0.74 [0.59–0.94], absence of radiographic erosions (HR [95% CI] 1.52 [1.06–2.20]) and use of prednisone (HR [95% CI] 1.51 [1.36–1.74]). The same predictors were confirmed for point SDAI remission. Irrespective of the criterion, remission was maintained by only half of the patients at follow-up, resulting in sustained remission rates of 28% for DAS28 and 19% for SDAI in the entire cohort. At multivariate analysis, independent predictors of sustained remission according to either the DAS28 or the SDAI were lower time to achieve remission and deeper remission, whilst demographic factors, baseline disease activity and use of prednisone were not significant (figure 1). Using ROC curve analysis, the best discriminative ability for sustained remission were time to remission ≤ 4 months, DAS28 at remission ≤ 2.2 and SDAI at remission ≤ 1 .

Conclusions: Despite early diagnosis and prompt institution of goal-steered treatment strategies with csDMARDs, only a minority of RA patients experience sustained remission. Remission is more likely to be maintained if the target is attained rapidly after treatment institution and if joint and systemic inflammation are effectively suppressed.

Disclosure of Interest: None declared

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THU0112

THE INFLUENCE OF AGE AND SEX ON THE PROGRESSION OF RHEUMATOID ARTHRITIS

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Background: In Europe, life expectancy is increasing and so does the incidence rheumatoid arthritis (RA), which peaks for both men and women at 70–79 years of age. Further, more than 50% of patients with RA are >65 years of age. To correctly treat and handle all patients with RA irrespective of age there is a need to study the outcome and progression of the disease depending on age of onset as this, to our knowledge, is largely unknown.

Objectives: To study how age at onset of RA influence the course of disease in men and women.

Methods: This study included 2825 patients, 68% females, from the BARFOT (Better Anti-Rheumatic Pharmacotherapy) early RA cohort. Patients were divided into males and females and into the following age groups: <40 years (yr) n=415, 40–54 year n=658, 55–69 year n=986 and ≥ 70 year n=766 at onset of disease and inclusion in the study. They were assessed at 3, 6 months and 1, 2, 5, 8 years. The following parameters were analysed: DAS28 (disease activity), VAS pain, VAS global health, 28 joint count of tender and swollen joints, respectively, ESR, rheumatoid factor (RF), antibodies to citrullinated proteins (APCA) and Health Assessment Questionnaire (HAQ). The median and 95% bootstrap confidence interval were calculated in ^{MATLAB R2015a} using the bias corrected and accelerated percentile method with 2000 bootstrap samples. Mann-Whitney U-test and Wilcoxon Rank test were used to compare groups, $p < 0.01$ was considered as significant due to multiple comparisons.

Results: At inclusion, there were no significant differences in DAS28, VAS global health, VAS pain or tender and swollen joint counts in any of the groups. From 3 months and onward, the DAS28 score were significantly lower for men compared to women in the age groups <40 year, 55–69 year and ≥ 70 year, whereas in the age group 40–54 year there were no significant differences between the sex groups (figure 1). The lowest DAS28 score, at each assessment point, was seen for RF and ACPA positive men <40 year and this group had a significantly lower DAS28 score at 8 years compared to all other groups except RF and ACPA negative men and women ≥ 70 year. At the same time, the worst outcome was seen for RF positive women and for men ≥ 70 year irrespective of RF, compared to all other groups.

In the age groups <40 year, 55–69 year and ≥ 70 year, both VAS pain and VAS global health were significantly lower in men compared to women from 3–6 month and onward. However, no differences were obtained between the sexes in the age group 40–54 year. As expected, HAQ was significantly higher among women than men in all age groups.

Conclusions: Depending on age at onset, the course of disease, measured as DAS28, differs significantly where seropositive men <40 year have the most favourable prognosis compared to both men and women ≥ 70 year the worst. No differences in DAS28, VAS global health or pain was found between men and women aged 40–54 year, which is in contrast to previous studies¹ comparing men and women without considering the age of onset. The causes for these findings need to be further investigated.

REFERENCE:

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THU0113

LINKING SYSTEMIC ANGIOGENIC MARKERS TO SYNOVIAL VASCULARISATION IN RHEUMATOID ARTHRITIS

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Background: Neoangiogenesis is a crucial event to promote the development of the hyperplastic proliferative pathologic synovium in Rheumatoid arthritis (RA). Ultrasound (US) is sensitive for detection of power Doppler (PD) vascularisation.

