

中文題目：比較評估類升糖素肽-1 受體促效劑合併基礎胰島素與於預混型胰島素治療的但控制不佳的第二型糖尿病之臨床效果與安全性

英文題目：To evaluate the efficacy and safety of glucagon-like peptide-1 receptor agonist plus basal insulin therapy in subjects with type 2 diabetes with poor glycemic control under twice-daily premixed insulin therapy - preliminary report

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Background: The current guideline recommends several strategies to intensify injectable therapy in diabetes. Our study explored the possible therapeutic benefits of combination with glucagon-like peptide-1 receptor agonist (GLP-1 RA) and basal insulin among subjects of inadequately controlled type 2 diabetes (T2DM) previously treated with premixed insulin.

Method: It is a single arm, open study. Anti-diabetic regimen was shifted to GLP-1 RA plus basal insulin to replace previous treatment of premixed insulin with inadequate glycemic control (HbA1C level between 7 to 11%) T2DM adults. The glycemic index, clinical cardiovascular risk profiles, safety issues (body weight and hypoglycemia), and glucose variability indices from continuous glucose monitoring (CGM) system before and after three months treatment modification was evaluated.

Results: A total twenty-three subjects with 48% males; mean age of 58 ± 10 years, mean diabetes duration of 13 ± 7 years and baseline HbA1c level of 8.3 ± 1.0 % were included. After modification of treatment strategy, there were statistical significance in body weight reduction of 2.6 kg ($p < 0.001$), BMI reduction of 0.5 kg/m^2 ($p < 0.001$), HbA1c improvement of 1.0% ($p < 0.001$), fasting plasma glucose reduction of 54 mg/dL ($p = 0.002$), LDL cholesterol reduction of 11 mg/dL ($p = 0.006$). No difference of hypoglycemia incidence was observed. There were improved Time-In-Range (TIR) by 14% and continuous overall net glycemic action (CONGA) of 19.8 mg/dL ($p = 0.018$ and 0.009 respectively). However, other indices of glucose variability, included standard deviation (SD), mean amplitude of glycemic excursions (MAGE), and mean of daily differences (MODD) from CGM were not different between these two treatment strategies.

Conclusions: In this preliminary report, the combination treatment with GLP-1 RA and basal insulin shows a significant improvement of glycemic indices, cardiovascular benefits, and possible glucose variability among patients with uncontrolled T2DM on previous therapy with premixed insulin. It provided important information for physicians to choose suitable therapeutic strategy as individualized needs. A larger scaled study is necessary to be conducted to validate these findings.

Keywords: type 2 diabetes, glucagon-like peptide-1 receptor agonist, basal insulin, premixed insulin