Methods: Disease activity data and blood samples from 40 patients with RA before and up to 12 months after starting a biologic therapy were collected. The study included patients starting intravenously administered Abatacept (ABA;n=10), Infliximab (INF;n=10), Tocilizumab (TCZ;n=10), and Rituximab (RTX;n=10), at approved dose regimens for RA treatment. HDLc-EC was measured on paired serum samples using THP-1 macrophages and a fluorometric assay for cholesterol measurement. ANOVA was used to compare paired continuous data, and Pearson's r value was calculated for correlations.

Results: Disease activity assessed by DAS28-CRP and CDAI significantly dropped during all treatments. No significant changes in total and high or light density cholesterol fractions were detected. HDLc-EC at baseline was $22 \pm 3\%$ with a statistically significant increase up to $25 \pm 3\%$ and $27 \pm 4\%$ after 6 and 12 months of treatment, respectively ($P < 0.001$) [Figure A]. Patients treated with INF and RTX demonstrated the higher rise in HDLc-EC, already after 6 months and lasting up to 12 months of treatment. ABA and TCZ treated patients after 6 months had a slight HDLc-EC rising, with a subsequent plateau. We observed an opposite correlation between HDLc-EC and disease activity by DAS28-CRP and CDAI ($r = -0.2$; $P = 0.01$) [Figure B]. Finally, no CV events were detected during the study follow-up.

Conclusions: Biologic treatment can influence the HDLc-EC of RA patients, already after 6 months of therapy, and is associated with changes in disease activity and inflammatory status. Infliximab and Rituximab seem to have an enhanced impact on HDLc-EC. Future studies need to address the mechanisms beyond these intriguing findings.

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THU0144 COGNITIVE FUNCTION OF PATIENTS WITH RHEUMATOID ARTHRITIS IS ASSOCIATED WITH DISEASE ACTIVITY BUT NOT CAROTID ATHEROSCLEROTIC CHANGES

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Background: Rheumatoid arthritis (RA) is a complex inflammatory disease that has features of atherosclerosis and cognitive decline. Although the relationship between atherosclerosis and cognitive impairment has been studied and replicated, whether cognitive deficits in RA can be attributed to their atherosclerotic changes is not well understood.

Objectives: This study investigated the cognitive function in patients with RA using the Korean version of the Consortium to Establish a Registry for Alzheimer's disease (CERAD-K) neuropsychological battery and evaluated whether cognitive function was affected by the carotid arterial atherosclerosis.

Methods: We examined seventy RA patients and forty healthy controls. RA activity was assessed by disease activity score with 28 joints-erythrocyte sedimentation rate (DAS28-ESR) and objective memory impairment was defined as a performance score of 1.5 standard deviations below the respective age-specific, education-specific, and sex-specific normative means for at least one of the four episodic memory tests in CERAD-K; the Word List Memory, Word List Recall, Word List Recognition, and Constructional Recall tests [1]. Carotid arteries were scanned for the presence of plaque and intima-media thickness (IMT). We assessed potential risk factors of cognitive impairment in RA patients using regression analyses.

Results: Of the CERAD-K subtests, there were a significant difference between

the RA patients and healthy controls in verbal fluency (12.97 ± 3.73 vs 15.48 ± 4.57 , respectively; $p = 0.004$) and Boston Naming Test (11.50 ± 2.08 vs 12.30 ± 1.77 , respectively; $p = 0.035$). Carotid ultrasound revealed significantly more plaques in the RA patients than in the healthy controls (39% vs 15%, respectively; $p = 0.017$). RA patients with memory impairment have significantly higher score of DAS28-ESR (4.14 ± 0.99 vs 2.60 ± 0.88 , respectively; $p < 0.001$), age (65.71 ± 7.71 vs 58.50 ± 11.33 , respectively; $p = 0.009$), and mean cIMT (0.56 ± 0.10 vs 0.50 ± 0.08 , respectively; $p = 0.027$) compared to RA patients without memory impairment. In multivariable regression analysis, CERAD-K total score showed a significant negative correlation with age ($\beta = -0.415$, $p < 0.001$) or DAS28-ESR ($\beta = -4.685$, $p < 0.001$), but no correlation was found between CERAD-K total score and presence of plaque or cIMT (Table 1).

