AB0209 THE CHANGES OF SIGNAL PEPTIDE- CUB-EGF DOMAIN-CONTAINING PROTEIN (SCUBE) AND OTHER ANGIOGENESIS PROTEINS DURING DISEASE ACTIVITY AND RELATIONSHIP WITH THE JOINT ULTRASOUND FINDINGS IN RHEUMATOID ARTHRITIS PATIENTS

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Background: Rheumatoid arthritis (RA)is a multifactorial, systemic, progressive, inflammatory disease which is characterized with bone and cartilage destruction. Synovial angiogenesis is important at the etiopathology. SCUBE (Signal peptide-CUB-EGF domain-containing protein) is rather a new surface cell protein. Its secretion increases with inflammation and hypoxic conditions. Its relations with inflammation and angiogenesis are shown in preclinical studies.
Objectives: The purpose is to study levels of newly identified plasmaSCUBE 1 and 3 and other angiogenesis markers and analysis of changes after treatment in RA patients. Moreover, to determine whether a correlation with this change in SCUBE proteins after treatment, clinical parameters and with joint ultrasound findings.
Methods: This study covers patients diagnosed with RA associated with 2010 American Collage of Rheumatology (ACR) diagnosis criteria matched with healthy controllers who are equivalent of RA patients in terms of age and gender. Detailed background information and examination of the patients were recorded and disease activity scores (DAS28) were figured out and US7 scores were calculated. The levels of SCUBE 1–3, Vascular Endotedial Groving Factor (VEGF), Matrix metaloproteinaz-9 (MM-9), Interlökin-6 (IL-6), CD40L were evaluated with the method of Enzyme-Linked ImmunoSorbent Assay (ELISA). Clinical and laboratory measurements were re-evaluated at the third month after treatment.
Results: This study covers 56 individuals; 28 of whom were diagnosed with RA and 28 of them were healthy controllers. Significant differences were observed between RA patients and healthy controller groups in terms of MMP-9 levels ($p<0,05$). Levels of SCUBE-1, SCUBE-3, VEGF, İL-6 ve CD-40 were similar ($p>0,05$).After treatment VEGF levels were significantly lower compared to pre-treatment ($p<0,05$), the changes in SCUBE-1, SCUBE-3, İL-6, CD-40 ve MMP-9 levels were not statistically significant ($p>0.05$). After treatment ultrasound scores were significantly lower than before treatment ($p<0.05$).
Conclusions: In our study, significant improvements were observed in clinical, laboratory and ultrasound findings after treatment. MMP-9 and VEGF were associated with disease activity. SCUBE proteins which have been newly identified markers of angiogenesis were shown no relationship with disease activity.
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AB0210 THE MULTI-BIOMARKER DISEASE ACTIVITY SCORE FOR ASSESSING RESPONSE TO TREATMENT WITH ADALIMUMAB

