Elevated Plasma Homocysteine Levels in L-dopa Treated Parkinson's Disease Patients with Dementia.

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摘要

Abstract

Elevated plasma homocysteine (Hcy) concentrations are associated with Alzheimer's disease and vascular dementia. Several recent reports have indicated that L-dopa treatment is an acquired cause of hyperhomocysteinemia. Despite the fact that a large proportion of Parkinson's disease (PD) patients develop cognitive dysfunctions or dementia, particularly in the late stages of the illness and after long-term L-dopa treatment, the relationship between Hcy and dementia in PD has not been fully investigated. The aim of this study was to evaluate plasma Hcy levels in a group of L-dopa-treated PD patients with cognitive impairment and to elucidate a possible role of Hcy in the development of cognitive dysfunctions in PD. We compared Hcy, vitamin B12 and folate levels in 35 parkinsonian patients treated with L-dopa (14 with cognitive dysfunctions, 21 without cognitive impairment). Analysis of the data revealed that mean Hcy levels were significantly higher in the group with cognitive dysfunctions (21.2±7.4 vs. 15.8±4.4 μmol/L; p=0.0001), while there was no difference in age, sex, B12 and folate levels. In addition, logistic regression analysis showed that the risk of cognitive dysfunction progressively increased according to Hcy levels after correction for age, sex and B-vitamin status (odds ratio, 19.1; 95% Cl, 1.5-241.4; p=0.02). Our results raise the possibility of a relationship between Hcy levels and cognitive dysfunctions in this group of L-dopa-treated PD patients. However, prospective studies on large cohorts of patients should be -performed to clarify such an association.