Conclusions: The rheumatoid foot alters function. It causes disability which is related to foot pain, rearfoot podiatric abnormalities and disease activity.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.5508

AB0253 | **TIPS ON SELECTION OF BIOLOGICS FOR PATIENTS WITH RHEUMATOID ARTHRITIS BASED ON TREATMENT PATTERNS**

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Background: The emergence of biologics has led to innovation in the treatment of rheumatoid arthritis (RA). In the clinical setting, biologics are administered with careful consideration of complications and medical history in accordance with the treat-to-target recommendations. However, the progression of joint damage, the costs incurred before finding an effective biologic are serious concerns. It is therefore desirable to use biologics with long-term efficacy and less financial burden from the early stage.
Objectives: Participants were RA patients treated with one of three biologics having different mechanisms of action who achieved therapy targets with long-term treatment efficacy and consequently achieved either reduction or withdrawal of therapy. Patients' background characteristics and long-term treatment patterns were evaluated.
Methods: Between November 2004 and October 2016, 196, 57, and 85 RA patients were treated with etanercept (ETN), tocilizumab (TCZ), and abatacept (ABT), respectively, in first- or second-line therapy. These patients were divided into the continuation group, who underwent therapy with the same agent for ≥ 3 years without disease flare (DAS28-ESR >3.2) persisting 3 months, and the discontinuation group, who experienced primary failure resulting in discontinuation of the therapy within 3 months. Student's t test or Mann-Whitney's U test were used to compare patients' background characteristics between the two groups for each biologic. Further, log-rank test and Steel-Dwass test, respectively, were used to compare therapy continuation rates and reasons for discontinuation among the three biologics. Finally, relative dose intensity (RDI) was calculated to evaluate the treatment patterns of the individual biologics.
Results: The Kaplan-Meier method showed that the 3-year continuation rates of therapy with ETN, TCZ, and ABT were 54.2%, 23.8%, and 35.8%, respectively: the continuation rate of ETN was significantly higher than that of the other two agents. The numbers of patients treated with ETN, TCZ, and ABT were respectively 46, 9, and 14 in the continuation group and 16, 12, and 11 in the discontinuation group. The proportion of patients treated with ETN plus concomitant MTX was significantly higher in the continuation group than in the discontinuation group (P=0.0057). No significant differences were found in patients' background characteristics (disease duration, rheumatoid or anti-cyclic citrullinated peptide positivity, number of biologics previously used, and DAS28-ESR). Mean RDI values (median value, 95% confidence interval) over a 3-year period were as follows: 0.95 (0.92, 0.83–1.06) for 25 mg/week ETN therapy; 0.78 (0.90, 0.66–0.89) for 50 mg/week ETN therapy; 0.84 (0.84, 0.76–0.89) for TCZ therapy; and 0.87 (0.94, 0.79–0.95) for ABT therapy. The cumulative costs for 3 years of the respective treatments were 19,700, 32,200, 27,300, and 39,000 euros (1 euro =115 Japanese yen). After targets were reached, the dose of ETN was maintained at 25 mg/week or reduced from 50 mg/week, while the TCZ and ABT therapies were continued over the long term with a longer dosing interval.
Conclusions: Treatment with ETN plus concomitant MTX showed high continuation rates, and long-term achievement of therapy targets was maintained at a lower dosage (and thus, lower costs). It is beneficial to choose this method over non-TNF inhibitors.
Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.1146

AB0254 | **COMPARISON OF DYNAMIC PEDOBAROGRAPHIC FINDINGS BETWEEN RHEUMATOID ARTHRITIS PATIENTS AND HEALTHY INDIVIDUALS**

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Background: Foot involvement happens early in RA patients and situation becomes ugly and painful rather very fast. There is a blank gap between starting of foot involvement and the time where patient needs surgical intervention for correcting the damages done by RA. No guideline exists for determining when and what we can do in these patients to detect and prevent the changes or at least reduce their damages.(1)
Objectives: 1. Evaluating foot pressure changes by pedobaroghy:
- comparing maximum force/peak pressure distributed in different regions of foot between RA patients and healthy individuals.
- comparing maximum force/peak pressure distributed in different regions of foot between men and women.
- determining effects of aging on maximum force/peak pressureby comparing them between two age groups.

