Figure. Percentages of patients reporting improvements $\geq$ MCID with baricitinib vs placebo and associated NNTs for baricitinib in RA-BEAM and RA-BEACON. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. Abbreviations: BP, bodily pain; FACIT-F, Functional Assessment of Chronic Illness Therapy-Fatigue; GH, general health; HAQ-DI, Health Assessment Questionnaire-Disability Index; MCID, minimum clinically important difference; MH, mental health; NA, not applicable (ie, difference between treatment and placebo is not statistically significant, confidence interval of NNT is not calculated); NNT, numbers needed to treat; Pain, Patient's assessment of pain; PCS, physical component score; PF, physical function; PtGA, Patient's Global Assessment of Disease Activity; RE, role emotional; RP, role physical; SF-36, Short Form-36; SF, social functioning; VT, vitality

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Rheumatoid arthritis - comorbidity and clinical aspects

FRI0049

RHEUMATOID ARTHRITIS ASSOCIATED INTERSTITIAL LUNG DISEASE: TOBACCO AND OTHER RISK FACTORS

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Background: Among the risk factors associated with the development of interstitial lung disease (ILD) in patients with rheumatoid arthritis (RA) are: male sex, old age, erosive RA, rheumatoid nodules, smoking and high levels of rheumatoid factor (RF) and anticitrullinated protein antibody (ACPA). The factors of poor prognosis include: HRCT (High Resolution Computed Tomography) pattern of usual interstitial pneumonia (NIU) with altered baseline functional tests (forced vital capacity FVC $< 60\%$, diffusion capacity of the lung for carbon monoxide DLCO $< 40\%$).

RA associated UIP (RA-UIP) has an appearance that is identical to idiopathic UIP (idiopathic pulmonary fibrosis [IPF]) on HRCT.

Objectives: To analyze different risk factors and poor prognosis in a cohort of patients with ILD-RA.

To assess the degree of association between tobacco (smokers, ex-smokers and non-smokers) and altered baseline functional respiratory tests (FRT) (FVC $< 80\%$ and DLCO $< 40\%$) with HRCT patterns.

Methods: Descriptive study of 57 patients treated in our Hospital (1/1/2018 until 12/31/2019) with a diagnosis of RA (ACR 2010 criteria) and secondary ILD.

The most recent American Thoracic Society (ATS)/European Respiratory Society (ERS)/Japanese Respiratory Society (JRS)/Latin American Thoracic Society (ALAT) guidelines define three HRCT (High Resolution Computed Tomography) patterns of fibrosing lung disease in the setting of idiopathic pulmonary fibrosis (IPF): definite UIP (traction bronchiectasis and honeycombing), possible UIP and inconsistent with UIP. The distinction between definite UIP and possible UIP in these to the presence or absence of honeycombing. Approved by the Ethics Committee.

Quantitative variables are expressed as mean (SD) and dichotomous variables as percentages (%). The association between tobacco-UIP and FVC-UIP was studied using two Chi-square tests and the DLCO-UIP relationship with an exact Fisher test. Statistical analysis with SPSS version 21.

Results: 21 men and 36 women were included, with a mean age of 69 ± 10 years (mean $\pm$ SD), history of smoking (smokers 14%, non-smokers 43%, ex-smokers 42%). 83% were positive RF and 70% positive ACPA. Regarding the HRCT findings: 29 (50%) had an inconsistent with UIP pattern and 28 (49%) had an UIP pattern (45% defined, 3% possible). Of the UIP patients, 14 (50%) had a smoking relationship (35% ex-smokers, 25% smokers) and 15 were male (53%). Of the sample analyzed, 8% (5 patients) have died, all ex-smoking men, the UIP pattern being the most frequent found (4 UIP, 1 inconsistent with UIP).

No statistical association was observed between patients with exposure to tobacco and the UIP pattern ($p = 0.438$), nor among patients with baseline FVC $< 80\%$ and UIP ($p = 0.432$) and also among patients with baseline DLCO $< 40\%$ and UIP pattern ($p = 0.459$).

Conclusion: Our results, in general, do not match what is published in the literature. Male sex, smoking exposure and fibrosing pattern (UIP) represent a worse prognosis for patients with ILD-RA. However, more studies are required to determine more precisely how these risk factors affect the disease.

