with two recommended DMARDS Grade IV: single use of DMARDS including MTX less than 5mg.

Results: There was no relationship between titers of Anti-CCP Ab and titers of RF. We found significant statistical correlation between anti-CCP antibody titers and inflammatory markers such as CRP and MMP-3. There was significant statistical correlation between CRP and MMP-3.

In terms of treatment intensity, strong intensity group showed high titer of anti-CCP Ab and CRP. Titer of RF and MMP-3 level did not have any relationship with the treatment intensity. In cases treated with biologics, anti-CCP Ab and CRP were significantly higher compared to non-biologic case group. In 80% of cases treated with biologics titer of anti-CCP was more than 200 units. However, non-biologic treatment was continued in more than 50% of cases with anti-CCP Ab higher than 200 units.

Conclusions: Even though we treated cases based on the severity of the symptoms of the patient and response in laboratory data, high anti-CCP Ab titers and CRP at the base line were most associated with the treatment intensity after 1 year. The results of our study suggest that the titer of anti-CCP Ab can be better a predictor of the treatment intensity than MMP-3 and RF.

Disclosure of Interest: None declared

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AB0248 THE IMPACT OF THERAPY ON ANTI-CARBAMYLATED PROTEIN ANTIBODY ISOTYPES AND SEROSTATUS IN PATIENTS WITH EARLY RA TREATED WITH ABATACEPT AND METHOTREXATE

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Background: Maturation of autoantibody responses has been suggested to be a proxy for disease maturation. Autoantibody responses against post-translationally modified antigens are present in autoimmune diseases and antibodies directed against carbamylated proteins (anti-CarP antibodies) are a marker of RA. Anti-CarP antibody analysis in patients with early RA offers the opportunity to estimate whether specific intervention during such early stages of autoantibody development may have an impact on the maturation of the anti-CarP antibody response.

Objectives: We assessed the relationship between changes in anti-CarP isotypes and rates of seroconverson to negative in patients with early RA.

Methods: In the Assessing Very Early Rheumatoid arthritis Treatment study (AVERT; NCT01142726), patients with early RA were treated with abatacept (ABA)+MTX, ABA monotherapy or MTX alone.[1] Patients in AVERT were anti-cyclic citrullinated peptide-2 positive at baseline for study entry.[1] In this *post hoc* analysis, concentrations of anti-CarP isotypes were measured using custom ELISAs. Anti-CarP ELISAs for immunoglobulin (Ig)G, IgM or IgA isotypes were performed in patient serum at baseline, and at Days 85 and 365 on treatment. Baseline levels of each anti-CarP antibody isotype and % seropositivity were comparable across the three treatment arms. Adjusted mean change from baseline was calculated using a longitudinal repeated measures model.

Results: At baseline, 51.3, 42.5 and 29.3% of all patients with serum available in AVERT were positive for IgG, IgM (indicative of an ongoing immunoresponse) and IgA anti-CarP isotypes, respectively. Overall, approximatly 65% of patients were positive for at least one anti-CarP antibody isotype. Median % change from baseline (25%, 75%) for anti-CarP isotypes levels from baseline to Days 85 and 365 are shown (Table). Analysing patients who were positive at baseline for each of the isotypes, we observed that 19/48 (40%), 16/43 (37%) and 11/48 (23%) of the patients positive for the IgG isotype became negative on ABA+MTX, ABA and MTX, respectively, at 1 year. For the IgM isotype, 26/48 (54%), 14/36 (39%) and 15/38 (39%) became negative on ABA+MTX, ABA and MTX, respectively. For the IgA isotype, 12/26 (46%), 10/23 (43%) and 13/31 (42%) became negative on ABA+MTX, ABA and MTX, respectively.

Conclusions: Concentrations of all anti-CarP isotypes (IgM, IgA, IgG) were numerically reduced by abatacept+MTX therapy compared with MTX or abatacept alone. Abatacept+MTX trended towards higher rates of seroconversion to negative for all isotypes over 1 year of treatment. These results indicate that the extent of the anti-CarP antibody response can be modulated by intervention with abatacept on background MTX in anti-citrullinated protein antibody-positive patients with early RA.

References:

[1] Emery P, et al. Ann Rheum Dis 2015;74:19–26.