- determining effects of duration of RA on force/peak pressure in RA patients.
2. Evaluating radiologic findings in symptomatic RA patients and comparing them with pedobarographic findings.
3. Evaluating and comparing quality of life in RA patients and healthy individuals with SF36 questionnaire.
Methods: 90 RA patients and 45 healthy individuals were chosen and entered this research. Patients divided into two groups: 45 patients without any previous foot symptoms, 45 with foot symptoms. All these groups underwent dynamic pedobarography with Novel emed pedobargraphy.
We took foot and ankle X-rays for symptomatic group.
Based on Larsen score, symptomatic patients were divided into individuals with and without radiologic changes.
Results: There was a significant difference in total maximum force between patients and healthy individuals; healthy individuals had lesser amount of maximum force in different parts of their feet compared to RA patients.
Fore foot region endured the most amount of maximum force and pressure in all three groups with no significant difference between groups.
RA patients both symptomatic and asymptomatic had more force and pressure upon their midfoot regions compared to the healthy group p-value:.000.
Since we excluded patients with severe deformities and those who couldn't walk alone from the study, and our cases were relatively in early stages of disease, we didn't find any significant difference in pressure or force between symptomatic patients with and without radiographic findings. This can be explained by the fact that foot pressure alteration detectable in pedobarography is already begun in all patients with foot symptoms but radiologically evident pathologies had not happened yet.
Conclusions: RA has considerable effect on patients' feet along with other physical and mental issues. While conventional radiologic methods has a limited eficacy in predicting and diagnosing the pathologic changes in foot region, pedobarography can easily shows these changes in foot pressure values and can be used to detect RA patients that need simple interventions like using proper insoles to prevent surgical interventions
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Disclosure of Interest: None declared
DOI: 10.1136/annrheumdis-2017-eular.4445

AB0255 | **EVALUATION OF KINESIOPHOBIA IN PATIENTS WITH RHEUMATOID ARTHRITIS AND ANKYLOSING SPONDYLITIS**

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Background: Fear avoidance behavior which is caused by painful injury resulting precision and extreme fear is defined as kinesiophobia. Rheumatoid arthritis (RA) is a chronic, inflammatory and systemic disease with symmetrical arthritis and visceral involvement. Ankylosing spondylitis (AS) is a chronic, inflammatory disease with involvement of the spine or peripheral joints.
Objectives: In our study, we aimed to evaluate the relationships between kinesophobia and disease activity, quality of life (QoL), level of physical activity and emotional status in RA and AS patients.
Methods: We included 42 patients with RA (8 males-M, 34 females-F) (group 1), 49 patients with AS (34 M, 15 F) (group 2) and 29 healthy controls (9 M, 20 F) (group 3) in our study. The QoL was assessed using the health assessment questionnaire (HAQ), kinesiophobia was assesed with Tampa scale of kinesiophobia (TSK), pain was assesed with visual analog scale (VAS), fatigue was assesed with VAS and emotional status was assesed with Beck depression inventory (BDI). Disease activity was assesed with Bath ankylosing spondylitis disease acitivity index (BASDAI) and functional status was assesed with Bath ankylosing spondylitis functional index (BASFI) in patients with AS. Disease activity was assesed with DAS28 in patients with RA.
Results: The mean age was 46.2 in group 1, 43.2 in group 2 and 40.17 in group 3. There was no difference among groups with respect to mean age (p>0.05). Kinesiophobia was present in 37 patients in group 1, 22 patients in group 2 and 7 patients in group 3. Statistically significant differences were found among groups

Table 1. Baseline features of the patients of AS and RA and healthy controls

	Group 1	Group 2	Group 3
Age	46,2±11,47	43,2±10,73	40,17±7,77
Gender (F/ M)	34/8	15/34	20/9
VAS*	47,02±24,42	32,44±26,75	1,72±4,68
TKS**	44,73±7,26	36±12,03	29,58±9,37
Fatigue (VAS)†	55,47±24,31	36,93±27,70	37,93±20,59
HAQ‡	0,73±0,83	0,43±0,41	0,06±0,19
BDI§	14,17±9,49	12,23±9,63	5,25±6,13

*p=0.008 between group 1 and 2; p<0.001 between group 2 and 3; p<0.001 between group 1 and 3. **p<0.001between group 1 and 2; p=0.023 between group 2 and 3; p<0.001 between group 1 and 3. †p<0,05 between group 1 and 2; 2 and 3; 1 and 3. ‡p=0.039 between group 1 and 2; p=0.021 betwen group 2 and 3; p<0.001 between group 1 and 3. §p>0.05 between group 1 and 2; p=0.004 betwen group 2 and 3; p<0.001 between group 1 and 3.

with respect to the number of patients with kinesiophobia and to mean scores of pain intensity, fatigue, HAQ and BDI (p<0,05-<0,001). Patients with RA had higher rates of kinesiophobia than patients with AS and healthy controls (p=0.001, p=0,001). Patients with RA had worser scores than patients with AS and healthy controls. Patients with AS had worser scores than healthy controls. In patients with RA and AS, kinesiophobia is associated with pain severity, fatigue, emotional status and QoL.

