Table 1. GS and PD scores compared by main locations and RUE-Score [showed as median (IQR)].

Score	No progression (n=28)	Progression to IA (n=21)	P
GS global	5.5 (2-11)	11 (7-15)	0.005*
PD global	2 (1-3.25)	6 (2-10)	0.002*
ERO global	0 (0-0)	0 (0-0)	0.59
Carpi GS	1 (0-2)	3 (2-3)	0.002*
Carpi PD	1 (0-2)	1 (0-3)	0.16
MCP GS	1 (0-3.25)	2 (0-5)	0.08
MCP PD	0 (0-1)	1 (0-2)	0.03*
IPP GS	0 (0-1.25)	2 (0-3)	0.03*
IPP PD	0 (0-0.25)	0 (0-1)	0.3
MTP GS	0.5 (0-3)	2 (0-7)	0.08
MTP PD	0 (0-0)	0 (0-1)	0.02*
Wrist extensors GS	0 (0-0)	0 (0-1)	0.1
Wrist extensors PD	0 (0-0)	0 (0-0)	0.01*
Fibularis GS	0 (0-0)	0 (0-0)	1
Fibularis PD	0 (0-0)	0 (0-0)	0.06*
RUE GS	5 (2-6.25)	7 (5-10)	0.01†
RUE PD	2 (1-3.5)	5 (2-7)	0.01†

* Medians compared by Mann-Whitney U test. Statistical significance at a 95% CI. † Logistic regression analysis. Statistical significance at a 95% CI.

There were no significant associations between RF/CCPA positivity or CRP/ERS levels and US findings.

Conclusion: Patients with IA without arthritis that progressed to CA had significant higher GS and PD scores, hence showing the utility of US to predict disease progression. A RUE of 8 joints and 3 tendon compartments could be enough to achieve this goal.

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AB0222 HEALTH STATE UTILITY VALUES IN RHEUMATOID ARTHRITIS BY SEX, AGE AND DISEASE ACTIVITY: REFERENCE DATA FROM A COLOMBIAN COHORT OF 1,545 PATIENTS

D. Rojas-Gualdrón¹, J. C. Diaz-Coronado^{2,3}, D. Hernandez-Parra³, Y. Durango-Durango³, R. Pineda Tamayo³. ¹CES University, Facultad de Medicina, Medellín, Colombia; ²CES University, Departamento Medicina Interna, Medellín, Colombia; ³Artmedica IPS, Grupo de Información Clínica, Medellín, Colombia

Background: As the basis for quality-adjusted life years (QALYs) calculation, health state utilities are essential for health technology assessment and economic evaluation.

Objectives: To provide a reference value set of health state utility for patients with rheumatoid arthritis.

Methods: A cross-sectional study was conducted in 1,545 patients diagnosed with rheumatoid arthritis. Disease activity was evaluated with the DAS-28 score. Health state utility (HSU) was estimated with the EUROQOL-5D-3L, using as reference the Spanish-speaking Hispanic predicted preference weights for 243 EQ-5D health states. Mean HSU differences were analyzed with the generalized linear model. A p-value <0.05 was considered statistically significant.

Results: Patients mean age was 58.2 years (SD = 12.5), 82.4% were female. Disease activity was high in 137 (8.9%), moderate in 305 (19.7%) and low in 231 (56.4%) patients; 872 (56.4%) patients were in remission. HSU differed significantly by sex age and disease activity. Figures 1a (women) and 1b (men) shows the HSU by age and disease activity.

Figure 1. Health State utilities by sex, age and disease activity

Conclusion: The way patients value different health states according to their sex, age and disease activity must be considered in health technology assessment and economic evaluations of interventions for rheumatoid arthritis patients. We provide a reference set for Latin-American patients.

References:

- [1] Zarate V, Kind P, Chuang L-H. Hispanic Valuation of the EQ-5D Health States: A Social Value Set for Latin Americans. *Value in Health*. 2008;11(7):1170-7.

