Reviewer’s report

**Title:** Prevalence and associated factors of subclinical atherosclerosis in rheumatoid arthritis at the university hospital of Kinshasa.

**Version:** 3 **Date:** 19 Aug 2018

**Reviewer:** Ivan Padjen

**Reviewer's report:**

General comment: The manuscript contains minor orthographic omissions and language errors that require correction.

Specific comments:

Comment 1 (Abstract, Background, line 2): Perhaps it would be more appropriate to replace the term "early atherosclerosis" with "premature atherosclerosis".

Comment 2 (Abstract, Results): Please specify the meaning of "a" in the abbreviation "ORa". If it pertains to "adjusted", it should be indicated when mentioned for the first time in the abstract. Furthermore, since the abbreviation "aOR" is used later in the text in the same context (also in Table 4), it would be useful to consistently use the same abbreviation in both cases (both in the abstract and in the text and Table 4).

Comment 3 (Keywords): UHK is not a standard abbreviation, so it should be explained. Furthermore, it is not common to include an institution's name as a keyword, so perhaps it would be more appropriate (and useful for the readers) to replace this keyword with another term related to the content of the paper.

Comment 4 (Background, third paragraph): Why is it important to analyze the relationship between atherosclerosis and RA in the Democratic Republic of Congo? This association has already been established elsewhere. If the authors still believe (and want to convince their audience) that this matter still requires attention, perhaps it would be useful and interesting to comment on the magnitude of the problem of atherosclerosis (including its complications and related mortality) in the overall population of the Democratic Republic of Congo. Are there any differences between the metabolic syndrome in Congo compared to other parts of Africa and the world? Since causes of death and the profile of mortality/morbidity is probably different in Congo compared to some other parts of the world, addressing these issues would increase the value of this paper.
Comment 5 (Methods): Please indicate the exact healthcare facility where RA patients were recruited (i.e. Rheumatology department, outpatient clinic etc.).

Comment 6 (Methods): Joint erosions on X-ray were considered as one of the prerequisites to classify a patient as having severe RA. Since only hand X-rays were specifically mentioned in the last paragraph of the Methods section (before the section "Definition of some concepts"), please indicate if erosions at other sites (e.g. feet) have also been taken into account.

Comment 7 (Methods): Since both ESR and CRP were measured, please explain why both DAS28-ESR and DAS28-CRP were not calculated and included in the analysis.

Comment 8 (Methods): The unit "mega Hertz" can be replaced with its standard abbreviation.

Comment 9 (Results, Table 3, legend, row 3): the word "erythrocyte" after the "erythrocyte sedimentation rate" is redundant.

Comment 10 (Results, Table 4): If "aOR" is an abbreviation of "adjusted odds ratio", this should be clearly indicated in the table legend. Furthermore, according to which variables was the OR adjusted?

Comment 11 (Discussion, page 6, last sentence of paragraph 1): Perhaps it would be more precise to state that chronic inflammation is the basis of long-term progression of RA.

Comment 12 (Discussion, page 6, paragraph 4): Please replace the term "ultransensible" with "ultrasensitive" (CRP).

Comment 13 (Discussion, Limitations): The authors should also address the issue of whether their sample is representative of the Congolese population of RA patients. Are there concerns that RA may be underrecognized/underdiagnosed in the Democratic Republic of Congo, especially given the issue of social differences and consequent inequity in access to healthcare/rheumatology care? Furthermore, the authors should clarify if their institution is a tertiary level healthcare facility and whether there is an existing rheumatology service at a secondary level.

Summary opinion:

The manuscript has been submitted to BMC Rheumatology as a research article. The authors have assessed the frequency and associated factors of subclinical atherosclerosis in RA at a university hospital in the Democratic Republic of Congo (DRC).

The most important value of this paper is not the fact that it assesses subclinical atherosclerosis in a group of RA patients (although the topic is clinically relevant per se), but the setting of an emerging country where the study has been carried out. For this reason, it would be valuable to
emphasize some more "local" issues, such as the magnitude of the problem of atherosclerosis in the DRC.

The manuscript has been clearly written and the analysis of data has been presented in a simple and clear manner.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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