

## Incidence of Cancer in Patients with Alzheimer's Disease: A 11-Year Nationwide Population-Based Study

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**Abstract :** Background: Alzheimer`s disease (AD) I: creases with age and is characterized by the premature progressive loss of neuronal cell. In contrast, cancer cells have inappropriate cell proliferation and resistance to cell death. Objective: We evaluated the association between cancer and AD and also examined the specific types of cancer. Patients and Methods/Material and 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 than 60. The study included a cohort of 4,408 patients who were first diagnoses as AD between 2003 and 2005. To match each dementia patient, 19,150 subjects were selected from the database by Propensity Score Matching. 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 540 cancers occurred within the observation interval. Overall cancer was less frequent in those with AD (12.25%) than in the control (18.46%), with HR 0.704 (95% Confidence Intervals (CIs)=0.0.64-0.775, p-Value < 0.0001). Conclusion: Our data showed a decreased incidence of overall cancers in patients with AD similar to previous studies. Patients with AD had a significantly decreased risk of colon & rectum, lung and stomach cancer. This finding lower than but consistent with Western countries. We need further investigation of genetic evidence linking AD to cancer.

**Keywords :** Alzheimer, cancer, nationwide, longitudinal study

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