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AB0114 INVESTIGATION OF THE EFFECTS OF EXERCISE ON MIRNA EXPRESSIONS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: The goal of treatment for patients with RA is achieve to remission, or at least a state of low disease activity. Exercise is recommended for patients with RA in addition to drug therapy. It has been found to be effective in greatly improving functionality and reducing cardiovascular risk without exacerbating disease activity. Therefore, it is recommended that all RA patients should be encouraged to include aerobic and resistant exercise training as part of their routine treatment (1).

miRNAs(miRNA) are known to protect the pathophysiological process specific to RA. miRNA-146a is one of the miRNAs extensively studied in RA, its expression was found to be higher in the synovial fluid and synovial tissue of RA patients compared to healthy individuals (2).

Many studies have found that miRNA-146a, along with miRNA-16 and miRNA155 may be related to disease pathology. It has also been found that high levels of miRNA-16 expression correlate with active disease and low levels of expression with inactive disease. It has been found that the increased level of miRNA-155 causes a problem in the modulation of arthritis It has been found that the expression level of miRNA-145 is increased in peripheral blood mononuclear cells of RA patients and synovium supporting osteoclastogenesis (3,4,5).

Objectives: It is aimed to investigate the effect of exercise on microRNA expressions in patients with rheumatoid arthritis (RA).

Methods: 30 patients and 30 healthy controls aged 18-60 years who met the 2010 ACR / EULAR RA criteria were included in the study. A program consisting of strengthening and stretching exercises 2 days a week was applied to the study group for 8 weeks. One day a week, 30 minutes of mild moderate walking was requested. Of the cases at the beginning and at the end of the treatment; 5-10 cc peripheral blood samples were taken into one EDTA tube. Then Numeric Rating Scale (NRS) was used for pain, 28-joint Disease Activity Score (DAS28) was used to calculate disease activity, Health Assessment Questionnaire (HAQ) was used to assess general health and Short Form-36 (SF-36) was used to evaluate quality of life. 5-10 cc peripheral blood samples were taken to only 1 EDTA tube of the control group. In the samples taken, gene expressions of miRNA-146a, miRNA-155, miRNA-16, miRNA-145 were determined by real-time PZR method.

Results: There was a significant difference in DAS28, SF-36, NRS, HAQ scales before and after treatment in the RA group of patients (p 0.05). The expression level of MiRNA-146a does not differ significantly before and after treatment (p> 0.05). However, these two groups differ significantly with the control group (p 0.05). No significant difference was observed in the miRNA-155 and miRNA-16 expression levels in the pretreatment, posttreatment, and control groups (p> 0.05).

Conclusion: Exercise therapy has a good effect on pain, disease activity, quality of life and general health in patients with RA. It has been found that exercise can affect vii some of the miRNAs involved in disease pathogenesis. However, more comprehensive studies are needed.

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AB0115 COMPARISON OF ULTRASOUND FINDINGS BETWEEN TNF INHIBITORS AND NON-TNF INHIBITORS AT FIRST BIOLOGICS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: In rheumatoid arthritis (RA), biologics treatment is one of the effective treatment options. Usually, there is no difference in therapeutic effect regardless of which biologics is used, but the effect for joint synovitis is unknown. Recently, ultrasound (US) has played a role of sensitive imaging modality in the diagnosis and follow-up of patients with RA.

Objectives: The aim of this study was to compare the improvement of US findings between TNF inhibitors and non-TNF inhibitors at first biologics in patients with RA.

Methods: Fifty-four RA patients who started the first biologics from September 2016 to December 2018 were included in this longitudinal study (SPEDY study, UMIN000028260). All the patients were performed clinical examination, blood test and US examination at baseline, 4, 12, 24, 36 and 52 weeks. A US examination was performed at the bilateral first to fifth metacarpophalangeal (MCP) joints, first interphalangeal (IP) and second to fifth proximal interphalangeal (PIP) joints, wrist joints (three part of radial, medial and ulnar) and first to fifth metatarsophalangeal (MTP) joints, by using HI VISION Ascendus (Hitachi Medical Corporation, Japan) with a multifrequency linear transducer (18-6 MHz). The gray scale (GS) and power Doppler (PD) findings were assessed by the semi-quantitative method (0-3). GS score and PD score (both 0-108 points) were defined as the sum of each score. The change of disease activity and US findings were compared between TNF group and non-TNF group.

Results: Among 54 cases, 32 patients were used TNF inhibitor and 22 were non-TNF inhibitor. Age and duration of RA were significantly higher in the non-TNF group, and MTX dose was significantly lower in the non-TNF group. The baseline inflammatory markers tended to be higher in the non-TNF group and the disease activity was also higher in the non-TNF group. However, the US findings showed no significant difference in both GS and PD between two groups at baseline. US improvement ratio was no difference between TNF group and non-TNF group at 4, 12, 24, 36 and 52 weeks in both GS and PD score. Regardless of the type of biologics, patients with long-term disease duration tended to have poor improvement in US synovial findings.

Table 1. Baseline patient and disease characteristics

	TNF (n=32)	non-TNF (n=22)	P value
Female patients, n (%)	21 (65.6)	16 (72.7)	0.767
Age (years)	63.5±15.4	71.0±9.0	0.030
Disease duration (years)	6.5±8.2	13.0±11.7	0.032
CRP (mg/dl)	1.8±2.5	3.0±3.2	0.170
DAS28-ESR	5.0±1.4	5.8±1.2	0.022
GS score	26.1±18.8	31.8±21.1	0.313
PD score	17.6±11.4	23.1±14.6	0.150

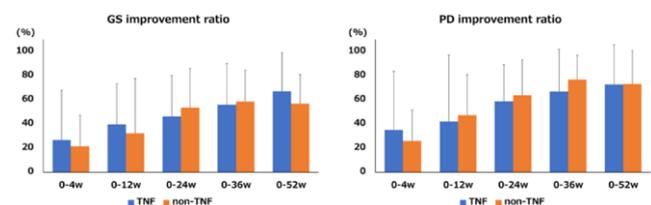


Figure 1. GS and PD improvement ratio at 4, 12, 24, 36 and 52 weeks