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Oral Presentations

OP01 Causal Association Between Type 2 Diabetes Mellitus And Risk Of Cancer

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Introduction: Type 2 diabetes mellitus (T2DM) is a major public health problem. Evidence suggests an association between diabetes and cancer, but this may be distorted by confounding. This research aimed to identify and assess the evidence suggesting a causal association between T2DM and cancer.
Methods: A systematic review was conducted in Pubmed, Embase, CINAHL, Web of Science, and the Cochrane Library for literature on the association between T2DM and cancer, from inception to 7 May 2021. Case-control and cohort studies published in any language were considered. Based on a targeted literature review, a directed acyclic graph for each type of cancer was developed to test whether the causal effects were adequately controlled for potential confounding.
Results: A total of 131 studies with a low risk of bias were selected that reported 415 effect estimates of the association of T2DM with 57 types of cancer. Breast, colorectal, pancreas, prostate, and lung were the cancer sites with the highest number of studies. Causality was claimed in 57 studies, but only 34 percent of the outcomes were adequately controlled for confounders. Of the studies assessing a causal relationship for prostate and pancreatic cancer, 87 and 70 percent adequately controlled for confounding. In contrast, only 29 percent of lung cancer, 27 percent of colorectal cancer, and 17 percent of breast cancer results considered the minimal sufficient adjustment set. Lifestyle variables were identified as key potential confounders in more than 20 types of cancer, but they were not included in the analyses.
Conclusions: Many studies simply reported an association between diabetes and cancer. The policy implications of such studies are unclear. Of the studies claiming a causal link between diabetes and cancer, a large proportion did not adequately control for confounding. It is critical that studies take a systematic approach to identifying potential confounding factors, such as targeted reviews and the development of directed acyclic graph approaches, to estimate causal effects that may be useful in informing health policy.

OP04 The Efficacy Of Segmentectomy And Lobectomy For Non-Small Cell Lung Cancer: A Systematic Review And Meta-Analysis

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Introduction: The latest clinical practice guidelines for non-small cell lung cancer (NSCLC) published by the National Comprehensive Cancer Network in 2022 recommend that patients with NSCLC (>1 and ≤2 cm) should be diagnosed as T1b. Segmentectomy and lobectomy are equally effective in treating patients with NSCLC no bigger than 2 cm, and especially for tumors no bigger than 1 cm. However, the effectiveness of these treatments for NSCLC tumors between 1 and 2 cm is unknown. We conducted a systemic review and meta- analysis to assess the efficacy of these two surgical treatments in patients with T1b stage NSCLC.
Methods: We searched for randomized controlled trials (RCTs) and cohort studies investigating the efficacy of lobectomy and segmentectomy for patients with T1b stage NSCLC. Study quality was assessed with the Cochrane Quality in Prognosis Studies tool. We used random effects models to analyze overall survival (OS) and lung cancer-specific survival (LCSS), expressed as hazard ratios (HR) and 95% confidence intervals (CIs). The effect of covariates was assessed using subgroup analysis. All procedures were performed according to the PRISMA guidelines.
Results: We identified ten cohort studies that matched our selection criteria, with general low risk of quality, including a total of 37,691 patients. No publication bias was found. Compared to lobectomy, segmentectomy had lower OS (HR 1.31, 95% CI: 1.16, 1.47; p=0.026) and LCSS (HR 1.21, 95% CI: 1.03, 1.42, p=0.015) before Cox regression. After multivariable Cox regression, adjusted by age, sex,

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