(Table). Receiver operating characteristic curves showed that M-DAS28, DAS28 (CRP) and RAPID3 had higher predictive value (area under the curve) than CDAI or SDAI for radiographic progression at M12 and M24 (Table). There was no impact of treatment arm on predictors of radiographic outcomes.

Conclusions: In this *post hoc* analysis, disease activity scores at baseline according to M-DAS28, DAS28 (CRP) and RAPID3 were good predictors of radiographic progression at M12 and M24 and were more predictive than other measures of disease activity tested, with M-DAS28 demonstrating the greatest degree of prediction.

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THU0090 INFLUENCE OF AGE AT DISEASE ONSET ON CLINICAL, FUNCTIONAL, AND ULTRASONOGRAPHIC OUTCOMES IN A MONOCENTRIC EARLY RHEUMATOID ARTHRITIS COHORT

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Background: Rheumatoid Arthritis (RA) onset may occur at any age and peaks in the fifth decade. Because the mean age of general population is continually increasing and since older age could impact on outcomes, late-onset RA (LORA) will probably become a relevant issue for health care system in the next future. A better characterization of LORA could help rheumatologist in the therapeutic decision-making process tailored on the individual patient.

Objectives: To investigate the relationship between age at disease onset and clinical, ultrasonographic and functional outcomes.

Methods: Early RA (ERA) patients fulfilling 2010 ACR/EULAR, with available clinical and ultrasonographic follow-up of at least 1 year, who consecutively attended our Early Arthritis Clinic between 2009-2014, were retrospectively analyzed. Patients were pooled into 3 groups by age at RA onset: <45 years (young-onset RA [YORA] group 1), 45 to 60 years (intermediate-onset RA [IORA] group 2), and >60 years (late-onset RA [LORA] group 3). At baseline biological, functional and ultrasonographic data were recorded. The following items were compared at baseline and after 12 months from diagnosis: DAS28_{CRP} remission rate, functional disability using the Health Assessment Questionnaire (HAQ), power doppler (PWD) score, Methotrexate (MTX) treatment, use of glucocorticoids (GCs).

Table 1 Baseline demographic and disease characteristics of 3 groups.

	Whole sample (n=223)	YORA (n=46)	IORA (n=81)	LORA (n=96)	P-value (overall)	P-value LORA vs YORA	P-value LORA vs IORA
Female, n (%)	164 (73.5)	40 (86.9)	59 (72.8)	65 (67.7)	0.051	0.014	0.4
Lag time onset to diagnosis (months), median (IQR)	4 (2-7)	5 (3-8)	4 (2-6)	3 (2-6)	0.03	0.0001	0.03
RF, n (%)	112 (50.2)	26 (56.5)	42 (51.8)	44 (45.8)	0.45	0.42	0.23
ACPA, n (%)	127 (56.9)	28 (60.8)	50 (61.7)	49 (51)	0.30	0.15	0.27
TJC, median (IQR)	6 (2-12)	2 (1-8)	6 (4-11)	7 (3.5-12)	0.0005	0.0001	0.50
SJC, median (IQR)	3 (1-7)	2 (0-4)	3 (1-7)	4 (2-8)	0.0054	0.0013	0.34
CRP (mg/dl), median (IQR)	0.9 (0.4-2.1)	0.58 (0.24-1.3)	0.7 (0.4-1.59)	1.3 (0.5-2.91)	0.0014	0.001	0.0091
DAS28 _{CRP} , median (IQR)	4.44 (3.61- 5.33)	3.71 (3.24- 4.61)	4.40 (3.74- 5.32)	4.75 (3.8-5.6)	0.0013	0.0003	0.13
SDAI, median (IQR)	24.45 (15.7- 33.7)	18.57 (10.8- 28)	23.5 (15.5- 32.9)	26.1 (18-38.5)	0.0032	0.0011	0.06
PWD MSUS, median (IQR)	5 (1-9)	1 (0-7.5)	5 (2-8)	8 (3-10.5)	0.002	0.0001	0.03
HAQ-DI, median (IQR)	0.87 (0.5-1.4)	0.65 (0.25- 1.25)	0.87 (0.5- 1.25)	1 (0.62-1.75)	0.0091	0.0033	0.05
MTX (%)	70.85	65.22	75.31	69.79	0.46	0.58	0.41
MTX dose mg/week, median (IQR)	10 (10-10)	10 (10-10)	10 (10-15)	10 (10-10)	0.02	0.42	0.01
GCs (%)	86.55	86.96	81.95	88.54	0.66	0.78	0.37
GCs dose (mg/daily), median (IQR)	5 (5-10)	5 (5-9)	5 (5-10)	5 (5-10)	0.59	0.42	0.76

