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## Association of dementia and type 2 diabetes: Observational study using Korean National Health Insurance claims data

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The association of type 2 diabetes mellitus (DM) and dementia has been investigated previously, but remains controversial. The aim of this observational study was to investigate the relationship between prior type 2 DM and dementia using a large population-based dataset. Data were collected from Korean's National Health Insurance Research Database (2002-2013), which released a cohort dataset of 558,147 randomly sampled elderly people and confirmed it to be representative of the Korean elderly population. We included 260,023 patients with type 2 DM as cases and 212,036 non-diabetes subjects without any diabetes diagnosis as control in this study. Demographic data such as age, gender, CCI (Charlson comorbidity index), comorbidities were compared with Student t test and chi-square tests. In addition, we performed a conditional logistic regression to examine the odds ratio (OR) and 95% confidence interval (CI) for dementia between cases and controls. During the observational period, 56,587 (21.7%) and 36,137 (17.0%) cases of dementia were detected in patients with type 2 DM and non-DM control group, respectively. Characteristics associated with dementia included hypertension (OR: 2.43; CI: 2.38, 2.48), stroke (OR: 4.48; CI: 4.41, 4.55), ischemic heart disease (OR: 1.78; CI: 1.75, 1.80) and hyperlipidemia (OR: 1.79; CI: 1.75, 1.80). Additional logistic regression analysis showed that the crude OR of dementia for cases was 1.35 (CI: 1.33-1.37) compared to controls. After adjusting for patients' sex, age, CCI, comorbidities (hypertension, stroke, Ischemic heart disease, hyperlipidemia), the adjusted OR of dementia for patients with type 2 DM was 1.69 (95% CI: 1.66, 1.72) compared to those without DM.

### Biography

Ju Young Kim did her Bachelor's degree in Pharmacy from Chungbuk National University and has worked at Chungbuk National University Hospital as a Pharmacist. After she worked as a local Pharmacist, she started her Master's in the Clinical Pharmacy and she is working on clinical study using big data and interested in pharmacogenomics.

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