Conclusions: In our study, patients with RA and AS had higher rates of kinesiophobia. We found that kinesiophobia was related with pain severity, fatigue, depression, disease activity and QoL of the patients. The QoL can be improved through controlling kinesiophobia by reducing pain, depression and fatigue.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.6163

AB0256 **SERUM AND SYNOVIAL KYNURENIC ACID CONCENTRATION AND ITS CORRELATION WITH DISEASE ACTIVITY IN PATIENTS WITH RHEUMATOID ARTHRITIS: CLINICAL AND ULTRASONOGRAPHIC STUDY**

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Background: Rheumatoid arthritis (RA) is a chronic inflammatory disease. kynurenic acid has anti-inflammatory effects, because it is the most important agonist of the orphan G-protein-coupled receptor (GPR35) which expressed on various types of cells associated with the immune system. Stimulation of these receptors by kynurenic acid lead to reduction in the synthesis of proinflammatory cytokines, nitric oxide, and reactive oxygen species (1).

Objectives: Detection and quantification of kynurenic acid in serum and synovial fluid obtained from the affected joints in patients with rheumatoid arthritis and its relation to different clinical aspects of disease activity and signs of synovitis and synovial hyperplasia detected by musculoskeletal diagnostic ultrasound.

Methods: Thirty RA patients diagnosed according to ACR and EULAR revised criteria and thirty patients of idiopathic knee osteoarthritis as a control group were enrolled in the study. These patients were collected from outpatient clinic of rheumatology department Benha Teaching Hospital. Kynurenic acid was assessed in Serum samples from all patients and controls coupled synovial fluid samples aspirated from knee joint of all RA patients and fourteen OA patients after musculoskeletal ultrasonographic examination of these joints.

Results: Serum and synovial level of kynurenic acid was assessed in the studied groups. Comparison between RA and OA patients as regard serum kynurenic acid showed no differences where it's level was *29.80±13.86 pg/ml in RA versus 30.98±11.03 pg/ml in OA patients)*, while synovial kynurenic acid was significantly lower in RA 16.38±6.45 pg/ml than in OA patients 26.22±2.99 pg/ml ($p<0.001$). kynurenic acid was significantly lower in synovial fluid (16.38±6.45 pg/ml) than in serum (29.80±13.86 pg/ml) in RA group of patients ($p<0.001$). Comparison among different grades of synovitis detected by grey scale U/S and by Doppler signals in RA patients as regard synovial kynurenic acid showed that it was significantly lower in higher grades of synovitis ($P<0.001$). Synovial kynurenic acid level was negatively correlated with grades of synovitis and Doppler signals ($p<0.001$).

Conclusions: The negative correlation between Kynurenic acid concentration in the synovial fluid and both the synovial thickness detected by ultrasonography and the hyperaemia of synovial tissues as represented by the Doppler activity, may support its use as a local marker of the two faces of rheumatoid arthritis (chronicity and activity) at the joint level.

To the best of our knowledge, this is the first study that gives correlation between the serum and synovial levels of kynurenic acid concentrations and the grade of synovitis detected by grey scale and Doppler ultrasonography.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.2198

AB0257 **SCREENING OF DIFFERENTIALLY EXPRESSED SERUM PROTEINS FOR RHEUMATOID ARTHRITIS BY SURFACE-ENHANCED LASER DESORPTION/INIONATION-TIME OF FLIGHT-MASS SPECTRA**

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Background: RA is a chronic inflammatory rheumatic disease, and early diagnosis and treatment can improve prognosis[1].Surface-enhanced laser parsing ionization/time of flight mass spectrometry (SELDI-TOF-MS) combining a protein chip and mass spectrometry technology own the advantages of low dosage of samples, direct point sample detection and high sensitivity.

