Abstract AB0326 – Table 2. Predictor for joint destruction; multivariate linear regression analysis

	variables	coefficient	P value
Male	MMP3	0.013	0.001
	ACPA	0.010	0.002
	GC use	0.378	0.197
Female	PD score	0.267	<0.001
	ACPA	0.007	0.101
	GC use	–0.449	0.062

Conclusions: The baseline MMP-3 was a good predictor for joint destruction at 1 year only in male patients with RA. On the other hand, the baseline PD score was a useful predictor for joint destruction only in female patients with RA.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.2835

Rheumatoid arthritis – comorbidity and clinical aspects

AB0327 CLINICAL SIGNIFICANCE OF HORMONE-RELATED (ISOLATED) AMYLOIDOSIS OF THE ISLETS OF LANGERHANS – A POSTMORTEM CLINICOPATHOLOGIC STATISTICAL STUDY OF 234 RHEUMATOID ARTHRITIS PATIENTS

Á. Apáthy¹, M. Bély². ¹Department of Rheumatology, St. Margaret Clinic; ²Department of Pathology, Hospital of the Order of the Brothers of Saint John of God in Budapest, Budapest, Hungary

Background: “All forms of amyloidosis related to the circulation of blood are systemic, and all forms of amyloidosis not connected to the circulation are isolated (localised)”.

Systemic AA amyloidosis (AAa) – characterised by amyloid A deposition – is one of the major chronic complication of rheumatoid arthritis (RA), in most of the cases leading to renal and less frequently to cardiac insufficiency and death.

Islet amyloidosis (IA) (islet amyloid polypeptide – IAPP – prohormone fragment deposition localised to islets of Langerhans) is an isolated (localised) form of amyloidosis of clinical (diagnostic) significance in adult type II diabetes mellitus (DM).

Objectives: The aim of this study was to determine the prevalence of AAa and IA in RA, to analyse the relationship between them, furthermore to evaluate the possible role of IA in DM in RA patients.

Methods: At the National Institute of Rheumatology 11 558 patients died between 1969 and 1998; among them 234 with RA, and all of them were autopsied. RA was confirmed clinically according to the criteria of the ACR.

The diagnosis of DM based on clinical data. Tissue samples of pancreas were available for histologic evaluation in 150 of 234 patients. AAa and IA was diagnosed histologically, amyloid A and IAPP deposits were confirmed histochemically. The relationships between AAa and IA further more between IA and DM were analysed by Pearson's chi-squared (χ^2) test.

Results: AAa complicated RA in 32 (21.33%) of 150 patients. Hormone-related IA localised to the islets of Langerhans was observed in 15 (10.0%) of 150 pancreases: Clinically diagnosed DM was associated with RA in 31 (20.66%) of 150 patients. AAa was associated with LA in 2 (6.45%) of 31 cases. The relationship between AAa and IA was not significant, even the association's coefficient was negative: -0.2381 , χ^2 ; $=0.0785$, $p<0.77$). IA associated with clinically diagnosed DM in 8 (53.3%) of 15 patients. There was a positive and significant correlation between clinically diagnosed IA and DM (association's coefficient: 0.6953 , χ^2 ; $=10.8475$, $p<0.0009$). IA was present without the clinical diagnosis of DM in 7 (46.7%) of 15 patients. The relationship between IA and clinically not diagnosed DM was also positive and significant (association's coefficient: 0.6037 , χ^2 ; $=6.8717$, $p<0.008$).

Conclusions: Systemic or localised types of amyloidosis may exist simultaneously side by side or may be present independently from each other. AAa and IA are independent phenomena based on the negative association's coefficient and not significant relationship between them, and may coexist in RA. According to our interpretation the early stage of IA (involving only a few islets with minimal IAPP deposits) represents a clinically latent DM and the advanced stage of it is clinically manifest DM. The strong positive and significant correlation between IA and clinically manifest DM suggest close relationship between them. Based on the positive and significant correlation between IA and clinically not diagnosed DM, the IA may be a good indicator of potential DM in the latent stage of disease. This correlation may help recognise DM in its early stage. For this reason we recommend that all biopsy material and surgical specimens of pancreas to be tested for IA or IAPP deposition.

