observed in the sublining inflammatory cells including plasma cells (CD38+) and macrophages (CD68+), mainly located in the cytoplasm. (C) **Detection of HBV S gene in RA synovium by nested PCR.** Nested PCR showed HBV S gene only in all four CHB synovial tissues. Liver tissue from a patient with HBV-related hepatocellular carcinoma was used as positive control.

Conclusions: Our results reveal definite presence of HBV in the synovium which may be involved in the pathogenesis of local lesion and exacerbate disease progression in RA patients with CHB.

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SAT0148 ORAL CARE AND HEALTH IN RHEUMATOID ARTHRITIS PATIENTS BASED ON A SELF-ASSESSMENT QUESTIONNAIRE INVESTIGATION

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Background: Some investigations indicate a higher prevalence of periodontal disease (PD) in rheumatoid arthritis (RA) patients compared to healthy individuals without RA. Significant improvements in clinical parameters and laboratory tests were demonstrated in RA patients following periodontal therapy. Periodontal diseases – gingivitis and periodontitis are inflammatory, multifactorial pathologies of periodontal tissues, which support the teeth. The factor responsible for the inflammation is a plaque with specific bacteria.

In gingivitis, which is the first stage of PD, only gingiva is involved. Then in susceptible patients, periodontitis is developing and the deeper laying structures surrounding the teeth are involved and destroyed. The patients' own observation of gingival bleeding strongly indicates gingival disease.

The effectiveness of oral hygiene, including self-care, in controlling periodontal health is crucial and supported by several studies. RA patients frequently experience reduced function of fingers and wrists that makes oral hygiene troublesome.

Objectives: The purpose of this study was to assess RA patient's oral care and health based on a self-assessment questionnaire.

Methods: Questionnaires were mailed to 300 patients treated for RA in a Danish rheumatology outpatient clinic.

Results: A total of 164 patients completed the questionnaires. The mean age of patients was 65 years, and the average value of DAS28 was 2.31. Twelve percent were active smokers. The "dry mouth" syndrome, as a problem when chewing or swallowing, pointed out 4% of patients. Difficulties in biting or chewing revealed 10% of patients. As much as 87% stated they regularly visit a dentist, min. one time a year.

Regarding self-oral care 15% of patients answered, they brush teeth only once a day. Most of the patients (51%) used manual toothbrush vs electrical – which can be more convenient for patients with problems of the hands/wrists. Only 21% used mouth-rinsing liquid. Difficulties in performing home oral hygiene procedures were reported by 9% when brushing teeth, and by 17% using dental floss or interdental brushes. 11% of responders rated the status of their gingiva as poor. Gingival bleeding spontaneous or related to brushing was experienced by respectively 15% and 49% of patients. No patients stated knowledge of an association between oral health and RA.

Conclusions: The oral care in RA patients, including self-care, seems to require improvement. Providing important information to the patients about the relationship between the oral/periodontal health and RA disease activity should raise the patient's awareness, which may improve the course of the RA disease.

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SAT0149 IS ESTABLISHED SERONEGATIVE RHEUMATOID ARTHRITIS EVEN A MILD FORM OF THE DISEASE?

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Background: Established Seronegative Rheumatoid Arthritis (SNRA) was considered a mild form of the disease with a good response to therapy on the past¹. Lately evidence indicates this form of arthritis in early stage is serious and should not be underestimated in terms of disease activity and radiographic damage². By other hand early SNRA presents shorter symptoms duration and different response to therapy compare to seropositive (SP) patients^{3,4}. At present, the influence of seronegative (SN) status of clinical course and treatment choice is still controversial. Data of this issue are scarce and often insufficiently powered.

Objectives: To determine demographical, clinical and treatment differences between established SN and SP Rheumatoid Arthritis (RA) in a Mexican cohort.

Methods: 511 patients with established RA (>2 years from time at onset of diagnosis) that fulfilled ACR/EULAR 2010 criteria (≥18 years) from a Mexican cohort from 2012 to 2017 were examined. Patients without presence of rheumatoid factor (RF) and anti-citrullinated protein antibodies (ACPA) were considered SN. Demographic factors, clinical features, disease activity measured using DAS28, functional status, comorbidities and pharmacologic treatments were examined for patients with established SN and SP RA. Charlson's clinical co-morbidity index was used to analyze comorbidities. Chi-square and Student-t test was performed by univariate analysis and logistic regression was used by multivariate analysis, both were adjusted for age and gender. Standard deviation and mean of modified Charlson's index was obtained by ANOVA analysis. Statistical test were conducted at 5% level of significance.

Results: Of 511 patients with established RA 89% were women. The mean age [standard deviation (SD)] was 55.6 (11.8) years. The mean of time at onset of RA (SD) was 12.1 (8.7) years. A total of 77 (15.1%) patients had established SNRA. In the univariable analyses established SNRA patients were more likely to have shorter time at onset of RA, minor disease activity and radiographic progression, lesser extra-articular and sicca manifestations, reduced demand of hip and knee arthroplasty, also present lower comorbidities including osteoporosis and fibromyalgia, besides to use fewer methotrexate and corticosteroids. As expected, the modified Charlson's comorbidity index score was lower in established SNRA patients. No differences were found for use of biologic agents in both groups. In multivariable analyses, minor disease activity (OR 0.33, 95% CI 0.17–0.60, p≤0.001), less frequently use of methotrexate (OR 0.38, 95% CI 0.17–0.82, p=0.014) and minor radiographic progression (OR 0.13, 95% CI 0.40–0.39, p≤0.001), remained significant in established SNRA patients.

