

Benzodiazepine Use and Risk of Developing Alzheimer's Disease or Vascular Dementia: A Case–Control Analysis

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Abstract

Introduction: Previous observational studies have associated benzodiazepine use with an increased risk of dementia. Limitations in the study methods, however, leave questions about the interpretation of the findings.

Methods: We conducted a case-control analysis using data from the UK-based Clinical Practice Research Datalink (CPRD). We identified 26,459 patients aged ≥ 65 years with newly diagnosed Alzheimer's disease (AD) or vascular dementia (VaD) between 1998 and 2013 and matched them 1:1 to dementia-free controls on age, sex, calendar time, general practice, and number of years of recorded history. We calculated adjusted odds ratios (aORs) with 95% confidence intervals (CIs) of developing AD or VaD in relation to previous benzodiazepine use, stratified by duration and benzodiazepine type.

Results: The aOR (95% CI) of developing AD for those who started benzodiazepines < 1 year before the diagnosis was 2.20 (1.91–2.53) and fell to the null for those who started between 2 and < 3 years before (aOR 0.99, 0.84–1.17). The aOR (95% CI) of developing VaD for those who started benzodiazepines < 1 year before the diagnosis was 3.30 (2.78–3.92) and fell close to the null for those who started between 3 and < 4 years before (aOR 1.16, 0.96–1.40). After accounting for benzodiazepine use initiated during this prodromal phase, long-term use of benzodiazepines was not associated with an increased risk of developing AD (aOR 0.69, 0.57–0.85) or VaD (aOR 1.11, 0.85–1.45).

Conclusion: After taking a prodromal phase into consideration, benzodiazepine use was not associated with an increased risk of developing AD or VaD.

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