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AB0223 PHYSICIAN'S GLOBAL ASSESSMENT OF DISEASE ACTIVITY IN RHEUMATOID ARTHRITIS IS A RELIABLE AND RESPONSIVE TOOL IN CLINICAL PRACTICE

L. Saraiva¹, L. Brites¹, A. R. Cunha², H. Assunção¹, A. R. Prata¹, M. Luis¹, F. Costa¹, P. Freitas¹, M. Sousa¹, J. A. P. Da Silva^{1,3}, C. Duarte^{1,3}. ¹Centro Hospitalar e Universitário de Coimbra, Coimbra, Portugal; ²Centro Hospitalar do Baixo Vouga, Aveiro, Portugal; ³Coimbra Institute for Clinical and Biomedical Research, Faculty of Medicine, University of Coimbra, Coimbra, Portugal

Background: Physician's global assessment of disease activity (PhGA) is highly influential upon treatment decisions taken by rheumatologists, surpassing the impact of DAS28. [1, 2]. However, data regarding its psychometric properties are scarce.

Objectives: To evaluate the reliability and responsiveness of PhGA.

Methods: We included two consecutive visits of RA patients followed in a Tertiary Rheumatology Department. Socio-demographic (age and gender) and clinical data were collected including tender (TJ28) and swollen (SJC28) joints in 28 count, C-Reactive Protein (CRP), Erythrocyte Sedimentation Rate (ESR), Disease activity Score (DAS28-3v-CRP, DAS28-3v-ESR, DAS28-4v-CRP, DAS28-4v-ESR), PhGA and Patient Global Assessment of disease Activity (PGA) through a Visual Analogic Scale (VAS) 0-100mm. Changes (Δ) between the two visits were calculated. Only patients without missing data were included. Correlations between Δ PhGA and change of other variables were assessed using Pearson's correlations. Reliability was evaluated through Intraclass Correlation Coefficient (ICC) between two consecutive appointments in a subgroup of patients with stable disease activity (Δ DAS28-4vESR [-0.6 to 0.6]). An ICC above 0.8 was considered indicative of excellent reliability. Sensitivity to change was assessed in the subgroup of patients who improved their disease activity at least 0.6 on DAS28-4v-ESR, through Standardized Response Mean (SRM). The respective intervals of confidence were obtained through bootstrapping procedures. SRM above 0.8 were considered large. Independent factors associated with Δ PhGA were identified through multivariate linear regression analysis. $p < 0.05$ was considered statistically significant.

Results: 121 RA patients (84.3% female and 64.0 ± 12.6 years) were included. Δ PhGA was weakly correlated with Δ CRP ($r = 0.23$), Δ PGA ($r = 0.31$) and Δ pain ($r = 0.37$). Moderate to strong correlations were observed with Δ DAS28-3v-ESR ($r = 0.55$), Δ SJC28 ($r = 0.56$), Δ DAS28-3v-CRP ($r = 0.58$), Δ DAS28-3v-CRP ($r = 0.60$), Δ TJ28 ($r = 0.62$) and Δ DAS28-4v-CRP ($r = 0.63$). ICC between two consecutive visits was 0.7, [95%CI:0.47-0.83] and SRM was -1.01 [95%CI:-1.26-(-0.73)]. In the multivariate regression analysis, Δ SJC28 ($\beta = 4.01$; 95% CI: 3.07 to 4.96) and Δ Pain ($\beta = 0.18$; 95%CI: 0.07 to 0.28) remained as independent factors associated with Δ PhGA ($R^2: 0.49$, $p < 0.01$).

Conclusion: In this study, PhGA showed a high reliability and sensitivity to change regarding disease activity, in clinical practice. Changes in SJC had the strongest association with change in PhGA scoring, but Δ Pain was also significantly correlated (graph 1).