Conclusions: This study suggests that established SNRA present less disease activity and radiographic damage as well as fewer use of MTX than established SPRA. However differences in activity disease and response to treatment can be found in early stages of RA not included in this study. Therefore early SNRA cannot be considered to be a generally mild form of the disease like as established SNRA. These observations must be confirmed in larger studies including early stages of RA.

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SAT0150 INADEQUATE CARDIOVASCULAR RISK MANAGEMENT IS NOT RHEUMATOID ARTHRITIS SPECIFIC AMONG PATIENTS WITH PREVALENT RHEUMATIC AND MUSCULOSKELETAL DISEASES

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Background: Preventive pharmacotherapy for atherosclerotic cardiovascular disease (ACVD) is reportedly underused in patients with rheumatoid arthritis (RA). Whether this shortcoming is RA specific amongst patients with prevalent rheumatic and musculoskeletal diseases (RMD) is currently unknown.

Objectives: This study aimed to compare high ACVD risk profiles and statin use by indication between RA and non-RA patients with RMD.

Methods: We investigated 470 consecutive RMD patients of which 80 had RA, 92 undifferentiated inflammatory/early arthritis (UIA), 127 fibromyalgia and 171

osteoarthritis. High risk profiles comprised established ACVD (coronary artery disease, ischemic cerebrovascular disease or/and peripheral artery disease), diabetes (type 2 or type 1 aged >40 years), high LDL cholesterol concentration (≥ 190 mg/dl), chronic kidney disease (CKD) (Chronic Kidney Disease Epidemiology Collaboration equation value < 60 ml/min/1.73 m²), and a Systemic Coronary Risk Evaluation (SCORE) of $\geq 5\%$ and Framingham score of $\geq 20\%$ both before and after application of the recently reported European League Against Rheumatism (EULAR) multiplier (SCORE and Framingham score $\times 1.5$ in the presence of RA) (1). The prevalence of high ACVD risk profiles and statin use by indication were compared between RA and non-RA patients in age, sex and race adjusted logistic regression models.

Results: RA patients were older (mean (SD) age=62.1 (15.8) versus 54.0 (15.4) years, $p<0.0001$) and less frequently women (66.3% versus 79.7%, $p=0.009$) than their non-RA counterparts; RA and fibromyalgia were the most frequent diseases in white and North-African patients, respectively. The prevalence of ACVD, diabetes, high LDL cholesterol, CKD, high SCORE and Framingham score did not differ between RA and non-RA patients. Only upon applying the EULAR multiplier (1) was RA associated with a high SCORE (OR (95% CI)=2.18 (1.01–4.72)) and Framingham score (OR (95% CI)=3.46 (1.63–7.36)). The prevalence of any high risk ACVD profile before (OR (95% CI)=1.02 (0.53–1.98)) and after application of the EULAR multiplier (OR (95% CI)=1.85 (0.93–3.69)) were similar in RA and non-RA patients. Statin use by indication was consistently similar in RA compared to non-RA patients. Overall, 38.3% of RA patients and 40.0% of non-RA patients that had any high risk ACVD profile used a statin (OR (95% CI)=0.79 (0.38–1.66)).

Conclusions: In this single center study, having one or more high ACVD risk profiles was equally prevalent in non-RA and RA patients. Circa 60% of patients with RMD and any high risk ACVD profile did not use statins and this finding did not differ in non-RA compared to RA patients. There is a vast and urgent need for improved ACVD risk management among patients with RMD irrespective of RA status.

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SAT0151 CARDIORESPIRATORY FITNESS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Mortality rates are higher in RA patients compared to the general population, mostly due to cardiovascular disease (CVD). Cardiorespiratory fitness (CRF) is inversely associated with CVD, but little is known about CRF levels in RA patients.

Objectives: To study the association between CRF in RA patients (measured as VO₂peak), and CVD risk factors and RA-specific clinical variables.

Methods: 93 patients were recruited from a hospital rheumatology outpatient clinic. VO₂peak was measured by ergospirometry during a treadmill test. Tender and swollen joint count, height, weight, waist circumference, resting heart rate, blood pressure and hsCRP were measured. RA characteristics and information on comorbidity were recorded from an interview and from medical records. Based on a previously published index weighting frequency, intensity and duration of self-reported physical activity (PA) (1), patients were categorized into four different PA categories (table 1). VO₂peak was analyzed using multivariate linear regression, adjusting for age and gender. All participants signed an informed consent and the regional ethics committee approved the study.

