

nanoparticles have been observed to cause lung parenchyma inflammation and granuloma formation in an animal model.⁵

Conclusions: Kaolinite mineral capacity for adsorption of heavy metals, in particular cadmium, could explain the scale and pattern of Caplan's syndrome incidence seen in Welsh coal miners and Cornish kaolin workers, and further explains the interactive risk seen in sequential dust and cigarette smoke exposure.

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AB0307 DIFFERENTIAL ASSOCIATION OF AGE AND DISEASE ACTIVITY WITH CAROTID INTIMA-MEDIA THICKNESS IN MEN AND WOMEN WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is the most common chronic inflammatory condition and is characterized by an increase risk in cardiovascular (CV) disease. Carotid intima-media thickness (cIMT) is a surrogate marker of CV disease and many studies have evaluated the relationship between cIMT and RA disease activity with contradictory results.

Objectives: To evaluate in RA patients the association between both cIMT and carotid plaque presence and clinical RA features and analytical measurements.

Methods: We selected 214 RA patients according to the American College of Rheumatology criteria. Conventional clinical evaluation and analytical measurements were performed, including a standard lipid profile. We used My Lab 50 X-Vision sonograph to measure cIMT and atherosclerotic plaque presence

Results: No differences between men and women regarding age, body mass index, glycaemia, LDL-C and TG were observed. However, men had a significantly higher waist circumference, systolic and diastolic BP and lower levels of HDLc. On the other hand, women had significantly higher values of DAS28 (3.7 vs 2.99), HAQ, and VSG with no differences in other inflammatory variables (rheumatoid factor, ACPA, CRP or fibrinogen). Moreover, 74% of patients had pathological cIMT without gender differences and 43% had plaque presence in the carotid artery with a significant higher percentage in men (57%) than women (36%). Overall, men had significantly higher cIMT (0.678 vs 0.627 mm) but when disease activity (DAS28) was considered, we observed that such difference was due to patients that were in remission or in low activity. Men and women with moderate and high disease activity had no statistical differences in cIMT. Furthermore, across women cIMT was significantly higher in those with high disease activity compared with remission. This effect was not observed in men. Multivariate linear regression with cIMT showed a significant interaction between age and gender, so that the effect of age on cIMT was significantly more pronounced in men than in women.

Conclusions: We have described that in our RA cohort, disease activity measured with DAS28 and age are differentially associated with cIMT in men and women. Our results could explain the contradictory results published in the literature and it can be justified by a higher incidence of RA in women and by the hormonal-genetic status.

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AB0308 DISEASE ACTIVITY, GRIP STRENGTHS AND HAND DEXTERITY IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is a chronic inflammatory disease affecting hand joints, and leading impairment in hand functions. To date many scientific studies assessed the disease activity of patients with RA, but little attention has been carried out to assess hand functions, and dexterity (1–2).

Objectives: The purpose of this study was to determine the clinical relevance of the Quick Disabilities of Arm, Shoulder and Hand (QuickDASH), hand dexterity with the Purdue Pegboard Test (PPT), and grip and pinch strengths of RA patients.

Methods: Eighty-two women with a diagnosis of RA according to the 2010 American College of Rheumatology/the European League Against Rheumatism (ACR/EULAR) criterion were recruited to the study. The disease activity scores were determined by using Disease activity score-28 (DAS-28). Grip strengths was measured with a Jamar dynamometer, and pinch strengths were measured by pinchmeter. Hand functions were evaluated with the PPT, and functional outcomes were assessed with the QuickDASH questionnaire.

Results: The mean age of the study group was 49.27±10.69 years. Average values of DAS-28, the QuickDASH values were found to be 4.22±1.28, 38.33±19.78, consecutively. High correlation was observed between DAS-28 and the QuickDASH values (p<0.001). The mean grip strengths were significantly correlated with the QuickDASH and DAS-28 values (p<0.01) (Table 1). The mean lateral pinch strengths were correlated significantly with DAS-28 and the QuickDASH scores (p<0.001). DAS-28 was correlated with PPT performance just on the dominant hand (p<0.05). The QuickDASH values were not correlated with all PPT performances (p>0.05). Grip strengths were positively correlated with the PPT performances (p<0.05).

Table 1. Showing the correlation coefficients of DAS 28 and QuickDASH scores between other parameters

	Correlation coefficients (r)	
	DAS 28	QuickDASH
QuickDASH	0.616***	
Grip strength (dominant hand)	-0.412***	-0.409***
Grip strength (nondominant hand)	-0.329**	-0.404***
Lateral pinch strength (dominant hand)	-0.320***	-0.327***
Lateral pinch strength (nondominant hand)	-0.276*	-0.310**
Palmar pinch strength (dominant hand)	-0.215	-0.157
Palmar pinch strength (nondominant hand)	-0.190	-0.165
Tip pinch strength (dominant hand)	-0.248*	-0.237*
Tip pinch strength (nondominant hand)	-0.227*	-0.201
Dexterity (dominant hand)	-0.277*	-0.033
Dexterity (nondominant hand)	-0.128	-0.098
Dexterity (both hands)	0.004	0.059
Dexterity (assembly)	-0.084	0.047

Spearman correlation analysis used for all parameters. *p<0.05, **p<0.01, ***p<0.001.

