Conclusions: Iron deficiency anaemia is prevalent in RA patients. A combination use of serum ferritin and TSAT is the most simple, accurate parameter now to differentiate both. log ferritin, transferrin/log ferritin may be promising new parameters in diagnosis of IDA in general population but their use in inflammatory diseases like RA still has a limitation so we suggest further large studies to be done in order to assess their accuracy.

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FRI0082 PREDICTORS OF FATIGUE AND PERSISTENT FATIGUE IN EARLY RHEUMATOID ARTHRITIS: A LONGITUDINAL OBSERVATIONAL STUDY

S. Rodríguez-Muguruza¹, B. Combe², F. Guillemin^{3,4}, B. Fautrel⁵, A. Olive⁶, S. Marsal⁷, O. Valero⁸, N. Rincheval⁹, C. Lukas². ¹Rheumatology, Verge de la Cinta Hospital, Tarragona, Spain; ²Rheumatology, CHU Montpellier, Montpellier University, Montpellier; ³Université de Lorraine, EA 4360 APEMAC, École de Santé Publique, Faculté de Médecine de Nancy; ⁴INSERM CIC 1433 clinical epidemiology, Nancy Hospital, Nancy; ⁵Rheumatology, Pitié-Salpêtrière hospital, AP-HP, 75013, Paris, France; ⁶Rheumatology, Germans Trias i Pujol University Hospital; ⁷Rheumatology, Vall d'Hebrón Hospital; ⁸Servei d'estadística aplicada, Universitat Autònoma de Barcelona, Barcelona, Spain; ⁹UFR de Médecine, Institut Universitaire de Recherche Clinique, Université Montpellier 1, Montpellier, France

Background: Fatigue is a multifactorial and persistent symptom reported by patients with rheumatoid arthritis (RA). It is considered as frequent as pain. It would be of value to identify potential predictive factors of fatigue that can influence on its evolution.

Objectives: To identify predictive factors of fatigue and of persistent fatigue in a large prospective cohort of early RA patients.

Methods: The *Etude de Suivi des polyarthrites Indifférenciées Récentes* (ESPOIR) is a multicenter French cohort of patients with early arthritis. We selected patients fulfilling the 2010 ACR/EULAR criteria for RA during the first year of follow-up. We recorded sociodemographic and clinical characteristics, the SF-36 vitality score, Health Assessment Questionnaire (HAQ) score and 28-joint Disease Activity Score (DAS28) at baseline and every 6 months up to 5 years. The association of fatigue (SF vitality score ≤ 40) or persistent fatigue (SF vitality score ≤ 40 at the end of the study and at least in 50% of visits in the 5 years follow up) with other characteristics were evaluated by bivariate logistic regression models/tests (chi-squared test for qualitative variables and t-test/Mann-Whitney test for quantitative variables). A multivariate logistic regression model was used to determine independent predictors of persistent fatigue.

Results: We included 677 patients (73.4% women, mean $\pm$ SD age 48.6 $\pm$ 12 years); 46.5%, 28% and 22% of RA patients presented fatigue at baseline, 6 months and 5 years of follow up respectively. At baseline, fatigue was independently and significantly associated with single patients (OR=2.5 95% CI [0.30–0.70] $p<0.001$), higher BMI (OR=1.1 95% CI [1.01–1.10] $p=0.007$), higher DAS28 (OR=1.3 95% CI [1.08–1.60] $p=0.006$), higher severity of morning stiffness (scored 0–10) (OR=1.0 95% CI [1.00–1.01] $p=0.012$), higher HAQ (OR=2.4 95% CI [1.70–3.44] $p<0.001$), negativity of FR (OR=1.5 95% CI [1.09–2.29] $p=0.016$) and history of depression or anxiety (OR=6.1 95% CI [3.90–9.83] $p<0.001$). A 14.9% of patients presented persistent fatigue. Independent predictors of persistent fatigue at 5 years of follow-up were HAQ (OR=2.5 95% CI [1.63–3.67] $p<0.001$), history of depression/anxiety (OR=3.7 95% CI [1.53–9.15] $p=0.004$), >3 comorbidity (OR=2.1 95% CI [1.23–3.73] $p=0.007$), dry syndrome (OR=2.4 95% CI [1.39–4.17] $p=0.002$), and negativity in RF (OR=1.85 95% CI [1.07–3.21] $p=0.027$).

Conclusions: Fatigue was frequent in this cohort of early RA patient, its presence decreased at 6 months and remained stable over time. Baseline fatigue and persistent fatigue were both predicted by functional impairment, negativity of RF and history of depression or anxiety. Disease activity measured by DAS28 was strongly associated to fatigue at baseline but it was not a predictor of persistent fatigue.