Table 1. Regression analysis of mean CERAD-K total scores and clinical parameters

Total (n=70)	Univariable analysis				Multivariable analysis		
	Coefficient (β)	95% CI	P	R ²	Coefficient (β)	95% CI	P
Age (years)	-0.494	(-0.711, -0.277)	<0.001	0.232	-0.415	(-0.607, -0.224)	<0.001
Male (%)	2.121	(-5.079, 9.320)	0.559	0.005			
RF (IU/ml)	0.003	(-0.014, 0.020)	0.733	0.002			
hsCRP (mmol/L)	-0.074	(-0.284, 0.135)	0.482	0.007			
DAS28	-5.402	(-7.552, -3.252)	<0.001	0.270	-4.685	(-6.629, -2.742)	<0.001
TC	0.020	(-0.038, 0.078)	0.484	0.007			
Mean cIMT	-26.082	(-56.267, 4.103)	0.089	0.042			
Presence of plaque	-1.209	(-6.79, 4.371)	0.667	0.003			

RF: rheumatoid factor; hsCRP: high sensitivity C-reactive protein, DAS28: disease activity score 28, TC: total cholesterol, cIMT: carotid intima-media thickness

Conclusions: Our results indicate that disease activity of RA and aging contribute to cognitive impairment, but there was no association between cognitive function and clinical or subclinical carotid atherosclerotic changes in RA patients.

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THU0145 IMPACT OF DIFFERENT FORMULATIONS OF "PATIENT GLOBAL ASSESSMENT" ON REMISSION CLASSIFICATION BY DISEASE ACTIVITY INDICES IN RHEUMATOID ARTHRITIS

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Background: Patient global assessment (PGA) of disease activity is included in a large number of composite indices of disease activity and definitions of remission in Rheumatoid Arthritis (RA). However, the actual question is formulated in a variety of different ways according to the instrument considered.

Objectives: To evaluate how 6 different formulations of PGA affect patient estimates and impact upon disease activity and remission rates as assessed by 4 Disease Activity Indices.

Methods: Consecutive RA patients followed in a Rheumatology outpatient department were included in this cross-sectional study. Data collection comprised: 28 joint counts (tender and swollen), C-reactive protein (CRP) and 6 different PGA formulations. The chosen formulations were the ones stated in the: v1) Portuguese National Registry Reuma.pt, the locally used formulation; v2) ACR/EULAR provisional definition of remission (considered in this study as the "standard"); v3) CDAI and SDAI; v4) Disease Activity Score (DAS28) assessment of general health; v5) DAS28 assessment of disease activity (the currently used); v6) one, exploratory, developed by the investigators, including idiomatic cultural expressions. ACR/EULAR Boolean criteria, CDAI, SDAI, and DAS28-CRP (4v) were used to test how these 6 PGA formulations change the rates of remission. PGA differences were assessed by descriptive analyses (including patients with PGA ≤ 10 and ≤ 20 mm) and Bland-Altman test.

Results: In total, 193 patients were included (82% female, mean (SD) age of 59 (13) years, mean disease duration of 12 (9) years and 31% under biologics). The average PGA ranged from 42.3 (25.3) to 48.1 (26.7)mm as measured in different formulations. The ACR/EULAR (v2) formulation yielded the largest proportion of

Table 1. Descriptive statistics of the 6 PGA's formulations (n=193)

PGA Formulation	Mean (SD)	PGA below cut-off n (%)	
		≤ 10 mm	≤ 20 mm
v1 Reuma.pt	47.5 (28.0)	26 (13.5)	43 (22.3)
v2 ACR/EULAR	43.5 (27.9)	31 (16.1)	48 (24.9)
v3 CDAI/SDAI	47.2 (25.9)	23 (11.9)	34 (17.6)
v4 DAS28-GH	42.9 (25.3)	27 (14.0)	42 (21.8)
v5 DAS28-DA	42.3 (25.3)	28 (14.5)	44 (22.8)
v6 Investigators	48.1 (26.7)	22 (11.4)	35 (18.1)

patients scoring ≤ 10 mm (16.1%), corresponding to a difference of up to 4.7% versus other PGAs. Similar results were found for the ≤ 20 cut-off (Table 1). By using different PGA's formulations the rates of remission calculated with different indices can vary between 4.7% and 6.7% (Table 2). Bland-Altman chart confirmed the low agreement between ACR/EULAR formulation and the other PGA formulations ($p < .05$), except for the DAS "general health" ($p = .054$).

