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Predictive Clinical Parameters for the Therapeutic Efficacy of Sitagliptin in Korean Type 2 Diabetes Mellitus (*Diabetes Metab J* 2011;35:159-65)

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We appreciate the comments on our study "Predictive clinical parameters for the therapeutic efficacy of sitagliptin in Korean type 2 diabetes mellitus," which was published in *Diabetes & Metabolism Journal* 2011;35:159-65.

Sitagliptin is an oral hypoglycemic agent with characteristics that may make it particularly useful for treating type 2 diabetes mellitus (T2DM) [1]. The drug is a selective inhibitor of the enzyme dipeptidyl peptidase-4 (DPP-4) [2], which inactivates the incretins glucagon-like peptide-1 and glucose-dependent insulinotropic peptide. By inhibiting the activity of DPP-4, sitagliptin stabilizes the active forms of these incretins, thereby supporting glucose homeostasis through mechanisms that are not in themselves likely to trigger hypoglycemia [3]. Previous randomized placebo-controlled clinical trials have shown that sitagliptin is an effective glucose lowering agent in patients with T2DM when used as monotherapy and when given in combination with other drugs such as metformin, sulfonylurea and thiazolidinediones [4-7]. In a meta-analysis of 18 randomized controlled trials, patients were more likely to reach the HbA1c goal of <7% when treated with sitagliptin compared with placebo (POR, 3.15; 95% confidence interval [CI], 2.47 to 3.72); sitagliptin was also associated with greater decline in HbA1c from baseline compared with placebo (WMD, -0.78%; 95% CI, -0.93 to -0.63) [8]. That study reported that sitagliptin treatment lead to improvements in glycemic control in patients with T2DM, including reductions in HbA1c 0.7 to 1.2%, and 17 to 63% of patients achieved HbA1c <7% at the end of the treatment.

In our study, treatment with 100 mg sitagliptin with metformin or sulfonylurea for 24 weeks led to additional reductions of mean HbA1c to 1.23±1.15%. The likelihood of patients to reach the HbA1c goal of <7% with sitagliptin treatment was 47% at the end of 24 weeks. This glycemic lowering effect is greater than that observed in previous studies [9,10]. In addition, the HbA1c lowering effect of sitagliptin was more pronounced in non-obese patients and in patients with decreased insulin secretion compared with the non-responder group. This potent effects of sitagliptin are expected in Korean diabetic patients who have quantitative pancreatic deficiencies. Asian T2DM patients have relatively lower level of pancreatic secretory dysfunction than patients of European descent. Most studies of sitagliptin have demonstrated significant improvements in β-cell function [11,12]. Therefore, sitagliptin appears to be effective for the treatment of T2DM, and may become a first-line treatment in the future.

As Dr. Oh noted, our study has some limitations. It is retrospective, and did not control for other factors such as exercise and diet. Despite these limitations, the results of our study in-

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dicate that sitagliptin treatment greatly reduces glucose level in younger, non-obese Korean T2DM patients. Further prospective studies with larger sample sizes are needed to determine the specific effects of sitagliptin.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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