

Publication

Antidiabetic treatment, level of glycemic control, and risk of fracture in diabetes type 2: A nested case-control study

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 4611492

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Year 2021

Title Antidiabetic treatment, level of glycemic control, and risk of fracture in diabetes type 2: A nested case-control study

Journal Journal of Clinical Endocrinology and Metabolism

Volume 106

Number 2

Pages / Article-Number 554-566

Keywords HbA1c; antidiabetic medication; case-control study; diabetes mellitus type 2; fracture; glycemic control

Mesh terms Aged; Aged, 80 and over; Biomarkers, analysis; Blood Glucose, analysis; Case-Control Studies; Diabetes Mellitus, Type 2, drug therapy; Female; Follow-Up Studies; Glycated Hemoglobin A, analysis; Glycemic Control, statistics & numerical data; Humans; Hypoglycemic Agents, adverse effects; Male; Massachusetts, epidemiology; Middle Aged; Osteoporotic Fractures, chemically induced, epidemiology, pathology; Prognosis; Prospective Studies; Risk Factors

Patients with type 2 diabetes mellitus (T2DM) have an increased risk of low-trauma fractures. However, the effect of antidiabetic medication in relation to glycemic control on the risk of fracture is poorly understood.; To evaluate the association between the level of glycemic control, use of antidiabetic medication, and risk of low-trauma fractures in patients with newly diagnosed T2DM.; We conducted a nested case-control analysis among individuals registered within the Clinical Practice Research Datalink. The base population consisted of patients with newly diagnosed T2DM from 1995-2017. Cases were patients with a low-trauma fracture after T2DM diagnosis. We matched four controls to each case. Exposure of interest was glycemic control (last HbA1c level before fracture) and type of diabetes treatment. We conducted conditional logistic regression analyses adjusted for several confounders.; We identified 8809 cases and 35219 controls. Patients with current metformin use and HbA1 levels of <8.0% had a reduced risk of fractures (aOR 0.89, 95% CI 0.83-0.96 and 0.81, 95% CI 0.73-0.90, respectively) compared with untreated patients. However, in patients receiving metformin plus one or two other antidiabetic drugs, or insulin (alone or in addition to other antidiabetic medication), the level of glycemic control was not associated with the risk of fracture compared with untreated patients.; While patients with good or medium glycemic control receiving current metformin monotherapy had a lower risk of fracture compared with untreated patients, glycemic control in patients receiving other treatment than metformin was not associated with risk of fracture.

Publisher Oxford University Press

ISSN/ISBN 0021-972X ; 1945-7197

edoc-URL <https://edoc.unibas.ch/80368/>

Full Text on edoc No;

Digital Object Identifier DOI 10.1210/clinem/dgaa796

PubMed ID <http://www.ncbi.nlm.nih.gov/pubmed/33141149>

ISI-Number WOS:000759115900034

Document type (ISI) Journal Article