

Publication

Weight change and blood glucose concentration as markers for pancreatic cancer in subjects with new-onset diabetes mellitus: A matched case-control study

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Author(s) Mueller, Alexandra M.; Meier, Christoph R.; Jick, Susan S.; Schneider, Cornelia**Author(s) at UniBasel** [Meier, Christoph R.](#) ; [Schneider, Cornelia](#) ;**Year** 2019**Title** Weight change and blood glucose concentration as markers for pancreatic cancer in subjects with new-onset diabetes mellitus: A matched case-control study**Journal** Pancreatology**Volume** 19**Number** 4**Pages / Article-Number** 578-586**Keywords** Blood glucose; CPRD; Diabetes; Pancreatic cancer; Weight loss**Mesh terms** Adult; Aged; Aged, 80 and over; Biomarkers, Tumor; Blood Glucose, analysis; Case-Control Studies; Diabetes Mellitus, Type 2, blood, complications, pathology; Female; Glycated Hemoglobin A, analysis; Humans; Male; Middle Aged; Pancreatic Neoplasms, blood, complications; Risk Factors; Weight Gain; Weight Loss

To evaluate the potential of blood glucose levels and weight change before the onset of diabetes as predictors of pancreatic cancer among subjects with new-onset diabetes, that is, cancer-related diabetes versus normal type 2 diabetes.; We conducted a case-control study among subjects with new diabetes in the United Kingdom-based Clinical Practice Research Datalink. Cases were pancreatic cancer subjects with diabetes for ≤ 2 years before the cancer diagnosis (i.e., cancer-related diabetes). Controls were cancer-free, type 2 diabetic subjects matched to cases on age, sex, and diabetes duration. We calculated adjusted odds ratios (aORs) for pancreatic cancer as a function of both weight change and blood glucose before the onset of diabetes.; Weight loss of 10.0%-14.9% at diabetes onset was associated with an aOR for pancreatic cancer of 3.58 (95% CI 2.31-5.54), loss of $\geq 15.0\%$, with an aOR of 4.56 (95% CI 2.82-7.36), compared with stable weight. Blood glucose levels of ≤ 5.1 mmol/L or 5.2-5.6 mmol/L before diabetes onset were associated with an increased risk of a pancreatic cancer diagnosis, with aORs of 2.42 (95% CI 1.60-3.66) and 2.20 (95% CI 1.45-3.35), respectively, when compared with blood glucose levels ≥ 6.3 mmol/L within >2 -3 years before cancer detection.; Weight loss as well as blood glucose levels in the normal range (and thus rapid development of hyperglycemia) before diabetes onset may be predictive of pancreatic cancer-related diabetes and may help target which subjects with new diabetes to refer for pancreatic cancer screening examinations.

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