Background: Rheumatoid Arthritis (RA) and Psoriatic arthritis (PsA) are both chronic, progressive inflammatory arthritis that can cause significant disability and morbidity. Depression in RA has been associated with higher levels of disease activity, pain, fatigue, work disability, lower treatment compliance and increased suicidal risk and mortality [1]. PsA patients suffer from psoriasis and joint involvement; hence have greater odds of depression by 2.1 times compared with RA [2].

Objectives: To compare the prevalence rates of depression and anxiety and its associated factors between RA and PsA patients in Hospital Putrajaya.

Methods: A cross sectional survey using the Hospital Anxiety and Depression Scale (HADS) questionnaire were distributed to 300 patients who attended rheumatology outpatient clinic from February – April 2019. The HADS was categorized into 3 groups based on their scores 0-7 (Normal); 8-10 (Borderline); and 11-21 (Abnormal). Data on patient demographics and components of disease assessment scores were recorded. Disease activity was assessed using DAS 28-CRP for all patients. Additional evaluation using Bath Ankylosing Spondylitis Disease Activity Score (BASDAI) and body surface area (BSA) were done for PsA patients. P value of < 0.05 was taken as significant.

Results: In total, 205 RA and 73 PsA patients were eligible for analysis. Majority of the patients were female, Malay and married for both groups. The mean age group for RA and PsA were 56.2 ± 11.9 years and 51.0 ± 14.6 years. The mean duration of disease for RA were 8 ± 10 years; while for PsA were 6 ± 11 years. The prevalence rates of depression and anxiety for RA were 8.3% and 13.7%; and PsA were 9.6% and 17.8% respectively. Borderline scores for depression occurred in 16.1% of RA patients and 12.3% for PsA. Twenty percent of RA patients (n=41) and twenty-four percent of PsA patients (n=18) scored borderline for anxiety. The significant positive correlations with depression and anxiety in RA include high disease activity scores ($r = 0.27$; $r = 0.31$), number of tender joints ($r = 0.26$; $r = 0.24$) and pain ($r = 0.29$; $r = 0.27$). Higher number of swollen joints significantly correlated with depression ($r = 0.16$) but not with anxiety. RA patients with Ischaemic Heart Disease (IHD) $\pm$ heart failure have higher depression scores ($p < 0.05$). As for PsA group, high BASDAI score (anxiety: $r = 0.34$, depression: $r = 0.26$) and psoriasis involving head and neck region ($p < 0.05$) were significant associated factors. Age was inversely correlated with anxiety in the PsA group.

Conclusion: There is higher prevalence of anxiety in both RA and PsA as compared to depression. Higher disease activity scores were associated with depression and anxiety in both RA and PsA with axial involvement.

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FRI0078

SERUM IRISIN LEVEL IN RHEUMATOID ARTHRITIS PATIENTS: ITS RELATIONSHIP TO DISEASE ACTIVITY AND CARDIOVASCULAR MANIFESTATIONS

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Background: Active Rheumatoid Arthritis (RA) is associated with considerable changes in body composition, lipids, adipokines and insulin sensitivity. RA is an independent risk factor for CVD. The mechanisms leading to synovial inflammation are similar to those found in unstable atherosclerotic plaque. Irisin is a metabolic hormone and a novel adipomyokine related to insulin resistance and endothelial functions (1).

Objectives: To investigate the relationship between serum irisin levels, disease activity and cardiovascular risk in RA patients, and to test its performance in predicting subclinical atherosclerosis in RA patients.

Methods: 60 RA patients fulfilling the 2010 ACR/EULAR RA Classification Criteria and 30 healthy controls were recruited for serological testing of irisin levels. BMI was calculated. Waist/hip ratio was measured. RA disease activity was assessed by DAS28-ESR. Disability was assessed by HAQ-DI in its Arabic version. Serum ESR, CRP, glycated hemoglobin (HbA1c), lipid profile (serum level of cholesterol, triglyceride, HDL, LDL and cholesterol/ LDL ratio), insulin levels were measured in all patients and controls. Homeostasis Model Assessment of Insulin Resistance (HOMA-IR) was used to calculate insulin resistance.

Carotid intimal medial thickness (C-IMT), an indicator of atherosclerosis, was measured by carotid doppler ultrasonography. Echocardiography was performed to assess cardiac abnormalities. Our RA patients were classified twice; first, according to cardiovascular abnormalities and second, according to cut-off values of DAS28.

