

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

Patrick Imfeld^{1,2}, Michael Bodmer³, Susan S. Jick^{4,5}, and Christoph R. Meier^{1,2,4}.

¹*Basel Pharmacoepidemiology Unit, Division of Clinical Pharmacy and Epidemiology, Department of Pharmaceutical Sciences, University of Basel, Basel, Switzerland*

²*Hospital Pharmacy, University Hospital Basel, Basel, Switzerland*

³*Medical Clinic, Zuger Kantonsspital, Baar, Switzerland*

⁴*Boston Collaborative Drug Surveillance Program, Lexington, MA, USA*

⁵*Department of Epidemiology, Boston University School of Public Health, Boston, MA, USA*

Abstract

Introduction: Long-term use of proton pump inhibitors (PPIs) has been associated with an increased risk of Alzheimer's disease (AD) in observational studies. The role of exposure duration, and whether this applies to other dementia subtypes, has not been explored in these studies.

Objective: To study the association between long-term use of PPIs (or of histamine-2 receptor antagonists [H2RAs], as a negative control) and the risk of developing AD or vascular dementia (VaD).

Methods: We conducted a case-control analysis on the UK-based Clinical Practice Research Datalink (CPRD). We identified 41,029 patients aged ≥ 65 years with newly diagnosed AD or VaD between 1998 and 2015 and matched them 1:1 to dementia-free controls on age, sex, calendar time, general practice, and number of years of recorded history. We applied conditional logistic regression analyses to calculate adjusted odds ratios (aORs) with 95% confidence intervals (CIs) of developing AD or VaD in relation to previous use of PPIs or H2RAs, categorized by exposure duration.

Results: As compared to non-use, long-term PPI use (≥ 100 prescriptions) was not associated with an increased risk of developing AD (aOR 0.88, 95% CI 0.80–0.97) or VaD (aOR 1.18, 95% CI 1.04–1.33). Neither was long-term use of H2RAs (≥ 20 prescriptions) associated with an increased risk of developing AD (aOR 0.94, 95% CI 0.87–1.02) or VaD (aOR 0.99, 95% CI 0.89–1.10).

Conclusion: In this large case-control analysis, we did not find any evidence for an increased risk of either AD or VaD related to PPI or H2RA use.

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Contact: christoph.meier@usb.ch