P: global comparison for 3 groups by Kruskal-Wallis test. Comparison for 2 groups by Mann-Whitney test.

Table 2 Adjusted odds ratios (aORs) for DAS28_{CRP} remission, PWD MSUS remission and HAQ score <0.5 at 1 year follow up

Outcome 1 year:	IORA	YORA [95%CI]	P-value vs YORA	LORA [95%CI]	P-value vs IORA
DAS28 _{CRP} REM	reference	1.42 (0.63-3.18)	0.38	2.95 (1.48-5.86)	0.002
PWD MSUS REM	reference	1.21 (0.40-3.68)	0.72	1.18 (0.51-2.73)	0.69
HAQ score <0.5	reference	0.75 (0.33-1.73)	0.51	1.24 (0.61-2.53)	0.53

aORs: odds ratio adjusted for gender, baseline DAS28_{CRP}, MTX use, glucocorticoid use, serology.

Results: The main baseline demographic and disease characteristics of the whole sample of ERA (n=223) and the 3 age groups- YORA (46), IORA (81) and LORA (96)- are summarised in Table 1. Age at RA-onset was independently associated with DAS28_{CRP} remission at 1 year (Table 2).

Conclusions: In a cohort of ERA, older age at disease onset is associated with a more active pattern disease at the beginning but with a greater probability of DAS28_{CRP} remission at 1 year.

Disclosure of Interest: None declared

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THU0091 HIGH MULTI-BIOMARKER DISEASE ACTIVITY SCORE IS ASSOCIATED WITH HIGH RISK OF RADIOGRAPHIC PROGRESSION IN SIX STUDIES

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Background: The multi-biomarker disease activity (MBDA) test uses a validated algorithm with 12 serum protein biomarkers to assess disease activity in patients with RA. The MBDA score has previously been found to be a predictor of risk for radiographic progression (RP).

Objectives: To evaluate data from six cohorts to collectively establish the relationship between the MBDA score and risk for RP.

Methods: Clinical, MBDA score and radiographic data were analyzed for 6 cohorts with N>100: Leiden, SWEFOT Year 1, SWEFOT Year 2, OPERA Year 1, and AMPLE Year 1 (abatacept and adalimumab arms) (see Figure). Analyses used published results when available or patient-level data when not (i.e., for Leiden; and for OPERA CRP analyses). Frequency of RP over one year was determined by category of MBDA score (low, moderate [30-44], high on a scale of 1-100) at the start of the year for four cohorts and by category of MBDA score at the end of the year for AMPLE cohorts (as published). RP was defined using the threshold for change in total modified Sharp score (Δ mTSS) specific to each study (2 to >5 TSS units). Positive and negative predictive values (PPV and NPV) were determined for each study by comparing patients with high MBDA score (>44), DAS28-ESR/CRP (>5.1 or >4.09) or CRP (>3 mg/dL) vs. those in a not-high category. Relative risk (RR) for RP was determined for each study, and in a meta-analysis of the non-overlapping patient groups with MBDA scores available at the start of the year (Leiden, SWEFOT Year 1 and OPERA Year 1). Results of multivariate analyses and analyses that combined MBDA score with other risk factors for RP were summarized.

