

# Risk of incident stroke in patients with Alzheimer disease or vascular dementia

Patrick Imfeld<sup>1,2</sup>, Michael Bodmer<sup>1</sup>, Markus Schuerch<sup>3</sup>, Susan S. Jick<sup>4</sup>, and Christoph R. Meier<sup>1,2,4</sup>.

<sup>1</sup>*Basel Pharmacoepidemiology Unit, Division of Clinical Pharmacy and Epidemiology, Department of Pharmaceutical Sciences, University of Basel, Basel, Switzerland.*

<sup>2</sup>*Hospital Pharmacy, University Hospital Basel, Basel, Switzerland.*

<sup>3</sup>*F. Hoffmann-La Roche Ltd., Basel, Switzerland.*

<sup>4</sup>*Boston Collaborative Drug Surveillance Program, Boston University School of Public Health, Lexington, MA, USA.*

## Abstract

**Objective:** To explore the risk of ischemic stroke, hemorrhagic stroke, or TIA in patients with Alzheimer disease (AD) or vascular dementia (VD).

**Methods:** We conducted a follow-up study with a nested case-control analysis using the UK-based General Practice Research Database. We included patients aged 65 years and older with an incident diagnosis of AD or VD between 1998 and 2008 and a comparison group of dementia-free patients. We estimated incidence rates of ischemic stroke, hemorrhagic stroke, or TIA in patients with AD, VD, or without dementia, and we calculated odds ratios with 95% confidence intervals (CIs) of developing such an outcome in patients with AD or VD, stratified by use of antipsychotic drugs.

**Results:** We followed 6,443 cases with AD, 2,302 with VD, and 9,984 dementia-free patients over time and identified 281 cases with incident ischemic stroke, 139 with hemorrhagic stroke, and 379 with TIA. The incidence rates of ischemic stroke for patients with AD, VD, or no dementia were 4.7/1,000 person-years (PYs) (95% CI 3.8-5.9), 12.8/1,000 PYs (95% CI 9.8-16.8), and 5.1/1,000 PYs (95% CI 4.3-5.9), respectively. Compared with dementia-free patients, the odds ratio of developing a TIA for patients with AD treated with atypical antipsychotic drugs was 4.5 (95% CI 2.1-9.2).

**Conclusions:** Patients with VD, but not AD, have a markedly higher risk of developing an ischemic stroke than those without dementia. In patients with AD, but not VD, use of atypical antipsychotic drugs was associated with an increased risk of TIA.

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Contact: [christoph.meier@usb.ch](mailto:christoph.meier@usb.ch)