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Meta-Analysis

Association Between Diabetes Mellitus and the Risk of Herpes Zoster: A Systematic Review and Meta-analysis

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Abbreviations: CKD, chronic kidney disease; CMI, cell-mediated immunity; CVD, cardiovascular disease; DM, diabetes mellitus; HbA1c, glycated hemoglobin A1c; HZ, herpes zoster; PHN, post-herpetic neuralgia; RR, relative risk; VZV, varicella zoster virus.

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Abstract

Context: Individuals with diabetes mellitus (DM) are susceptible to various infections.
Objective: We estimated the risk of herpes zoster (HZ) among individuals with DM compared with individuals in the general population.
Methods: We searched the PubMed, Embase, Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, Cumulative Index to Nursing and Allied Health Literature, and PerioPath databases from their inception to January 30, 2021, for studies on the risk of HZ in individuals with DM. Two authors independently screened all articles identified. The same 2 authors independently extracted the data. Four casecontrol studies and 12 cohort studies were included.
Results: Meta-analyses were performed using fixed and mixed-effects models. In the pooled analysis, individuals with DM had a higher risk of developing HZ (pooled relative risk [RR]: 1.38; 95% CI, 1.21-1.57) than individuals in the general population. The results were consistent in subgroup analyses stratified by type of diabetes, age, and study design. In individuals with DM, cardiovascular disease had an additive effect on increasing the risk of HZ (pooled RR: 1.19; 95% CI, 1.11-1.28). There was a linear doseresponse association between age and the risk of HZ in individuals with DM.