Author's response to reviews

Title: Spondyloarthritis-related and degenerative MRI changes in the axial skeleton - an inter- and intra-observer agreement study

Authors:

Bodil Arnbak (Bodil.Arnbak@slb.regionsyddanmark.dk)
Tue S Jensen (Tue.Secher.Jensen@rsyd.dk)
Claus Manniche (Claus.Manniche@rsyd.dk)
Anna Zejden (annazejd@rm.dk)
Niels Egund (nielegun@rm.dk)
Anne Grethe Jurik (annejuri@rm.dk)

Version: 5 Date: 16 August 2013

Author's response to reviews: see over
Dear Editors,

Thank you for considering our paper for publishing in Musculoskeletal Disorders.

On behalf of the researcher team,

Bodil Arnbak

1 Reviewer’s report
Title: Spondyloarthritis-related and degenerative MRI changes in the axial skeleton - an inter- and intra-observer agreement study
Version: 4 Date: 7 June 2013
Reviewer: Robert Lambert
Reviewer’s report:
The authors have revised the manuscript as requested. It is written well and should be accepted subject to some revisions to the discussion:

Minor Essential Revisions
Page 13 – “The tendency of better reliability of the SpA-related findings in the SIJ compared to the spine could be explained by the historically increased focus on SpA-related MRI findings in the SIJ compared to the spine.”
This is neither logical nor true. The tendency of better reliability of the SpA-related findings in the SIJ compared to the spine - is almost certainly because SpA affects the SI joints in major ways which for the most part are easily distinguished from degeneration. Degenerative changes in the spine are extremely common and may be harder to distinguish from SpA in the spine on MRI. The higher SIJ reliability is not because ASAS has focused on the SIJ – ASAS has focused on the SI joint because of the higher reliability.

We agree that the wording is ambiguous and have made following changes, page 13.

“The tendency of better reliability of the SpA-related findings in the SIJ compared to the spine could be explained by a low prevalence of SpA-related findings in the spine. In addition, changes in the posterior spinal elements often are relatively small and can be difficult to assess on sagittal MR slices.”

Page 13 – “It was only possible to identify studies that evaluated the agreement of sum scores for the whole spine [6, 15], which unfortunately makes direct comparison with the evaluation of changes at the endplate level impossible.”
This is not entirely true and is misleading. The Canada-Denmark working group has published a series of articles on MRI of the spine in SpA that define spinal lesions, both active inflammatory and structural damage, in a similar though not identical way to this manuscript. In these articles the authors publish the reliability of the observation of these lesions as observed at the individual vertebral level and not as summed scores. It is true that these publications were
not based on observations at the individual endplate, but since they were based on the individual vertebral level, they are relevant to the discussion of reliability of observation of individual lesions and this prior work, which is of a similar nature, should be identified and discussed.

And page 14 – “In relation to the evaluation of signal changes located in the vertebral corner, no previous studies have to our knowledge evaluated agreement on this finding at vertebral endplate level. While this statement is true, it is somewhat misleading as there have been publications of observer agreement at the individual vertebral level – as discussed above.

We are grateful to be made aware of these works and have identified and discussed them in the discussion section as followed:

Paragraph 1, in the section “Comparison with previously published studies”, page 13:

“The number of previous studies on observer agreements on spinal MRI changes related to SpA is limited. One previous study evaluated the agreement of structural SpA-related changes at each vertebral level in 20 patients with established SpA [14]. Kappa value of 0.60, 0.21, and 0.59 were found for ‘non-corner vertebral endplate erosions’, ‘vertebral corner spurs’ and ‘ankylosis’, respectively. However, differences in the definitions and in the study sample preclude a direct comparison with our results. Furthermore, there are published studies evaluating the agreement of sum scores for the whole spine [6, 15], which unfortunately preclude comparison with the evaluation of changes at the endplate level.”

The end of paragraph 2, in the section “Comparison with previously published studies”, page 14:

“In relation to the evaluation of signal changes located in the vertebral corner, agreement of BMO and FMD corner lesions has been analysed in a previous study sample encompassing 20 patients with established SpA. The reported kappa values ranged from 0.23 to 0.72 for BMO lesions [26] and from 0.60 to 0.72 for FMD lesions [14]. However, differences in the definitions and in the study sample preclude a direct comparison of results.”

For the authors assistance the citations are provided below:
Pedersen SJ, Ostergaard M, Chiowchanwisawakit P, Lambert RG,
Maksymowych WP. Validation of definitions for active inflammatory lesions detected by magnetic resonance imaging in the spine of patients with spondyloarthritis. J Rheumatol 2009; 36 Suppl 84:35-38.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable
Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:
I declare that I have no competing interests
2 Reviewer’s report

Title: Spondyloarthritis-related and degenerative MRI changes in the axial skeleton - an inter- and intra-observer agreement study

Version: 4 Date: 22 May 2013

Reviewer: Iris Eshed

Reviewer’s report:
The manuscript was appropriately revised and is now almost ready for acceptance. I have two minor comments:

1. in most of the tables “SC” was changed to "signal changes" except for the header. It should be changed there too.

   The abbreviation SC has been changes to ‘signal changes’ in Table 2, 3A and 3B.

2. Figure 1 itself is missing and was not uploaded.

   As requested in “Instructions for Authors” the figure is up-loaded as a separate file, and not embedded in the text file.

Level of interest: An article of importance in its field
Quality of written English: Acceptable
Statistical review: No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests: No competing interest