Conclusions: In conclusion, we determined that grip strengths were significantly related to disability and disease activity in RA patients in our study. The clinical significance of QuickDASH is high, and the questionnaire can be used effectively.

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AB0309 LIPID-LOWERING INTERVENTION OF A PREVENTIVE CARDIO-RHEUMA CLINIC IN MEXICAN MESTIZO PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Patients with rheumatoid arthritis (RA) have a significantly increased risk for cardiovascular (CV) morbidity and mortality when compared to general population (1). Preventive cardio-rheuma clinics have been created in recent years and proven to be effective to manage CV risk in patients with inflammatory joint diseases around the world (2).

Objectives: To evaluate the need for lipid-lowering intervention in Mexican mestizo patients with RA.

Methods: We initiated a preventive cardio-rheuma clinic for appropriate CV disease prevention in patients with RA in our population. A complete evaluation and CV risk stratification was performed to our patients, including blood tests and ultrasound examination of both carotid arteries. Each patient was classified to lifestyle changes only, a lifestyle intervention plus lipid-lowering treatment, or to have a low risk with no need for intervention, in accordance to the 2012 European Guidelines on cardiovascular disease prevention in clinical practice and the 2016 ESC/EAS Guidelines for the Management of Dyslipidemias.

Results: A total of 100 patients were evaluated, patient characteristics and intervention group distribution are shown in Table 1. Among these patients, 49 were found not to need any lipid-lowering intervention. The remaining 51 were classified into lifestyle change (n=18, 35.3%) or lipid-lowering drug regimens (n=33, 64.7%). A significant difference between intervention groups was only found regarding age (p<0.001). A multiple regression analysis was performed to predict the kind of intervention needed from age, disease duration, disease

Table 1 Patient characteristics and group distribution

	General n = 100	Group 1 (No intervention) n = 49	Group 2 (Lifestyle changes) n = 18	Group 3 (LLD) n = 33	p
Female gender, n (%)	96 (96)	47 (95.9)	18 (100)	31 (93.9)	0.58
Age (years), mean ± SD	56.7 ± 9.7	52.2 ± 8.8	62.4 ± 9.9	60.2 ± 7.6	< 0.001
Disease duration (years), median (IQR)	10.3 (4.2 – 17.9)	10.1 (3.8 – 16.2)	13.8 (9.3 – 21.5)	9 (3 – 19.7)	0.181
Disease activity (DAS28-CRP), median (IQR)	3.2 (1.9 – 4.1)	2.9 (1.9 – 4.1)	3.7 (2.2 – 4.2)	3.4 (1.8 – 4.2)	0.639
RF IgG (IU/ml), median (IQR)	8.8 (4.1 – 22.9)	8.4 (4.1 – 24.7)	7.25 (4 – 15)	11.5 (4.8 – 31.7)	0.381
RF IgM (IU/ml), median (IQR)	145.9 (52 – 200)	160.1 (35.4 – 200)	160.7 (57.8 – 200)	100 (48.9 – 200)	0.933
RF IgA (IU/ml), median (IQR)	44.3 (14.3 – 148.6)	41 (13.1 – 144.9)	38.3 (15.3 – 187.2)	67.1 (16.4 – 116.7)	0.935
ACPA (IU/ml), median (IQR)	99.2 (4.5 – 198.4)	100 (4.1 – 196.6)	18.4 (5.2 – 199.1)	114.4 (5 – 198.6)	0.970

SD: Standard deviation, IQR: Interquartile range, DAS28-CRP: Disease activity scale using 28 joints – C-reactive protein, RF: Rheumatoid factor, ACPA: Anti-cyclic citrullinated peptide antibodies. LLD: Lipid-lowering drug.

activity and autoantibody levels, only age added statistically significantly to the prediction ($p < 0.001$).

Conclusions: There was indication for preventive intervention in more than half of our patients. Age is a determinant factor that increases CV risk in RA patients independently from disease-specific factors. Treatment to lipid targets is essential to reduce their risk of CV morbidity and mortality (3). A prospective study evaluating treatment success rate is needed to further evaluate the intervention of the clinic.

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AB0310 PREVALENCE OF COMORBIDITIES OF RHEUMATOID ARTHRITIS IN A MEXICAN MESTIZO POPULATION

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Background: Patients with rheumatoid arthritis (RA) have an increased risk of developing comorbid conditions which are associated to increased mortality, hospital admissions, higher costs of care and inability to work (1, 2).

Objectives: To evaluate the prevalence of comorbidities in a Mexican mestizo population of RA patients.

Methods: We performed a cross-sectional study in which RA patients who were admitted to our outpatient clinic between August 2014 and December 2016 were consecutively enrolled. We collected data regarding demographics, disease characteristics (activity, severity, treatment), comorbidities (cardiovascular, infections, cancer, and osteoporosis), and performed blood tests at the time of the patient's visit to the clinic.

