

ERRATUM

Erratum: Effect of GLP-1 receptor agonist treatment on body weight in obese antipsychotic-treated patients with schizophrenia: A randomized, placebo-controlled trial

To the Editor:

"Treatment of antipsychotic-associated obesity with a GLP-1 receptor agonist (GLP-1RA): The TAO trial" was the first clinical investigation of glucagon-like peptide-1 receptor agonist (GLP-1RA) treatment (exenatide 2 mg once-weekly or placebo) in antipsychotic-treated schizophrenia patients with obesity.¹ Recently, we published the main results from the TAO trial as an original article in *Diabetes, Obesity and Metabolism*.²

We regret to report that further analyses of the TAO dataset have revealed an error in the secondary analyses presented in the original publication. Importantly, the error did not influence the results of the primary endpoint (change in body weight), showing that both patients treated with exenatide as well as the placebo group experienced significant ($P = .004$) but similar weight losses of 2.24 ± 3.3 and 2.23 ± 4.4 kg ($P = .98$).

The error specifically relates to our secondary analyses of the metabolic blood markers. In these analyses, the coding of "visit type" had been shuffled, and in turn, the data and statistical tests of the metabolic blood markers in Section 2.6.4 and Table 1 were based on incorrect visit types.² Reductions in body weight are typically associated with improvement in metabolic blood markers, and our unexpected report of a post-intervention worsening of blood metabolic variables after 3 months, was therefore incorrect and misleading. Below, we present a corrected version of Table 1, and we also present a modified Results section. Finally, we briefly discuss the implications of these corrected secondary analyses.

1 | CORRECTED RESULTS

These corrected results correspond to the second paragraph Section 3.2 in the original paper.² Changes are shown in italic font.

Plasma exenatide significantly increased in the exenatide group compared to the placebo group ($P = .002$; Table 1). Exenatide treatment compared to placebo (Time \times Group interaction) significantly reduced central 24-hour systolic blood pressure ($P = .004$) and pulse wave velocity ($P = .007$). *A trend level Time \times Group interaction was found for glycated haemoglobin (HbA1c [$P = .063$]), indicating that exenatide tended to lower HbA1c compared to placebo.*

Significant effects of Time were found on central 24-hour systolic blood pressure ($P = .048$), peripheral 24-hour systolic blood pressure ($P = .03$), *fasting plasma glucose* ($P = .006$), plasma exenatide ($P = .002$), *triglycerides* ($P = .044$), *total cholesterol* ($P = .009$), and *HDL cholesterol* ($P = .006$). *No significant effect of Time was found on LDL cholesterol* ($P = 0.289$), and *a trend level significant effect of Time was found for very low-density lipoprotein cholesterol* ($P = .054$). Regarding plasma exenatide, we found an effect of Group ($P < .001$), but no effect of Group was found for any other secondary outcomes. Post hoc correction for smoking status did not significantly change results concerning any secondary outcomes.

2 | IMPLICATIONS

Regardless of treatment arm, the moderate weight loss of 2.3 kg over 3 months in the TAO study was associated with small reductions in fasting plasma glucose, triglycerides, total cholesterol and HDL cholesterol levels. At trend-level significance, we observed an indication of an HbA1c-lowering effect of exenatide. Interestingly, 2 recently published studies in antipsychotic-treated patients with schizophrenia showed that GLP-1RA treatment improved blood metabolic markers and promoted weight loss.^{3,4} Because one study investigated exenatide 2 mg once-weekly in clozapine-treated patients for 24 weeks,³ and the other study used liraglutide 1.8 mg daily in patients with prediabetes treated with olanzapine or clozapine,⁴ further research is needed to determine the potential role of GLP-1RA treatment in antipsychotic-treated patients with obesity.

3 | COMMENT

The reported error had minor overall impact on our study; however, the premise for progress in research is the availability of accurate data, and our originally reported blood metabolic parameters were misleading. We have meticulously checked all analyses related to this study, and we confidently claim that no other mistakes are present. Please accept our sincere apologies for this unfortunate inaccuracy.

TABLE 1 Biochemical fasting blood values

| | Exenatide (n = 20) | | Placebo (n = 20) | | Time P value | Group P value | Time × Group P value |
|------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------|---------------|----------------------|
| | Baseline | End-of-trial | Baseline | End-of-trial | | | |
| HbA1c, mmol/mol [range] | 35.95 ± 3.60 [29-42] | 34.00 ± 3.39 [29-42] | 35.75 ± 4.96 [28-47] | 38.3 ± 13.58 [27-93] | .800 | .337 | .063 |
| Fasting plasma glucose, mM [range] | 5.46 ± 0.55 [4.2-6.5] | 5.26 ± 0.36 [4.3-5.9] | 5.71 ± 0.86 [4.8-8.3] | 5.39 ± 0.44 [4.8-6.4] | .006* | .254 | .519 |
| Plasma exenatide, pmol/L [range] | 3.4 ± 10.5 [0-40] | 84.9 ± 29.6 [65-147] | 0.0 ± 0 [0-0] | 1.1 ± 3.2 [0-11] | .002* | <.001* | .002* |
| Plasma glucagon, pmol/L [range] | 3.75 ± 13.1 [0-58] | 17.8 ± 19.1 [0-50] | 0.0 ± 0.0 [0-0] | 0.0 ± 0.0 [0-0] | .004* | <.001* | .004* |
| Triglyceride, mmol/L [range] | 2.12 ± 1.07 [0.65-4.47] | 1.86 ± 0.93 [0.57-3.66] | 1.76 ± 0.97 [0.52-4.31] | 1.63 ± 0.94 [0.44-3.51] | .044* | .335 | .510 |
| Total cholesterol, mmol/L [range] | 5.04 ± 1.06 [3.0-7.0] | 4.84 ± 1.16 [2.8-7.7] | 4.86 ± 0.95 [2.5-6.9] | 4.57 ± 0.75 [3.2-6.7] | .009* | 0.449 | .617 |
| LDL cholesterol, mmol/L [range] | 3.06 ± 0.86 [1.1-4.4] | 3.03 ± 0.98 [0.9-5.2] | 2.96 ± 0.76 [1.0-4.7] | 2.82 ± 0.66 [1.2-4.4] | .289 | .528 | .522 |
| VLDL cholesterol, mmol/L [range] | 0.96 ± 0.48 [0.3-2.0] | 0.83 ± 0.42 [0.3-1.6] | 0.79 ± 0.44 [0.2-1.9] | 0.75 ± 0.43 [0.2-1.6] | .054 | .353 | .354 |
| HDL cholesterol, mmol/L [range] | 1.03 ± 0.22 [0.56-1.39] | 0.98 ± 0.22 [0.61-1.60] | 1.10 ± 0.31 [0.66-1.82] | 1.01 ± 0.26 [0.58-1.51] | .006* | .498 | .420 |

Abbreviations: HbA1c, glycated haemoglobin (<42 mmol/mol indicates normoglycaemia; 42-47 mmol/mol indicates prediabetes and >48 mmol/mol indicates diabetes); VLDL, very low density lipoprotein. Values are mean ± SD, with range (in square brackets). P values were analysed using repeated-measures analysis of variance, and significant group differences are indicated by asterisks (*).

May this attempt to provide transparency not compromise confidence in the presented data.

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