REFERENCES:

- [1] Bély M, Apáthy Á. Amyloid 2000;7:212–217.
- [2] Apáthy Á, Bély M. Ann Rheum Dis, 2010;69(Suppl 3):348.
- [3] Arnett FC, et al. Arthritis Rheum 1988;31:315–324. doi:10.1002/art.1780310302
- [4] Bély M. The Scientific World Journal 2006;6:154–168. doi:10.1100/tsw.2006.35 [PMID: 16493520]

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.1042

AB0328 CARDIOVASCULAR RISK EVALUATION IN LONG STANDING RHEUMATOID ARTHRITIS: REAL CLINICAL DATA

A. Babaeva¹, E.V. Kalinina¹, M.S. Zvonorenko¹, K.S. Solodenkova², M. A. Osadchuk². ¹Volgograd State Medical University, Volgograd; ²I.M. Sehenov First Moscow State Medical University, Moscow, Russian Federation

Background: According to recent national and EULAR recommendation cardiovascular risk (CVR) in pts with RA should be evaluated using modified SCORE system. But a lot of investigations and real clinical data demonstrate that this system commonly down-estimates CVR in RA pts.

Objectives: Aim of our study was to compare standard CVR assessment and additional CVR evaluation on the basis of specific disease-associated risk factors (RF) and CV system investigations in long standing RA.

Methods: 118 pts (96 female, 22 male) aged from 34 to 74 years old (mean age 55.91 ± 5.21) with long standing RA (duration >5 years) were observed. In all pts CVR was stratified according to modified SCORE. We have analysed pts medical cards and standard examination data to determine clinical features of RA and associated conditions to verify severity of CVR. In term to reveal asymptomatic CV disease pts had undergone additional investigations (echocardiography, Dopplerography of carotid arteries, ECG-monitoring).

Results: Conventional CVRF were registered in 110 (93.22%) pts. Age>45 (male), >50 (female) was in 85 (72.03%) pts, BMI>25 kg/m²; in 10.17%, elevated cholesterol level and/or dyslipidemia in 41.52%, AH with target organ damage was detected in 45.76%, T2DM in 11.8%, CKD 3 stage in 10.17%, history of MI was in 2 (1.69%) pts. According to modified SCORE for RA very high, high, moderate and low CVR was detected in 17.80%, 47.46%, 18.64%, 16.10% cases respectively. High activity of RA was diagnosed in 61.02%, and erosive arthritis in 84.75% pts. Inadequate disease-modifying treatment was qualified in 15.26% cases. Majority of pts (59.32%) received systemic glucocorticoids (GC) in daily doses from 2 to 12 mg of methylprednisolone, among these pts 14 (11.86%) have been taken GC in moderate and high dose for a long period. On the basis of instrumental data asymptomatic atherosclerosis of aorta and/or aortic valve and/or carotid arteries was detected in 44 pts (37.29%). Silent ischemia was revealed in 3 pts (2.54%). High disease activity and long term systemic GC treatment were associated with significantly high CV events in observed pts ($p<0.05$). Using obtained results we reassessed CVR in studied cohort. Revised data of CVR stratification suggest that 49 (41.53%) pts were in VH-CVR, 41 (34.75%) – in H-CVR, 16 (13.56%) in M-CVR and only 12 (10.17%) in L-CVR. The difference in pt ratio for CVR stratification was significant in accordance with χ^2 ; criterion.

Conclusions: Obtained data suggest that modified SCORE is not absolutely reliable tool for precise CVR stratification in long standing RA. Additional investigations to define asymptomatic atherosclerosis and coronary artery disease are required in term to prevent CV complications especially in pts with high active erosive RA treated with systemic GC.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.6177

AB0329 THE METHOD OF EVALUATION OF CARDIORESPIRATORY SYSTEM NEUROVEGETATIVE REGULATION IN RHEUMATOLOGIC PATIENTS

A. Lebedeva, V. Marchenko, I. Mozhaev. Department of Research Institute of rheumatology and allergology, Pavlov First Saint Petersburg State Medical University, Saint Petersburg, Russian Federation

Objectives: To study the characteristics of cardiorespiratory system (CRS) neurovegetative regulation disorders and to define the correlation with disease activity.

