Response

Diabetes Metab J 2015;39:173-174
http://dx.doi.org/10.4093/dmj.2015.39.2.173
pISSN 2233-6079 · eISSN 2233-6087

dmj
DIABETES & METABOLISM JOURNAL

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)

Antoni Sicras-Mainar[1], Ruth Navarro-Artieda[2]

[1]Management Planning, Badalona Serveis Assistencials SA, Barcelona,
[2]Medical Documentation, Hospital Germans Trias i Pujol, Barcelona, Spain

We appreciate your interest and comments on our article entitled "Economic impact of combining metformin with dipeptidyl peptidase-4 inhibitors in diabetic patients with renal impairment in Spanish patients" which was published in *Diabetes & Metabolism Journal* [1].

It is correct that the objective of the study was to determine resource use and the resulting costs of the combination of metformin with dipeptidyl peptidase-4 (DPP-4) inhibitors in patients with diabetes and renal impairment (RI) in real clinical practice. We made a retrospective observational study which included 395 patients aged ≥30 years receiving metformin who initiated a second oral treatment with DPP-4 inhibitors or other oral antidiabetics (reference group). The follow-up was 2 years. The study concluded that, in spite of the study limitations, patients with RI receiving metformin and DPP-4 inhibitors and had a greater probability of achieving better metabolic control and lower rates of hyperglycemia, and resulted in lower health costs for the Spanish National Health System [1].

In response to the authors, we would underline that we were not evaluating the total cost of treatment, but rather the total cost of the patients receiving treatment. Therefore it is necessary to be extremely cautious about the external validity and the causality of the observations (see the limitations of the study). The cost of medications was greater in the reference group, and this was due to the fact that these patients received more drugs related to complications (hyperglycemia, cardiovascular events, etc.) occurring during the study follow-up. It is true that the unit costs of DPP-4 inhibitors are greater than those of other oral antidiabetics, and we are grateful for this comment. We also agree that using the initial level of glycosylated hemoglobin might be more appropriate to compare the general effect in the reduction of glucose levels in each group. However, all patients in both groups were receiving double therapy, and we therefore consider that differences in clinical effects were not very consistent and not very representative of disease progression.

DPP-4 inhibitors act by increasing the effect of native glucagon-like peptide-1 which stimulate the secretion of insulin by pancreatic β-cells and inhibit the secretion of glucagon by α cells [2]. DDP-4 inhibitors may be an alternative to sulfonylureas in patients with a high risk of hyperglycemia in whom metformin is insufficient to achieve glycemic control [3-5]. Further studies in real life conditions will be necessary to confirm the consistency of our results.

CONFLICTS OF INTEREST

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

Corresponding author: Antoni Sicras-Mainar
Management Planning, Badalona Serveis Assistencials SA, C. Gaietà Soler, 6-8 entlo, 08911 Badalona, Barcelona, Spain
E-mail: asicras@bsa.cat

REFERENCES

1. Sicras-Mainar A, Navarro-Artieda R. 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.
2. Cho YM, Wideman RD, Kieffer TJ. Clinical application of glucagon-like peptide 1 receptor agonists for the treatment of type 2 diabetes mellitus. Endocrinol Metab (Seoul) 2013;28:262-74.
3. Karagiannis T, Boura P, Tsapas A. Safety of dipeptidyl peptidase 4 inhibitors: a perspective review. Ther Adv Drug Saf 2014;5:138-46.
4. Liu Y, Hu Y. Novel DPP-4 inhibitors against diabetes. Future Med Chem 2014;6:793-808.
5. Davidson MH. Potential impact of dipeptidyl peptidase-4 inhibitors on cardiovascular pathophysiology in type 2 diabetes mellitus. Postgrad Med 2014;126:56-65.