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FRI0050

EFFICACY OF ATORVASTATIN VERSUS COLCHICINE IN DECREASING BIOMARKERS OF MYOCARDIAL DAMAGE IN PATIENTS WITH SEVERE RHEUMATOID ARTHRITIS

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Background: Patients with rheumatoid arthritis (RA) have been associated to higher morbidity and mortality due to cardiovascular events. The impact of atorvastatin and colchicine in reducing these complications has been evaluated without comparative studies of these drugs in RA patients. We assess whether atorvastatin is superior to colchicine in cardiovascular risk markers (high-sensitivity troponin I (hs-cTnI), echocardiographic abnormalities and inflammatory cytokine) in patients with RA

Objectives: The primary objective was to compare the initial and final levels of hs-cTnI with both treatments. Secondary objectives: Describe initial echocardiographic abnormalities, compare changes in these alterations with treatment, evaluate factors associated with a higher level of hs-cTnI and echocardiographic abnormalities, compare changes in serum levels of inflammatory cytokines (TNF, IL 8, IL 1 β , IL 6, IL 10, IL 12p70) and values of lipid profile

Methods: Prospective randomized pilot study, blinded for cardiologist and rheumatologist, with patients with RA and severe disease activity (DAS > 5.1), without known heart disease, kidney disease or previous use of atorvastatin and / or colchicine. Patients were assigned according to randomization in two groups: atorvastatin 40mg/day or colchicine with an initial dose of 0.75mg/day titrated according to tolerance up to a maximum dose of 1.5mg/day, both were received for four weeks. NCT04056039

Results: Recruitment of September 2018 to August 2019, 60 participants had undergone randomization (30 in each group) with a median age 48. The duration of follow-up from randomization was 28 days in each group. Participants were followed by weekly telephone contact to assess of adherence treatment. A detected value of hs-cTnI was found in all patients, initial value in the atorvastatin group: Median 1ng /L, IQR 1-2 and final: Median 1ng /L, IQR 1-3 vs initial value in the colchicine group: 1ng /L, IQR 1-2 and final: 1ng /L, IQR1-2 $p = 0.67$. Echocardiographic abnormalities in 46 patients (76.66%); 63.33% diastolic dysfunction, 15% tricuspid regurgitation and 11.66% left ventricular hypertrophy.

There were changes in initial and final diastolic dysfunction in the atorvastatin group from 19 to 9 vs colchicine 19 to 12 $p = 0.05$, 95% CI 0.49-0.82. Correlation of initial hs-cTnI with age $p < 0.001$ and rheumatoid factor $p = 0.02$; correlation of diastolic dysfunction and age $p < 0.001$. There was a greater decrease in the

level of tumor necrosis factor (TNF) and IL 1 β in the atorvastatin group, however, decrease was higher in IL6 and IL12p70 in the colchicine group. Mild diarrhea was reported as the most frequent adverse effect in the atorvastatin group of 3.33% and colchicine of 23.33% $p = 0.010$. There was a statistically significant decrease in cholesterol and LDL-cholesterol levels in favor of treatment with atorvastatin

Conclusion: We do not observe substantial differences in decrease in hs-cTnI with atorvastatin and colchicine, a prospective study of 222 patients is required to avoid β -type error. Echocardiographic abnormalities in 76% of patients showed a greater decrease in diastolic dysfunction in the atorvastatin group, as well as lower cholesterol and LDL-cholesterol levels, thus, as a tendency to falling of TNF and IL 1 β in this group

References:

- [1] Liao KP, Solomon DH. Traditional cardiovascular risk factors, inflammation and cardiovascular risk in rheumatoid arthritis *Rheumatol* 2013;52(1): 45–52
 - [2] Papageorgiou N, Briassoulis A, Lazaros G. Colchicine for prevention and treatment of cardiac diseases: A meta-analysis *Cardiovasc Ther* 2017;35(1):10–8
 - [3] Li G min, Zhao J, Li B, et al. The anti-inflammatory effects of statins on patients with rheumatoid arthritis: A systemic review and meta-analysis of 15 randomized controlled trials *Autoimmun Rev* 2018;17(3):215–25
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FRI0051

RHEUMATOID ARTHRITIS PATIENTS WITH HIGH DISEASE ACTIVITY AND TREATED WITH HIGH DOSE GLUCOCORTICOID FREQUENTLY FALL: NINE YEARS OF THE TOMORROW STUDY

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Background: Falling is a multicausal phenomenon resulting from complex interactions between intrinsic and extrinsic or environmental factors. Patients with rheumatoid arthritis (RA) who have muscle weakness and stiff or painful joints might be at increased risk of falling. However, little is known about the exact properties of risk factors for falling in patients with RA. Recently, the disease activity of RA has been more satisfactorily controlled by the “treat-to-target” strategy, including the use of biologics. Given this new era, it is important to accurately estimate the incidence of falling in patients with RA and to elucidate contributing risk factors.