Methods: 40 rheumatoid arthritis (RA) patients (14 m:30 f; median age 45 ± 2.32), 18 ankylosing spondylitis (AS) patients (13 m:5 f; m.a. 39.6 ± 2.44), 17 osteoporosis (OP) patients (3 m:14 f; m.a. 55.5 ± 1.47), 50 healthy persons (HP, 25 m:25 f; m.a. 23.8 ± 0.84) were studied. The diagnosis of RA, AS, OP were established by the current diagnostic and classification criteria. The cardiorespiratory system neurovegetative regulation was studied with the use of

Spiroarteriocardiorhythmograph, that was able to synchronously analyse the variability of heart rate (HR), respiration (R), systolic (S) and diastolic (D) arterial pressure, respiratory phase structure, baroreceptor sensitivity and some other cariohemodynamics parameters. Following parameters were calculated: spectrum of fluctuations total power (TP), the activity of suprasegmental (VLF), sympathetic (LF), parasympathetic (HF), cortical (IC) and subcortical (SNCA) contours and sympatho-vagus balance parameters (LF/Hf) in regulation HR, R, S, D, baroreceptor sensitivity (BR), inhale (Ti) and exhale (Te) time (V. Marchenko, 2004).

Results: Different severity dysregulation of CRS at all levels is typical for the AS patients, which expresses in decrease of the variability of the basic contours of regulation of heart rate, respiration, systolic and diastolic blood pressure with a shift of sympatho-vagal balance in favour of parasympathicotonia, reduction baroreceptor sensitivity. The heterogeneity of the analysed groups according to the parameter LF/HF_{HR} is shown. The ratio of patients with parasympathotony, normotony, sympathotony in groups made up, respectively, in HP (34:48:18), RA (23:54:23), AS (55:28:17), OP (29:53:18). It is established that a significant number of AS patients had parasympathetic type of regulation, and the rest of the groups were dominated by patients with normotonic type of regulation. It is shown that in groups of patients neurovegetative regulation system was more stringent, as evidenced by the increase in their number of reliable correlations compared with the group of healthy individuals. The features of dysregulation in each analysed group were established, the nature of which requires further analysis. Significant correlations ($\tau > \pm 0.45$; $p = 0.029$) between the parameters of the neurovegetative regulation of cardiorespiratory system on the one hand and the clinical and laboratory parameters of inflammatory activity (in the first place, DAS28, CRP, ESR) on the other hand in patients with RA; with parameters BASDAI, the activity of the inflammatory process (ESR, CRP) in patients with AS; densitometric parameters in patients with OP were identified. The close connexion between vascular component and the activity of the inflammatory process is shown, which may be a manifestation of endothelial dysfunction.

Conclusions: Thus, the method of variability of cardiorespiratory allows to detect the neurovegetative dysregulation of the cardiorespiratory system in rheumatologic patients and can be recommended for the evaluation of the system of regulation in general, the possible role of its disorders in the pathogenesis of clinical manifestations of diseases, and assessing the dynamics of regulatory processes in the treatment of patients.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.1614

AB0330

OSTEOPOROSIS, SARCOPENIA AND OSTEOSARCOPENIA IN WOMEN WITH RHEUMATOID ARTHRITIS

A. Feklistov, N. Demin, N. Toroptsova. *Nasonova Research Institute of Rheumatology, Moscow, Russian Federation*

Background: Rheumatoid arthritis (RA) is a systemic inflammatory disease associated with polyarthritis, progressive joint damage, and physical impairment that can lead to osteoporosis and sarcopenia, increasing the risk of fractures and leading to a greater loss of autonomy in RA patients.

Objectives: To assess frequency of osteoporosis, sarcopenia and osteosarcopenia in women with RA.

Methods: 40 female patients with RA (mean age 63 ± 7 years) and 40 female controls without RA (mean age 64 ± 9 years) were enrolled in this study. Body composition and bone mineral density (BMD) in lumbar spine and proximal hip were assessed by using dual X-ray absorptiometry (DXA, Hologic Discovery A). Sarcopenia in women was defined as a skeletal muscle index (SMI) $\leq 5.67 \text{ kg/m}^2$ and osteosarcopenia – if sarcopenia and low BMD were present together.² The participants performed Short Physical Performance Battery (SPPB) and handgrip strength was measured. Body mass index (BMI) and Disease Activity Score (DAS28) were calculated.

Results: Low BMD at least in one of measured area was found out in 19 (48%) RA persons and in 18 (45%) controls. Sarcopenia occurred in 10 (25%) RA patients and in 5 (12.5%) people without RA ($p > 0.05$). Among them osteosarcopenia was found in 6 (15%) RA women and 2 (5%) controls. Skeletal muscle index (SMI) was lower in patients with RA (6.43 ± 0.978) than in controls (7.01 ± 1.064 , $p < 0.05$). In RA patients SMI had a positive correlation with BMI ($r = 0.58$, $p < 0.05$) and handgrip strength ($r = 0.34$ for right, $r = 0.30$ for left, $p < 0.05$ for both). Sarcopenia was more common in RA patients who were normal or underweight than in those who were overweight or obese according to their BMI ($p < 0.01$). There was no correlation between SMI and DAS28, drug use, frequency of falls during the last year, SPPB in the RA group

Conclusions: In RA patients 48% had osteoporosis and 25% – sarcopenia, among them 15% women – osteosarcopenia. The risk of sarcopenia and osteosarcopenia was higher in nonobese patients.