■ ASJC28 ■ Pain ■ Unexplained

Figure 1. Graph 1 – Explicative model to variations on PhGA

References:

- [1] Choy T et al. *Rheum (Oxford, England)*. 2014;53(3):482-90.
- [2] Rohekar G et al. *Jour Rheum*. 2009;36(10):2178.

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AB0224

ASSOCIATIONS BETWEEN JOINT REPLACEMENT HISTORY AND CYCLIC CITRULLINATED PEPTIDE ANTIBODY TITERS IN RHEUMATOID ARTHRITIS PATIENTS

M. Sato¹, M. Takemura². ¹Kaizu Medical Association Hospital, Rheumatology, Kaizu City, Gifu, Japan; ²Fujita Health University, Advanced Diagnostic System Research Laboratory, Toyoake City, Aichi, Japan

Background: High titers of cyclic citrullinated peptide antibodies (anti-CCP) are predictive of poor prognosis in the treatment of rheumatoid arthritis (RA). The 2010 ACR/EULAR classification criteria for early RA assign a high point value to cases having highly positive anti-CCP titers. Previous reports have claimed that osteoarthritic damage is more severe and advanced in RA patients who test positive for anti-CCP than in their negative counterparts.

Objectives: To retrospectively investigate whether anti-CCP titers were associated with the extent of osteoarthritic damage in RA patients treated at our institution.

Methods: Data were analyzed for 422 RA patients who received biologic agents due to resistance to methotrexate or other conventional antirheumatic drugs. Associations were explored between joint replacement history-i.e. total knee replacement (TKR), total hip replacement (THR), or lack thereof—and anti-CCP positivity rates and titers.

Results: The sample consisted of 90 men and 332 women. On average, patients were put on biologics at 58.6 years of age (range: 22–85), and had a disease duration of 9.3 years. The first biologic agent chosen was infliximab (IFX) in 154 cases, etanercept (ETN) in 76, adalimumab (ADA) in 61, tocilizumab (TCZ) in 70, abatacept (ABT) in 41, golimumab (GLM) in 18, and certolizumab pegol (CZP) in 2. In total, 331/422 patients (78.4%) tested positive for anti-CCP. TKR was performed in 46 cases (M:F ratio: 7:39, mean age: 64.7 y, mean disease duration: 15.1 y), of which 46 were positive for anti-CCP (100%). THR was performed in 18 cases (M:F ratio: 2:16, mean age: 62.3 y, mean disease duration: 18.5 y), of which 17 were positive for anti-CCP (94.4%). The mean anti-CCP titer among all positive patients (n=331) was 152.9 IU/ml. This value was significantly higher in patients who underwent either joint replacement procedure than those who did not (215.4 v. 142.8 IU/ml, p<0.0005).

Conclusion: With one exception, all RA patients who underwent joint replacement were positive for anti-CCP, and their titers were higher than non-surgical cases. Practitioners should be aware of this trend, and pay attention to the progression of damage in the knee and hip joints when treating RA patients with high anti-CCP titers.

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AB0225

THE NATURAL COURSE OF EARLY RA WITH LATE ONSET IN EVERYDAY CLINICAL PRACTICE ACCORDING TO THE RUSSIAN RA PATIENT REGISTER OREL

A. Satybaldyev¹, N. Demidova², G. Gridneva², N. Nikishina², H. Gerasimova², K. Kasumova², A. Misiyuk², O. Rumyantseva², E. Strebkova², E. Nasonov².

¹V A Nasonova Research Institute of Rheumatology, Department of Early Arthritis, Moscow, Russian Federation; ²V A Nasonova Research Institute of Rheumatology, Moscow, Russian Federation

Background: The opinion about the severity and prognosis of rheumatoid arthritis (RA) with late onset balanced between more favorable and more severe over various periods of rheumatology development. We studied this group of patients according to the Russian RA Patient Register OREL.

Objectives: To study clinical, laboratory and radiological characteristics in patients with early RA with late onset of the disease (50 years and older) who are DMARD (disease modifying antirheumatic drugs), biological DMARD and glucocorticoid (GC) (systemic administration) – naive.