Objectives: To explore the associations between a set of complementary circulating angiogenic markers reflecting different angiogenic processes and a comprehensive US assessment in patients with RA.

Methods: Serum levels of eight angiogenic markers (Vascular Endothelial Growth Factor (VEGF), Placenta Growth Factor (PlGF), Tie-2, Angiopoietin-1, soluble Vascular Cell Adhesion Molecule-1 (sVCAM-1), Interleukin-8 (IL-8, CXCL8), CYR61 (CCN1) and Angiostatin), reflecting endothelial cell activation, proliferation, survival, growth and migration, as well as vessel maturation and stabilisation, were measured by quantitative ELISAs in a total of 125 patients with RA, who were all systematically assessed in parallel by PDUS, performed on 32 joints.

Results: Synovitis was detected in 84 patients with RA (67.2%). Among these patients, 53 patients (42.4%) had positive Doppler signal, including 31 with moderate to marked hyperemia. Serum levels of soluble Vascular Cell Adhesion Molecule-1 (sVCAM-1) (808±293 ng/mL vs. 697±240 ng/mL, $p=0.022$) and Tie-2 (16.2 ±7.5 ng/mL vs. 13.8±4.9 ng/mL, $p=0.038$), were more likely to be increased in patients with synovial hyperemia detected on at least one joint (Power Doppler grade ≥ 1). sVCAM-1, Tie-2 and Angiostatin concentrations gradually increased together with the grade of the semiquantitative PDUS scale (figure 1A-C) and concentrations of these three markers were markedly increased in patients with

moderate to marked hyperemia (Power Doppler grade 2 and 3). Levels of sVCAM-1 ($r=0.20$, $p=0.028$), Tie-2 ($r=0.28$, $p=0.001$), and Angiostatin ($r=0.25$, $p=0.006$) correlated with a global arthritis sum score, defined by the sum of the semiquantitative PDUS scores for all joints examined.

Among the 81 patients with a DAS28-CRP ≤ 3.2 , 22 patients had synovial hyperemia detected on at least one joint (Power Doppler grade 1 in 13 patients, grade 2 in 6 patients and grade 3 in 3 patients). Patients with synovial hyperemia on at least one joint were more likely to have significantly increased levels of PIGF (18.9 ± 11.2 pg/mL vs. 13.1 ± 9.5 pg/mL, $p=0.022$) and Tie-2 (15.7 ± 5.8 ng/mL vs. 12.6 ± 3.4 ng/mL, $p=0.004$) than patients with absence of synovial hyperemia.

Conclusions: Serum levels of the angiogenic markers Tie-2, sVCAM-1 and Angiostatin were strongly associated with synovial vascularisation and inflammation assessed by PDUS among patients with established RA. Moreover, Tie-2 and PIGF were associated with persistent disease activity in RA patients in mow disease activity. These findings suggest that it may possible to find surrogate serum angiogenic biomarkers of active synovitis that might replace PDUS examination, in case of further confirmation of their pertinence.

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THU0114 INFLUENCE OF AUTOANTIBODY STATUS IN TIME TO INITIATE DMARDS IN PATIENTS WITH EARLY RHEUMATOID ARTHRITIS

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Background: Factors contributing to an early referral to Rheumatology and DMARDs initiation following symptom onset in rheumatoid arthritis (RA) patients are unclear. Recent data suggest that ACPA/RF double seropositivity is associated with delayed presentation to primary care and DMARDs initiation. Identification of these factors is mandatory to facilitate an early diagnosis and treatment of RA patients.

Objectives: To determine whether time to DMARDs initiation and time to first visit at early arthritis clinic (EAC) following symptoms onset differs between RA patients according to autoantibody status.

Methods: A prospective analysis of an EAC cohort including 1377 referred patients from 1993 to 2017 was undertaken for this study. Patients diagnosed of RA (according to physician's diagnosis) were selected. Based on the serological status, we classified patients in 4 groups: RF+/ACPA+, RF-/ACPA+, RF+/ACPA-, RF-/ACPA-. A baseline clinical assessment was completed including time (months) from symptoms onset to first assessment at EAC and to DMARD initiation. First, differences between serotypes were tested using chi-squared and student-t tests. Second, univariable and multivariable logistic regression models taking into account confounding factors (age, smoking and baseline DAS28) were employed to evaluate the association between autoantibody status and both periods: time to first visit at EAC and to DMARDs initiation.

