Author's response to reviews

Title: Quantitative ultrasound does not identify patients with an inflammatory disease at risk of vertebral deformities

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Author's response to reviews: see over
Dear Dr. Norton,

First of all we would like to thank you to give us the opportunity to resubmit a second revised version of our manuscript entitled: “Quantitative ultrasound does not identify patients with an inflammatory disease at risk of vertebral deformities”. (Manuscript ID: 1235782149150958). Again, we thank the reviewer for his valuable comments that have been very helpful in improving the quality of this manuscript. We have addressed his comments point by point and we sincerely hope that we have adequately answered all the points that have been raised. All changes made to the manuscript are highlighted in red.

We hope it meets your requirements now and you will consider the revised version for publication in BMC Musculoskeletal Disorders.

Awaiting your reply,

Yours sincerely,

Caroline Heijckmann.
Comments from Reviewer:

1. Although I agree that the authors conclusion is consistent with their data, I do have a concern about the tone of conclusion. The study was based on a relatively small sample size, and the estimates were rather unstable. Indeed there were only 54 events in the study; it is therefore possible that the study did not have adequate power to delineate an association between QUS and vertebral fracture. A more modest conclusion seems to be more appropriate. We have changed the conclusion in: Our findings imply that QUS measurements of the calcaneus in patients with an inflammatory condition, such as sarcoidosis and IBD, are likely of limited value to identify patients with a vertebral fracture. In addition we added in the discussion: On the other hand, a limitation of our series is the moderate number of patients with one or more deformities suggestive for vertebral fracture. It is therefore possible that our study did not have adequate power to delineate an association between QUS and vertebral fractures.

2. Tables 2 and 3: please show the unit of comparison. In other words, please show the actual standard deviation used in the calculation of OR. Also, please show exact p-value in these tables. We changed the head of table 3 and have inserted the exact p-values in table 2.

3. The authors argue that the logistic regression was not for predictive purpose, but their conclusion is about prediction! In any case, I think it would be helpful to readers if the authors could provide the estimates of OR of the multivariable logistic regression model. In fact, it is the authors result, QUS was not predictive of vertebral fracture, but even femoral neck BMD was not a good predictor too.

   We have inserted in the results session (page 6): When both BMD of the femoral neck and QUI are entered simultaneously in the regression analysis the respective OR's are 1.81 (1.18 – 2.75, p = 0.006) for BMD-FN and 1.09 (0.77 – 1.56, p = 0.623) for QUI.