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## **Application of the 2015/2016 EULAR recommendations for cardiovascular risk in daily practice: data from an observational study**

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## Application of the 2015/2016 EULAR recommendations for cardiovascular risk in daily practice: data from an observational study

The European League Against Rheumatism (EULAR) recently updated the recommendations for cardiovascular disease (CVD) risk management in patients with rheumatoid arthritis (RA).<sup>1</sup> In contrast to the 2009 recommendations which advised to multiply by 1.5 the global CVD risk in the presence of certain RA-specific criteria,<sup>2</sup> the 2015/2016 update recommends to multiply by 1.5 the global CVD risk for all patients with RA. It also considers the use of carotid ultrasound to screen asymptomatic atherosclerotic plaques. Indeed, the majority of the CVD events occur in the 'low' and 'intermediate' risk groups and carotid plaque detection to classify patients improves cardiovascular risk prediction.<sup>3</sup> The European Society of Cardiology guidelines classify patients with carotid plaque at very high CVD risk.<sup>4</sup> Immediate statin use is indicated in those patients if low-density lipoprotein cholesterol is  $\geq 0.7$  g/L.<sup>4</sup> In a post hoc analysis, we evaluated the impact of the updated 2015/2016 EULAR CVD recommendations as compared with the 2009 recommendations on CVD risk stratification and statin indication in a prospective cohort of 157 patients with RA who underwent a systematic CVD screening.

Our patients with RA were consecutively recruited by rheumatologists and referred to a daily clinic at Montpellier University Hospital between March 2014 and June 2015. The investigations included collection of medical history, physical examination, and calculation of the 10-year cardiovascular risk mortality using the total cholesterol/high-density lipoprotein cholesterol ratio Heart SCORE.<sup>2</sup> A modified Heart SCORE (mSCORE) was used according to the 2009 EULAR (mSCORE 2009)<sup>2</sup> and 2015/2016 guidelines (mSCORE 2015).<sup>1</sup> Carotid ultrasonography was performed by experienced angiologists. Carotid plaque was assessed using standardised definition.<sup>5</sup> The present study was approved by the medical ethics committee of Montpellier in accordance with the 2013 Declaration of Helsinki and with article R. 1121–3 of French public health law (number CPPQ2016.11.01).

The characteristics of patients who underwent the CVD screening are summarised in table 1.

The analysis was performed on the 144 patients with RA with both lipid assessment and carotid ultrasonography available. Compared with EULAR 2009 recommendations, application of the 2015/2016 update doubled the number of patients with high

**Table 2** Comparison of the 2009 EULAR recommendations and the 2015/2016 update in 144 patients with rheumatoid arthritis

| mSCORE categories: n (%)  | 2009         | 2015/2016  |
|---|--------------|------------|
| Moderate  | 78 (54.2)    | 24 (16.7)  |
| High  | 32 (22.2)    | 6 (4.2)    |
| Very high   | 20 (13.9)    | 103 (71.5) |
| High + very high  | 53 (36.8)    | 109 (75.7) |
| Patients requiring immediate use of statins depending on the recommendation used: n (%)   | 40 (27.8)    | 100 (69.4) |
| Presence of carotid plaques according to mSCORE 2009 categories: % (n/total per category) |              |            |
| Low   | 21.4 (3/14)  |            |
| Moderate  | 71.8 (56/78) |            |
| High  | 71.9 (23/32) |            |
| Very high   | 75.0 (15/20) |            |

EULAR, European League Against Rheumatism; mSCORE, modified Heart SCORE.

or very high global CVD risk (75.7% vs 36.8%) (table 2). This was explained by the presence of carotid plaques on ultrasound which reclassified 21.4% of the patients with low risk and 72% of those at moderate risk or high risk and very high risk. Statins would be indicated in 69.4% of the patients against 27.8% when applying the 2009 EULAR recommendations.

These data suggest that the EULAR CVD recommendation update will greatly impact the management of chronic inflammatory disease with frequent prescription of statins.

Our study included patients with severe RA as 73.1% were treated with biological disease-modifying antirheumatic drugs. This might explain the high frequency of carotid plaques detected. However, similar frequencies were previously reported.<sup>6</sup>

In patients with RA, statins are efficient to lower lipid levels, improve endothelial dysfunction<sup>7,8</sup> and also seem to decrease CVD although data are limited.<sup>9–11</sup> In a general population-based study, Schoenfeld *et al* found a 21% decrease in mortality in patients with RA treated by statins.<sup>10</sup> In the randomised placebo-controlled TRACE-RA trial, including long-standing patients with RA without known atherosclerotic disease, the use of statins was associated with a 34% decrease in cardiovascular events.<sup>11</sup> Based on those data, we could expect a 14% decrease in cardiovascular events overall in patients with RA if 2015 EULAR recommendation update is applied. However, this is only an extrapolation of data and more studies are needed to confirm the positive impact of statins on CVD events in patients with RA in primary prevention or with carotid plaque.

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**Table 1** Characteristics of patients with rheumatoid arthritis who underwent cardiovascular screening

|                                      | n=157            |
|--------------------------------------|------------------|
| Age (years)                          | 61±10            |
| Female (%)                           | 72.6             |
| Body mass index (kg/m <sup>2</sup> ) | 24.5 (21.7–28.9) |
| Disease duration (years)             | 13 (6–19)        |
| RF positivity (%)                    | 69.9             |
| Erosion (%)                          | 69.4             |
| DAS28-CRP                            | 2.4 (1.7–3.3)    |
| Ongoing steroids (%)                 | 26.1             |
| Ongoing biological DMARDs (%)        | 73.1             |

Data are no. (%), median (IQR25–75) or mean±SD when applicable. All patients with RA fulfilled the American College of Rheumatology/EULAR 2010 criteria.

DAS28-CRP, Disease Activity Score 28 joints; DMARDs, disease-modifying antirheumatic drugs; RF, rheumatoid factor.

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