Results: A total of 463 RA patients were included for analysis, of whom 292 (63.1%) were RF/ACPA double-seropositive (RF+/ACPA+), 35 (7.6%) RF-/ACPA+, 39 (8.4%) RF+/ACPA- and 92 (19.9%) RF-/ACPA-. Demographic and clinical data are shown in table 1. In the univariate analysis, statistically significant differences were observed for both periods when patients were stratified by autoantibody serotype, where RF+/ACPA+ individuals experienced the longer delay to presentation at EAC compared with RF-/ACPA- (5.0 ± 4.6 vs 3.5 ± 3.4 months; $p<0.05$). RF+/ACPA+ patients experienced also significantly longer symptom duration before DMARD initiation than RF-/ACPA- (7.4 ± 11.2 vs 4.9 ± 5 months; $p<0.05$). In the univariable analysis, autoantibody status (double seropositive and RF-/ACPA+ vs RF-/ACPA-) was significantly associated with time to DMARDs initiation. However, after adjusting by confounding factors in the multivariable analysis, the autoantibody status did not remain significantly associated with time to initiate DMARDs (RF+/ACPA-; β 0.186; $p=0.1$, RF-/ACPA+; β 0.112; $p=0.3$, RF+/ACPA+; β 0.228; $p=0.1$)

	Beta	95% C.I.	
		Lower	Upper
Non adjusted			
RFpositive	,035	−2,462	4944
ACPApositive	,104	,038	7736
Double-seropositive	,120	,157	4791
Adjusted			
RF positive	,186	−4,952	26 414
ACPA positive	,112	−14,512	37 175
Double-seropositive	,228	−2,520	20 308
DAS 28	-,239	−7,575	,144
Age	-,073	-,384	,207
Smoker	-,066	−14,996	9118
Former smoker	-,081	−19,051	10 942

Abstract THU0114 – Table 1. Baseline characteristics of patients, stratified by autoantibody status

	Total n=463	RF+/ACPA+ n=292	RF-/ACPA+ n=35	RF+/ACPA- n=39	RF-/ACPA- n=92	p
Age	54.6 $\pm$ 16.3	54.6 $\pm$ 16.2	47.4 $\pm$ 16	60.2 $\pm$ 15.62	61.7 $\pm$ 16.8	<0.08
Sex	124 (26.1%)	70 (22.7%)	5 (13.3%)	14 (31.8%)	26 (24.3%)	NS
Race	364 (71.2%)	198 (64.3%)	31 (83.8%)	34 (77.3%)	91 (83%)	<0.001
Smoking	118 (23.1%)	74 (24%)	7 (18.9%)	12 (27.3%)	18 (16.8%)	<0.001
Smoker	109 (21.3%)	81 (26.9%)	9 (24.3%)	7 (15.9%)	8 (7.5%)	
Non smoker	236 (50.1%)	142 (46.1%)	17 (45.9%)	24 (54.5%)	73 (68.2%)	
Symmetry	60 (11.7%)	5 (1.4%)	8 (21.6%)	3 (6.8%)	2 (1.9%)	<0.01
Symmetric	44 (8.6%)	257 (83.4%)	29 (78.4%)	41 (93.2%)	101 (96.3%)	
Extension	89 (15.7%)	6 (1.4%)	1 (2.7%)	2 (4.5%)	1 (0.9%)	0.3
Monarticular	3 (0.6%)	2 (0.6%)	1 (2.7%)	0 (0.0%)	0 (0.0%)	
Oligoarticular	3 (0.6%)	2 (0.6%)	1 (2.7%)	0 (0.0%)	0 (0.0%)	
Pauciarticular	409 (86%)	238 (77.3%)	28 (75.7%)	38 (86.4%)	93 (86.9%)	
Polymyalgic	1 (0.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.9%)	
Time (months) from symptoms onset to DMARD initiation	6.9 $\pm$ 9.8	7.4 $\pm$ 11.2	8.8 $\pm$ 9.96	6.2 $\pm$ 7.2	4.9 $\pm$ 5	0.035
Time (months) from presentation at EAC to DMARD initiation	2.0 $\pm$ 1.1	2.2 $\pm$ 1.0.4	2.7 $\pm$ 1.0.3	2.0 $\pm$ 1.0	1.0 $\pm$ 1.8	0.7
Time (months) from symptoms onset to presentation at EAC	4.7 $\pm$ 4.4	5.4 $\pm$ 6	6.6 $\pm$ 4.9	4.2 $\pm$ 3.7	3.5 $\pm$ 3.4	0.019
Patient Global Assessment (0-100)	51.4 $\pm$ 26.2	50.9 $\pm$ 26.1	51.4 $\pm$ 26.9	51.2 $\pm$ 27.8	54.9 $\pm$ 25.3	NS
Physician Global Assessment (0-100)	37.6 $\pm$ 23.8	38.5 $\pm$ 23.3	34.2 $\pm$ 24.7	35.6 $\pm$ 25.3	38.6 $\pm$ 24.4	NS
HAQ	0.6 $\pm$ 0.3	0.2 $\pm$ 0.3	0.2 $\pm$ 0.3	0.3 $\pm$ 0.4	0.3 $\pm$ 0.4	<0.005
28 Tender Joint Count	8.5 $\pm$ 4.5	8 $\pm$ 4	6.1 $\pm$ 3.7	10.7 $\pm$ 5.7	9.9 $\pm$ 6.7	<0.001
28 Swollen Joint Count	6.7 $\pm$ 5.4	6.1 $\pm$ 5.1	4.3 $\pm$ 8	9.2 $\pm$ 6.2	9.5 $\pm$ 6	<0.001
DAS 28	5.2 $\pm$ 1.4	5.2 $\pm$ 1.42	4.5 $\pm$ 1.3	5.7 $\pm$ 1.3	5.6 $\pm$ 1.3	<0.001
ESR (mm/h)	36.1 $\pm$ 25.5	37.5 $\pm$ 26.1	25.6 $\pm$ 21	40.3 $\pm$ 23.2	35 $\pm$ 26.2	0.006

