Table 1

VARIABLE	CASES n=49	CONTROLS n=50	P-VALUE
Age, years, mean (SD)	56.6 (10.6)	56.4 (10.6)	0.902
Sex, women, n(%)	41(75.3)	41(82.0)	0.189
Tobacco			0.117
Never smoker, n(%)	42(85.7)	48(96.0)	
Former smoker, n(%)	2(24.3)	1(10.0)	
Current smoker, n(%)	2(25.0)	2(20.0)	
Concomitant			
BMI > 30 (kg/m ²), n(%)	30(33.7)	23(27.5)	0.608
BMI, mean (SD)	28.2 (6.8)	27.3 (4.8)	0.266
Dyslipemia, n(%)	21(23.9)	16(18.8)	0.442
Hypertension, n(%)	25(26.5)	23(27.5)	0.868
Inadequate influenza			
HOMA-IR > 2.75, n(%)	25(28.1)	24(30.0)	0.786
HOMA-IR, median (IQR)	1.7 (1.02-2.3)	1.66 (1.15-2.65)	0.386
HOMA-IR, median (IQR)	38.9 (22.1-63.3)	34.39 (24.0-54.8)	0.545
QUICKI, median (IQR)	0.306 (0.29-0.31)	0.306 (0.29-0.31)	0.211

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FRI0057 INSULIN RESISTANCE IN ELDERLY ONSET RHEUMATOID ARTHRITIS AND POLYMYALGIA RHEUMATICA

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Background: Rheumatoid arthritis (RA) patients have a higher insulin resistance (IR) and some studies report that it is present at diagnosis. Systemic inflammation has been pointed out as the reason. However, data on polymyalgia rheumatica (PMR) are controversial.

Objectives: To analyse IR in a group of untreated patients with a recent diagnosis of RA and PMR, and to establish predictive factors related with IR.

Methods: Longitudinal observational study of patients older than 60 years, newly diagnosed with elderly-onset AR (ACR/EULAR 2010) and PMR (ACR/EULAR 2012). Comparison with healthy control group of the same age. Inclusion: consecutive and voluntary. Exclusion: patients with insulin-dependent diabetes. Follow-up time: 12 months. The clinical-epidemiological, anthropometric and analytical characteristics were collected. IR was calculated by HOMA-IR [(homeostatic model assessment of insulin resistance) = glucose (mg/dL) * insulin (mIU/L)/405] baseline and at 12 months. HOMA-IR>2.75 was considered IR (according to Spanish data). The statistical study was performed with Stata 15.1.

Results: We recruited 42 patients with RA, 18 with PMR and 18 healthy controls. None of them had received treatment with corticosteroids or with DMARD at the baseline visit. Baseline characteristics are summarized in the table.

	RA (N=42)	PMR (N=18)	P value
Epidemiological data			
Women n (%)	18 (42.9)	15 (83.3)	0.001
Age (mean ± σ)	74.4 ± 7.6	76.4 ± 5.2	0.594
Diabetes mellitus	15 (35.7)	3 (16.7)	0.140
BMI (kg/m ²)	27.7 [25.1-30.5]	26.5 [24.0-29.1]	0.393
Abdominal perimeter (cm)	100 [95-106]	94 [90-104]	0.076
Analytical data			
Glycohemoglobin%	6.1 [5.9-6.4]	5.8 [5.6-6.5]	0.107
ESR (mm/1 st hora)	49 [36-75]	52 [42-69]	0.508
CPR (mg/L)	24.4 [7.1-44.1]	22.1 [12.4-45.9]	0.670
RF positive n (%)	14 (33.3)	1 (5.6)	0.023
ACPA positive n (%)	13 (30.9)	2 (11.1)	0.104
RF and ACPA positive n (%)	17 (40.5)	3 (16.7)	0.073
Insulin resistance test			
HOMA-IR median[RIQ]	3.6 [2.1-5]	2.1 [1.6-3.4]	0.004

At baseline visit, 66.7% of patients with elderly-onset RA had IR, compared with 33.3% of controls (p=0.024) and 27.8% of PMR (p=0.006). Therefore, the prevalence of IR in patients with RA doubled that of controls and patients with PMR before starting treatment.

After 12 months of evolution and treatment, patients with RA and IR decreased from 66.7% to 51.2%, not being statistically significant (p=0.179). On the other hand, the percentage of patients with PMR and

IR remained the same (27.8%). The differences in IR between RA and PMR at 12 months remained statistically significant (p=0.048).

