Reviewer’s report

Title: Cardiovascular Co-morbidity in Patients with Rheumatoid Arthritis: a narrative review of risk factors, cardiovascular risk assessment and treatment

Version: 0 Date: 03 Oct 2017

Reviewer: George Metsios

Reviewer’s report:

General Comments

CVD is RA has been in the forefront of research in the last few decades possibly due to the contribution of the inflammatory load and its links with various different classical CVD risk factors. So the review is timely and the authors have done well, in parts of the paper, to discuss very good quality evidence from systematic reviews and meta-analyses.

However, overall there are other statements that are not supported by the current literature and stronger evidence is required to support some statements (or at least discuss issues with better transparency).

This is a narrative review and thus will always be prone to bias, given that PRISMA guidelines and risk of bias has not been utilised to discuss the quality of the included studies. These limitations have to be discussed in more detail in the review.

In addition to this, there are typos and grammatical errors and I think that the review needs another look to amend these issues.

Finally, increasing physical activity and fitness are two different things that contribute as a classical CVD risk factor in the overall CVD burden we see in RA. There are studies showing significant associations of physical activity and cardiorespiratory fitness with CVD outcomes as well as trials on the same subject. There are excellent Cochrane meta-analyses as well as other meta-analyses on exercise and RA, demonstrating positive effects. Furthermore, EULAR now advices the use of physical activity / exercise as an adjunct treatment for managing CVD in RA. As such, this has to be discussed in the paper alongside all the other classical CVD risk factors, particularly because increasing physical activity and fitness can improve other CVD risk factors (excellent meta-analyses on insulin resistance, blood pressure, inflammation etc).

Introduction

1. The references 2-4 are not strong and actually are reviews on the links between inflammation and atherosclerosis. This does not necessarily mean that inflammation causes atherosclerosis in RA. At least, clarity is required in this sentence (and correction of the typos)
2. Please reference each CVD risk factor accordingly with good quality studies. If you cannot find good RCT and/or meta-analyses then discuss this accordingly.

3. Do we have enough data to suggest that we need to make priority the management of CVD risk factors? Which ones are the more important than others, based on the data that we have available?

Mortality

1. There is a lot of assumptions in the 2nd paragraph. I do not actually think that based on the available studies we can conclude that mortality declines? We need to highlight the need for further research in this field and better studies that can have enough follow up and event to develop further our understanding about these associations. Also these are associations which do not imply causality. In the lack of relevant trials, the statements made need to be reframed and supported (if data is available)

2. Last paragraph. We cannot start sentences with "and".

HTN

Last sentence: I am not sure that epidemiological evidence emphasize causality.

Obesity

It has been suggested that BMI cut-off points should also change in RA given that their body composition is significantly different to controls (higher adiposity and lower muscle mass). Lack of physical activity and exercise is a key aspect of managing CVD in RA (also highlighted in the recent EULR guidelines). Why the authors have not discussed that at all, provided that increasing fitness and physical activity (these are different things) associates with improved CVD profile in RA?

Quality of written English

Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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