Table 1. Effect in FVC, DLCO, dyspnea (mMRC) and HRCT pulmonary scan after abatacept.

	ABA _{MONO} N=111		ABA _{MTX} N=46		ABA _{NON-MTX} N=106		ABA _{MTX} vs ABA _{MONO}		ABA _{NON-MTX} vs ABA _{MONO}
		p		p		p	p*	Unadjusted	Adjusted**
Follow-up, median [IQR] months	12 [6-36]		12 [6-36]		18 [12-36]		0.40		0.67
Differences between basal and final follow-up									0.17
FVC, %	-0.5 (-2.5, 1.5)	0.64	1.2 (-0.6, 3.1)	0.17	-1.2 (-2.9, 0.5)	0.17	0.33	0.39	0.90
DLCO, %	1.8 (-0.7, 4.34)	0.16	0.5 (-3.8, 4.8)	0.82	-1.5 (-4.1, 1.1)	0.26	0.20	0.80	0.32
mMRC, n (%)									
Worsening	5 (5)		3 (8)		5 (5)		0.83	0.47	0.99
Stable or improving	93 (95)		36 (92)		87 (95)				
HRCT pulmonary scan, n (%)									
Worsening	13 (28)		2 (11)		15 (25)		0.24	0.10	0.78
Stable or improving	34 (72)		19 (89)		44 (75)				
DAS28-ESR	-1.5 (-1.9, -1.0)	0.000	-1.2 (-1.8, -0.6)	0.000	-1.5 (-1.8, -1.2)	0.000	0.74	0.58	0.92
Prednisone, mg/day	-3.8 (-8.3, 0.8)	0.10	-2.7 (-4.6, -0.8)	0.006	-4.8 (-6.3, -3.4)	0.000	0.69	0.67	0.65

Differences in DAS28-ESR, prednisone, FVC and DLCO are expressed as mean difference (95%CI) comparing final follow-up minus basal values.*Differences between the 3 groups.**Differences between ABA_{MTX} vs. ABA_{MONO} and between ABA_{NON-MTX} vs ABA_{MONO} are adjusted for age, disease duration until abatacept treatment, and DAS28 and prednisone dose at baseline. **Abbreviations** (DAS28-ESR: Disease activity score-erythrocyte sedimentation rate; DLCO: Carbon Monoxide Diffusing Capacity; HRCT: High resolution computed tomography; FVC: Forced vital capacity, mMRC: modified Medical Research Council scale

POS0514 IMPORTANCE OF BODY MASS MEASUREMENT AND THE GRIP STRENGTH TEST TO PREDICT FALLS IN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: We previously reported that the prevalence of sarcopenia was 28% in patients with rheumatoid arthritis (RA) in a cohort study¹. RA patients have a high risk of falls and fractures². However, the predictors of falls and fractures in RA patients are not known.

Objectives: Whether evaluation of muscle mass and function at baseline could predict falls and fractures during four-year follow-up was investigated.

Methods: The four-year follow-up data from a prospective, observational study (CHIKARA study: Correlation research of sarcopenia, skeletal muscle and disease activity in Rheumatoid Arthritis) were used. Muscle mass was measured by a body impedance analyzer, and leg muscle mass was calculated. The leg muscle score (max: 100, min: 0) reflected the ratio of leg muscle mass to overall weight. Grip strength as an indicator of muscle function was evaluated using a digital, hand-held, isokinetic dynamometer. The correlations between muscle mass or function and falls or fractures were analyzed by survival rates and Cox hazard ratios. Leg muscle mass and grip strength were investigated by receiver operating characteristic (ROC) curve analysis for correlations with falls or fractures.

Results: A total of 100 RA patients (female: 78%, mean age: 66.1 years) were enrolled; 35 patients had falls, and 19 patients had fractures during the four-year follow-up. The leg muscle score, grip strength, age, and fractures at baseline were significantly correlated with falls. The cut-off values of the leg muscle score and grip strength were calculated to be 84.5 points (sensitivity: 0.79, specificity: 0.43) and 15.9 kg (sensitivity: 0.56, specificity: 0.70), respectively, by ROC curve analysis. The patients were divided into four groups by their leg muscle scores and grip strength; the numbers of falls and fractures are shown in Table 1 for each group. The fall-free survival rate was significantly lower in the group with low leg muscle score and low grip strength (35.3%) than in the other groups (P=0.002) (Figure 1). The hazard ratio for the both low group was significantly increased, 3.6-fold (95%CI: 1.1-11.5), compared to that in the both high group.

