Reviewer’s report

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

Version: 0 Date: 29 Aug 2015

Reviewer: Nicholas Tentolouris

Reviewer's report:

Dear Professor Liatis,

Thank you for offering me the opportunity to review the article by Qing Su et al for BMC Endocrine Disorders. This is an interesting cross-sectional study which examined the association between serum osteoprotegerin (OPG) levels with impaired glucose regulation and microalbuminuria. The authors found that serum OPG levels increased slightly but significantly in patients with impaired fasting glucose/impaired glucose tolerance/type 2 diabetes in comparison with those with normal glucose tolerance and in those with type 2 diabetes mellitus and microalbuminuria in comparison with those without microalbuminuria. Strength of the study is the large number of the participants. A limitation is its cross-sectional design which does not allow drawing robust conclusions for a cause and effect relationship between serum OPG and impaired glucose regulation or microalbuminuria. Comments:

1. In page 12, lines 9-16, the authors describe factors related with serum OPG levels. Did they check if there was an association between serum OPG and estimated GFR (eGFR)? This issue needs clarification because renal function may be a certain confounder on the association between serum OPG and impaired glucose regulation or microalbuminuria. If there is a significant association between these variables in univariate analysis, the authors should adjust in addition to the other variables and for eGFR in multivariate analysis.

2. Regarding the association between serum OPG concentrations and microalbuminuria, the authors should provide more data on the potential use of angiotensin converting enzyme inhibitors and angiotensin receptor blockers, because these medications reduce albumin/creatinine ratio.

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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