Reviewer’s report

Title: A randomized, placebo-controlled clinical trial evaluating the safety and efficacy of the once-weekly DPP-4 inhibitor omarigliptin in patients with type 2 diabetes mellitus inadequately controlled by glimepiride and metformin

Version: 0 Date: 23 Apr 2017

Reviewer: Yoshifumi Saisho

Reviewer's report:

In this study, Lee et al. examined the efficacy and safety of a novel once-weekly DPP-4 inhibitor, omarigliptin added to the patients with T2DM inadequately controlled with metformin and glimepiride. The primary endpoint was reduction in HbA1c at week 24. A total of 307 patients were enrolled and randomized to omarigliptin 25 mg once-weekly or placebo for 24 weeks. Of those, 256 completed the study. Omarigliptin showed 0.61% greater reduction in HbA1c compared with placebo. The overall incidences of adverse events (AEs), serious AEs, drug-related AEs and discontinuations were generally similar between treatment groups.

The study was carefully and properly conducted. The manuscript was clearly and concisely written. The findings are clinically significant. There are only minor comments:

1. Definition of hypoglycemia is not clear. Was hypoglycemia confirmed by SMBG?

2. Was the dose of glimepiride reduced if hypoglycemia occurred? The titration of glimepiride during the study and the final dose of glimepiride at week 24 should be described in the manuscript.

3. Was adherence to medication assessed? This information should be described.

4. It may be better to understand if the ethnicity and race are combined in Table 1.

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

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.

I declare that I have no competing interests.

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