Table 2. Remission rates according to four composite indexes with the 6 PGA's formulations (n=193)

PGA Formulation	Definition – n (%)			
	ACR/EULAR Boolean	SDAI	CDAI	DAS28 4vCRP
v1 Reuma.pt	19 (9.8)	32 (16.8)	33 (17.1)	97 (50.5)
v2 ACR/EULAR	25 (13.0)	36 (19.1)	39 (20.0)	100 (51.7)
v3 CDAI/SDAI	16 (8.3)	27 (14.1)	26 (13.5)	91 (47.3)
v4 DAS28-GH	20 (10.4)	29 (15.2)	33 (17.1)	99 (51.4)
v5 DAS28-DA	19 (9.8)	29 (15.2)	30 (15.5)	100 (51.7)
v6 Investigators	17 (8.8)	27 (14.1)	27 (14.0)	97 (50.0)
Max. dif. within definition	9 (4.7)	9 (4.7)	13 (6.7)	9 (4.7)

Conclusions: The use of different PGA formulations has clinical implications in disease activity, which, in turn, can influence therapeutic decisions. The establishment of a single standardised formulation seems warranted.

Disclosure of Interest: None declared

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THU0146 QUALITY OF LIFE IN PATIENTS WITH RHEUMATOID ARTHRITIS - DEMOGRAPHIC AND SOCIO-ECONOMIC ASSOCIATIONS

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Background: The primary goal of treating patients with rheumatoid arthritis (RA) is to maximise long-term HRQoL. Quality of life (QoL) in patients with RA may be substantially impacted by their inability to perform daily activities, a shift in family roles, more restricted employment opportunities, increased financial burden and social dependency and reduced recreational activities.²

Objectives: To investigate the QoL among RA patients and its association with demographic and socioeconomic details.

Methods: This is a cross-sectional study conducted in a rheumatology outpatient clinic in Malaysia. Patients who fulfilled 2010 ACR/ EULAR classification criteria for RA were asked to answer WHOQOL-BREF questionnaire and specific questions on demographics and socio-economic details, during their attendance to rheumatology clinics. WHOQOL-BREF is a self-report quality of life questionnaire on individual's perception of quality of life and health, physical health, psychological, social relationships and environment domains.

Data was analysed using SPSS 20. Student's t-test was used to analyse the mean difference between two groups and chi-square test was used to analyse between 2 categorical data. Pearson correlation was used to analyse correlation between two groups of continuous data. $p < 0.05$ was considered significant.

Results: The mean age of patients in this study was 53.10 (± 14.3) years, with majority being females (80.4%) and married (70.6%). Half of the patients were Malays (49.0%). 51.0% rated overall quality of life as good and 41.2% rated overall health as satisfied. The mean transformed scores were 55.2 (± 15.9) in physical health, 57.3 (± 15.9) in psychological, 59.2 (± 18.1) in social relationships and 58.2 (± 15.2) in environment domains.

There were significant differences in the transformed scores for Malay (65.5 $\pm$ 15.9) and non-Malay (53.1 $\pm$ 18.2) in the social relationship domain; $t(49) = 2.58$, $p = 0.01$, and for education at secondary level and above (65.9 $\pm$ 14.9) and primary level (48.0 $\pm$ 16.6), $t(49) = -3.87$, $p < 0.01$. We found no significant association between race and education level; 17 (53.1%) Malays and 15 (46.9%) non-Malays had education level of secondary and higher, $X^2(1, N=51) = 0.58$, $p = 0.48$. Patients with household income of less than RM 3, 000 had significantly lower scores compared to those with higher household income, in overall perception of quality of life (3.3 $\pm$ 0.9 vs 4.0 $\pm$ 0.6; $t(49) = -2.8$, $p < 0.01$), overall perception of health (2.9 $\pm$ 0.9 vs 3.6 $\pm$ 0.7, $t(49) = -2.97$, $p < 0.01$), physical health domain (51.2 $\pm$ 16.2 vs 63.8 $\pm$ 11.6, $t(49) = -2.78$, $p = 0.01$) and psychological domain (53.3 $\pm$ 16.3 vs 66.1 $\pm$ 10.9, $t(49) = -2.85$, $p = 0.01$).

Conclusions: Patients with RA perceived their QoL to be moderate in all domains. Social relationship was perceived to be better in Malays and patients with higher educational level. Low income was significantly associated lower overall quality of life and health, physical and psychological health.

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THU0147 THORAX CT FINDINGS IN A LARGE COHORT OF PATIENTS WITH RHEUMATOID ARTHRITIS: HUR-BIO REAL LIFE RESULTS

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Background: Lungs are one of the target organs in rheumatoid arthritis (RA) patients. Interstitial lung disease (ILD), rheumatoid nodules, pleural effusion, bronchiectasia and small airway disease are common manifestations of lung involvement.

