

DSEN ABSTRACT

SGLT2 Inhibitors and the Risk of Below-Knee Amputation

A study conducted by the Canadian Network for Observational Drug Effect Studies (CNODES)

Summary

- SGLT2 inhibitor use was not associated with an increased risk of incident below-knee amputation compared to DPP-4 inhibitors among patients with type 2 diabetes.

Key messages

- These findings provide reassurance regarding the risk of below-knee amputation with SGLT2 inhibitors in a real-world setting.
- However, studies with longer duration of follow-up are needed to assess potential long-term effects.

Project Lead & Team

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Link to publication

- Yu et al. Diabetes Care. 2020. [doi: 10.2337/dc20-0267](https://doi.org/10.2337/dc20-0267).

What is the issue?

- Sodium-glucose cotransporter 2 (SGLT2) inhibitors are a new class of drugs used in the second- or third-line treatment of type 2 diabetes.
- However, several safety concerns related with the use of SGLT2 inhibitors have been raised including a potential increased risk of amputation.

What was the aim of the study?

- This study, conducted by the Canadian Network for Observational Drug Effect Studies (CNODES), evaluated the risk of below-knee amputation associated with the use of SGLT2 inhibitors compared to the use of dipeptidyl peptidase-4 (DPP-4) inhibitors, another class of antibiotic drugs used as second- or third-line treatment.

How was the study conducted?

- CNODES investigators conducted eight population-based cohort studies with health records of over 400,000 patients with type 2 diabetes from seven Canadian provinces and the United Kingdom.
- Cohorts included patients aged 18 years and older who received a prescription for a SGLT2 inhibitor or a DPP-4 inhibitor between 2013 and 2018.
- The risk of incident below-knee amputation was compared in users of SGLT2 inhibitors and a matched group of DPP-4 inhibitors. Results were combined across studies using a statistical approach called meta-analysis.

What did the study find?

- During a mean exposed follow-up time of 11 months, there was no evidence of an association between the use of SGLT2 inhibitors and incident below-knee amputation compared with the use of DPP-4 inhibitors among patients with type 2 diabetes. Similar findings were observed for each of the three individual SGLT2 inhibitor molecules (canagliflozin, dapagliflozin, empagliflozin) available during the study period.
- While these findings provide reassurance as to the risk of below-knee amputation with SGLT2 inhibitors in a real-world setting, studies with longer duration of follow-up are needed to assess potential long-term effects.
- CNODES has the ability to analyze a large amount of anonymous patient data to reliably assess questions of drug safety and effectiveness.

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For more information, please contact info@cnodes.ca.