Reviewer’s report

Title: Association of osteoprotegerin with impaired glucose regulation and microalbuminuria—the REACTION study.

Version: 0 Date: 06 Sep 2015

Reviewer: Symeon Tournis

Reviewer’s report:

Laboratory for Research of Musculoskeletal System "Th. Garofalidis", University of Athens, KAT Hospital, 10 Athinas str., Kifissia, PC: 14561, Athens, Greece Tel: +30 2108018123 Fax: +30 2108018122 E-mail: stournis@med.uoa.gr

To the editor of the "BMC Endocrine Disorders" Dear Dr Liatis, The authors report the results of a cross-sectional study, concerning the association of circulating OPG with newly diagnosed impaired glucose regulation, namely IFG, IGT and type 2 DM). The manuscript is generally well written and of appropriate length. However there are some issues that must be addressed before the manuscript is considered suitable for publication to the "BMC Endocrine Disorders".

Given that OPG levels differ significantly according to menopausal status, were the groups equally balanced? The authors do not report menopausal status nor they adjust for it. The observed association between OPG and glycemic status is relative small and of marginal statistical significance, given that large sample. The authors should critically comment on this finding. The authors must also comment on the different forms of OPG (monomer, dimer, etc/plasma vs. serum) measured with the several commercial kits for OPG and also more extensively comment on the multiple sources of circulating OPG and whether there are data linking circulating OPG with local production (eg the data linking circulating OPG with bone OPG are rather disappointing. Finally there are some other markers possibly better associated with glycemic status such as undercarboxylated osteocalcin. Minor issues Introduction Line 13-23: please rephrase R- results Along the results section it would be better to use the term higher instead of increased when commenting on OPG levels given the cross-sectional nature of the study.

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.

Not relevant to this manuscript

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

Needs some language corrections before being published

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

None

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal