Reviewer’s report

Title: Vitamin D receptor and binding protein polymorphisms in women with polycystic ovary syndrome: a case control study

Version: 1 Date: 12 Oct 2019

Reviewer: Flavio Cadegiani

Reviewer's report:

I congratulate authors for the improvements in their manuscript, particularly in the background and discussion. The manuscript is now almost ready to be accepted. I am raising one specific point, as this is meaningful for the profile of selected women with PCOS:

(Previous comments) Lines 105-107: the most accepted criteria for PCOS is the Rotterdam criteria. The NIH criteria has been known to underdiagnose PCOS, since it requires both disturbance of menstrual cycles and hyperandrogenism, while up to 10-15% of PCOS women have regular periods, and that not all express hyperandrogenism. Did the authors also perform the diagnosis using any other criteria?

(Authors response) -&gt; As you commented, definition and diagnosis of PCOS are still controversial. Because women with hypothalamic amenorrhea can be classified as PCOS according to Rotterdam criteria, we defined PCOS according to NIH criteria.

(Current comment) I do agree with the authors regarding the false positive diagnosis for PCOS. However, besides the fact that hypothalamic amenorrhea is uncommon in women with normal weight and non-extremely hypocaloric diets, the NIH criteria also has some important flaws, and the Rotterdam criteria tends to be more widely accepted (although as a scientist I fully agree that none of these diagnostic criteria properly diagnose PCOS - not even the name is fully appropriate). Please include in the discussion section why the NIH criteria, and not the Rotterdam, was employed.

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.
Yes

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 am able to assess the statistics

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

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