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FRI0083 ADJUSTMENT OF THE THRESHOLD MAY IMPROVE CARDIOVASCULAR RISK STRATIFICATION IN PATIENTS WITH RHEUMATOID ARTHRITIS

S. Velmakin, E. Troitskaya, S. Villevalde, Z. Kobalava. *Internal diseases, Peoples' Friendship University of Russia (RUDN University), Moscow, Russian Federation*

Background: Rheumatoid arthritis (RA) is associated with increased cardiovascular (CV) risk. Besides monitoring of the disease activity, identification of high CV risk patients is of great importance^{1,2}.

Objectives: The aim of the study was to assess the abilities of 3 risk models (SCORE, QRisk2 and 10 year ASCVD) in detecting high CV risk RA patients.

Methods: 56 patients with RA (ACR/EULAR 2010 without known CV disease were examined (84% females, age 58.4 $\pm$ 14.1 (M $\pm$ SD) years, BMI 26.1 $\pm$ 5.4 kg/m², smokers 9%, arterial hypertension (AH) 64%, dyslipidemia 57%, diabetes 7%). Median duration of RA was 7 years (IQR 2–14). Seropositive RA was diagnosed in 73% of patients. Median hsCRP was 7.8 mg/dl (IQR 2;21.4), rheumatoid factor (RF) – 61.2 IU/ml (IQR 18.5;179.2), mean DAS-28(CRP) – 3.7 $\pm$ 1.2. All patients received disease-modifying antirheumatic drugs. SCORE, QRisk2 and 2013 ACC/AHA 10 year ASCVD risk and EULAR recommended modified versions were calculated. Patients with SCORE $\geq 5\%$, QRisk2 $\geq 20\%$ and ASCVD risk $\geq 7.5\%$ were classified as having high CV risk. Carotid intima-media thickness (CINT) ≥ 0.9 mm and/or carotid plaques detected by ultrasonography were used as the gold standard test for high CV risk. $p<0.05$ was considered significant.

Results: The median SCORE, QRisk2 and ASCVD were 2.2% (IQR 0.6;4.9), 10.2% (3.4;19.2) and 4.9% (1.5;12.8) respectively. The proportion of high-risk patients was as follows: 14 (25%), 13 (23%), 24 (43%) for SCORE, QRisk2 and ASCVD. Mean CINT was 0.76 $\pm$ 0.24 mm. US criteria for subclinical atherosclerosis (US+) were found in 27 (48%) pts. Discriminating capacities for the indexes were as follows: AUC 0.723 (CI 95% 0.626–0.821) for SCORE, AUC 0.705 (CI 95% 0.606–0.804) for QRisk2 and AUC 0.837 (CI 95% 0.757–0.917) for ASCVD. The percentages of high-risk patients in US+ group were as follows: 13 (48%), 12 (44%) and 21 (78%), respectively, ($p<0.05$ compared to ASCVD). After multiplying by 1.5 EULAR 2016 mASCVD reclassified 2 (7.4%) and mSCORE – 4 (14.8%) pts from moderate to high risk. Use of lower cut-off values for risk indices (SCORE $\geq 1\%$, QRisk2 $\geq 10\%$ and ASCVD $\geq 5\%$) resulted in better detection of US+pts (100%, 85% and 85% respectively).

Conclusions: The 2013 ACC/AHA 10 year ASCVD risk estimator is better than the SCORE and QRisk2 indices for the detection of high CV risk RA patients. Adjustment of the threshold may be a better modification of risk scales than use of the EULAR multiplier factor.

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FRI0084 INTENSE AEROBIC AND RESISTANCE EXERCISE REDUCES THE FREQUENCY OF PERIPHERAL BLOOD REGULATORY CELL POPULATIONS IN ELDERLY PATIENTS WITH RHEUMATOID ARTHRITIS

S. Andersson¹, E. Lange², D. Kucherski¹, S. Svedlund³, K. Önnheim¹, J. Lord⁴, I.-L. Mårtensson¹, K. Mannerkorpi², I. Gjerdtsson¹. ¹Dept of Rheumatology and Inflammation Research; ²Department of Health and Rehabilitation; ³Department of Molecular and Clinical Medicine, University of Gothenburg, Göteborg, Sweden; ⁴Institute of Inflammation and Ageing, University of Birmingham, Birmingham, UK

Background: RA is an autoimmune joint disease driven by complex immune dysregulation. Exercise can improve immune health and is beneficial for physical function in elderly patients with RA, but the immunological mechanisms are largely unknown.

Objectives: We evaluated the effect of a person-centred randomised controlled exercise programme on regulatory immune cell populations in aged persons with RA.

Methods: Aged persons with RA were randomised to either a 20 week of aerobic and resistance exercise intervention of moderate-to high intensity (n=24) or to an active control group performing low-intensity home exercise (n=25). Blood samples were collected at baseline and after 20 weeks. The frequency of the adaptive regulatory populations Foxp3+CD25+CD127⁺CD4+T cells and CD24hiCD38hi B