Results: In leukocytes, %Meth did not significantly change over time. However, in PBMCs %Meth in CpG1 ($\Delta\text{Meth}=2.61\%$, $p=0.008$), CpG2 ($\Delta\text{Meth}=0.73\%$, $p=0.039$) and CpG11.12 ($\Delta\text{Meth}=0.56\%$, $p=0.016$) significantly increased over 3 months of MTX use after Bonferroni correction. $\Delta\%$ Meth in CpG8.9 was significantly associated to the ΔDAS28 ($B=0.29$, $p=0.039$), yet this was no longer significant after Bonferroni correction. $\Delta\%$ Meth was not significantly associated to ΔDAS28 in any of the other LINE1 CpG sites tested.

Conclusions: PBMC global DNA methylation in LINE-1 CpG sites increased upon 3 months of MTX use. However, this change in methylation is not associated to MTX response. Further research is needed to investigate the role of global DNA methylation in these patients.

Disclosure of Interest: None declared

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AB0229

WHAT WARRANT COMPREHENSIVE DISEASE REMISSION (CDR) AT LONG TERM? – PROBABILITY OF DAS28-CRP REMISSION AT SIX MONTHS –

I. Yoshii. *Rheumatology and Musculoskeletal Medicine, Yoshii Hospital, Shimanto City, Japan*

Background: Comprehensive disease remission (CDR) for rheumatoid arthritis (RA) patient is an ultimate challenge in treatment. Several reports suggested initial treatment is essential for attaining CDR, what means it is necessary to indicate clinical remission in the first treatment year.

Objectives: Aim of this study is to clarify how initial treatment until 6 months affect on CDR fulfilment, and whether patient's basic background influences.

Methods: We have 441 RA patients who had been treated consecutively for more than four years. These patients were recruited. Parameters such as 28-joints disease activity score with C-reactive protein (DAS28-CRP), modified Health Assessment Questionnaire Disability Index (mHAQ), pain score with visual analogue scale (PS-VAS), were monitored at every visit since first time. Sharp/van der Heijde Score (SHS) was calculated at first visit and every another year period. Average value of DAS28-CRP, mHAQ in fourth treatment year, and average progression of SHS per year (dSHS) were used to make judgment for CDR at fourth year, whether DAS28-CRP less than 2.3, mHAQ less than 0.5, and dSHS less than 0.5. Fulfilment of CDR is evaluated for patient's age, DAS28-CRP, mHAQ, SvdHS, and PS-VAS at first visit and sixth month was evaluated statistically with binary logistic regression analysis (BLR). Patient's background data at first visit were also evaluated in the same manner. For the significant factors, relationship with the background data was also evaluated with multivariate linear regression analysis (MLR). Statistical significance in both analyses was set below 5%. Receiver operating characteristic curve analysis (ROC) was also implicated for the significant factors.

Results: Because of lacking data, 310 patients were analysed. 146 (47.1%) of them had fulfilled CDR at fourth treatment year. Statistically significant factor for fulfilling CDR was mHAQ at first visit (odds ratio; 0.032, 95% CI; 0.008–0.139) and DAS28-CRP at sixth months (odds ratio; 0.273, 95% CI; 0.112–0.662). The mHAQ score at first visit correlated significantly with age at onset and first visit, patient's global assessment (PGA), CRP, and PS-VAS at first visit, whereas the DAS28-CRP score at sixth month correlated significantly with being male, tenderness joint count (TJC), physician's global assessment (EGA), CRP, and PS-VAS at first visit, and less reduction of TJC, swollen joint count (SJC), EGA, and CRP. Cut off point for each factor was 0 for mHAQ with 100% in sensitivity and 73.5% in specificity, whereas 1.105 for DAS28-CRP with 100% in sensitivity and 55.2% in specificity, which were used with ROC analysis.

Conclusions: These results suggest that treatment with treat-to-target (T2T) strategy, that aims clinical remission in three to six months from starting treatment, is available for attaining CDR. However, T2T is not enough for sustaining CDR in a long term. In order to fulfil and sustain CDR, basic background of the patient, such as age at onset and PGA, CRP, and PS-VAS, and age at first consult, is important factor. Therefore, CDR is not ultimate target at all for every RA patient

Disclosure of Interest: None declared

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AB0230

AN EFFECT OF DAS28 AND PS-VAS ON HAQ-DI SCORE IN RHEUMATOID ARTHRITIS PATIENT

I. Yoshii. *Rheumatology and Musculoskeletal Medicine, Yoshii Hospital, Shimanto City, Japan*

Background: Pain Score with visual analogue scale (PS-VAS) influences on Health Assessment Questionnaire Disease Index (HAQ-DI) in rheumatoid arthritis (RA) patient, as well as 28-joints disease activity score with C-reactive protein (DAS28-CRP). It is also suggested that these two indices have closely correlated and therefore have overlapping effect on HAQ-DI. However, the relationship of these indices for each other is still unclear.

Objectives: Our aim is to clarify what affects most out of the overlap, and what would make influence on when dissociation between the two occurs.

