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Table 1. Demographic and clinical characteristics of the study subjects

	Healthy controls	All patients	Treg cell frequency and phenotype assays				Functional assays	
			Remission (DAS28-ESR <1.6)	Active disease (DAS28-ESR ≥1.6)	Untreated	Treatment	Healthy controls	RA
						DMARDs		
						TNF inhibitors		
No of blood donors	38	224	81	143	35	148	41	7
Sex, no. female/male	35/3	188/36	43/38	125/18	33/2	133/25	32/9	6/1
Age, years, Mean ± SEM	45.89±15.1	45.89±14.66	44.31±15.53	46.96±14.10	43.18±15.86	46.85±13.99	43.39±14.81	39.46±11.89
disease duration, months, Mean ± SEM	-	76.28±82.88	57.69±66.34	86.96±91.85	62.95±43	75.25±81.90	96.81±81.79	-
ESR, mm/hr, Mean ± SEM	-	24.54±22.21	13.30±7.5	34.15±24.11	27.85±17.48	25.84±22.86	27.82±25.78	-
CRP, mg/liter, Mean ± SEM	-	18.54±16.43	4.70±5.28	14.10±19.62	16.91±17.31	18.51±15.24	18.41±18.98	-
DAS28-ESR, Mean ± SEM	-	3.87±1.76	3.97±0.49	4.49±1.08	4.33±1.71	3.59±1.85	3.88±1.63	-
Anti-CCP1/μl, positivity	-	75.7%	66.7%	79.9%	61.8%	78.3%	74.4%	-
RF/μl, positivity	-	62.9%	46.9%	71.6%	62.9%	68.3%	76.9%	-

Fig1. Flow cytometry analysis of CD4⁺CD25⁺Foxp3⁺ Treg cells in healthy controls(HC), stable remission RA patients and active RA patients

Fig2. Function analysis of CD4⁺CD25⁺Foxp3⁺ Treg cells in RA and healthy controls.

Fig 3. Correlation analysis of CD4⁺CD25⁺Foxp3⁺ Treg cells with clinical data.

Fig4. The proportion of CD4⁺CD25⁺Foxp3⁺ Treg cells in treated RA patients under different treatment regimes.

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SAT0092

LOW SERUM LEVEL OF VITAMIN D AT TIME OF DIAGNOSIS IS ASSOCIATED WITH HIGHER ONE-YEAR REMISSION RATE IN PATIENTS WITH NEWLY DIAGNOSED RA, TREATED AGGRESSIVELY DURING FOLLOW-UP: POST-HOC ANALYSES OF THE CIMESTRA TRIAL

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Background: Vitamin D is often low in Rheumatoid Arthritis(RA), and immunomodulatory properties of vitamin D might be associated with disease-course in RA.(1)

Objectives: To evaluate association between baseline vitamin D metabolites and one-year remission, in newly diagnosed, treatment-naïve RA patients, aggressively treated during follow-up.

Methods: The CIMESTRA-cohort comprises 160 newly diagnosed RA patients, treated aiming at remission with methotrexate and intraarticular steroid, further randomized 1:1 to ciclosporine or placebo-ciclosporine.(2) A total of 158 patients had vitamin D metabolites measured at time of diagnosis. Dietary vitamin D supplementation was recommended in accordance with the national guidelines. Serum vitamin D_{total} (sum of 25OHD₂ and 25OHD₃) and 1,25(OH)₂D at time of diagnoses were measured by LC-MS/MS or RIA. D_{total} were dichotomized at 50 nmol/l, and 1,25(OH)₂D categorized in tertiles. Primary outcome was remission (DAS28-CRP ≤ 2.6) after one year. Associations were calculated using logistic regression, presented as Odds Ratios with 95% Confidence Intervals (95%CI). Adjustment of analyses included sex, age, symptom duration prior to diagnosis, DAS28-CRP and season of diagnosis.

Results: In univariate analyses, neither D_{total} nor 1,25(OH)₂D at time of diagnosis predicted remission at year one. In adjusted analysis, D_{total} <

50 nmol/l at time of diagnosis showed better odds for achieving one-year remission, compared to sufficient D_{total}; OR 2.56, 95%CI (1.11; 5.90) p = 0.03. 1,25(OH)₂D was not associated to remission.

Conclusion: Low D_{total} at time of diagnosis is associated to increased odds for achieving remission at year one in early, treatment naïve RA patients, treated aggressively during follow-up.

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SAT0093

THE ASSESSMENT OF THE SYNOVIAL VASCULARIZATION WITH POWER DOPPLER ULTRASONOGRAPHY AND ITS CORRELATION WITH THE SYSTEMIC INDICATORS OF INFLAMMATION AND WITH THE DISEASE ACTIVITY

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Background: Rheumatoid arthritis (RA) is an autoimmune disease with the predominant synovial inflammation. The disease activity and inflammatory markers in the serum indicate an active stage of the disease with a risk of joint destruction. As the synovial hypervascularity is considered a proof of an active inflammation, its assessment with different scoring methods in Power Doppler ultrasonography (PDUS) is being discussed.

Objectives: We investigated correlation of synovial vascularization (assessed in PDUS) with inflammatory markers and disease activity. We compared two methods for the evaluation of synovial vascularization : quantitative and semi-quantitative.

Methods: We studied 50 RA patients, mean age of 58 years, predominantly female (F/M ratio 3:1), mean disease duration span of 9.5 years. Data on: age, sex, patient global assessment of pain measured by a 100-mm visual analog scale (VAS) were obtained. The disease activity state was defined by DAS28 score (score in 28 joints) and simplified disease activity index (SDAI). Of the laboratory tests: erythrocyte sedimentation rate (ESR), serum C-reactive protein level (CRP), the presence of rheumatoid factor(RF) and anti-cyclic citrullinated peptide antibodies (ACPA) were performed. In ultrasound, the examination of the synovial vascularization, as a symptom of inflammation, was scored in PDUS, utilizing the validated scoring system, grade 0 – lack of flow, 1 – one to two vessels visible within the synovium, 2 – numerous vessels occupying up to 50% of the thickened synovium, 3 – numerous vessels occupying over 50% of the synovium volume. The second quantitatively scale was also used, with the color fraction index (CFI), defined as the ratio of the