Results: The 6 study cohorts included patients receiving csDMARDs alone or with adalimumab, infliximab or abatacept. Overall rates of RP were 10-26%. In each study, RP was most frequent among patients with a high vs. not-high MBDA score (>44 vs. $\leq$ 44). For high MBDA scores, NPVs were 93-97% and PPVs were 18-32%, with RR values of 3.6-9.5 (P=0.002 to <0.0001) (Figure). In a meta-analysis of the Leiden, SWEFOT Year 1 and OPERA Year 1 cohorts, RR was 5.1 (P<0.0001) for MBDA categories, and 1.4 (P=0.23) and 1.6 (P=0.01) for categories of DAS28-CRP or CRP, respectively. Previously published multivariate analyses in the Leiden and SWEFOT Year 1 cohorts showed that MBDA score was an independent predictor of RP compared with other predictors. In the Leiden cohort, MBDA score was the strongest predictor and high MBDA score

Association between radiographic progression (RP) and high MBDA score (>44)						
Cohort	N	RP cutoff	Overall % RP	PPV for MBDA >44	NPV for MBDA >44	Relative Risk ¹ (95% CI) ²
Leiden	163	>5.0	17%	31%	93%	4.3 (1.9, 9.5)
OPERA Year 1	164	$\geq$ 2.0	26%	31%	97%	9.5 (1.4, 66.3)
SWEFOT Year 1	235	>5.0	18%	21%	97%	7.1 (1.0, 49.9)
Meta-analysis (LEIDEN + OPERA Year 1 + SWEFOT Year 1)						5.1 ¹ (2.5, 10.1)
SWEFOT Year 2	133	>5.0	13%	32%	95%	6.2 (2.4, 16.5)
AMPLE Year 1 (Aba)	181	>2.2 ⁴	10%	18%	96%	4.5 (1.6, 13.1)
AMPLE Year 1 (Ada)	186	>2.2 ⁴	11%	24%	93%	3.6 (1.6, 8.1)

PPV, positive predictive value; NPV, negative predictive value. 1. Relative risk = PPV/(1-NPV). 2. Random-effect model used for meta-analysis. 3. Aggregated relative risk. 4. Δ TSS cutoff for RP was defined in Fleischmann et al. [Arthritis Rheumatol 2016;68:2083-9] as >smallest detectable change (SDC). However no value was specified; SDC for AMPLE was specified as 2.8 and 2.2 in prior AMPLE publications (Weinblatt 2013; Schiff 2014).

Treatments; reference; data source:
LEIDEN (csDMARDs); Li et al. *Rheumatology (Oxford)*. 2013;55:357-66; Unpublished patient-level data only.
OPERA (MTX+placebo-adalimumab+IA corticosteroids/MTX+adalimumab+IA corticosteroids); Brahe et al. *Arthritis Rheumatol*. ACR 2016 Abstract 2520; Published data and unpublished patient-level data for analysis of CRP categories.
SWEFOT Year 1 (MTX/ triple therapy/MTX+infliximab); Hambardzumyan K, et al. *Ann Rheum Dis*. 2015;74:1102-9; Published data only.
SWEFOT Year 2 (triple therapy/MTX+infliximab); Hambardzumyan K et al. *RMD Open*. 2016 Mar 1;2(1):e000197; Published data only.
AMPLE Year 1 (abatacept and adalimumab arms, analyzed separately); Fleischmann et al. *Arthritis Rheumatol* 2016;68:2083-9, Curtis et al. *Arthritis Rheumatol*. 2016 Nov 3. doi: 10.1002/art.39981 and *Fleischmann et al. *Arthritis Rheumatol*. 2016 Dec 19. DOI: 10.1002/art.40021; Published data only, from Fleischmann et al. (*)