Reviewer's report

Title: Association between LRP5 polymorphism and bone mineral density: a Bayesian meta-analysis

Version: 1 Date: 9 March 2008

Reviewer: Jose A. A Riancho

Reviewer's report:

Major Compulsory Revisions
- The number of studies in the meta-analysis is relatively small. As stated in Methods, authors did not include studies published after April-07. Therefore, I would suggest them to make an effort to include some other recent studies (ie, Brixen et al, and Grundberg et al).
- Authors should explore if age or menopausal status have any influence on the relationship between genotypes and BMD

Minor Essential Revisions
- Data synthesis and analysis. For the benefit of the non-expert reader, the meaning of the symbols (d, sigma,...) should be explained (page 6).
- The sentence in the last paragraph of Methods, is confusing, as the funnel plot is a method to look for publication bias, not to assess heterogeneity.
- Results. Please, give the inconsistency coefficient for the femoral neck analysis.
- Results. How did authors calculate the “average” standard deviation that was used to estimate probabilities in the Bayesian analysis? How large was it?
- Discussion. In order to put the results in context, authors should comment on the differences in BMD found in meta-analysis of other genes (ie, VDR, Col1A1, ER, MTHFR).
- Discussion. The last sentence of the first paragraph in page 12 should be modified. Factors other than BMD influence fracture risk and fracture risk was not used as endpoint in the meta-analysis. Therefore, the study does not permit to determine the relationship of the LRP5 polymorphism, if any, with fractures.
- Figures 2 and 3. Please correct the year in the study by Ezura et al.

Discretionary Revisions
- Did authors consider in some way the quality of studies (ie, genotyping methods, bias in the selection of cases and controls, etc.)?
- Was the proportion of AA genotypes in the individual studies associated with the average BMD?

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests