Author's response to reviews

Title: Allelic variants of IL1R1 gene associate with severe hand osteoarthritis

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

We wish to thank the The BioMed Central Editorial Team and the reviewer for the comment on our revised manuscript “Allelic variants of IL1R1 gene associate with severe hand osteoarthritis” (MS: 1200836953248454). We appreciate the opportunity for being able to further improve the manuscript according to the comment from the reviewer:

“As one of our reviewers has asked, the author have tested and showed that IL1R1 gene can not explain the linkage peak. The question is how then this gene can be a THE right candidate as the title and discussion of this article suggested. Author need to reevaluate their final conclusion and discuss his important piece of information sufficiently.”

We agree with the reviewer that the conclusions of this study should be made more cautiously and we have modified the manuscript accordingly. The abstract has been changed on page 3 and the conclusions on page 18. We have also included one paragraph on the issue in the discussion on page 15.

However, we do not entirely agree with the reviewer’s feedback. Although the variant in the IL1R1 gene does not fully explain the linkage observed earlier, it cannot be ruled out as one of the associated genes in this genome region. This was what we intended to state in the title and in the manuscript. Residual linkage may not be an uncommon phenomenon (Gordon S and Visscher PM, Residual linkage: why do linkage peaks not disappear after an association study?, Hum Genet (2007) 121:77–82) and can result from many factors, including multiple associating alleles (or haplotypes) at the same locus, multiple linked genes within the broad linkage region, imperfect LD between the genotyped markers and non-genotyped causal variant(s), and a spurious initial linkage peak or false positive association.

We hope we have addressed the reviewer’s and the journal’s concerns appropriately in the attached version of the manuscript and look forward to hearing from you.

Sincerely,
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