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AB0249 IDENTIFICATION OF INFLAMMATORY- AND IMMUNE DISORDER- RELATED PROTEINS AS PUTATIVE BIOMARKER CANDIDATES FOR IMPROVING RHEUMATOID ARTHRITIS MONITORING

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Background: Rheumatoid arthritis (RA) is a long-lasting inflammatory autoimmune disorder that ultimately leads to the destruction of joint architecture.

Objectives: Using the DAS28 activity index, 80 RA serum samples (40 with low activity and 40 with high activity) were selected in order to be analyzed by mass spectrometry. The aim of this study was to find possible protein biomarkers that could discriminate patients with different RA activity in the daily clinical routine.

Methods: In order to facilitate the complex measurement of these serum samples, a simple, fast and reproducible albumin-specific depletion method using ethanol was optimized and applied to this study. Four independent pools of the 40 high RA activity samples (10 samples per pool) and 4 pools of the 40 low RA activity samples were firstly albumin-depleted, and then the remnant serum proteins were digested and differentially labelled with iTRAQ 8-plex reagents. Subsequently, the 8 labelled pools were combined and cleaned using StageTips-C18. Finally, the pool mixture was fractionated by HPLC (Zorbax-C18) and the resulting fractions were analyzed by nanoLC-MS/MS using two different equipments for validation (MALDI-TOF/TOF and TripleTOF).

Results: The mass spectrometry analysis led to the identification of 186 proteins. Among these, Haptoglobin, Kininogen-1, Alpha-2-HS-glycoprotein, Serum Amyloid A, Afamin and Histidine-rich-glycoprotein, exhibited a differential relative abundance depending on the RA activity of the patients ($p<0.03$) in both analysis. These proteins were also validated by other orthogonal techniques (western blot, ELISA and protein arrays).

Conclusions: In this proteomic study, 9 proteins were found to be modulated between patients with high and low RA activity. Most of these proteins are related with the RA process and the effects caused by this type of disease (inflammation and immune disorder in joints). Therefore, these proteins are possible biomarker candidates for improving RA monitoring. Future validation experiments and prospective studies are needed to facilitate their implementation in the clinical routine.

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AB0250 THE ADIPOSE TISSUE AS PREDICTIVE FACTOR OF DISEASE ACTIVITY IN RHEUMATOID ARTHRITIS PATIENTS: EVALUATION OF BODY FAT COMPOSITION BY BIOELECTRICAL IMPEDANCE ANALYSIS AND ULTRASONOGRAPHY

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Background: Adipose tissue (AT) is an endocrine organ able to secrete the "adipokine" molecules that contribute to the low-grade inflammatory state in obese subjects and to the local inflammation that affects joints and bone (1,2). High-grade inflammation, in course of RA, leads to an altered body composition (3,4), characterized by the increasing of fat mass and the decreasing of lean mass, mostly not associated to body mass index (BMI) variations (3,5). The BMI is not able to differentiate visceral (VTH) and subcutaneous (STH) fat tissue and to distinguish between muscle mass and fat mass body composition (BC) (6,7). Alternative methods proposed for assessment of visceral fat deposition, are bioelectrical impedance analysis (BIA) and ultrasonography (US).

Objectives: The aim of the study is to investigate if BC, assessed by BIA and US,

Abstract AB0248 – Table 1. Median % change from baseline (25%, 75%) for anti-CarP isotypes

	Day 85			Day 365		
	IgG	IgM	IgA	IgG	IgM	IgA
ABA	–17.3 (–55.7, 0.0)	–26.3 (–57.9, 0.0)	–6.8 (–35.1, 0.0)	–31.2 (–67.4, 0.0)	26.0 (-81.2, 0.0)	–26.7 (–72.9, 13.0)
MTX	–19.3 (–53.6, 0.0)	–35.7 (–54.4, –6.9)	–27.2 (–42.4, –3.9)	–17.7 (–65.1, 0.0)	–38.3 (–63.7, 0.0)	–21.9 (–50.3, 0.0)
ABA+ MTX	–38.8 (–62.3, 0.0)	–44.2 (–59.5, –13.8)	–41.3 (–54.9, –28.3)	–55.7 (–76.7, 0.0)	–45.7 (–72.5, –0.2)	–46.4 (–66.7, 0.0)