Figure 1. Mean differences in DAS28 between drinking groups. A between non-drinkers and drinkers. B between non-drinkers and high-risk drinkers. C between low-risk and high-risk drinkers.

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POS0463

BEST CARDIOVASCULAR RISK CALCULATOR TO PREDICT ABNORMALITIES IN LEFT VENTRICULAR GEOMETRY IN RHEUMATOID ARTHRITIS

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Background: A relationship between rheumatoid arthritis (RA) and the presence of abnormalities in left ventricular (LV) geometry such as eccentric remodeling has recently been determined, even in the absence of cardiovascular risk factors and before clinical manifestations (1). The 2016 European League Against Rheumatism (EULAR) recommendations that cardiovascular (CV) risk prediction models should be adapted by a 1.5 multiplication factor in RA patients. Risk prediction algorithms based on the CV risk factors (CVRF) have been an important tool for adopting preventive measures and intensifying therapies based on the estimated risk but their application in predicting cardiac structural abnormalities has never been studied.

Objectives: The aim of the study is to determine the CV risk calculator that best predicts alterations in ventricular geometry in RA.

Methods: A cross-sectional, observational study of 108 RA patients between 40-75 years (ACR / EULAR 2010 classification criteria). The QRISK3, OMNI-BUS, Framingham Risk Score Lipids (FRSL), Framingham Risk Score BMI (FRS-BMI) and Reynolds Risk Score (RRS) calculators were compared. The diagnostic performance was determined by ROC curves, and the discriminative capacity by the Area Under the Curve (AUC) 95% CI. The echocardiogram was the diagnostic gold standard. A p value < 0.05 was considered statistically significant.

Results: The prevalence of abnormalities in ventricular geometry was 38.9%. QRISK3 reported AUC of 0.656, 95% CI (0.550-0.762, $p=0.006$), cut-off point ≥ 4.6 , sensitivity of 73.8% and specificity of 54.5%, and likelihood ratio of +1.62. FRS-BMI showed AUC of 0.653, 95% CI (0.543-0.762, $p=0.008$), cut-off point ≥ 11.02 , sensitivity and specificity of 61.9% and 57.6% respectively, and likelihood ratio of +1.46. OMNI-BUS showed AUC of 0.635, CI 95% (0.525-0.746, $p=0.018$), cut-off point ≥ 3.8 , sensitivity and specificity of 57.1% and 68.2%. While RRS had AUC 0.644, 95% CI (0.534-0.755, $p=0.012$), cut-off point of 2.25, sensitivity of 47.6% and specificity 78.8%, and likelihood ratio of +2.24 (Figure 1 and Table 1).

Table 1. Discriminatory capacity of the different cardiovascular risk calculators.

Calculators (cut-off point).	AUC	CI 95%		p	Sensitivity	Specificity
		Inferior	Superior			
QRISK (≥ 4.60)	0.646	0.537	0.754	0.012	73.8%	54.5%
SCORE	0.591	0.475	0.706	NS	-	-
OMNI-BUS (≥ 3.80)	0.621	0.509	0.734	0.038	57.1%	68.2%
FRSL	0.594	0.480	0.707	NS	-	-
FRS-BMI (≥ 11.02)	0.642	0.530	0.754	0.015	61.9%	57.6%
RRS (≥ 2.25)	0.627	0.514	0.741	0.029	47.6%	78.8%

Figure 1. ROC curves of the different cardiovascular risk calculators.

Conclusion: The QRISK3 calculator showed the highest discriminative ability and sensitivity to predict abnormalities in LV geometry. However, all calculators demonstrated the need for a lower cut-off point to predict alterations in ventricular geometry. Our findings require adequate reproducibility in other population groups to determine the applicability of CV risk algorithms as predictors of structural alteration of LV.

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IS IT POSSIBLE TO IDENTIFY INDIVIDUALS AT IMMINENT-RISK OF SUB-CLINICAL JOINT INVOLVEMENT?

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Background: In anti-CCP antibody (Ab) positive at-risk individuals with MSK symptoms but without clinical synovitis, the detection of ultrasound (US) sub-clinical inflammation is associated with an increased risk of progression to inflammatory arthritis (IA) ¹. Studies suggest that in these at-risk individuals, MSK symptoms develop before subclinical joint inflammation occurs on US. As such, anti-CCP Ab positive individuals with MSK symptoms in the absence of clinical or sub-clinical inflammation may be at the critical time-point for preventive treatments, before joint inflammation occurs and eventually becomes established (i.e., before the 'second-hit' in RA pathogenesis); however, identifying these individuals is challenging.

Objectives: To identify, in second generation anti-CCP Ab (CCP2+) at-risk individuals with MSK symptoms, but without clinical or sub-clinical synovitis, predictors of US sub-clinical synovitis.

Methods: In 186 CCP2+ at-risk individuals with normal baseline US scan (i.e., no synovitis or bone erosions), and a complete dataset, US data were analyzed at 6, 12 months, then annually until occurrence of IA. US synovitis was identified according to the EULAR/OMERACT definitions². Relevant demographic (age and gender), clinical [early morning stiffness (EMS), tenderness in the small joints of the hands] and serological [anti-CCP2 Ab level, third generation anti-CCP Ab