Results: Table 1 Patient characteristics (n=93)

Gender, female, n(%)	68 (73)	Seropositivity (anti-CCP and/or RF pos.), n(%)	75 (81)
Age (yrs), median (IQR)	60 (52–66)	Disease duration (yrs), median (IQR)	10 (5–19)
BMI (kg/m ²), mean (SD)	26.7 (3.9)	VAS Global (0–100), median (IQR)	24 (10–37)
Smoking, present or previous, n(%)	58 (62)	DAS28CRP (%Remission/LowDA/IntermedDA/HighDA)	42/25/30/3
PA categories:		mHAQ, median (IQR)	0.13 (0–0.44)
Inactive, n(%)	25 (27)	Medications:	
Mod. active, n(%)	11 (12)	Biologics, n(%)	54 (58)
Active, n(%)	39 (42)	DMARDs, n(%)	74 (80)
Very active, n(%)	18 (19)	Corticosteroids, present or last year n(%)	39 (42)

In the multivariate regression model ($R^2=0.79$), VO₂peak was positively associated with the PA categories “Active” ($p=0.018$) and “Very active” ($p=0.008$), and negatively associated with BMI ($p<0.001$) and resting heart rate ($p=0.017$). VO₂peak was not associated with disease duration ($p=0.47$), mHAQ ($p=0.71$), DAS28 ($p=0.43$), VAS Global ($p=0.24$), hsCRP ($p=0.14$), seropositivity ($p=0.44$), use of biologics ($p=0.91$), other DMARDs ($p=0.66$) or corticosteroids ($p=0.60$). There was a trend towards a negative association with smoking ($p=0.096$).

Conclusions: We observed a strong association between common CVD risk factors (inactivity, high BMI, high resting heart rate) and lower CRF in RA patients, similar to published findings from the general population. Patients in the “Active” and “Very active” PA categories showed significantly higher VO₂peak, whereas RA-specific variables such as seropositivity, disease activity, disease duration and medications had no impact on VO₂peak. We cannot exclude a selection bias because more fit patients could be more likely to participate in the study.

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SAT0152 SYSTEMIC AND RENAL AA AMYLOIDOSIS IN RHEUMATOID ARTHRITIS – A COMPARATIVE POSTMORTEM CLINICOPATHOLOGIC STUDY OF 161 PATIENTS

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Objectives: The aim of our study was to determine the prevalence and severity of systemic AA amyloidosis (sAAa), to specify amyloid A deposits in different tissue structures of the kidneys, to outline the development of renal AA amyloidosis (rAAa), and to estimate the role of sAAa and rAAa in mortality.

Methods: At the National Institute of Rheumatology 9475 patients died between 1969 and 1992; among them 161 with RA (females 116, average age: 64.95 years, range 87–16, onset of RA: 50.19, average disease duration: 14.79 years; males 45, average age: 66.29 years, range 88–19, onset of RA: 52.57, average disease duration: 13.46 years at death); who were autopsied.

RA was confirmed clinically according to the criteria of the ACF.

sAAa was specified histologically, based on evaluation of 5 organs (heart, lung, liver, kidney and pancreas) in each of 161 patients. Amyloid A deposition was diagnosed histologically according to Romhányi by a modified (more sensitive) Congo red staining. Amyloid A deposits were identified in serial sections by immunohistochemical and histochemical methods. The prevalence (existence) and severity (extent) of amyloid A deposition were evaluated microscopically with an Olympus BX51 polarizing microscope.

Results: sAAa complicated RA in 34 (21.12 %) of 161 patients; in 127 (78.88 %) of 161 patients amyloid A deposits were not found.

Amyloid A deposits were found in 29 (87.88 %) kidneys of 33 patients with sAAa; kidneys were negative for amyloid in 4 (12.12 %) of 33 cases (in 1 of 34 patients with sAAa tissue blocks of kidneys were not available).

sAAa was lethal in 17 (50.0 % of 34) patients due to massive amyloid A deposition in the kidneys, leading to renal insufficiency and uremia. Cardiac amyloid A deposition led to death in 3 (8.82 % of 34) patients with sAAa (and contributed to the lethal outcome in further 5). Fourteen (41.18 % of 34) patients with sAAa died of other causes such as peritonitis, lethal septic infection, etc.

sAAa was clinically diagnosed in 9 (26.47 %) and missed in 25 (73.52 %) of 34 patients, and only cases with massive renal amyloid A deposits were recognized. Cardiac AAa or its pathogenic role in mortality was not diagnosed.

Conclusions: sAAa is one of the main and the most insidious complications of RA affecting the kidneys with high prevalence and severity. sAAa is related to the cardiovascular system, and rAAa is associated with it. sAAa and rAAa may be developed in both sexes, and at any time in the course of the disease.

Systemic and renal amyloid A deposition is a progressive and cumulative process, involving in its early stage only a few structures in various organs, and increasingly more in the later stages of the disease.

In sAAa the renal amyloid A deposition starts after a latent stage. This latency may be caused by a not specified local protective mechanism, e.g. great excretion capacity of the kidneys.

Amyloid A deposition starts in the most frequently involved structures of the kidneys with more massive deposits. The chronology of amyloid A deposition allows