Methods: We evaluated 316 patients with established RA from a single center. Beliefs about the necessity of RA medications and concerns regarding their use were evaluated with the Beliefs about Medicines Questionnaire-Specific (BMQ) Necessity and Concerns scales (range 5-25). Self-reported rheumatoid arthritis treatment adherence was assessed using the Simplified Medication Adherence Questionnaire (SMAQ, range 0-6). Multivariable linear regression evaluated the effects of necessity, concerns and their interactions with adherence. A latent profile analysis (LPA) subsequently classified patients in groups according to patterns of necessity and concerns; adherence scores were then compared across latent groups using ANCOVA.

Results: Full adherence (SMAQ score 6/6) was reported by 101 (32%) patients. Necessity and concerns had independent and opposing contributions to adherence ($\beta=0.21$ and $\beta=-0.28$ respectively, $p<0.001$ and figure 1a) even after adjustments for age, gender and disease duration. An interaction between necessity and concerns with adherence was also observed ($p=0.009$); post-hoc simple-slope tests showed that necessity predicted adherence with increasing concerns. Johnson-Neyman technique revealed that while concerns were significantly associated with adherence across the entire range of necessity scores, necessity was significantly related to adherence only at BMQ Concerns scores ≥ 13 . LPA revealed four latent patient groups: Low necessity/Low concerns (indifferent, $n=33$), Low necessity/High concerns (skeptical, $n=70$), High necessity/High concerns (ambivalent, $n=92$) and High necessity/Low concerns (accepting, $n=121$). Adherence varied across groups even after adjusting for between-group differences ($p=0.002$, Figure 1b); adherence was highest in the accepting group and lowest in the skeptical group.

Conclusion: The relationship between necessity and concern beliefs regarding RA medications significantly influences adherence behavior and may further direct physicians to effectively target their education efforts. A message aimed at reducing concerns might be more effective in the ambivalent subgroup, whereas emphasizing medication necessity may be more fruitful in the skeptical group.

Figure 1. Interaction between Necessity and concerns on medication adherence in RA

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SAT0096

CORRELATION OF GROWTH FACTORS WITH RHEUMATOID ARTHRITIS CLINICAL COURSE INDICATORS

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Background: The evaluation of early destruction markers in rheumatoid arthritis (RA) is of significant clinical importance for improving the patient's life quality. One of the immunological markers of RA early diagnosis and of severe disease is antibodies to cyclic citrullinated peptide (ACCP). Instrumental methods for early diagnosis of RA include the ultrasound of joints. Vascular endothelial growth factor (VEGF) and fibroblast growth factor (FGF) can stimulate the processes of angiogenesis and proliferation, which in turn can increase the infiltration and hyperplasia of synovia, the growth of pannus mass and contribute to the development of bone and cartilage erosions.

Objectives: to establish the correlation of growth factor indicators with markers of the destructive course of rheumatoid arthritis.

Methods: 194 patients with a diagnosis of RA were examined, among the examined patients women prevailed - 86.6%, the age was 47.7 ± 10.22 years. Positive by the presence of ACCP (> 20 U/ml) was 76.8%, and negative - 23.2%. The ELISA in the serum was determined by the concentration of CRP and TNF- α (Vector-Best, Russia), antibodies to cyclic citrullinated peptide (ACCP) (Euroimmun, Germany), VEGF and FGF (BCM Diagnostic, Canada). Ultrasound of the joints was performed by the device "ESAOTE MyLAB40" (Netherlands, 2011) with a linear sensor of 7.5 L 70 (frequency 7.5 MHz), semi-quantitative evaluation of indicators was used: effusion into the joint space (JS), synovial thickness, vascularization of the synovial membrane (SM), the presence of pannus and bone-cartilage erosion.

Results: Direct correlations with CRP and ACCP levels ($p = 0.02$; $p = 0.01$, respectively), TNF α and DAS28 ($p < 0.001$) were established during analysis of the correlation links between VEGF and RA clinical course indicators. Analysis of the correlation of VEGF and ultrasound indices of the joints in the examined patients RA established strong direct links with the JS effusion parameters and the SM vascularization assessment ($p < 0.001$, in all cases), and a direct interaction of weak force with the indicator of pannus ($p = 0.04$) was found. Regression analysis of the dependence of the variability of the SM vascularization assessment on the level of VEGF in the blood showed a sufficient value of the coefficient of determination (0.57), and the data of the normalized index DW = 2.09 reliably indicate the absence of autocorrelation (0.06).

Direct correlations with R $\ddot{o}$ stage ($p < 0.001$) and the rate of CRP ($p = 0.02$) were established during analysis of correlation links of FGF with the RA clinical course. Analysis of the correlation of FGF and ultrasound indices of the joints in the examined RA patients established strong direct correlations with the indicators of the thickness of SM, pannus, and bone-cartilage erosion ($p < 0.001$, in all cases), the direct correlation of weak force ($p = 0.04$) was with the SM vascularization assessment index. Regression analysis of the dependence of the variability of the SM thickness indicator on the FGF blood level showed a sufficient value of the multiple correlation $R^2 = 0.47$. Also showed a regression analysis of the dependence of the variability of pannus and bone and cartilage erosion indices on the FGF blood level ($R^2 = 0.51$; $R^2 = 0.46$, respectively), which evidences the regression line approximation to the observed data.

Conclusion: According to the correlations of VEGF, FGF levels with CRP, ACCP, assessment of synovial vascularization and bone-cartilage erosions - the high levels of VEGF, FGF in the blood can be used as markers of severe destructive course of RA and of the high rate of disease progression, which requires the early aggressive basic therapy of RA with the use of genetically engineered biologic drugs prescription.

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SAT0097

ASSOCIATION BETWEEN PHYSICAL ACTIVITY AND SUBSEQUENT CHANGES IN DISEASE ACTIVITY IN PEOPLE LIVING WITH RHEUMATOID ARTHRITIS

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Background: Various studies have found that rheumatoid arthritis (RA) patients perform less physical activity than the general population, likely due to joint pain and impaired physical function. However, recent studies suggest that physical activity may have a beneficial effect on inflammation and could therefore contribute to reducing RA disease activity. A greater understanding of the relationship between physical activity levels and RA disease activity would be valuable for physical activity counselling of RA patients.

Objectives: The aim of this study was to evaluate the association between baseline physical activity levels and subsequent changes in measures of disease activity in patients with RA using self-reported data.

Methods: We conducted a longitudinal study using 2015-2017 data from an annual survey administered to an RA cohort derived from a population-based cohort for BC originally assembled using physician billing data and a previously validated algorithm. Subjects were grouped into three levels (Low, Medium and High) of physical activity (PA) at the baseline year (2015) according to the specifications of the International Physical Activity Questionnaire. We examined whether physical activity at baseline was associated with a change over time in RA disease activity outcomes