

Poster

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Poster 24

[P-24-04] The Association between Hemoglobin Level and Risk of Developing Dementia : National Health Screening Cohort(NHIS-HEALS) in Korea

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Research Purpose

The global aging population is raising concerns about the onset of dementia. The current treatment for dementia is lacking in fundamental treatment as it focuses on slowing the decline in function rather than improving symptoms. It is necessary to identify and adjust risk factors in advance in the preventive aspect of dementia, and several previous studies have shown that abnormal hemoglobin can increase the risk of dementia. Therefore, this study aims to investigate the association between hemoglobin levels and the risk of developing dementia by gender using a population-based cohort in Korea.

Study Participants and Methods

The study was conducted in 515,000 people aged from 40 to 79 years using National Health Examination Cohort (NHIS-HEALS) data based on the National Health Insurance (KNHI) program in South Korea. Subjects were followed up until December 31th, 2019. The independent variable was hemoglobin level, and it was analyzed by dividing it into quintiles according to the hemoglobin level, excluding the top 1% and the bottom 1%. The dependent variable was dementia, defined using the International Classification of Diseases (ICD-10) code and drug prescription information. This study was analyzed separately between men and women, and the relationship between hemoglobin levels and dementia incidence was investigated by adjusting various covariate variables.

Results

After adjusting for age, sex, body mass index, residence, smoking status, drinking status, regular exercise, income level, hypertension, diabetes, dyslipidemia, depression history, and the Charlson comorbidity index (CCI), the risk of developing dementia increased when the hemoglobin level was lower or higher than the baseline. In particular, in dementia, including all causes, the hazard ratio of developing dementia gradually increased as the hemoglobin level decreased. In addition, the U-shaped relationship in which the incidence of dementia increases when hemoglobin levels are low or high was more pronounced in women.

Conclusion

Hemoglobin levels were identified as independent risk factors affecting the incidence of dementia. When the hemoglobin level was low or high, the incidence of dementia increased.