Abstract

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Vitamin B(12) and folate in relation to the development of Alzheimer's disease.

Wang HX, Wahlin A, Basun H, Fastbom J, Winblad B, Fratiglioni L.

Stockholm Gerontology Research Center and Division of Geriatric Medicine, NEUROTEC, Karolinska Institutet, Stockholm.

OBJECTIVE: To explore the associations of low serum levels of vitamin B(12) and folate with AD occurrence.

METHODS: A population-based longitudinal study in Sweden, the Kungsholmen

PROJECT: A random sample of 370 nondemented persons, aged 75 years and older and not treated with B(12) and folate, was followed for 3 years to detect incident AD cases. Two cut-off points were used to define low levels of vitamin B(12) (< or =150 and < or =250 pmol/L) and folate (< or =10 and < or =12 nmol/L), and all analyses were performed using both definitions. AD and other types of dementia were diagnosed by specialists according to DSM-III-R criteria.

RESULTS: When using B(12) < or =150 pmol/L and folate < or =10 nmol/L to define low levels, compared with people with normal levels of both vitamins, subjects with low levels of B(12) or folate had twice higher risks of developing AD (relative risk [RR] = 2.1, 95% CI = 1.2 to 3.5). These associations were even stronger in subjects with good baseline cognition (RR = 3.1, 95% CI = 1.1 to 8.4). Similar relative risks of AD were found in subjects with low levels of B(12) or folate and among those with both vitamins at low levels. A comparable pattern was detected when low vitamin levels were defined as B(12) < or =250 pmol/L and folate < or =12 nmol/L.

CONCLUSIONS: This study suggests that vitamin B(12) and folate may be involved in the development of AD. A clear association was detected only when both vitamins were taken into account, especially among the cognitively intact subjects. No interaction was found between the two vitamins. Monitoring serum B(12) and folate concentration in the elderly may be relevant for prevention of AD.

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