Reviewer’s report

Title: S100A4 is elevated in axial spondyloarthritis: a potential link to disease severity

Version: 0 Date: 18 Oct 2019

Reviewer: Ricardo Ferreira

Reviewer's report:

Dear Authors,

Being a Health professional and clinical researcher, it was a pleasure to read your manuscript. The relevance of the topic was well supported, the methods are adequate, and it was easy to read this concise report. There are however, some improvements that should be done, as described below.

ABSTRACT
1) It would be good if you could mentioned that the S100A4 is a Ca-binding protein. Also, in the methods you refer to Dickkopf-1, but most readers might need a very brief description of why is this being assessed as well (you do it very well in the manuscript).
2) You also used CRP as a surrogate for inflammation (disease activity), but his is not mentioned in abstract. I understand if the word limit precludes this.
3) (a remark not only for the abstract) although the correlations were statistically significant, they are weak and this was never mentioned in the manuscript.
4) In the conclusion, the word "during syndesmophyte formation" may lead the reader to think in a longitudinal/causal relation. You may consider to rewrite this.

BACKGROUND
Well done.
5) I only missed a paragraph about Dickkopf-1. Referring it in the results section (last part of the results, with references, is not correct.

METHODS
6) You may clearly mention the type of study.
7) You should clearly mention the inclusion and exclusion criteria for both the patients and controls, which you did not. You only presented a sentence (in the end of the paragraph; earlier would be better) about "where" were they recruited.
8) I prefer when the sample characteristics (and number of recruited participants) is presented in the begging of results rather then in the methods. Not mandatory, however.
9) I would advise you to mentioned all data collected in the methods. Only when reading the table 1 I was aware of the variables collected.
10) if the word count allows, you may consider to add a brief description about the BASDAI and mSASSS, at least their range and what is good/bad.
11) You may want to make more clear that the Mann-whitney was used to compare X with Y (main aim)

RESULTS
12) as mentioned previously, please mention the weak correlations.
13) MAIN POINT: the associations reported in the end of the second section of the results (association
with clinical manifestations, e.g. uveitis) were not mentioned as secondary (or exploratory objectives), neither reported in the methods.

DISCUSSION
very well done. Consider again the "weak correlation".
- The explanation about DKK-1 may be moved into introduction (or methods)
14) Do you consider that the sample size (not previously determined) and the cross-sectional design were the only limitations?

Figures

It would be good in the Figure 2 the disease sub-types could be in different colors.

Wish you good work to improve this manuscript.

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

No

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

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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