Reviewer's report

Title: Androsterone Glucuronide to dehydroepiandrosterone sulphate ratio is discriminatory for obese Caucasian women with Polycystic Ovary Syndrome

Version: 0 Date: 11 Feb 2017

Reviewer: Nigel Glynn

Reviewer's report:

I was pleased to review this cross sectional, observational study of androgen levels in obese and non-obese subjects with PCOS. The eloquently designed study is clearly described in a well written manuscript.

General points:

Overall, the introduction would benefit from a more detailed discussion about the metabolism of ADTG and rationale for measuring it in this study. The average reader may not be familiar with the details of DHEA breakdown and a clearer explanation would augment the manuscript.

Similarly, the discussion would benefit from a clearer comparison with other studies of ADTG in PCOS as well as in other pathological states and healthy women.

While the results are of interest and may advance the scientific knowledge of the PCOS syndrome and allow us to better classify patients, I am unclear of the clinical utility of ADTG:DHEAS ratio. The authors conclude that "this may be a novel biomarker to identify obese PCOS patient". They should be more specific about the potential utility (particularly in the clinical setting) of this test. Is it just a reflection of insulin resistance for which we already have clinical and biochemical parameters?

Specific points:

Was this a prospective or retrospective study? This should be clearly stated in the methods section. If it was prospective, why were subjects and controls not matched for age?

In Table 1, was all the data normally distributed? If so, it may be best expressed as mean +/- SEM. If not normally distributed, it could be expressed as median and range.
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:

Acceptable

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