

Assessment of Changes in Body Composition After 3 Months of Dulaglutide Treatment [Response to Letter]

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Dear editor

We thank Panjaitan et al for their thoughtful and constructive comments on our recent report about dulaglutide.¹ We really appreciate the interesting highlights they have summarized.

We agree with the author that a dose-escalation experimental design is needed to allow patients to tolerate the adverse effects of the drug and to compare the efficacy of the drug at different doses. The Food and Drug Administration (FDA) has approved 4 doses (0.75 mg, 1.5 mg, 3 mg, and 4.5 mg) of dulaglutide for the treatment of type 2 diabetes in adults. Now dulaglutide (Eli Lilly) is available in 0.75 mg and 1.5 mg doses in China. And only 0.5 mL: 1.5 mg dulaglutide (Trulicity, Eli Lilly) is currently available at the subject's hospital. There is no 0.75 mg or other high-dose formulations available at the subject's hospital. Side effects, especially gastrointestinal side effects, are relatively rare and tolerated by patients in the practical use of this size of drug (0.5 mL: 1.5 mg, Trulicity, Eli Lilly) in the subject's hospital. A previous study also showed that dose titration of dulaglutide (LY2189265) did not result in a clear reduction in gastrointestinal side effects, as measured by the Gastroparesis Cardinal Symptom Index.² Therefore, 1.5 mg dulaglutide without dose titration was used in our study.

It is generally accepted that dulaglutide has a dose-dependent therapeutic effect, whether for glucose lowering or weight loss. In the AWARD-CHN2 study, the 1.5 mg dose of dulaglutide appears to be more effective in glycemic control than the 0.75 mg dose.³ A recent systematic review and meta-analysis conducted by Li et al showed that higher dose of dulaglutide have greater effects on body weight and waist circumference reduction.⁴ It would be interesting to have the opportunity to investigate whether the effect on body composition is also dose dependent.

We agree with the reviewer's concern that a 3-month follow-up period is relatively short. The appropriate follow-up period was an important issue to consider when we designed the study. The choice of a 3-month follow-up period was a reasonable choice based on our preliminary review of the relevant literature. Data from previous studies of dulaglutide showed that the fastest period of weight change after the use of 1.5 mg dulaglutide was the first 3 months (12 weeks), after which weight change entered a slow period.⁵ The aim of our study was to find out whether the weight change was accompanied by bone and muscle loss. Taking all factors into account, 3 months was chosen as the follow-up period for this study.

We are very happy that the readers are interested in our work. However, our current research work is still insufficient to explain many important issues. These questions include: 1. The reason for the change in body composition by dulaglutide is not clear. 2. Is there a rebound of body weight and corresponding changes in body composition after stopping the use of dulaglutide? As mentioned by the reviewers in the letter, large clinical trials with long-term follow-up are needed to address these questions.

Again, we appreciate the constructive feedback from the reviewers and look forward to more interesting and exciting results in the future.

Disclosure

The authors report no conflicts of interest in this communication.

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