Reviewer’s report

Title: Association of vitamin D receptor gene variants with polycystic ovary syndrome: A meta-analysis

Version: 0 Date: 05 Jan 2019

Reviewer: S. Simsek

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Xiao-Yuan Shiet al. reviewed an interesting aspect of vitamin D research in the field of polycystic ovary syndrome (PCOS). There are recent important contributions to basic and clinical research including clinical trials. However, the authors have focused on 5 polymorphisms of the VDR gene, from which 3 are variations in intron 8 and 2 are variations in exons.

Forest plots of the VDR polymorphisms should be shown from all the studies not only from the Asian population. In my opinion it is rather an artificial distinction between Caucasian (Egypt, Poland, Australia, Brazil) and Asian (Iran, India, China) populations.

The figures are of very low quality and it is therefore difficult for me to judge them.

How certain are the authors that there is no overlap in the studies from Iran?

Page 13 line 50: "Furthermore, on the basis of the pathogenicity of VDR polymorphisms, our research provides a meaningful therapeutic strategy for PCOS." Please clarify!

A cross-ethnic meta-analysis of genetic variants for PCOS (JCEM 2013 Dec; 98(12), Y.V. Louwers et al. did not show linkage with the VDR gene. Please discuss.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No
Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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