Methods: We have treated 549 RA patients consecutively more than four years. Their HAQ-DI, every component of DAS28-CRP, physician's global assessment (EGA), PS-VAS, and Sharp/van der Heijde Score (SHS) were monitored every 3 months. From these patients studies concerning relationship between the parameters were investigated as follows.¹ The relationship between average DAS28-CRP and average PS-VAS after the third year period was calculated using multivariate linear regression analysis (MLR).² Then residuals of the each parameter from the approximate equation of MLR were calculated. From these residuals, correlation between residual of DAS28-CRP and disease duration (DD), HAQ-DI, age, SHS, physician's global assessment (EGA), number of comorbidities in throughout treatment (Com) was evaluated with MLR.³ Correlation between residual of PS-VAS and DD, HAQ-DI, age, SHS, EGA, and Com was evaluated with MLR.⁴ Correlation between average HAQ-DI and the residuals, patient's DD, age, SHS, EGA, and Com, was evaluated with MLR. In these analyses, statistical significance between parameters were evaluated statistically. Statistical significance was set lower than 1%.

Results: Because of lacking of data, sixty-one cases had discarded, and then 488 cases had been analysed in this study.¹ The approximate equation of the relation between DAS28-CRP and PS-VAS was "DAS28-CRP=1.543+0.1565 * PS-VAS" (R; 0.050, Intercept; $p=0$, PS-VAS; $p=0$) and "PS-VAS=-0.6528+1.63 * DAS28-CRP" (R; 0.5050, Intercept; $p=1.071*10^{-2}$, PS-VAS; $p=0$).² Correlation coefficients of the approximate equation of the correlation between residuals of DAS28-CRP and the other parameters was 0.6398. Parameters that demonstrated within 1% of statistical significance were EGA ($p=0$), SHS ($p=2.962*10^{-6}$), and Com ($p=1.971*10^{-5}$).³ Correlation coefficients of the approximate equation of the correlation between residuals of PS-VAS and the other parameters was 0.4856. Parameters that demonstrated within 1% of statistical significance were Com ($p=9.38*10^{-1}$), HAQ-DI ($p=5.738*10^{-9}$), and SHS ($p=1.594*10^{-7}$).⁴ Correlation coefficients of the approximate equation of the correlation between HAQ-DI and residuals of DAS28-CRP and PS-VAS, and DD, age, SHS, EGA, and Com, was 0.5848. Parameters that demonstrated within 1% of statistical significance were residual of DAS28-CRP ($p=1.256*10^{-6}$), residual of PS-VAS ($p=3.711*10^{-14}$), SHS ($p=7.73*10^{-4}$), and age ($p=2.389*10^{-10}$).

Conclusions: These results suggest that the influence of DAS28-CRP and PS-VAS on the HAQ-DI score works in commonly overlapped. However, residual (the independent part) of DAS28-CRP from PS-VAS on HAQ-DI is not statistically evident. Residual of PS-VAS affects on the HAQ-DI score. SHS and Com affect on both of residuals. The HAQ-DI score is influenced by both of common and independent part of DAS28-CRP and PS-VAS, and SHS and age.

Disclosure of Interest: None declared

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AB0231

HEALTH ASSESSMENT QUESTIONNAIRE DISABILITY INDEX SCORE LESS THAN 0.5 IS NO LONGER TARGET FOR REMISSION IN ELDERLY RHEUMATOID ARTHRITIS PATIENT, BUT IT IS INDEPENDENT FROM COMORBIDITIES

I. Yoshii¹, T. Chijiwa². ¹Rheumatology and Musculoskeletal Medicine, Yoshii Hospital, Shimanto City; ²Rheumatology, Kochi Memorial Hospital, Kochi, Japan

Background: It is well known fact that ageing makes deep influence on Health Assessment Questionnaire (HAQ-DI) score in normalised population. We have suggested that it is also available in rheumatoid arthritis (RA) patient.¹ However, the effect of ageing on the HAQ score is thought to be due to comorbidities.

Objectives: The aim of this study is to investigate the impact of ageing on the HAQ score statistically and to evaluate the correlation between the HAQ score and age.

Methods: We have been treated 516 RA patient for more than 3 years. Patient's Age, HAQ-DI score, 28-joints disease activity score with C-reactive protein (DAS28), Sharp/van der Heijde Score (SvdHS), pain score measured with visual analogue score (PS) were monitored at every another year since first consult (BL). Relationship between HAQ-DI and the other parameters including number of comorbidities (Com) at BL and last observational year period (FU), and their changes from BL to FU were evaluated statistically with multivariate linear regression analysis (MLR). After correction that aimed to minimise effects on the HAQ score of other parameters but age, relationship between the HAQ score and age was also evaluated with MLR. Relationship between age and Com was also evaluated with MLR statistically. Statistical significant level was set within 5%.

Results: After exclusion of cases that lacked data, 441 patients have been analysed for this study. Their average ages at onset, BL, and FU were 60.4, 65.1, and 70.9 years, respectively, and average follow-up term was 5.76 years. Woman's ratio was 75.6%, and their anti-citrullinated cyclic peptide antibodies positive ratio was 77.2%.

At BL, correlation coefficient of the equation (the R-value) in MLR was 0.6251. Factors that demonstrated significant correlation with the HAQ score were PS,