Canagliflozin not associated with increased risk for fracture

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Compared with a glucagon-line peptide-1 (GLP-1) agonist, canagliflozin was not associated with an increased risk for fracture in patients with type 2 diabetes at relatively low risk for fracture. Findings from a multidatabase cohort study are published in *Annals of Internal Medicine*.

Sodium-glucose cotransporter-2 (SGLT2) inhibitors promote glycosuria, resulting in possible effects on calcium, phosphate, and vitamin D homeostasis. Some studies suggest that canagliflozin, an SGLT2 inhibitor, is associated with decreased bone mineral density and a potential increased risk for fracture, which is important because people with type 2 diabetes are already at higher risk. These conflicting study results raise challenges in counseling patients prescribed canagliflozin about the risk for fracture.

Researchers from Brigham and Women's Hospital reviewed two U.S. commercial health care databases providing data on more than 70 million patients from March 2013 to October 2015 to estimate risk for nonvertebral fracture among new users of canagliflozin. Dr. Mike Fralick, the study's lead author, indicated that the overall rate of fracture was similarly low among patients with type 2 diabetes who were treated with canagliflozin or a GLP-1 agonist. Findings were robust across multiple sensitivity and subgroup analyses and the study population is representative of a meaningful proportion of commercially insured patients with diabetes in the U.S. population.

According to the researchers, these results should be reassuring to

patients and physicians who are considering the potential risks and benefits of canagliflozin. An accompanying editorial from the University of Manitoba supports this conclusion and stresses the importance of these real-world findings. However, the editorialists write that caution may still be appropriate when using canagliflozin in older patients who have high fracture risk, with particular attention given to hydration status and fall risk.

More information: *Annals of Internal Medicine* (2019). http://annals.org/aim/article/doi/10.7326/M18-0567

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