Reviewer’s report

Title: Comparison of efficacy between different incretin-based therapies; GLP-1 agonists and DPP-4 inhibitors.

Version: 1 Date: 16 May 2012

Reviewer: Baptist Gallwitz

Reviewer’s report:

This review article gives an overview on the direct head-to-head comparison studies between GLP-1 receptor agonists and DPP-4 inhibitors. The manuscript merits the major and important relevant studies after an introduction explaining the physiology of GLP-1 as well as the mode of action of these two classes of incretin based therapies.

Major Comments

1. Introduction: please cite the novel diabetes prevalence data of the IDF published in fall 2011 and update reference 1 in the reference list.

2. Page 6: Here, the authors explain that the diminished incretin effect is partly due to a reduced post-prandial GLP-1 response, (Refs. 14, 15) and a reduced insulinotropic response (Ref. 16). Data rarding that are heterogenous. Please change the wording accordingly and cite Nauck et al, DIabetologia 2011.

3. Page 8: vildagliptin was the second DPP-4 inhibitor available in many European countries.

4. Page 17 bottom: the large outcome studies (LEADER, EXCEL, TECOS etc) could also be mentioned in a separate paragraph on cardiovascular outcome studies. These studies are powered for cardiovascular outcome and will of course also come up with data on safety regarding pancreatitis and cancer; for these two events, the studies are not powered, however.

Minor comments

1. General: terminology exenatide LAR in the manuscript. Since the formulation of long-acting exenatide was changed and the DURATION studies were mostly performed with the novel formulation, the term exenatide QW (for once weekly) should be used

2. Page 7 line 2: long-acting engineered GLP-1 agonists

3. Page 11 para 2, line 1: .....there appear to be … differences...

4. Page 12 line 2: in the T-Emerge trial....

5. Page 13 para 2: in the T-Emerge trial....
6. Page 13, line 6 from bottom: …during the extension phase

7. Page 17, para 1, last line: during the DURATION-2 trial

8. Page 21, last para, line 1: the selection of an incretin-based agent

**Declaration of competing interests:**

- 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 paper, either now or in the future? I have received lecture honoraria and honoraria for advisory boards by AstraZeneca, Berlin Chemie, BMS, Boehringer Ingelheim, Eli Lilly, MSD, NovoNordisk, Novartis, Roche, Sanofi and Takeda

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- Do you have any other financial competing interests? No

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