DSEN ABSTRACT

How does real world use of insulin glargine compare to NPH insulin in terms of effectiveness and safety for the management of type 1 diabetes mellitus (T1DM)?

Implications

Our analyses did not confirm any clinical outcome differences between NPH and glargine in terms of hypoglycemia, KDA, and microvascular complications. The higher rate of switches in NPH initiators could have been due to patient and physician choice rather than to adverse effects. Given the paucity of real-world comparisons of insulin therapy on T1DM population to date, our study is useful. However, future evaluations should try to elucidate causes for discontinuation and switching and the impact of these events on later clinical outcomes.

Key messages

Type 1 diabetes mellitus patients initiating NPH insulin are more likely to switch to another insulin therapy during their treatment. Our results did not clearly indicate that NPH initiators who persist on their therapy have any different risks of hypoglycemia, KDA, and microvascular complications when compared to glargine initiators.

Authors: Cristiano Moura, Sasha Bernatsky, Michal Abrahamowicz, Louise Pilote and the CAN-AIM Team

For more information, please contact Louise Pilote
louise.pilote@mcgill.ca

What is the issue?

- Despite some evidence suggesting that the newer long acting insulin analogues such as glargine might produce a better profile of basal insulin than neutral protamine Hagedorn (NPH) insulin in type 1 DM, a strong clinical benefit for this newer agent is not clear.

What was the aim of the study?

- To compare insulin glargine with NPH insulin in terms of effectiveness and safety for the management of patients with type 1 diabetes mellitus (T1DM).

How was the study conducted?

- CAN-AIM conducted a longitudinal analysis from an international database to compare therapy persistence, measured as discontinuation and switching, hypoglycaemia, diabetes ketoacidosis (DKA), and microvascular complications (nephropathy, retinopathy, and neuropathy) among insulin glargine and NPH insulin initiators.

What did the study find?

- Initiators of NPH were more likely to switch to another insulin therapy than initiators of glargine.
- We were unable to establish that the risk of hypoglycemia, DKA, and microvascular complications was different in initiators of NPH versus glargine.

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