Results: Serum irisin levels were significantly lower in RA patients (9.84 ± 10.56) ng/ml compared to controls (20.48 ± 13.82) ng/ml ($p < 0.001$). BMI values were significantly higher in all patients than controls ($P = 0.035$), while waist/hip ratio in female patients only were significantly higher ($P = 0.007$). We found a negative correlation between serum irisin and DAS28-ESR ($r = -0.455$, P -value 0.005) & HAQ-DI ($r = -0.309$, P -value 0.016). There was a negative correlation between serum irisin level and parameters of cardiovascular risk including anthropometric measurements (BMI and waist/hip ratio), HOMA-IR ($r = -0.371$, $p = 0.009$) and C-IMT ($r = -0.511$, $p < 0.001$). No correlation could be detected between irisin and lipid profile. The frequency of cardiovascular (CV) involvement in RA patients was 45% (27 patients) (11.6 % with echocardiographic abnormalities and 40% having increased C-IMT). Patients with CV involvement showed lower serum irisin level, increased disease activity assessed by DAS28 and increased disease disability assessed by HAQ-DI with statistically significant difference ($P < 0.001$, $P < 0.05$ and $P < 0.001$ respectively). Classifying the patients based on cut-off values of DAS28 into 3 groups (low disease activity, moderate and high disease activity), we found a statistically significant difference between the irisin levels of the 3 groups, being lowest among highly active patients ($P = 0.014$). c-IMT values were significantly higher in highly active patients ($P = 0.04$). Assessing the biomarker's performance as an independent indicator of subclinical atherosclerosis in RA patients using ROC curve, it showed an excellent ability (AUC 0.8, $P < 0.001$). As regarding its ability to differentiate patients with high disease activity, it showed a very good performance (AUC 0.73, $P < 0.001$).

Conclusion: In RA patients, serum irisin level was significantly lower and perform better than traditional yardsticks in identifying disease activity. It may act as an independent indicator of subclinical atherosclerosis in RA patients. Serum irisin level may be responsible for increased cardiovascular risk in those patients.

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FRI0079

CHARACTERISTICS OF DIFFICULT-TO-TREAT RHEUMATOID ARTHRITIS

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Background: Despite remarkable progress in therapy, not a few patients with rheumatoid arthritis (RA) have not achieved treatment target. Various factors can be ascribed to difficult-to-treat RA, however, little is known about their characteristics.

Objectives: To clarify characteristics of patients with difficult-to-treat RA in real-world.

Methods: We reviewed all consecutive RA patients in Keio University Hospital between 2016 and 2017 and collected medical information. We defined patients in moderate disease activity and high disease activity according to disease activity score for 28 joints (DAS28) at the last visit despite more than one year treatment for RA as difficult-to-treat RA and analyzed their clinical characteristics.

Results: A total of 1693 patients with RA were enrolled in the analysis. The mean age at the last visit was 64 years old, female was 83%, and the mean disease duration was 11.9 years. Rheumatoid factor and anti-cyclic citrullinated peptide were positive for 76% and 75% of the patients, respectively. The current treatment were conventional synthetic disease modifying anti-rheumatic drugs in 73%, biologic agents or janus kinase (JAK) inhibitors in 57%, and glucocorticoids in 13%. Disease activity according to DAS28 was remission in 65%, low disease activity in 21%, and moderate/high disease activity in 14%, which was defined as difficult-to-treat RA. Characteristics of difficult-to-treat RA were the mean age of 70 years old, female of 89%, and the mean disease duration of 14.8 years. The current treatments were conventional synthetic disease modifying anti-rheumatic drugs alone in 40.7%, biologic agents or JAK inhibitors in 55.8%, and glucocorticoids in 29.0%. The causes of difficult-to-treat RA were unresponsiveness to several biologic agents and/or JAK inhibitors in 22.9%, comorbidities in 33.8%, and personal reasons in 39.8% (costs in 35.9%, low adherence in 4.3%, concerns about possible adverse reaction of drugs in 54.3% and high patient global assessment in 5.4%). Patient characteristics were significantly different between the causes; age at RA onset (51 vs 61 vs 51 years, $p < 0.001$), current age (65 vs 77 vs 66 years, $p < 0.001$), estimated glomerular

filtration rate (75 vs 61 vs 73 mL/min/1.73m², $p<0.001$), tender joint count (3.4 vs 1.6 vs 2.1, $p=0.005$), swollen joint count (3.1 vs 1.6 vs 2.9, $p=0.003$), evaluator global assessment (21 vs 14 vs 16 mm, $p=0.03$), health assessment questionnaire-disability index (1.3 vs 1.3 vs 0.9, $p=0.005$), a history of serious infection (28 vs 41 vs 13%, $p<0.001$) and rheumatic disease comorbidity index (1.2 vs 2.2 vs 0.9, $p<0.001$).

Conclusion: There are still 14% of patients with RA were difficult-to-treat in real world in spite of intensive treatment. Their characteristics are distinct by the cause of difficulty to treat, suggesting the approach to difficult-to-treat RA should be personalized.

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Reasons for difficult-to-treat rheumatoid arthritis

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FRI0080

CLINICAL CHARACTERISTICS OF PATIENTS WITH ELDERLY-ONSET RHEUMATOID ARTHRITIS (EORA)

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Background: The onset of rheumatoid arthritis (RA) occurs usually between 35-50 years of age. Since the general population is ageing, beginning of RA in older age is more common. The term *elderly onset of rheumatoid arthritis* (EORA) describes the disease with onset at age over 60. The term *younger-onset rheumatoid arthritis* (YORA) refers to the disease with typical, earlier onset. Observational studies indicate, that substantial differences do occur between the two RA subtypes (EORA and YORA).

