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AB0159 HEALTH RELATED QUALITY OF LIFE AMONG PATIENTS WITH RHEUMATOID ARTHRITIS AT TIKUR ANBESSA SPECIALIZED HOSPITAL. A HOSPITAL-BASED CROSS SECTIONAL STUDY

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Background: Rheumatoid Arthritis (RA) is a chronic disorder associated with substantial morbidity and mortality. Patients with active RA suffer from significant decline in functional capacity and many become work disabled within five years, from onset of symptoms despite treatment. Measurable outcome of these can be done with the help of HRQoL questionnaires. There is a need to study the HRQoL in RA patients, as there is no available data in Ethiopia.
Objectives: This study was conducted to evaluate HRQoL in patients with Rheumatoid Arthritis and factors associated with it.
Methods: A Cross sectional study was conducted at Rheumatology Clinic in Tikur Anbessa specialized Hospital, Addis Ababa, Ethiopia from June1 to October 31. Data was collected using a structured interviewer administered questionnaire and data extraction form. Data was entered and it was analyzed using SPSS Version 26. To identify associated factors in Health related quality of life of patients with rheumatoid arthritis, bivariable and multivariable analysis were done. Statistical significance was considered at 5%, and beta weight with 95% confidence interval was used to present the estimates of the strength of the association.
Results: A total of 213 participants were included in this study. The mean age of participants was 44.7(±14). Majority 191(89.7%) of participants were female. In this study all the 8 domains of RAND 36 are reduced. The mean value of two scales from physical component and one scale from the mental component are below 50. These are Role limitation due to physical problems, General Health Perception and Role limitation due to emotional problems. Both summary score are affected with the PCS more affected than MCS. The multivariable analysis identified rural residence and modified health assessment questionnaire score as factors associated with PCS. For each shift of a patient from urban to rural residence, the PCS decreases by 9.1. For each one score increase in modified health assessment questionnaire score, the PCS score decreases by 26.25. Whereas factors associated with MCS are rural residence, adherence score, MHAQ score, peptic ulcer disease, and rheumatoid nodule. For each shift of residence from urban to rural, the MCS decreases by 15.2 . For each one score increase in adherence score, the mental component score increases by For each one score increase in MHAQ score, the MCS decreases by 14.3. For each shift of peptic ulcer disease from absent to present, the mental component score decreases by 16.Finally, for each shift of rheumatoid nodule from absent to present, the MCS by 20.8.
Conclusion: This study showed that Rheumatoid Arthritis has a significant effect on the Health Related quality of life of patients. Rural residence and functional disability was the most influencing factor on both the physical and mental function. Routine assessment of the Health Related quality of life in those patients is recommended to detect and monitor the impact of the disease and its medications on different aspects the patient's life.
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AB0160 THE RELATIONSHIP BETWEEN THE LEVEL OF FETUIN-A AND LABORATORY MARKERS OF CONNECTIVE TISSUE DESTRUCTION IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: It is known that there are biochemical markers of cartilage and bone tissue destruction, which reflect the metabolic processes occurring in tissues. For example, in rheumatoid arthritis (RA), routine markers such as CTX-I, a bone degradation marker (C-terminal telopeptide of type I collagen) and CTX-II, a cartilage degradation marker (C-terminal telopeptide of type II collagen), can be used. Also, to assess the state of cartilage tissue, the determination of type II collagen fragments by Urine CartiLaps is widely used, which allows not only primary diagnosis, but also dynamic monitoring of metabolic processes.
Objectives: The aim of our research was to study the relationship between the level of fetuin-A (FeA) and laboratory markers of bone and cartilage tissue degradation in the blood serum of patients with RA.
Methods: We observed 110 patients with a verified diagnosis of RA, the control group consisted of 30 practically healthy individuals without joint diseases. The group of patients with RA and the control group were comparable in terms of age (p=0.083), gender (p=0.116), BMI (p=0.302). The diagnosis of RA was based on the clinical classification adopted at the EULAR/ACR in 2010. The level of FeA in the blood serum was determined once by enzyme immunoassay using commercial test systems (Human Fetuin-A ELISA Biovender Cat No. 191-0371).
Results: We have assessed the FeA level in the group of RA patients and healthy donors. The normal level of FA in healthy individuals, calculated as M±2σ, ranged from 653.55 μg/ml to 972.19 μg/ml. FeA level was normally distributed (K-S d=0.062, p>0.2). We also studied the relationship between indicators of bone metabolism and the concentration of FeA. In patients with normal FeA levels (n=87), the mean CTX-1 level was 35 ng/mL; in patients with reduced FeA levels (n=23), the mean CTX-1 level was 51 ng/ml (t=-2.42 p =0.016). Thus, with a decrease in the FeA level, CTX-I (an indicator of osteodestruction) tended to increase.
Next, we analyzed the relationship between low and normal levels of FeA and the Cartilaps/urine creatinine ratio using intragroup analysis methods. In the group with low FeA level Cartilaps/urinary creatinine was 598.9±223.72 μg/mmol versus 481.17±226.93 μg/mmol in the group with normal FeA level (Z=-2.311; p=0.021). Our data probably allow us to associate the FeA level with the rate of cartilage tissue destruction.
Conclusion: Considering that the levels of laboratory markers of cartilage and bone collagen degradation Cartilaps and CTX-I were statistically lower in the presence of an elevated serum level of FeA, we can conclude that FeA has chondro- and osteoprotective properties. It can also be assumed that the level of this marker can be used to predict the rate of cartilage destruction in patients with RA, but this issue requires further study.
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AB0161 THE RELATIONSHIP OF TRYPTOPHAN CATABOLISM WITH RHEUMATOİD ARTHRITIS DİSEASE ACTİVİTY ABSTRACT

