To the Editor:

We thank Haroon, *et al* for their comments¹. Their study demonstrated suboptimal performances of established cardiovascular (CV) risk scores in identifying asymptomatic coronary artery disease as confirmed by coronary computed tomography angiography (CCTA) among patients with psoriatic arthritis (PsA). The results were in line with our study based on carotid subclinical atherosclerosis². However, they found that a multiplication factor of 1.5 accurately categorizes PsA patients as having a high risk of CV diseases, presumably based on the presence of coronary atherosclerosis. To address whether this also applies to our cohort of patients with PsA, we have performed posthoc analyses by calculating the risk scores and evaluating the performances in our published CCTA study³.

Eighty-eight patients [age 50 ± 11 yrs; male: 54 (61.4%)] were included in the analyses. Demographics and clinical characteristics are described in Table 1. Eighty-four, 74, 88, and 88 patients were eligible to calculate Framingham risk score (FRS), the Atherosclerotic Cardiovascular Disease (ASCVD) score, QRISK2, and the Systematic Coronary Risk Evaluation (SCORE), respectively. Thirty-eight (45.2%), 23 (31.1%), 6 (6.8%), and 1 (1.1%) patients were classified as having high CV risks according to FRS > 10%, ASCVD > 7.5%, QRISK2 > 20%, and SCORE > 5%, respectively. After applying the European League Against Rheumatism (EULAR) multiplication factor, 51 (60.7%), 32 (43.2%), 22 (25%), and 4 (4.5%) patients

were reclassified as having high CV risks, respectively. Overall plaque (P+) and mixed plaque/noncalcified plaque (MP/NCP+), identified by CCTA, were used to confirm coronary atherosclerosis. Fifty-three patients (60.2%) were P+ while 47 patients (53.4%) were MP/NCP+. In the P+ group, 56.9%, 40.4%, 9.4%, and 1.9% patients were identified as having high CV risks according to FRS > 10%, ASCVD > 7.5%, QRISK2 > 20%, and SCORE > 5%, respectively. By applying the EULAR-recommended modification to the scores, the identification rate increased to 76.5%, 53.2%, 28.3%, and 7.5%, respectively, in the P+ group (Figure 1). In the MP/NCP+ group, 53.3%, 41.5%, 10.6%, and 2.1% were identified as having CV risks, respectively. After modifying the scores, the identification rate increased to 75.6%, 53.7%, 29.8%, and 4.5%, respectively, in the MP/NCP+ group (Figure 2).

Overall, Haroon's result was in line with our own data and indicated that the performances of the original risk scores were poor, and the EULAR-recommended modification moderately improved the performances of these risk scores in categorizing patients with PsA at higher risks of coronary atherosclerosis. Our data also support using a similar multiplication factor of 1.5 in patients with PsA to improve the performances of CV risk scores.

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Table 1. Demographic and clinical features of plaque- and plaque+ patients. Values are presented as n (%) or mean ± SD.

Features	Plaque-, n = 35	Plaque+, n = 53	p
Male	16 (45.7)	38 (71.7)	0.014*
Age, yrs	46.57 ± 11.83	53.04 ± 9.33	0.008*
CV risk factors			
BMI	26.26 ± 5.33	25.56 ± 3.72	0.623
Mean systolic blood pressure, mmHg	122.34 ± 18.85	128.53 ± 17.73	0.122
Total cholesterol, mmol/l	5.04 ± 9.39	5.04 ± 0.97	0.996
HDL, mmol/l	1.44 ± 0.44	1.34 ± 0.41	0.298
Triglycerides, mmol/l	1.22 ± 0.56	1.71 ± 1.20	0.014*
Fasting glucose, mmol/l	5.51 ± 1.90	5.47 ± 1.50	0.921
Hypertension	9 (25.7)	28 (52.8)	0.012*
Diabetes	4 (11)	9 (17)	0.472
Framingham risk	6.50 ± 5.34	13.53 ± 8.67	< 0.001*
QRISK2	6.36 ± 6.62	9.60 ± 7.82	0.047*
HeartScore	0.46 ± 0.82	1.38 ± 1.36	0.001*
ASCVD	3.40 ± 3.36	6.96 ± 5.29	< 0.001*
PsA characteristics			
PsA disease duration, yrs	8.01 ± 7.75	11.80 ± 1.50	0.076*
Tender joint count, 0–68	4.49 ± 4.94	5.15 ± 5.98	0.587
Swollen joint count, 0–66	1.26 ± 1.56	1.00 ± 1.53	0.446
Damaged joint count, 0–68	4.57 ± 9.95	6.08 ± 7.80	0.430
Visual analog scale pain, 0–100	43.57 ± 23.34	35.47 ± 24.75	0.128
Patient's global assessment, 0–100	53.86 ± 23.58	45.66 ± 24.00	0.118
Physician's global assessment, 0–100	28.85 ± 21.54	35.94 ± 22.62	0.146
PASI, 0–72	5.17 ± 8.33	8.21 ± 9.87	0.136
ESR, mm/1st h	26.94 ± 18.38	29.66 ± 25.09	0.587
CRP, mg/l	5.14 ± 4.85	7.88 ± 8.83	0.066*
Medications			
NSAID	18 (51.4)	30 (56.6)	0.633
DMARD	19 (54.3)	34 (64.2)	0.355
Prednisolone	0 (0.0)	3 (5.8)	0.148

* Variables with p value < 0.1 were candidates for multivariate analysis. CV: cardiovascular; BMI: body mass index; HDL: high-density lipoprotein; HeartScore: electronic counterpart of the SCORE risk charts; CRP: C-reactive protein; ESR: erythrocyte sedimentation rate; PASI: Psoriasis Area and Severity Index; ASCVD: Atherosclerotic Cardiovascular Disease score; PsA: psoriatic arthritis; DMARD: disease-modifying antirheumatic drug; NSAID: nonsteroidal antirheumatic drug.

Figure 1. Left: Original risk scores. Right: EULAR-modified risk scores (overall plaque). EULAR: European League Against Rheumatism; ASCVD: Atherosclerotic Cardiovascular Disease (score); SCORE: Systematic Coronary Risk Evaluation.

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REFERENCES

1. Haroon M, Szentpetery A, Dodd D, FitzGerald O. Modifications of cardiovascular risk scores, but not standard risk scores, improve identification of asymptomatic coronary artery disease in psoriatic arthritis. *J Rheumatol* 2018;45:1329-30.
2. Shen J, Lam SH, Shang Q, Wong CK, Li EK, Wong P, et al. Underestimation of risk of carotid subclinical atherosclerosis by cardiovascular risk scores in patients with psoriatic arthritis. *J Rheumatol* 2018;45:218-26.
3. Shen J, Wong KT, Cheng IT, Shang Q, Li EK, Wong P, et al. Increased prevalence of coronary plaque in patients with psoriatic arthritis without prior diagnosis of coronary artery disease. *Ann Rheum Dis* 2017;76:1237-44.

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Figure 2. Left: Original risk scores. Right: EULAR-modified risk scores (mixed plaque/noncalcified plaque). EULAR: European League Against Rheumatism; ASCVD: Atherosclerotic Cardiovascular Disease (score); SCORE: Systematic Coronary Risk Evaluation.