Results: We analyzed 225 patients. Their characteristics are shown in Table 1. Age, 55.7±8.3 years (mean ± SD); disease duration, 9.5 (4 – 15.5) (median (IQR)); female gender, 93.7%; Disease Activity Score using 28 joints–C-reactive protein (DAS28-CRP), 3 (2 – 4) (median (IQR)); past or current methotrexate use, 84.9%; past or current use of any other conventional disease modifying anti-rheumatic drug (cDMARD), 52.4%; past or current use of biological agents, 8%. The most frequently associated diseases were: hypertension, 29.8%; dyslipidemia, 27.1%; osteoporosis, 19.1%; diabetes, 12.4%; hypothyroidism, 6.2%; solid malignancies (excluding basal cell carcinoma), 4.4%. Risk factors were also evaluated, the most prevalent was overweight (BMI ≥25 <30) present in 101 (44.9%) of our patients. A total of 71 (31.6%) had obesity (BMI ≥30). The systematic evaluation of our patients allowed us to detect abnormalities in vital signs, such as elevated blood pressure in 12.4%, and to identify conditions that manifest as laboratory test abnormalities, such as hyperglycemia in 27.1% and hyperlipidemia in 49.8%.

Conclusions: This study confirms the high prevalence of comorbidities in RA patients. Among our cohort, 63.5% had at least one comorbidity, being those associated with cardiovascular disease the most common. With a systematic

Table 1 Demographic characteristics

Variable	Result
Women, n (%)	211 (93.8)
Age (Years), mean ± SD	55.71 ± 8.38
Disease duration (years), median (IQR)	9.57 (4 – 15.58)
BMI (kg/m ²), median (IQR)	27.41 (25.16 – 31.62)
Normal, n (%)	53 (23.6)
Overweight, n (%)	101 (44.9)
Obese, n (%)	71 (31.6)
Smoking, n (%)	20 (8.9)
DAS28-CRP, median (IQR)	3.01 (2.04 – 4.08)
Joint surgery due to RA, n (%)	25 (11.1)
Medication, n (%)	
Prednisone	135 (60)
Methotrexate	191 (84.9)
Other non-biologic DMARDs	118 (52.4)
Biologic DMARDs	18 (8)

assessment (3) including a thorough physical examination, vital signs and laboratory tests, it is possible to detect comorbid conditions that would otherwise remain unrecognized.

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AB0311 RESULTS OF SCREENING FOR TUBERCULOSIS INFECTION IN PATIENTS WITH RHEUMATOID ARTHRITIS BEFORE AND ON TREATMENT WITH BIOLOGICAL DMARDs

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Background: The prevalence of tuberculosis infection in Russia is much higher than in Western Europe. Therefore, screening for TB infection in patients with RA before therapy with biological agents is of particular importance. At the same time, reliable information on the results of screening are very few.

Objectives: Explore the results of the application of different methods of diagnosis of tuberculosis infection in RA patients before and during treatment with biological agents.

Methods: We used the data from the Russian register "Observational REgister of arthritis in cLinical practice" (OREL). 1471 RA patients were screened for TB infection before prescribing biologics, of whom 829 patients were exposed to TB infection monitoring on therapy by biologics. The group included 21.1% men, 78.9% women; at the time of initial screening age was 50.0±0.4 years, the duration of the disease 8.5±3.8 yrs, 68.3% RF +, 85.1% anti-CCP +, DAS28-ESR 5.7±1.1, 95.7% used synthetic DMARDs, 60.1% used systemic steroids. We used PPD (Mantoux) test, Diaskin test (intradermal test with tuberculosis recombinant allergens CFP10-ESAT6) and QuantiFERON-TB Gold (QFT) test (in some patients), chest X-ray, chest CT scan (if needed), all the patients were consulted by phthisiatrician. PPD and Diaskin test results were considered positive if the papule was ≥5 mm. Duration of treatment with biologics (anti-TNFs and others) varied widely (2–154 months), making a total of 2552 patient-years.

Results: At screening, we got 40.3% positive results of PPD test (significantly more in younger patients and patients who did not receive steroids), 16.5% positive results of Diaskin test (with no significant correlations with age and steroids). Positive results matched in 19.9% of cases, negative - in 51.9%. Discordant results in 217 patients were in 92.2% cases related to negative results of Diaskin in PPD-positive persons. Active TB was found after additional examination in 3 (0.2%) patients, inactive TB-related changes were revealed in 124 (8.8%) patients. Positive PPD and Diaskin results, but not QFT, correlated with signs of inactive TB lesions. Positive results of PPD and QFT tests matched in 36.5% of cases, negative - in 18.7%, Diaskin and QFT - in 33.6% and 41.1% of cases resp. As a result of screening, 224 pts were treated by isoniazid or combination of anti-TB drugs before initiation of biologics. On treatment with biologics, 114 (13.7%) pts became PPD-positive and 56 (6.8%) Diaskin positive, active TB was diagnosed in 8 (0.97%) pts.

Conclusions: In carrying out TB screening before prescribing biologics in high-