REFERENCES:

- [1] Cruz-Jentoft AJ, et al. Sarcopenia: European consensus on definition and diagnosis. *Age and Ageing* 2010;39:412–423.
- [2] Hassan EB, Duque G. Osteosarcopenia: A new geriatric syndrome. *Aust Fam Physician* 2017 Nov;46(11):849–853.

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.6141

AB0331

INCIDENCE OF MALIGNANCY IN PSORIATIC AND RHEUMATOID ARTHRITIS PATIENTS LIVING IN NEWFOUNDLAND AND LABRADOR

A.F. Lewis¹, I. Landells², G. Mugford³, M. Khraishi³. ¹*Clinical Epidemiology, Dermatology*; ²*Rheumatology, Memorial University of Newfoundland, St. John's, Canada*

Background: Rheumatoid Arthritis (RA) and Psoriatic Arthritis (PsA) are reported to be associated with an increased risk of malignancy. Newfoundland and Labrador (NL) has one of the highest cancer rates in Canada. There is a paucity of literature on the prevalence of malignancy in NL patients with PsA and RA.

Objectives: Evaluate the incidence of malignancy in a cohort of PsA and RA patients and compare rates with the general population. Evaluate the impact of therapy of these two diseases.

Methods: Data was extracted from the charts of 200 PsA and 500 RA patients seen at a rheumatology clinic in St. John's between 2011 and 2014. Statistical analyses were performed using SPSS version 21.0 for Windows (IBM Inc.). Person-time Rate (PYs) per 100,000, stratified by age and gender, were used to estimate overall cancer risk and proportions between the two cohorts. Observed rates were compared with Statistics Canada reported general NL rates.

Results: We identified 37 (5.3%) malignancies: 34 (91.8%) solid and 3 (8.1%) hematologic. Mean (SD) age was 58.4 (12.28) and age at diagnoses of disease was 46.8 (12.88). Four hundred and eighty (68.6%) were females. No difference was observed in rates between the study population and the NL general population ($p < 0.3217$). The most common solid tumours were breast 8 (21.6%) and skin 8 (21.6%), followed by five bowel and lung cancers in equal proportions (13.5%). Distribution of cancers between the two cohorts were similar.

Conclusions: The results suggests there is no difference in the cancer rate between our cohorts and the NL general population. We acknowledge study limitations related to shorter duration of follow-up and lower sample size.

REFERENCES:

- [1] Abásolo L, Júdez E, Descalzo MÁ, et al. Cancer in rheumatoid arthritis: Occurrence, mortality, and associated factors in a south European population 2008;37(6):388–3974.
- [2] Chen Y, Chang Y, Wang C, Wu C. The risk of cancer in patients with rheumatoid arthritis: A nationwide cohort study in Taiwan. *Arthritis & Rheumatology* 2011;63(2):352–358.
- [3] Gross RL, Schwartzman-Morris JS, Krathen M, et al. A comparison of the malignancy incidence among patients with psoriatic arthritis and patients with rheumatoid arthritis in a large US cohort. *Arthritis & Rheumatology* 2014;66(6):1472–1481.
- [4] Khraishi M, Majed, et al. Prevalence of patient-reported comorbidities in early and established psoriatic arthritis cohorts." *Clinical rheumatology* 2011;30(7):877–885.
- [5] Khraishi M, Landells I, Mugford G. The self-administered psoriasis and arthritis screening questionnaire (PASQ): A sensitive and specific tool for the diagnosis of early and established psoriatic arthritis 2010;16(2):9–16.
- [6] Rohekar S, Tom BD, Hassa A, Schentag CT, Farewell VT, Gladman DD. Prevalence of malignancy in psoriatic arthritis. *Arthritis & Rheumatology* 2008;58(1):82–87.
- [7] Statistics Canada. <https://www.statcan.gc.ca>

Disclosure of Interest: None declared

DOI: 10.1136/annrheumdis-2018-eular.5849