Reviewer's report

Title: Whole body MR Imaging in Ankylosing spondylitis: A Descriptive Pilot Study in Patients with Suspected Early and Active Confirmed Ankylosing Spondylitis

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Reviewer: Martin Rudwaleit

Reviewer's report:

General

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

This manuscript describes the application of a new imaging tool which may become important in diseases with widespread inflammation such as ankylosing spondylitis. Thus, the description of findings in 10 patients with established AS and 10 patients with an early disease form using whole body MRI is interesting.

Some points which need to be addressed:

1) In the title the authors speak of “suspected early AS” but later on, and throughout the manuscript, they no longer call this group of patients who yet not fulﬁl criteria for AS “suspected early AS” but “early IBP”: Though I can understand that using “early IBP” is a shorter (and therefore more attractive term), “early IBP” is misleading in two respects: first, IBP is a symptom, and not a disease. IBP is a common symptom in patients with AS but also in other SpA. Thus, speaking of AS and early IBP is comparing a disease and a symptom which is not logical to me. Second, early AS and long-standing AS may be meaningful descriptions since “early” and “long-standing” refer to the different duration of this disease. “Early IBP” instead is confusing since IBP as a symptom is present or not. Proposed terms for the early form of the disease in the literature are “axial SpA without radiographic sacroiliitis” which is more appropriate. I strongly advise the authors to stick to the term “suspected early AS” which they have used in the title since this term also appropriately characterizes the patients under study.

2) I wonder how the patients with “suspected early AS” were selected. Were they selected only on the grounds of having the symptom of IBP and a BASDAI >4, or did they carry other features of SpA? For example, did this group of early disease have an MRI (showing abnormalities) before undergoing whole body MRI? Were they selected because they were positive for B27 or had other symptoms suggesting the disease? The selection process should be described in detail in order to make the reader understand the relatively frequent findings of active inflammation in these 10 patients with early disease. They surely do not represent the usual spectrum of out-patients with suspected early AS!

3) Spelling mistake on page 9, last line: “about SI joints” or “around SI joints”?

4) Page 12, second para: BASDAI 2. The authors should explain that this refers to the second question of the BASDAI instrument dealing with back pain. In this small group of patients (10 each) medians may be more appropriate than mean values.

5) Discussion, page15, last para: there is actually limited evidence that MRI inflammation does predict future x-ray changes, for example by Oostveen et al.(J Rheumatol. 1999 Sep;26(9):1953-8). This paper should be mentioned and discussed in this context.

Discretionary Revisions (which the author can choose to ignore)

What next?: Accept after minor essential revisions

Level of interest: An article of importance in its field
Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I have no competing interests.