were older with longer disease duration, and had higher disease activity indicators including timing of morning stiffness, 28TJC, 28SJC, PtGA, PrGA, PainVAS, ESR, CRP, DAS28-CRP, SDAI and CDAI, as well as higher radiographic assessment including mTSS, JSN subscore and JE subscore (all $P < 0.05$). As for BMI and BC, RA patients with physical dysfunction had higher BF% (mean 31.05% vs. 29.02%, $P = 0.007$) and prevalence of overfat (44% vs. 27%, $P < 0.001$), lower ASMI (mean 5.73 vs. 6.11, $P < 0.001$) and higher prevalence of myopenia (55% vs. 38%, $P < 0.001$) than those with normal physical function, while no difference in BMI between two groups. After adjustment confounding factors, multivariate logistic regression analysis showed overfat ($OR = 2.990$, 95%CI: 1.695-5.274) and myopenia ($OR = 1.960$, 95%CI: 1.191-3.225) were positively associated with physical dysfunction respectively. Further compared with patients with normal fat, patients with overfat had significantly higher rates of dysfunction of all eight physical activities including dressing, rising, eating, walking, hygiene, reaching, gripping and activities respectively (all $P < 0.01$), with the highest rate 57.5% in eating dysfunction and the lowest rate 38.6% in dressing dysfunction. Comparisons between patients with and without myopenia showed similar results with the highest rate 52.4% in eating dysfunction and the lowest rate 37.7% in rising dysfunction in those with myopenia.

Conclusion: Overfat and myopenia are present in near half RA patients with physical dysfunction which are associated with dysfunction of all eight physical activities especially eating.

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SAT0082

ASSOCIATIONS OF BASELINE CLINICAL AND BIOMARKER FACTORS WITH SYMPTOMS AND FUTURE DEVELOPMENT OF CLINICALLY-APPARENT RHEUMATOID ARTHRITIS IN AN ACPA POSITIVE COHORT

Kevin D. Deane¹, Sunil Nagpal², Navin Rao², Frederic Baribaud², George Vratsanos², Eddie A. James³, Jane H. Buckner³, Gary S. Firestein⁴, David L. Boyle⁴, Sylvia Posso³, William H. Robinson³, Laurie K. Moss¹, Saman Barzideh¹, Kristen Polinski¹, Sergei Ivanov¹, Jennifer Seifert¹, V. Michael Holers¹. ¹CU Anschutz Medical Campus, Aurora, United States of America;

²Janssen Research and Development, LLC, Spring House, United States of America; ³Benaroya Research Institute at Virginia Mason, Seattle, United States of America; ⁴University of California San Diego, La Jolla, United States of America; ⁵Stanford University, Stanford, United States of America

Background: Subjects who are in the preclinical rheumatoid arthritis (RA) state can be identified through serum elevations of circulating RA-related autoantibodies, including rheumatoid factor (RF) and antibodies to citrullinated protein antigens (ACPA), prior to the clinical appearance of inflammatory arthritis (IA) and RA. Studying Preclinical RA may identify factors and pathways in disease development, and help to identify therapeutic targets for prevention. Furthermore, trials in ACPA+ subjects have been completed or are underway with the primary goal to prevent future IA/RA. However, relatively few individuals have been studied through the evolution of the Preclinical ACPA+ state to Classified RA. As such there are still many gaps in the understanding of the clinical and immunologic evolution from Preclinical to Classified RA.

Objectives: The study objective is to identify the clinical, environmental and immunologic factors/pathways that are associated with incident IA/RA development in individuals with serum ACPA elevations.

Methods: We created a cohort of 86 ACPA+ subjects who at their baseline study visit did not have a historical or examination (66/68 count) evidence of IA/RA. ACPA+ was defined as a serum elevation of anti-CCP3 (IgG, Inova) on ≥ 2 occasions above the established cut-off (≥ 20 units). These subjects were recruited over 18 months through community health-fair screening, ACPA testing of first-degree relatives of patients with RA, and rheumatology clinics. Clinical, environmental and biomarker factors, including RF IgA and IgM [Inova] and high-sensitivity C-reactive protein [hsCRP], were assessed at the baseline visit. Herein we present interim analyses of baseline visits on the whole ACPA+ cohort and longitudinal follow-up on a subset of subjects, with a specific focus on factors that are associated with baseline symptoms and subsequent incident IA/RA.