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Background: Tryptophan (Trp) is an essential amino acid. The immunosuppressive effect caused by Kynurenine (Kyn) and its metabolites formed by the catabolism of Trp is thought to be an important physiological mechanism.
Objectives: This study aims to evaluate the relationship of Kyn and its metabolites formed in Trp catabolism with rheumatoid arthritis (RA) disease activation and to investigate the usability of these markers in the diagnosis and treatment of RA.
Methods: 50 RA patients followed in our rheumatology clinic and 41 healthy controls without chronic disease were included in this study. Disease Activity Score 28 (DAS28) was used to evaluate the association of Kyn metabolites and Indolamine 2,3 dioxygenase (IDO) enzyme activity with RA disease activity. The task of this enzyme is to provide Kyn formation with Trp catabolism.
Results: In this study, lower Trp levels were found in the RA group compared to the control group (11285.47±2318.93-13320.31±3771.27, respectively) compared to the Trp mean (p<0.01). In terms of the Kyn/Trp ratio, a significantly higher Kyn/Trp ratio (4.42±1.77-3.27±0.71, respectively) was found in the RA compared to the control group (p<0.001). There was no significant difference between the study groups in terms of Kyn averages (p>0.05). A significant correlation was found between Trp levels and morning stiffness (r: -0.321, p<0.05) and the DAS28 score (r:-0.566, p<0.01). A significant positive correlation was found between the Kyn/Trp ratio and C-reactive protein (r:0.317, p<0.05), sedimentation (r:0.319, p<0.05), morning stiffness (r:0.287, p<0.05) and DAS28 score (r:0.322, p<0.01).

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Table 1. Comparison of study parameters between RA and control group.

Parameter	Rheumatoid arthritis	Control group	P-Value
Tryptophan (ng/ml)	**11285,47±2318,93**	13320,31±3771,27	**<0.01**
Kynurenine (ng/ml)	477,68±158,38	437,51±162,10	>0.05
Kyn/Trp ratio	**4,42±1,77**	3,27±0,71	**<0.001**

All values were expressed as mean ± SD. All values were calculated using independent sample t-test for normal distribution.

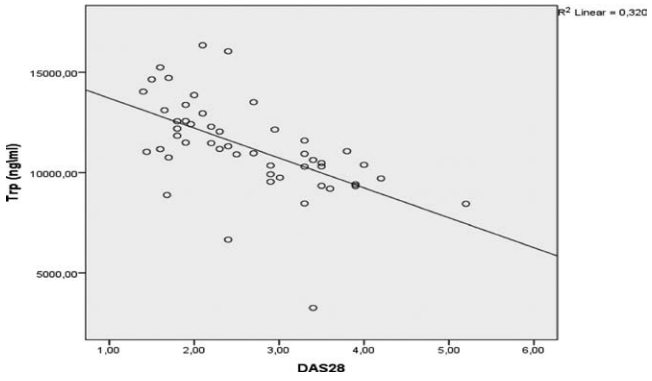

Figure 1. Correlation relationship between DAS 28 and Trp levels (r: -0,321, p < 0.01)

Conclusion: In this study, we observed that RA has a significant relationship with Trp levels and Kyn/Trp ratio. In addition to the literature, we found that RA activation indicator DAS28 score and Kyn/Trp ratio and Trp level showed a statistically significant correlation. Our study has shown that the Trp catabolic pathway can be an important field of study for more effective and safe treatment of RA.

