p=0.399). Neither atherosclerosis plaque occurrence (r=0.631) nor the cIMT (r=0.070, p=0.652) were associated with Tang levels.

Tang frequency paralleled carotid peak systolic velocity (r=0.399, p=0.008) and end diastolic velocity (r=0.332, p=0.034) in internal carotid artery. Moreover, Tang positively correlated stiffness parameters: vascular strain (VS, r=0.428, p=0.010), vascular distensibility (VD, r=0.479, p=0.004), vascular stiffness (VSf, r=-0.519, p<0.001) and pressure-strain elastic modulus (PSEM, r=-0.531, p<0.015) in left internal carotid artery. Finally, Tang frequency was an independent predictor of stiffness parameters after adjusting for mSCORE, body mass index, DAS28, RF and ACPA positivity: VS (β=0.451, p=0.045), VD (β=0.462, p=0.026), VSf (β=-0.422, p=0.035) and PSEM (β=-0.446, p=0.026).

Conclusion: Tang cells may have a very early role on vascular stiffness in RA. These results point to the Tang subset as the missing link between disease activity and vascular abnormalities during the first stage of the disease.

Disclosure of Interests: None declared

DOI: 10.1136/annrheumdis-2019-eular.2647

THU0112

SECULAR TRENDS IN THE INCIDENT RISK OF ACUTE MYOCARDIAL INFARCTION IN RHEUMATOID ARTHRITIS RELATIVE TO THE GENERAL POPULATION

Kiana Yazdani, Hui Xie, Antonio Aviña, Yufei Zheng, Michal Abrahamowicz, Diane Lacaille. *Arthritis Research Canada, Richmond, Canada*

Background: Recent studies have demonstrated a declining trend in RA mortality relative to the general population (1). This improvement in mortality could be due to improvement in incident risk of cardiovascular events that are the leading cause of excess deaths in RA (2).

Objectives: Our objective was to assess secular trends in ten-year incident risk of acute myocardial infarction (AMI) in incident cohorts of RA versus general population controls, using administrative health data.

Methods: We conducted a retrospective study of a population-based cohort of incident RA cases who first met previously published RA criteria between 01/01/1997 and 31/12/2004 in British Columbia, followed until 12/2014, with general population controls matched 2:1 on gender, age, and index year. Individuals were excluded if they had a diagnosis of MI prior to index date. Incident AMI was defined as first AMI during follow-up using ICD codes (ICD-9 code 410/ICD-10 code I21) in Hospital Discharge data or death certificate in Vital Statistics data. RA and general population cohorts were stratified according to year of RA incidence,