Results: At baseline, the 86 ACPA+ subjects were a mean age of 58, 66% female, 82% were Caucasian, and 40% self-reported no joint pain, morning stiffness or fatigue. hsCRP positivity (>3 mg/L) was associated with increased rates of self-reported fatigue of >0 on VAS (20% vs.

41%, $p = 0.04$). Ever smoking was associated with increased rates of self-reported morning joint stiffness (18% vs 50%, $p \leq 0.01$). In addition, in analyses of longitudinal follow-up data available to date, 10/86 subjects (12%) developed IA classified as RA (2010) a median of 293 days after baseline visit. At baseline, individuals with incident RA exhibited a higher BMI compared to those who did not (27 vs. 32, $p = 0.03$). In addition, positivity for hsCRP and RF, and higher median anti-CCP3 levels, were present in those who developed incident IA/RA although not statistically significant.

Conclusion: Within this new cohort of prospectively followed ACPA+ individuals, smoking and an elevated hsCRP are associated with clinical symptoms of stiffness and fatigue, respectively. The relationship of stiffness and smoking suggests this factor is related to early joint symptoms, and the association of high BMI with incident RA may indicate this is a modifiable risk factor for RA (de Hair 2013). This prospective study will continue, with further study of the factors/pathways that may influence well-being in ACPA+ individuals as well as may influence predictive of or causally linked to the future IA/RA.

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SAT0083

PREVALENCE OF FRAILTY AND ITS ASSOCIATED FACTORS IN PATIENTS WITH RHEUMATOID ARTHRITIS: A CROSS-SECTIONAL ANALYSIS

Marco Di Carlo¹, Sonia Farah¹, Eleonora Di Donato¹, Marina Carotti², Fausto Salaffi¹. ¹Hospital "Carlo Urbani" clinica reumatologica, Dipartimento scienze cliniche e molecolari, Jesi, Italy; ²Ospedali Riuniti Torrette Di Ancona, Dipartimento Radiologia, Torrette, Ancona, Italy

Background: The concept of frailty is a recent issue in the rheumatologic field, by now, the prevalence of frailty among individuals with rheumatoid arthritis (RA) has not been extensively examined and few studies on frailty in RA adults have been conducted. Moreover, the relationship between frailty and sociodemographic or disease characteristics in RA are unknown.

Objectives: The aims of the present research were to assess the prevalence of frailty and its potential associated factors in adult patients with RA.

Methods: Consecutive RA patients and healthy controls were assessed according the Survey of Health, Ageing and Retirement in Europe Frailty Instrument (SHARE-FI) (1), and classified as frail, pre-frail or non-frail. Patients underwent to a clinimetric assessment in order to establish disease activity (Simple Disease Activity Index [SDAI]), function (Health Assessment Questionnaires Disability Index [HAQ-DI]), comorbidities (modified Rheumatic Disease Comorbidity Index [mRDCI])(2), and radiographic damage (Simple Erosion Narrowing Score [SENS]). Chi-square, analysis of variance (ANOVA), and multinomial logistic regression analyses were used to test the prognostic value of frailty for the outcomes of interest.

Results: 210 consecutive RA patients were included (72 male, 138 female) and the mean age was 60.4 years. The study group was composed by 100 healthy controls (63 females and 47 males). The mean age was 59.1. According to SHARE-FI criteria, 35 RA patients (16.6%) were categorized as frail, 68 (32.4%) as pre-frail, and 107 (51%) as non-frail, while 8 control subjects were categorized as frail, (8%), 17 as pre-frail (17%), and 75 as non-frail (75%) (chi-squared 12.8; $p = 0.0016$). The results from logistic regression analysis revealed that age (odd ratio [OR] = 1.12, 95% confidence interval [CI] = 1.07-1.17; $P < 0.0001$), comorbidities (OR = 1.51, 95% CI = 1.01-2.27; $P = 0.0446$), and high disease activity (OR = 1.10, 95% CI = 1.04-1.16; $P = 0.0006$) were independently associated with frailty in RA patients (Fig 1).

Conclusion: Frailty or pre-frailty are common in RA. The SHARE-FI may be a specific tool for the screening of frailty in RA and may summarize

the results of a comprehensive RA assessment providing a marker of deficits accumulation. Future studies will need to examine longitudinal relationships between frailty and health outcomes in RA.