Given the results we decided to analyze the predictive factors related with IR only in the 42 patients with RA. In the univariate logistic regression analysis, the predictors of presenting IR were the BMI, the abdominal perimeter and the scapular girdle involvement. Specifically for BMI, for each of 2 kg/m² the probability of having IR was 1.24 times higher (OR=1.24, IC95%: 1.12-1.37). Patients with scapular girdle involvement had a 6-fold increased risk of developing IR (OR = 6.0, 95% CI: 1.3-26.6). And for every 5 centimetres of abdominal perimeter the risk increased almost 4 times more (OR=3.9, 95% CI: 2.9-5.1). In the multivariate analysis, the only independent factor to increase the IR was the abdominal perimeter (aOR = 1.23, IC95%: 1.07-1.41).

Conclusion: Patients with elderly-onset RA have a higher IR than the general population. High IR in RA is present at diagnosis. IR in AR is not exclusively mediated by systemic inflammation, since patients with PMR do not have this increase. The predictors of presenting IR in late onset AR were BMI, scapular girdle involvement and abdominal perimeter. Only the abdominal perimeter was shown as an independent factor.

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FRI0058 RHEUMATOID ARTHRITIS IS AN INDEPENDENT RISK FACTOR FOR DEVELOPING INFLUENZA REQUIRING HOSPITAL INPATIENT ADMISSION, COMPARABLE TO OLDER AGE AND GREATER THAN SMOKING, IN A LARGE, SINGLE-CENTRE COHORT

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Background: RA patients are known to be at increased risk of serious infection(1), particularly for respiratory infections such as influenza which are known to be associated with increased morbidity and mortality(2). Currently RA patients do not have enhanced access to high-dose influenza vaccination in our jurisdiction, despite the reported benefit in RA(3) and enhanced access for patients older than 65 years old. The magnitude of the risk from RA compared to smoking or age greater than 65 years old remains incompletely understood.

Objectives: To examine the association of RA, smoking, and age greater than 65 years old with hospital inpatient admissions for influenza.

Methods: We examined general medical inpatient admissions in a large tertiary hospital between January 2012 and December 2018. Major confounders (smoking status, age and gender) were selected based on causal inference analysis using a directed acyclic graph. Natural language processing and ICD-10 codes were used to determine the diagnosis of rheumatoid arthritis, smoking status and influenza diagnosis. These variables were used in a multivariable logistic regression analysis. The strength of association was assessed using adjusted odds ratios and associated 95% confidence intervals.

Results: We assessed 19,010 patients with at least one general medical inpatient admission during the study period, of which 495 had at least one admission primarily for influenza (Table 1). Within this cohort, there were 3791 patients identified as active smokers and 731 with a history of RA. In the multivariable model, patients with a history of RA were more likely to have at least one admission for influenza (OR 1.65 [1.12 - 2.36]). This risk was comparable to that experienced by patients older than 65 years old in an unadjusted analysis (OR 1.62 [1.29 - 2.04]) and stronger than that experienced by smokers in an unadjusted analysis (OR 1.38 [1.12 - 1.69]).

Conclusion: RA patients are at independent risk of influenza leading to a hospital inpatient admission, with a magnitude comparable to that of patients aged over 65 years old and greater than that of smokers. Funding authorities should consider making influenza vaccination available for RA patients in a comparable way to that available to patients aged over 65 years old.

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Table 1. Characteristics of patients admitted for influenza compared to those admitted for other reasons

Variable	Not admission for influenza (n = 18,515)	Admission for influenza (n = 495)
Age (years)	71.3 ± 17.2	74.1 ± 13.7
% Male	46.3%	46.1%
Smoker	3665 (19.8%)	126 (25.4%)
RA	700 (3.8%)	31 (6.3%)

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FRI0059 SOLUBLE RECEPTOR FOR ADVANCED GLYCATION END PRODUCTS (sRAGE) AND RISK FOR CARDIOVASCULAR DISEASES IN FEMALES WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid arthritis (RA) is strongly associated with increased frequency of cardiovascular disease (CVD), which remains the major cause of mortality in these patients. Current CVD risk assessment algorithms have limited predictive value for RA patients. Soluble receptor for advanced glycation end products (sRAGE) has recently emerged as a biomarker of inflammation with an inverse correlation with traditional CVD risk factors as age, hypertension and hypercholesterolemia.¹

Objectives: In a cohort of female RA patients with no previous history of CVD, we assessed whether sRAGE levels were associated with increased risk of CVD during a prospective 5 years follow up.