Objectives: The objective of this study was to evaluate the incidence of falling and associated risk factors in 208 patients with RA and in age- and sex-matched 205 controls (Co) who participated in the TOMORROW (TOtal Management Of Risk factors in Rheumatoid arthritis patients to IOW er morbidity and mortality) study, a 10-year cohort study that started in 2010 in Japan. This research was conducted using TOMORROW study data for 9 years.

Methods: We evaluated the incidence of falling by self-administered questionnaire every year and confirmed them by medical records. We also collected information about general health status, body composition including bone mineral density, lean body mass, fat mass and laboratory data. We compared the frequency of the incidence of falling in RA patients and Co for 9 years and analyzed risk factors for falling.

Results: A total of 157 patients with RA (mean age: 57.1 $\pm$ 12.5 years, female: 84.7%, mean disease duration 13.9 $\pm$ 12.0 years) and 169 Co (mean age: 57.6 $\pm$ 12.5 years, female: 84.0%) completed 9 years observation. The rate of individuals who fell did not differ between two groups (RA: 66.9%, Co: 59.2%, $p=0.19$). However, number of falls was higher in RA than Co (0.35 vs 0.21/person-year, $p=0.03$). Multivariate logistic regression analysis adjusted for age, sex and BMI, revealed that RA was not a risk factor for the incidence of falling (OR: 1.36, 95%CI: 0.8–2.32, $p=0.26$) and the history of falling was a risk factor for the incidence of falling (OR: 3.27, 95%CI: 1.78–7.0, $p<0.001$). Multivariate linear regression analysis adjusted for age, sex and BMI, revealed that mHAQ ($\beta=0.17$, $p=0.04$), mean DAS28-CRP over 9 years ($\beta=0.19$, $p=0.02$) and mean dosage of glucocorticoid over 9 years ($\beta=0.18$, $p=0.03$) were the risk factors for number of falls (table 1).

Table 1. Multivariate linear regression analysis of risk factors associated with number of falls sustained by patients RA.

		RA	N=157
		β	p
At the entry	Anti-CCP antibody (U/mL)	0.016	0.835
	RF (IU/ml)	0.020	0.803
	History of falling	0.103	0.201
	DAS28-CRP	0.078	0.333
	mHAQ	0.169	0.039
	Dose of GC (mg/day)	0.028	0.723
9 years	Average DAS28-CRP	0.185	0.024
	Average dose of GC (mg/day)	0.179	0.025

RA, rheumatoid arthritis; CCP, cyclic citrullinated peptide; RF, Rheumatoid factor; DAS28-CRP, disease activity score 28 with C-reactive protein; mHAQ, modified Health Assessment Questionnaire; GC, glucocorticoid.

Conclusion: There was no difference in the incidence of falling between RA and Co. However, number of falls was significantly higher in RA group. High disease activity and higher dosage of glucocorticoid were the risk factors for number of falls among RA patients.

References:

- [1] C Armstrong et al, *Ann Rheum Dis* 2005;64:1602–1604
- [2] M Hayashibara et al, *Osteoporos Int* 2010;21:1825–1833

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FRI0052

INFLUENCE OF RHEUMATOID ARTHRITIS ON THE CLINICAL AND BIOLOGICAL PROFILE OF TYPE-2 DIABETES MELLITUS

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Background: Type-2 diabetes and rheumatoid arthritis (RA) are two chronic diseases characterized by tissue inflammation and insulin resistance. To date, no data have evaluated the influence of RA-induced joint and systemic inflammation on the course of type-2 diabetes.

Objectives: To study the impact of RA on type-2 diabetes

Methods: Observational, multicenter, cross-sectional usual-care study, including 7 rheumatology centers. This study included over a 24-month period consecutive patients with type-2 diabetes and RA, fulfilling the 2010 ACR / EULAR criteria, and diabetic controls with osteoarthritis (OA). The following data were collected: demographics, disease activity and severity indices, current treatment for RA and diabetes, history and complications of diabetes. A systematic blood test was performed, assessing inflammatory (CRP levels) and metabolic (fasting glycemia and insulin levels, HbA1c) parameters. The HOMA2%B (insulin secretion) and HOMA2%S (tissue insulin sensitivity) indices (HOMA calculator, © Diabetes Trials Unit, University of Oxford) were used to assess insulin resistance. RA and OA