Table 1. Numbers of falls and fractures by category of leg muscle score and grip strength

	LG + GS+ (n=34)	LG - GS+ (n=12)	LG + GS- (n=37)	LG - GS- (n=17)	P value*
Falls, N	6	5	15	11	0.010
Fractures, N	3	4	6	6	0.072

LG+: leg muscle score >84.5 points, GS+: grip strength >15.9kg, LG-: leg muscle score ≤84.5 points, GS-: grip strength ≤15.9kg *: compared in four groups by Kruskal-Wallis test.

Figure 1. Fall-free survival rate in the four groups

Conclusion: RA patients with both low leg muscle score and low grip strength at baseline were at high risk for falls during the four-year follow-up period. Evaluation of muscle mass and function can predict falls in RA patients.

REFERENCES:

- [1] Tada, M., Yamada, Y., Mandai, K. & Hidaka, N. Matrix metalloproteinase 3 is associated with sarcopenia in rheumatoid arthritis - results from the CHIKARA study. *Int J Rheum Dis* 21, 1962-1969, doi:10.1111/1756-185X.13335 (2018).
- [2] van Staa, T. P., Geusens, P., Bijlsma, J. W., Leufkens, H. G. & Cooper, C. Clinical assessment of the long-term risk of fracture in patients with rheumatoid arthritis. *Arthritis Rheum* 54, 3104-3112, doi:10.1002/art.22117 (2006).

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POS0515 FIBROMYALGIA IN MEXICAN PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Rheumatoid Arthritis (RA) is a disabling chronic inflammatory disease that shows an unpredictable and severe clinical course [1]. Global assessment, functional status and disease activity of patients with RA can be influenced also by non-inflammatory factors as concomitant presence of fibromyalgia (FM) [1,2]. FM occur up to 20% in RA patients, who present chronic widespread pain, fatigue and cognitive symptoms that impacts achieving a complete disease remission, having more comorbidities, bearing a higher medical cost and finally exhibiting a worse quality of life [1,3,4]. Range of manifestations of FM varies according ethnical and cultural differences between patients [1]. Here is presented the impact of fibromyalgia in Mexican patients with RA.

Objectives: To determinate the frequency and factors associated to fibromyalgia in Mexican RA patients.

Methods: 624 patients with RA that fulfilled ACR/EULAR 2010 criteria (≥18 years) from a Mexican population recruited from 2012 to 2020 were examined. Patients with or without presence of FM diagnosed by ACR 2010/2011 criteria were included. Demographic factors, clinical features, disease activity measured using DAS28 (Disease Activity Score 28-joint counts), functional status evaluated by HAQ (Health Assessment Questionnaire), comorbidities and pharmacologic treatments were explored for RA patients with and without FM. Charlson's comorbidity index (CCI) was used to analyze comorbidities. Chi-square, Student's-t, U Mann-Whitney tests were performed by univariate analysis and logistic regression was executed by multivariate analysis adjusted for age and gender. Statistical tests were conducted at 5% level of significance.

Results: Of 624 patients with RA 88.8% were women. The mean age [standard deviation (SD)] was 55.0 (12.3) years. The mean of time at onset of RA (SD) was 11.2 (9.1) years. A total of 311 (49.8%) patients had FM; of them 91.6% were women and the mean age (SD) was 54.5 (12.2) years. In the univariate analysis RA patients with FM were more likely to be older and smokers, have seropositive RA, higher body mass index and longer time at onset of RA, show worse functional status by HAQ and more radiographic progression, present more extra-articular and sicca manifestations, exhibit increased demand of hip and knee arthroplasty, also reveal a higher frequency of comorbidities including depression, osteoporosis and type 2 diabetes mellitus, besides to use a greater number of disease-modifying anti-rheumatic drugs (DMARDs), more biologic agents and higher doses of corticosteroids. Also, CCI was higher in RA patients with FM. Nevertheless, no differences were found for RA disease activity in both groups. In multivariate analysis, higher score of CCI (OR 1.21, 95% CI 1.01-1.44, p=0.037) remained significant in RA patients with FM.