Objectives: The goal of the study was to analyze the course of disease and treatment in EORA in comparison to YORA patients.

Methods: The study was conducted in consecutive RA patients, treated in the Department of Rheumatology and Connective Tissue Diseases, Medical University of Lublin, Poland. The study group consisted of 113 patients (93 women, 20 men), with the mean (SD) age 59.4 (19.0), disease duration 12.9 (10.3) years.

The cut off between EORA and YORA was set at 60 years of age. There were 63 (55.8%) EORA and 50 (44.2%) YORA patients. Demographic and clinical information was obtained through structured interview, review of medical records and laboratory tests. Disease activity was assessed based on joint counts and Disease Activity Score of 28 joints (DAS28).

Results: In patients with EORA vs YORA, the mean (SD) age was 73.64 (6.6) vs 41.5 (13.7) ($p<0.001$), the age of RA diagnosis 65.0 (4.2) vs 23.3 (4.8) ($p<0.001$), RA duration 8.6 (5.4) vs 18.3 (12.3) years ($p<0.001$).

The group of patients with EORA compared with YORA, was characterized by: significantly higher number of men [respectively 16 (25.4%) vs 4 (8.0%)], unfavorable metabolic parameters [higher body mass index (BMI): 26.0 (5.8) vs 23.4 (4.1) kg/m² ($p=0.04$); serum uric acid: 5.7 (1.5) vs 4.4 (1.6) mg/dl ($p=0.001$)], as well as unfavorable parameters of RA activity [higher DAS28: 4.4 (1.5) vs 3.2 (1.6) ($p<0.001$); higher tender joints count (TJC): 6.1 (6.2) vs 3.2 (3.7) ($p=0.01$); higher erythrocyte sedimentation rate (ESR) 45.9 (30.3) vs 24.1 (25.6) ($p<0.001$) and white blood cell count (WBC): 8.3 (2.7) vs 7.0 (2.4) $\times 10^3$ /ml ($p=0.01$)]. At the time of assessment, remission or low disease activity was achieved in significantly fewer EORA vs YORA patients [15 (23.8%) vs 25 (50%) ($p=0.007$)].

In EORA patients methotrexate was used as the first disease modifying drug (DMARD) more often [54 (85.7%) vs 26 (52%) ($p<0.001$)], the use of biological DMARDs was less common [5 (7.9%) vs 23 (46.0%) ($p<0.001$)], as well as glucocorticoids (GC) [49 (77.8%) vs 47 (94.0%) ($p=0.04$)]. Significantly more patients with EORA than YORA, were affected by concomitant diseases [62 (98.4%) vs 41 (82%) ($p=0.007$)].

The prevalence of joint erosions, extra-articular manifestations and antibodies typical for RA (rheumatoid factor, RF-IgM and/or anti-citrullinated peptide, ACPA) did not differ significantly between the groups.

Conclusion: In our study group, EORA patients were characterized by higher proportion of men, higher inflammatory parameters and higher disease activity, in comparison with YORA. In patients with EORA we also found unfavorable metabolic parameters and higher incidence of concomitant diseases, which could affect the method of treatment (less common use of GC and biological DMARDs).

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FRI0081

WERE FRAIL RA PATIENTS AT YOUNGER AGE MORE LONELY, DEPRESSED OR ANXIOUS THAN NON-FRAIL RA PATIENTS?

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Background: Frailty is a state that reflects reduced reserve and resistance to stressors among elderly persons. A preceding study showed that 38 out of 90 (42%) RA patients aged ≥ 55 years who visited our outpatient clinic were frail. Presence of frailty was not age-dependent. Patients were mainly classified as frail because of positive answers on single items that report on depressive feelings (73.7%), anxiety (57.9%), missing people around (65.8%) and emptiness (63.2%) [1]. It is unclear whether frailty is a cause, consequence or comorbidity of poor psycho-emotional health. Alternatively, they could also be congruent conditions. Exploring whether poor psycho-emotional health might be a longitudinal predictor of frailty, might shed light upon the relation between frailty and psycho-emotional health.

Objectives: In this mixed qualitative / quantitative study, we assessed whether older frail RA patients were already more lonely, depressed, and/or anxious than non-frail RA patients at 40 years.

Methods: All 90 RA patients who participated in our previous study on frailty in 2017 were invited for the current study. Participants were invited to rate validated multidimensional questionnaires on depression and anxiety (Geriatric Depression Scale (GDS) and Hospital Anxiety and Depression Scale (HADS)), loneliness (de Jong Gierveld loneliness scale) social support (Social Support List) for their current situation, but also retrospectively for their situation at the age of 40. Current frailty was assessed by the Groningen Frailty Indicator (GFI).