Objectives: SELDI used to profile and compare the proteomes in serum samples of RA patients including complicated with Sjogren's syndrome (SS),

interstitial lung disease (ILD). Using Biomarker Wizard software and Biomarker Pattern Software established diagnostic model, and calculate sensitivity and specificity,which can simplify clinical procedures, save medical costs and explore the pathogenesis.

Methods: Using the Biomarker Wizard and Biomarker Pattern software to establish the diagnosis prediction model to predict RA disease progression between the following groups, including simple RA patients (n=44) and RA-SS patients (n=18), RA patients (n=44) and RA-ILD (n=22), RA patients (n=44) and RA-ONFH (n=6). Also 96 RA patients and 77 healthy control, which were randomly allocated to the training set (83 RA patients and 56 healthy controls) and test set (14 RA patients and 20 healthy controls)to develop and verify a pattern by means of decision treealgorithm.

Using the Biomarker Wizard and Biomarker Pattern software to establish the diagnosis prediction model to predict RA disease progression between the following groups, including simple RA patients (n=44) and RA-SS patients (n=18), RA patients (n=44) and RA-ILD (n=22). Also 96 RA patients and 77 healthy control, which were randomly allocated to the training set (83 RA patients and 56 healthy controls) and test set (14 RA patients and 20 healthy controls)to develop and verify a pattern by means of decision treealgorithm.

Results: 1. Comparison of RA patients and healthy controls: there are 22 up-regulated expression in RA, 36 down-regulated. The diagnostic model of M/Z3448.857,4716.712,8214.285 and 10645. The sensitivity and specificity is 91.566% and 92.857%, the area under the ROC curve was 0.937, to verify the diagnosis model, we get a sensitivity of 100% and a specificity of 95%. 2. Comparison of the simple RA and RA -ILD. The diagnostic model of M/Z10645.1, M/Z12595.86. The sensitivity and specificity is 86.4% and 84.1% and the area under the ROC curve was 0.856.3. Comparison of the simple RA and RA -SS: The diagnostic model of M/Z6635.623, M/Z33897.72. The sensitivity and specificity is 77.8% and 79.5% and the area under the ROC curve was 0.794.

Conclusions: The serum protein fingerprinting by SELDI-TOF-MS could identify new biomarkers in RA. The biomarkers may play an important role in pathogenesis of RA. We could diagnose RA in early stage, predict disease progression and determine disease activity by these biomarkers.

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Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2017-eular.3698

AB0258 **AGE AND QUALITY OF LIFE AMONG RHEUMATOID ARTHRITIS PATIENTS TREATED WITH BIOLOGIC AGENTS**

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Background: Rheumatoid arthritis (RA) is a common autoimmune disease of unknown etiology which is characterized by symmetric, chronic inflammatory, peripheral polyarthritis. If it is untreated or unresponsive to therapy, inflammation and joint destruction lead to loss of physical function, inability to carry out daily tasks of living.

In addition to problems related to pain and inflammation, patients with RA are also affected by psychological problems such as anxiety and depression.

It has been a while since, the biologic agents have let RA patients to early remmision, and improved their Quality of life (QOL).

A few studies show relevance between age and QOL among RA patients. Lambert et al. found that age was positively correlated with pain, indicating that increasing age made the situation worse.

Objectives: This study aimed to assess the relationship between age and QOL of RA patients who has been treated with biologic agents.

Methods: 149 RA patients who treated with biologic agents at Showa University Hospital, Showa University Northern Yokohama Hospital and Showa University Koto Toyosu Hospital were recruited from 2005 to 2016. This study design was retrospective cohort study. Loss to follow-up was eliminated. The patients were divided into two groups, whose age was 65 years old and over (elderly) and under 65 (adults). The primary outcome was the change of QOL in 6months'. QOL was measure using SF-36, and we use physical component scale (PCS) and mental component scale (MCS). Logistic regression analysis was performed.

Results: Among 149 RA patients, the mean age was 57 years old and 85.9% was female. 92 out of 149 patients (61.7%) were adult group and 57 (38.3%) were elderly group. Adjusted with sex, disease duration, DAS28-ESR, HAQ, and with or without complications which are interstitial lung disease, diabetes mellitus, and chronic kidney disease, there was no significant difference in change of MCS in 6 months'. But those of PCS was significantly higher in adult's group (regression coefficients -7.25; 95% Confidence Interval (CI) -11.7 to -2.77; p=0.0018).

Conclusions: There is a possibility that, younger patient who suffers with RA could achieve better quality of life than those of elderly patients after treatment with biologic agents.