Reviewer’s report

Title: Increased serum Sclerostin down-regulates Wingless protein-3a signaling and is linked with lesser structural damage in ankylosing spondylitis patients with high disease activity

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Reviewer: Xenofon Baraliakos

Reviewer’s report:

1. The Authors state that more patients with high BASDAI vs. patients with low BASDAI had mSASSS lower than the median. However, it would be more useful to give the median/mean mSASSS in the group of patients with high vs. low BASDAI in order to show this relationship and not the percentage of patients who were lying above these cut-offs.

2. It is said that disease activity as assessed by the BASDAI was higher in patients with high SOST levels, making the authors conclude that high disease activity is not necessarily correlating with a predictor of radiographic progression, such as SOST. This finding is interesting. However, in this context, it would be also necessary to show the aspect of objective measures of disease activity, such as CRP. So, the question is: did the analyses based on CRP show the same relation to SOST? The Authors touch on this in their discussion but no data on this context are shown in the Results section of the manuscript.

3. Similarly it would be interesting to show the relationship between disease activity as assessed by the ASDAS and the laboratory biomarkers. I assume that the ASDAS can be calculated in this study.

The two latter issues are important since both CRP and ASDAS have shown a good correlation to MRI activity (Machado P et al), and since MRI activity is know to be linked to new bone formation in AS.

4. Discussion: It is wrong to state that untreated patients with low CRP are comparable to patients in a post-TNF state. These are two completely different patients, since untreated patients with low CRP are candidates for different disease course and are not under the influence of anti-inflammatory/disease modifying treatment as compared to patients with completely different disease activity background! This message needs to be deleted from the Discussion.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Not suitable for publication unless extensively edited

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