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Trp: Tryptophan, DAS28: Disease Activity Score

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AB0162 PREDICTION OF TREATMENT DISCONTINUATION DUE TO ADVERSE EVENTS IN PATIENTS WITH RHEUMATOID ARTHRITIS USED BIOLOGICAL DMARDS AND TARGETED SYNTHETIC DMARDS

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Background: The main goal of rheumatoid arthritis (RA) patients therapy is to achieve low activity or remission of the disease (T2T strategy). However, it is sometimes necessary to interrupt effective treatment due to the development of adverse events.
Objectives: To reveal predictors of target drug withdrawal due to adverse RA.
Methods: The study includes patients with RA used bDMARDs, total 1217 treatment events. Search for predictors was carried out in two steps. At the first step were selected variables which demonstrated significant correlation with time to treatment discontinuation in Kaplan-Meier analysis. At the second step selected factors were included in the Cox regression model. The final set of independent significant predictors was obtained by backward stepwise variable selection.
Results: Of 661 patients 85,8% were women, the mean age of onset disease 58,7 ± 12,9 years, the mean disease duration 14,6 years. The longest mean time till withdrawal due to adverse events had Abatacept, Toficitinib, Tocilizumab, the shortest time had Infliximab. There were 146 cases of therapy discontinuation due to adverse events. The side effects that caused the cancellation of treatment were: infections of respiratory system, skin, urinary system, allergic and infusion reactions, drug-induced hepatitis, changes in the hematopoietic system, death and other. Presence of rheumatoid nodules (p < 0.001), higher doses of glucocorticoids (p<0.001), lower doses of methotrexate (p = 0.009) were independent significant predictors of increased risk of bDMARDs withdrawal due to adverse events. Used target drug also showed independent significant correlation with this risk. Relative risk (compared to Etanercept) was for Infliximab - 6.57 (CI: 3.69-11.73), Certolizumab pegol - 2.61 (CI: 1.23-5.56), Abatacept - 1.23 (CI: 0.65-2.30), Adalimumab - 1.37 (CI: 0.75-2.50), Rituximab - 0.56 (CI: 0.26-1.20), Tofacitinib - 0.46 (CI: 0.15-1.40), Tocilizumab - 0.77 (CI: 0.37-1.60).
Conclusion: Growth glucocorticoid doses for every 1 mg increases the risk of discontinuation of therapy by 8.7%. Reducing the methotrexate doses for every 1 mg increases the risk of discontinuation of bDMARDs and tsDMARDS by 3%. There are significant differences between target drugs for the risk of cancellation due to adverse events. High risk of infliximab discontinuation was associated more with infusion reactions and infection, discontinuation of certolizumab pegol was associated with infection.

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[1] The identified predictors for the treatment withdrawal due to side effects may be discussed to identify measures necessary to prevent adverse events in patients with RA who are using bDMARDs and tsDMARDs. These measures are: the use of full doses of methotrexate, avoid long-term use of glucocorticoids, or prescription of the targeted drug with lower risk of adverse events.

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AB0163 SERUM LEVELS OF CHEMERIN IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Chemerin (Ch) is one of the relatively new representatives of adipokines. Numerous studies have shown that adipokines are actively involved in inflammation and immune responses in rheumatoid arthritis (RA) [1]. Data have been obtained, on the basis of which it can be assumed that an increase in the level of Ch in the blood serum in patients with certain systemic diseases is associated with systemic inflammation [2, 3].
Objectives: The aim of the work was to study the level of chemerin in blood serum in a group of healthy donors and patients with RA.
Methods: The group of patients included 92 patients diagnosed with RA, corresponding to the diagnostic criteria developed by ACR and EULAR (2010). The age of the surveyed ranged from 18 to 75 years. The average duration of the disease was 11 years [(Me) [3(25%);16(75%)]. The control group consisted of 30 practically healthy persons aged 26 to 62 years. The group of patients with RA and the control group were comparable in age (p=0.089) and gender (p=0.121). Serum chemerin levels were determined using the commercial HUMAN CHEMERIN ELISA kit (BioVendor, Cat. No.: RD191136200R) according to the instructions provided.
Results: The level of the normal Ch value in healthy individuals ranged from 134.7 μg/ml to 241.6 ng/ml. The average Ch level in RA patients (calculated as M±2σ) was 462.6±159.82 ng/ml, which is significantly higher than in healthy donors — 169.9±43.47 ng/ml (t=-10.49; p<0.0001). The Ch level was normally distributed (K-S d=0.10653, p>0.2). We also found a moderate correlation between the Ch level and the age of patients with RA (r=0.232008, p<0.05).

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