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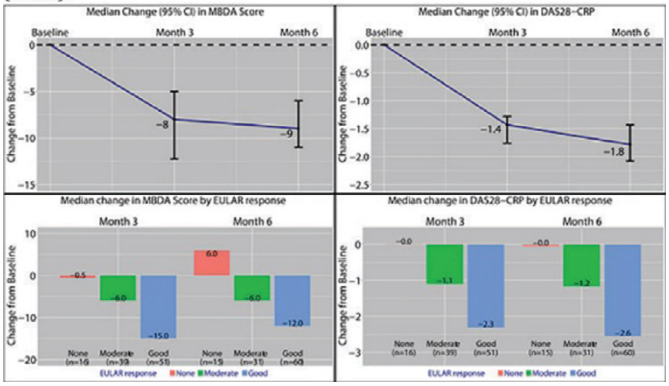
Background: The multi-biomarker disease activity (MBDA) score measures 12 serum biomarkers to assess disease activity in patients with rheumatoid arthritis (RA) on a scale of 1–100. The MBDA score was validated in several different cohorts but has not been evaluated in a cohort consisting only of patients initiating TNF inhibitor therapy in clinical practice. We utilized patients enrolled in the Corrona-CERTAIN study to evaluate MBDA scores for patients initiating adalimumab (ADA) in several clinical practices in the US.
Objectives: Evaluate the ability of the MBDA score to assess response to treatment with ADA.
Methods: We studied 106 biologic-naïve RA patients who had been treated with ADA for at least 12 months, had initiated ADA in CERTAIN while in moderate or high disease activity by CDAI, and for whom sera were available at baseline (BL) and Months 3 and 6. Changes (Δ) in MBDA score and DAS28-CRP were evaluated from BL to Months 3 and 6 by the one-sample paired t-test. ΔMBDA scores were evaluated for patients grouped by EULAR response categories, using the Cochran-Armitage test for trend. Receiver Operating Characteristic (ROC) analysis with bootstrap sampling (20,000 iterations) was used to evaluate MBDA score ability to discriminate ΔDAS28-CRP improvement >1.2 units at Month 3, and to determine the optimal MBDA threshold by maximizing the sum of sensitivity and specificity (Youden's index criterion).
Results: At BL, median values were age 54.5 years, disease duration 2 years, BMI 28.2, DAS28-CRP 4.7, CDAI 24, SDAI 25.4; 74.5%/65.4% were RF+/ACPA+. Median MBDA score was 49 with 17 (16%) patients in low (<30), 23 (22%) patients in moderate (30–44), and 66 (62%) patients in high (>44) MBDA categories. The relative magnitude and the direction of median change from BL to Months 3 and 6 were similar for MBDA score (–8, –9) and DAS28-CRP (–1.4, –1.8), with statistically significant changes from BL for each (line graphs in Figure). Similar results were observed for SDAI and CDAI. Pearson's correlations with ΔMBDA score at Months 3 and 6 were 0.58, 0.59, respectively, for ΔDAS28-CRP; 0.48, 0.47 for ΔSDAI; and 0.42, 0.42 for ΔCDAI (all $p<0.0001$). Median reductions in MBDA score were significantly greater for patients with concurrent DAS28-CRP improvement >1.2 units (n=67) vs. ≤ 1.2 units (n=39) at Month 3 (15 vs. 2) and Month 6 (13 vs. 1.5) (both $p<0.0001$); and for patients with EULAR Good vs. Moderate vs. Non-responses (p=0.0002 at Month 3, $p<0.0001$ at Month 6) (bar graphs in Figure). Area under the ROC curve (AUROC) for the ability of ΔMBDA score from BL to Month 3 to discriminate DAS28-CRP improvement >1.2 units at Month 3 was 0.82 (95% CI, 0.74–0.90). The optimal threshold for this discrimination was a reduction in MBDA score >9 units, with sensitivity/specificity=0.63/0.82 and PPV/NPV =0.86/0.56.

Figure. Median changes from baseline in MBDA score and DAS28-CRP at 3 and 6 months: in line graphs with 95% CI (above) and by EULAR response category (below).



Conclusions: This study expands the previous validation of the MBDA score by demonstrating its ability to assess response to treatment with adalimumab in a US clinical practice cohort. The AUROC value of 0.82 for discriminating improvements in DAS28-CRP >1.2 units indicates a significant association between change in MBDA score and clinical improvement.
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AB0211 THE EFFECT OF SMOKING, ALCOHOL AND CAFFEINE ON EARLY RHEUMATOID ARTHRITIS OUTCOMES

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Background: The aim of early RA treatment is remission. Intensive treatment with MTX achieve remission in 30–50% patients (pts). Modifiable risk factors, as smoking, alcohol, coffee and tea, may affect response to MTX.
Objectives: To study the influence of tobacco, alcohol, caffeine on the MTX response in early RA pats.
Methods: A case-control study (2010–2015): cases were pts who achieved DAS28<2.6 (remission) and controls were pts who did not. We collected information from pts$>$18years with early RA, treated with MTX, evaluated quarterly in a specialized unit early RA. All the pts underwent a structured interview about their smoking history and others habits. A descriptive and comparative study, was performed (SPSS21).
Results: 182 pts (age 50,96±13,11y, 67,6% female, 81,3% FR+ and 65,7% ACPA+) was treated with MTX and followed 105,03±7,15 months since 1995. More than 95% pts received MTX (in rapid escalation) in the first 24 months of the onset of symptoms. DAS28<2.6 was achieved for 67 (36,8%) pts, who required an lower average dose of MTX (15,07mg/w) than those who did not (18,04mg/w) (p=0,000). Age, DAS28 and physical function at baseline, treatment delay, smoking and adverse events by MTX were related to remission.The univariate and multivariate analysis of the baseline pts characteristics and the relationship of their smoking history with age, RF, ACPA and outcome of MTX monotherapy are shown in table 1and 2, respectively. The median survival of MTX monotherapy was 87,39 months (100.27 non-smokers and 47.70 months for current smokers (Log Rank 10.32, p 0.001) (see graphic).
Conclusions: The treatment of early RA with MTX alone achieved high rates of remission, especially in non-smokers. Smoking cessation could significantly improve the response to MTX and therefore should be an integral part of the treatment of early RA patients.