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Incidence of stroke in patients with Alzheimer's disease: 11-year nation-wide population based study

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Background & Objective: The frequency of stroke increases with age. Alzheimer's disease (AD) and stroke are common pathologies of ageing and their frequent co-occurrence has been recognized. The relationship between dementia and stroke has been of significant attention because planning future needs for health services and improved primary and secondary prevention of stroke are important considerations. We evaluated the relationship between AD and the subsequent development of stroke within 11 year follow-up.

Methods: This retrospective, nationwide, longitudinal study used National Health Insurance Service–senior cohort (NHIS-Senior) 2002-2013, which was released by the KNHIS in 2016, comprising 550,000 random subjects who were selected from over 60 years old. The study included a cohort of 3,524 patients who were first diagnosed as AD between 2003 and 2005. To match each dementia patient, 19,013 control subjects were selected from the database by Propensity Score Matching. Cox proportional hazards models were used to estimate the hazard ratio (HR) and 95% confidence intervals (CI) for the risk of cancer in AD patients versus the risk of stroke in the control group.

Results: We enrolled 4,790 patients for analysis in this cohort and the prevalence of AD was higher in female (19.29%) than in male (17.71%). A higher prevalence of AD was observed in the 70-84 year age group and in the higher income status group. A total of 6,102 strokes occurred within the observation interval. AD was associated with risk of all strokes and Cox regression analysis showed that the HR of all stroke was 2.87 times greater for patients with AD (95% CI 2.707-3.042) than for control group after adjusting for other risk factors.

Conclusion: Our findings suggest that Alzheimer's disease may be independent risk factor for all strokes, hemorrhagic stroke and ischemic stroke. So we need to control and pay attention to cerebrovascular events also in patients with AD.

Biography

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