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POS0532

AVERAGE PREDNISOLONE DOSE OF ONLY 1 MG PER DAY WAS RISK FACTOR FOR CLINICAL FRACTURES IN PATIENTS WITH RHEUMATOID ARTHRITIS - NINE-YEAR FINDINGS OF THE TOMORROW STUDY

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Background: Previous cohort studies showed that the use of prednisolone (PSL) was a risk factor for clinical fractures in patients with rheumatoid arthritis (RA). However, there are few reports on relationship between PSL dose and clinical fractures. **Objectives:** The present study aimed to determine the effect of PSL dose on the incidence of clinical fractures in the RA patients treated with PSL.

Methods: We evaluated anthropometric parameters, bone mineral density (BMD), disease activity score 28-erythrocyte sedimentation rate (DAS28-ESR), RA medication (methotrexate (MTX) dose, use of biologic disease modified anti-rheumatic-drugs (bDMARDs), and PSL dose) and the incidence of clinical fractures during nine years in RA patients who participate the TOMORROW study (UMIN000003876), which is a 10-years prospective cohort study. Data on clinical fracture was self-reported on the questionnaires. In this analysis, the data of RA patients treated with PSL at least once during nine-year period were evaluated. We analyzed the average dose of PSL until the incidence of the clinical fractures. The risk factor for clinical fractures were analyzed by using Cox proportional hazard model with adjustment for age, sex, body mass index (BMI), and smoking history. **Results:** We analyzed the data of 67 RA patients treated with PSL. Among them, median age was 61.8 year, 56 patients (83.6%) were female, 47 patients (70.1%) were never smoker and median disease duration was 12.1 year. The number of patients treated with PSL at baseline was 48 (69.1%). During 9 years, 23 clinical fractures were observed in 67 patients, and the incidence of clinical fracture was 0.046/person-year. In 19 patients, who were not treated with PSL at baseline but treated with PSL at least once during 9 years, 5 clinical fractures were observed. In 67 RA patients, Cox proportional hazard analysis revealed that baseline disease activities, BMD at thoracic vertebrae and medication were not significant risk factors for clinical fractures. However, average PSL dose of more than only 1 mg/day was a significant risk factor for the incidence of clinical fracture (hazard ratio (HR): 2.80; p=0.03) (Table 1).

Table 1. Adjusted hazard ratio for clinical fractures in patients with rheumatoid arthritis treated with PSL.

	* Adjusted Hazard ratio	95% Confidence interval	P value
CRP (mg/dL)	1.29	0.88-1.91	0.19
RF (IU/mL)	0.99	0.99-1.00	0.07
ACPA (U/mL)	0.99	0.98-1.00	0.18
DAS28-ESR	0.99	0.71-1.39	0.97
BMD at thoracic vertebrae (mg/cm ²)	0.02	0.00-1.00	0.05
bDMARDs use	0.55	0.23-1.32	0.18
Bisphosphonate use	2.33	0.95-5.71	0.07
average dose of MTX (mg/week)	1.02	0.92-1.12	0.74
average score of DAS28-ESR	1.15	0.76-1.75	0.52
average dose of PSL more than 1mg/day	2.8	1.09-7.24	0.03

*Hazard ratio was adjusted for age, sex, body mass index (BMI), and smoking history. RF, Rheumatoid factor; ACPA, Anti-cyclic citrullinated peptide antibody; DAS28-ESR, disease activity score 28-erythrocyte sedimentation rate; BMD, Bone mineral density; bDMARDs, biologic disease modified anti-rheumatic-drugs; MTX, methotrexate; PSL, prednisolone.

Conclusion: In RA patients treated with PSL, average PSL dose of only 1mg/day significantly increased the risk for the incidence of clinical fractures. Even for established RA patients, continuous use or initiation of low PSL dose was apparently significant risk factor for clinical fractures.

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POS0533

EFFECT OF CAROTID ULTRASOUND ON THE ACHIEVEMENT OF LDL-CHOLESTEROL TARGETS IN THE ROUTINE CLINICAL CARE OF PATIENTS WITH RHEUMATOID ARTHRITIS

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Background: Cardiovascular disease (CVD) risk in patients with rheumatoid arthritis (RA) is substantially elevated compared to the general population. In RA, as in the general population, CVD control includes the detection and treatment of CV risk factors based, among others, on blood pressure, smoking, diabetes, and lipid profiles. Little is known about the real impact of the use of carotid ultrasound in the prevention of CVD in patients with RA.

Objectives: To determine whether the use of carotid ultrasound in the routine clinical care of patients with RA can improve the achievement of LDL-cholesterol targets over time.

Methods: We conducted a retrospective, real-world study of 327 RA patients in which a carotid ultrasound was performed as part of routine clinical care. Participants were followed from 2012 to 2018. LDL-c levels were measured before and after the carotid ultrasound intervention. The achievement of the LDL-c goals recommended by the international guidelines was compared before and after the carotid ultrasound. Predictive factors of achievement of LDL-cholesterol targets were studied.

Results: When considering the 2010 EULAR RA SCORE risk categories, serum LDL-c levels in the moderate CV risk category was significantly lower when follow-up finished (126 ± 33 to 109 ± 29 mg/dl, $p=0.000$) (Table 1). This was not the case for other CV risk categories. Similarly, LDL-c goal attainment in the moderate CV risk category was significant higher at the end of the study compared to baseline. Based on the 2016 European Society of Cardiology LDL-c targets, the achievement of a LDL-cholesterol inferior to 115 mg/dl for the moderate CV risk category significantly increased from 35 to 64% ($p=0.000$) after follow-up. However, significant changes were not observed in this regard for the low, high, and very-high CV risk categories.

Table 1. LDL cholesterol serum levels and LDL goals differences between baseline and final follow-up

	LDL, mg/dl					LDL (mg/dl) ESC 2016 goals			
	n	%	Baseline	Final follow-up	Goal	Baseline	Final follow-up	p	
2010 EULAR RA SCORE									
Low	120	37	116 ± 37	119 ± 32	0.081	< 130	68%	66%	0.99
Moderate	195	60	126 ± 33	109 ± 29	0.000	< 115	35%	64%	0.000
High	7	2	121 ± 26	104 ± 22	0.14	< 100	14%	33%	0.99
Very High	5	0	131 ± 41	115 ± 46	0.080	< 70	0%	20%	0.99

ESC: European Society of Cardiology; EULAR: European League Against Rheumatism. SCORE: Systematic CORonary Risk Evaluation; RA: Rheumatoid Arthritis; LDL: low-density lipoprotein. Significant 'p' value are depicted in bold.

When patients with RA, regardless the SCORE risk they had, were divided between those that attained LDL-cholesterol target or not, those that achieved their LDL goal, were more frequently female and had less diabetes mellitus. Moreover, the probability of achieving LDL-cholesterol goal was higher in those with an inferior total cholesterol, LDL-c and atherogenic index at baseline. Interestingly, no differences were observed in both populations regarding the baseline use of statins, aspirin or hypertension treatment at baseline. Concerning disease related data when study started, no differences about disease duration and activity or treatments were observed between dose that reached LDL-cholesterol goal and those that did not.

Those that achieved LDL-c objectives had a higher decrease in smoking quit and a superior control of hypertension. Besides, in those that attained objectives a