Objectives: Objective of this study was to evaluate distribution of Thorax CT findings and treatment features in RA patients registered in a biologic registry.

Methods: HUR-BIO (Hacettepe University Rheumatology Biologic Registry) is a prospective, single center database of biological treatments including 1229 RA patients by August 2016. Demographics, clinical and serological features of patients and thorax CT results performed in Hacettepe University between 2000 and 2016 were retrospectively evaluated. Patients whose CT was reported as small airway disease or ILD by radiologists, were evaluated as a subgroup. Data included type of biological treatments before diagnosis of ILD and at last control as well.

Results: Among 1229 patients (78.8% female), mean age was 53.3 $\pm$ 12.9 and disease duration was 11.4 $\pm$ 7.9. Thorax CT had been performed in 203 (16.5%) patients. Distribution of pathologic findings in thorax CT was represented in Table 1. 29 patients (2.4%) were diagnosed as ILD with regard to CT findings. Patients with ILD were older (64.5 $\pm$ 6.7 vs 60.6 $\pm$ 10.1, $p = 0.039$) and more frequently positive for rheumatoid factor (RF) (25/27 (92.6%) vs 77/121 (63.3%), $p = 0.003$) than patients without ILD. ILD was detected before beginning of biologics in 11 (37.9%) patients and during biologic treatment in 18 (62.1%) patients. Honeycombing was seen in 10 (34.5%) patients. First choice of biologic agent was RTX in 10 (34.5%) and TNFi in 19 (65.5%) patients. In ILD patients, mean follow-up duration was 51 $\pm$ 31 months and first biologic was switched to another in 16 (55.2%) of patients. At the last follow-up visit 19 (65.5%) patients were on rituximab, 3 (10.3%) patients were on abatacept and 7 (24.1%) were on TNFi. Small airway disease was detected in 19 (9.3%) patients. History of smoking was present in only 4 (21.0%) of patients with small airway disease.

Table 1. Distribution of thorax CT findings

Thorax CT finding	N (%)
Interstitial thickening	13 (6.4)
Reticular densities	31 (15.3)
Ground glass opacities	33 (16.3)
Nodules	35 (17.3)
Effusion	18 (8.9)
Bronchiectasia	46 (22.7)
Traction bronchiectasia	17 (8.4)

Conclusions: Bronchiectasia, rheumatoid nodules, small airway disease and ILD were the most frequent CT findings of RA patients. Rituximab was the choice of first biologic treatment in one third of patients, however two-thirds of patients were on rituximab therapy at the last follow-up visit. Lung involvement stands out as an important factor in selection of biologics.

Disclosure of Interest: None declared

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THU0148 INCREASE OF NIGHT QT-INTERVAL DURATION IN RHEUMATOID ARTHRITIS PATIENTS TREATED WITH TOFACITINIB DURING 12-MONTH FOLLOW-UP

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Objectives: to evaluate dynamic of ECG parameters in RA pts treated with tofacitinib (TOFA) during 12-month follow-up.

Methods: After 12-m follow-up the ECG parameters by 12 lead ECG and 24h ECG was assessed in 28 RA pts treated with TOFA (22 women, median age 54 [40;62] years, disease duration 39.5 [16.5;60.0] m, moderate to high activity (DAS28-5.1 [4.6;6.0], SDAI-26 [21;34]), positive for ACCP (75%)/RF (79%), who were non-responders to MTX at least 15 mg/week and/or other synthetic DMARDs and bDMARDs. TOFA therapy was started in all pts with dose 5 mg BID per os followed by the dose escalation to 10 mg BID in 8 (29%) pts. TOFA used in combination with MTX in 27 (96%) pts, leflunomide in 1 (4%). Low-dose oral corticosteroids (<10 mg/day prednisone or equivalent) were received by 9 (35%) pts. Remission or LDA was achieved in 55% pts (DAS28), 77% (SDAI). At baseline the most of pts had multiple CVRF and subclinical organ damage (arterial hypertension-67%, overweight-57%, abdominal obesity-61%, physical inactivity-64%, smokers/ex-smokers-25%/21%, menopausal status-59%, DM type 2-7%, mSCORE ≥ 5 >21%, subclinical carotid atherosclerosis-64%, cardiac heart failure with preserved ejection fraction-7%. Cardioprotective therapy received 16 (57%) pts (beta-blockers-7, angiotensin II receptor type 2/ACE inhibitors-11, statins-11, dihydropyridine calcium channel blockers-7).

Results: There was no difference in heart rate (HR), QTc interval duration,