

Influences of Folate Supplementation on Homocysteine and Cognition in Patients with Folate Deficiency and Cognitive Impairment

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Abstract: We explored the effects of folate supplementation on the cognition and homocysteine (Hcy) level in relatively short periods in patients with folate deficiency and cognitive impairment. 1349 participants who visited the dementia outpatient clinic between January 2008 and December 2018 were evaluated. 45 patients (mean age of 79.7 ± 7.9 years old) with folate deficiency and cognitive impairment were enrolled. Folate supplementation significantly improved plasma homocysteine (Hcy) levels from 25.0 ± 18.0 to 11.0 ± 4.3 nmol/mL ($p < 0.001$). Average MMSE scores also significantly changed from 20.1 ± 4.7 to 22.2 ± 4.3 ($p < 0.001$). The degree of change in the MMSE score and degree of hippocampal atrophy in MRI was not correlated. Although several factors should be taken into account, folate supplementation ameliorated cognitive impairment in patients with folate deficiency regardless of hippocampal atrophy.

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