Methods: Serum sRAGE levels were measured in 171 female RA patients (median age 53; range 21-71) at the inclusion to the study. The CVD risk was estimated using the Framingham algorithm and both traditional and RA associated risk factors for CVD were measured. All the patients were prospectively followed up to 5 years for new CV events, type II diabetes and medication for hypertension and hyperlipidemia. Statistical analysis was performed to compare CVD risk and actual events in the patients with low sRAGE (<1700 pg/ml).

Results: The comparison of patients with low sRAGE (n=125) and normal-high sRAGE (n=46) found no significant differences in frequency of the traditional CVD risk factors including age>60 years (30% vs 41%), overweight (50% vs 41%), smoking (14% vs 11%), incidental hypertension (16% vs 16%) and hypercholesterolemia (56% vs 67%) at baseline and led to similar estimated CVD risk (7.65% vs 8.45%). The RA-related CVD risk factors including disease duration >10years (37% vs 39%), presence of autoantibodies (89% vs 95%), disease activity (DAS28, 46% vs 60%) were also similar in the low-and high sRAGE groups. At 5 years follow up, 11 new CVD events were registered. The events occurred with similar frequency in the low sRAGE and high sRAGE groups (5.6% vs 8.7%). Despite a lack of difference in CVD events, we did observe a significant increase in frequency of new medication for hypertension in the low sRAGE group (21.5% vs. 63%, p=0.01), but not in medication for type II diabetes or statins.

Conclusion: In this study, we found no association between serum levels of sRAGE and the estimated CVD risk or actually occurred CVD events in female RA patients.

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FRI0060

NEUROCOGNITIVE PROFILE IN CHILDREN BORN TO MOTHERS WITH CHRONIC ARTHRITIS: WHICH RELATIONSHIP WITH MATERNAL FEELING OF DISEASE?

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Background: Chronic Arthritis could begin in women in childbearing age with several consequent complications in family planning. There are few data on long term outcome of children born from these mothers.

Objectives: Evaluate the neurocognitive profile of children born to mothers with Rheumatoid Arthritis (RA), Psoriatic Arthritis (PsA), Ankylosing Spondylitis (SpA) and studied the psychological outcome of these patients in relationship to their pregnancies.

Methods: We evaluated 16 women (11 RA, 3 PsA, 2 SpA) with diagnosis before pregnancy and school-age children. Information about maternal disease and treatment during pregnancy were collected from medical records. The work was performed by a multidisciplinary team (rheumatologists and pediatric neurologists). The Child Behavior Check List (CBCL 6-18), a home-made questionnaire and others validate questionnaires (STATE-TRAIT ANXIETY INVENTORY - STAI, EDIMBURGH POSTNATAL DEPRESSION SCALE - EPDS, PAYKEL scale of stressful life events) were submitted to all mothers. A neurological physical exam was performed by a pediatric neurologist in all children. Intellectual functioning were assessed by Wechsler scale for corrected age. We also applied standardized batteries to evaluate academic learning. The study was approved by the local ethical committee.

Results: We evaluated 18 children (F/M=1/1, median age 7,4 years, range 6.4-14). All children were born at term and with normal weight. The neurological physical exam and the intelligence level were normal in all children. One child displayed a specific learning disability in reading activities (10% vs 2,5-3,5% of general pediatric population). We found in 6 children (33%) behavior aspects of somatization and anxiety/depression (internalizing problem), in 2 (11%) externalizing problems (oppositional-provocative behavior) and in 5 (28%) an "adult profile". From maternal evaluations we found significant correlations between activity of disease during pregnancy and difficult caregiving and breastfeeding (p=0,005 and p=0,0128 respectively). Finally, a relationship also exists between maternal depression/anxiety and need of psychological support.

Conclusion: This preliminary study on children born to mothers with chronic arthritis showed in children a prevalent pattern of anxiety/depression and an adult, mature profile, expression of insecurity. Therefore, data from CBCL showed that these children were less involved in sports or playful activities than peers and were more involved in school activities. It seemed they would invest more energies in intellectual functioning, as noted in children affected by chronic diseases such as asthma or juvenile idiopathic arthritis. On the maternal side clearly emerged a diffuse state of anxiety, accentuated by having an active disease during pregnancy and puerperium. Postpartum depression was detected in these mothers with higher levels than general population (39% vs 10-15%): it could be desirable to give these mothers a psychological support during this period. The practical message of our study is also that children born to women with chronic arthritis may need a long-term followup in order to detect and correct any neurological, behavioral or cognitive alteration as early as possible.

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