Figure 1. Correlations (Spearman's rho) between Survey of Health, Ageing and Retirement in Europe Frailty Instrument (SHARE-FI) and age (A), modified Rheumatic Disease Comorbidity Index (mRDCI) (B), and Simplified Disease Activity Index (SDAI) (C).

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SAT0084 IDENTIFICATION OF POOR PROGNOSTIC JOINT LOCATIONS IN AN EARLY, RAPIDLY PROGRESSING RA COHORT: A POST HOC ANALYSIS OF THE AGREE STUDY

Patrick Durez¹, Rene Westhovens², Yedid Elbez³, Sofie Robert⁴, Harris A. Ahmad⁵. ¹Cliniques Universitaires Saint-Luc, Institut de Recherche Expérimentale et Clinique (IREC), Brussels, Belgium; ²UZ KU Leuven, Leuven, Belgium; ³Excelya, Boulogne-Billancourt, France; ⁴Bristol-Myers Squibb, Braine L'Alleud, Belgium; ⁵Bristol-Myers Squibb, Princeton, United States of America

Background: Early RA patients (pts) often present with different areas of joint involvement, but limited data exist to identify which specific joint locations may be indicative of greater disease severity¹.

Objectives: This analysis investigated the baseline (BL) prevalence of swelling and erosions in individual joint locations and their possible association with disease characteristics and prognostic factors in a unique cohort of early erosive RA patients using the AGREE study population.

Methods: In this post-hoc analysis of the Phase III AGREE study where methotrexate (MTX) naïve RF and/or ACPA seropositive pts with early (≤ 2 years [yrs]) erosive RA were treated with abatacept (ABA) plus MTX (n=256) or MTX (n=253)², prevalence of BL swollen joint status (present, absent) was analysed for 6 large and 14 small joint locations: respectively wrists, elbows, shoulders, jaw, knees, ankles and MCP1-5, PIP2-5 and MTP1-5. Similarly, prevalence of BL erosive joint status was analysed for wrist, MCP1-5, PIP2-5 and MTP1-5. The association between BL disease characteristics and BL swelling or erosions was investigated for the individual joints.

Results: In this cohort of early, seropositive erosive RA (n=509), BL swelling was most frequently observed in the wrist (91.90%) and MCP2 joint (90.10%), whereas BL erosion was most frequently observed in the MTP5 joint (43.5%) (Table 1). BL swelling in the knee, jaw, wrist and elbow was highly associated ($p < 0.001$) with higher tender and swollen joint counts, higher DAS28 (CRP) and higher SDAI and CDAI. As expected, patients with BL presence of erosions had a higher total Genant-modified Sharp score (TSS) whatever the joint location. Overall, men seem more prone for erosions, and this is seen in all joint locations, except for the wrist. Moreover, in this already highly seropositive cohort, patients with BL erosions were more ACPA, but not RF, positive for all evaluated joints of the feet. BL swelling does not seem to be associated with erosive status, neither in the individual joint nor in the TSS, except for the MCP2 joint (erosion positivity was 21% and 4% and TSS was 7.4 [9.5] and 4.7 [5.6] in swollen and non-swollen MCP2 joints respectively).

Conclusion: In this cohort of early, seropositive erosive RA, swelling in the knee, jaw, wrist and elbow seems to be associated with the poorest prognosis, whereas BL MCP2 swelling seems to be associated with joint damage. While the data require further validation, a difference in joint location presentation may identify patients for an intensive treatment or a personalized treatment approach.

Table 1. Prevalence BL swelling and erosion positivity by joint location in the total AGREE cohort (n=509)

Large joint	Swelling	Small joint	Swelling	Erosion
Wrist	91.90%	MCP1	75.80%	27.60%
Ankle	79.20%	MCP2	90.10%	19.50%
Knee	68.40%	MCP3	84.40%	18.60%
Elbow	48.10%	MCP4	52.50%	5.90%
Shoulder	33.80%	MCP5	50.70%	9.10%
Jaw	8.80%	MTP1	40.60%	24.30%
		MTP2	48.90%	19.70%
		MTP3	50.30%	25%
		MTP4	39.40%	17.30%
		MTP5	31.30%	43.50%

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