

Economic Impact of Combining Metformin with Dipeptidyl Peptidase-4 Inhibitors in Diabetic Patients with Renal Impairment in Spanish Patients (*Diabetes Metab J* 2015;39:74-81)

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Dipeptidyl peptidase-4 (DPP4) inhibitor is one of the most commonly prescribed diabetic medications in recent times. The strong points of DPP4 inhibitor are low risk of hypoglycemia and weight gain [1,2]. However, the relatively expensive cost of DPP4 inhibitor compared with pre-existing medications is an obstacle for the use of DPP4 inhibitor in clinical practice.

In this article entitled "Economic impact of combining metformin with dipeptidyl peptidase-4 inhibitors in diabetic patients with renal impairment in Spanish patients," Sicras-Mainar and Navarro-Artieda [3] compared the total cost of DPP4 inhibitor and other oral anti-diabetics including sulfonylureas, glinides, and thiazolidinediones (TZDs) over 2 years of follow-up. The authors reported that the total economic cost of DPP4 inhibitor treatment could be lower than other oral antidiabetic (OAD) treatment for type 2 diabetic patients with renal impairment. In this study, DPP-4 inhibitors showed better compliance, better metabolic control, and lower hypoglycemia than other OAD. It is interesting that DPP4 inhibitor was cost-effective and safe even for relatively old (mean age 70.2 ± 10.4), renal impaired (chronic kidney disease stage 1 to 3) patients. However, this study has some points that should be discussed.

Previous studies reported that DPP4 inhibitor showed beneficial effects on cardiovascular events [4,5]. In this study, lower hospital care costs of DPP4 inhibitor group was observed with

lower hypoglycemic events. DPP4 inhibitor group also showed lower primary care costs, including drug cost. Considering that the drug costs of DPP4 inhibitors are relatively high, especially compared with sulfonylurea, the reason for the lower drug cost of DPP4 inhibitor group compared with other OAD group may need further explanation. Separate analysis of insulin secretagogues and TZDs in other OAD group could be helpful.

In this study, metabolic control rate, defined by the ratio of glycosylated hemoglobin (HbA1c) lower than 7.0%, was used for glycemic control, and it was better in DPP4 inhibitor group than other OAD group after 24 months of follow-up, even though baseline metabolic rates were not different. Sulfonylurea and TZD have been known to show better glucose-lowering effect than DPP4 inhibitor, and poor glycemic control subjects are more likely to take sulfonylurea or TZD. Therefore, using baseline HbA1c level could be more appropriate to compare the overall glucose lowering effect of each group.

As a result, this study showed that a DPP4 inhibitor could be an attractive choice for treatment of old-aged, renal impairment diabetic patients, with even lower total economic costs. Further studies to assess the economic points in diabetic treatments should be conducted to figure out the sharply increasing economic costs in type 2 diabetes.

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CONFLICTS OF INTEREST

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

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