Methods: All patients were included in the OREL register in the period from 01.01.2014 to 12.31.2018. There were 151 patients in the study (M:41, W:110; average age 60 ± 7.0 years). There were 73 patients (48%) with the duration of RA up to 3 months, 45 (30%) - 4-6 months, 33 (22%) - 7-12 months. The ratio of men and women was only 1: 2.8 (50 -64 years = 1:3.8; 64 years and older = 1: 1.8).

Results: 99/151 (66%) patients had high disease activity (according to DAS-28), 52/151 (34%) – medium activity.

22/151 (15%) patients had II functional class (FC), 103 (68%) – III FC, 26 (17%) – IV FC.

Table 1 illustrates that with an increase in the duration of the disease, a gradual increase in the frequency of detection of radiological erosion in the hands and distal parts of the feet is noted: 1.5 - 3 months - 33/73 (45%) patients; 4-6 months - 22/45 (49%) patients and in the period 7-12 months - 23/33 (70%) patients.

Table 1. X-ray Stage and RA duration

X-ray Stage		Duration of disease (months)					
		<3	4	5	6	7-12	Total
Non Erosive RA	I	11(1*)	6(1*)	3(1*)	1	5	26(3*)
	II	29(1*)	5	5	3	5	47(1*)
Erosive RA	III	31	8	7	4	20	70
	IV	2	1	1	1	3	8
		-					
Total		73(2*)	20(1*)	16(1*)	9	33	151(4*)

* - Erosion according to MRI of the hands

Table 2. illustrates higher incidence of joint erosions in the presence of RF and / or anti-CPA antibodies (ACPA) compared to patients who are seronegative for RF and ACPA. Таблица 2. X-ray-Stage and RF and ACPA Detection Frequency

X-ray-Stage	The frequency of RF and ACPA detection			
	RF (+) ACPA (+)	RF (+) ACPA (-)	RF (-) ACPA (+)	RF (-) ACPA (-)
Non-erosive RA:	30%	20%	22%	58%
Stages I and II				
Erosive RA:	70%	80%	78%	42%
II, III and IV stages				

The frequency of RF and ACPA detection in non-erosive patients, in all patients with radiological erosion and in patients with advanced stages only (III and IV) was 67% (RF) -78% (ACPA), 75% -90% and 100% -100%, respectively.

Conclusion: Everyday clinical practice (OREL register) shows that in patients aged 50 years and older with early clinical stage of RA who are naive about the treatment of DMARD, biological DMARD and GC, the detection of RF, ACPA and erosive changes in the joints are often observed in the onset of the disease. RF and ACPA are markers of early joint destruction.

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AB0226

USING 3 TESLA MRI WITH A HIGH-RESOLUTION 16-CHANNEL HAND COIL TO DIFFERENTIATE BETWEEN RHEUMATOID AND PSORIATIC ARTHRITIS: A PILOT STUDY

P. Sewerin¹, D. Abrar², A. Lautwein¹, S. Vordenbäumen¹, R. Brinks¹, C. Goertz¹, M. Frenken², M. Schneider¹, B. Ostendorf¹, C. Schleich². ¹Heinrich Heine University Düsseldorf, Department and Hiller Research Unit of Rheumatology, Duesseldorf, Germany; ²Heinrich-Heine University Duesseldorf, Institute for Diagnostic and Interventional Radiology, Duesseldorf, Germany

Background: The differentiation between rheumatoid arthritis (RA) and psoriatic arthritis (PsA) is sometimes a challenge for rheumatologists in daily clinical practice. Imaging techniques such as MRI could be a helpful tool for this purpose.

Objectives: To examine the value of 3 Tesla (T) magnetic resonance imaging (MRI) with a high-resolution 16-channel hand coil for the differentiation between RA and PsA.

Methods: A total of 17 patients with active PsA and 27 patients with active RA were evaluated by 3T MRI. Images were analyzed by three readers according