Conclusions: In our EAC cohort, time to EAC presentation and DMARD initiation following symptom onset in early RA does not differ according to patients' autoantibody status. However, more studies with greater sample size are necessary to confirm these results.

Disclosure of Interest: None declared
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THU0115 PSYCHOLOGICAL AND FUNCTIONAL STATES PREDICT DISEASE FLARE FOLLOWING TNF INHIBITOR TAPERING IN PATIENTS WITH RHEUMATOID ARTHRITIS: A POST-HOC ANALYSIS OF DATA FROM THE OPTIMISING TNF TAPERING IN RA (OPTTIRA) COHORT

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Background: Tapering or discontinuation of anti-TNF therapy appears to be feasible, safe and effective in a selected proportion of Rheumatoid Arthritis (RA) patients. Depression is highly prevalent in RA and may impact on flare incidence through a number of mechanisms. It is an independent predictor for flare in patients with active disease and is negatively associated with remission.¹ To date, there are no studies directly addressing the role of depression, anxiety or low mood in predicting flares in patients tapering their biological therapy.

Objectives: To investigate if psychological and functional states predict flare in RA patients with low disease activity (LDA) or in remission who undergo treatment tapering of their anti-TNF agents.

Methods: This study is a post-hoc analysis of the OPTTIRA trial,² a multi-centre, prospective, randomised, open label study investigating anti-TNF tapering in established RA patients in remission LDA. Baseline patient-reported outcomes including HAQ-DI, EQ-5D, FACIT-F, and SF-36 including the Mental Health Index (MHI) component were collected. The MHI has been validated as a screening tool for depression in RA patients.³ The primary outcome was flare, defined as an increase in DAS28 ≥ 0.6 , and at least one additional swollen joint. Logistic regression was used to identify patient-reported outcomes that predict flare, adjusting for baseline covariates (age, gender, treatment arm, DAS28 and BMI).

Results: 97 were randomised into a tapering arm, either by 33% or 66% of their anti-TNF dose. The majority of patients were on methotrexate in combination with their anti-TNF therapy ($n=67$, 69%) and the median disease duration was 11 years [IQR: 7–17]. Seventy three (75%) fulfilled DAS28 remission criteria (DAS28 < 2.6). The median SF36 MHI score was 84. A score of ≤ 56 , the cut off used to detect depression was observed in 11% of patients. Forty one patients (42%) flared. Baseline DAS28 score was associated with flare, remaining significant after