DSEN ABSTRACT

What is the comparative effectiveness and safety of sitagliptin and NPH insulin for the management of type 2 diabetes not controlled by metformin plus sulfonylurea?

Implications

Our results bring evidence from real world population and support prior findings that DPP-4 are effective on the treatment of type 2 DM. Considering the lower risk of hypoglycemia, DPP-4 should be preferred instead of NPH insulin as third-line therapy for patients not controlled with metformin plus sulfonylurea.

Key messages

Type 2 diabetes mellitus patients initiating on DPP-4 as third-line therapy are more likely to persist on therapy, have a greater improvement on BMI, and lower risk of hypoglycemia when compared to initiators of NPH insulin.

What is the issue?

- Most guidelines suggest metformin as initial therapy in type 2 diabetes mellitus (DM) and sulfonylurea is commonly used as second-line therapy.
- However, most type 2 DM people eventually need additional treatment to achieve glycemic control.

What was the aim of the study?

- To compare DPP-4 inhibitors (sitagliptin) with insulin neutral protamine haegadorn (NPH insulin) in terms of effectiveness and safety for the management of patients with type 2 diabetes mellitus (T2DM) not controlled by metformin and sulfonylureas.

How was the study conducted?

- CAN-AIM conducted two longitudinal analyses from international databases.
- CAN-AIM investigators conducted comparison between DPP-4 and NPH insulin in terms of glycated haemoglobin (HbA1C) levels, body mass index (BMI), therapy persistence, hypoglycemia, and cardiovascular outcomes (myocardial infarction, unstable angina, coronary artery bypass graft, coronary revascularization, or percutaneous coronary intervention).

What did the study find?

- Sitagliptin was associated with significant reduction on BMI (one-unit reduction measured after 1 year) when compared to NPH insulin. No clinical significant difference in HbA1C levels between the two groups.
- Initiators of NPH insulin discontinued earlier and have three times higher risk of hypoglycemia when compared to initiators of DPP-4.
- The risk of cardiovascular outcomes was similar across groups.

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This research was funded by CIHR – Drug Safety and Effectiveness Network and conducted by investigators affiliated with the following institutions:

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Link to publication: Moura et al, 2018.