

# Long-term beta carotene supplementation may help prevent cognitive decline

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Men who take beta carotene supplements for 15 years or longer may have less cognitive decline, according to a report in the November 12 issue of *Archives of Internal Medicine*, one of the JAMA/Archives journals.

Decreases in cognitive ability—thinking, learning and memory skills—strongly predict dementia, a growing public health issue, according to background information in the article. Long-term cellular damage from “oxidative stress” may be a major factor in cognitive decline. Some evidence suggests that antioxidant supplements may help preserve cognition, although previous studies have been inconclusive, the authors note.

Francine Grodstein, Sc.D., of Brigham and Women’s Hospital (BWH) and Harvard Medical School, Boston, and colleagues studied the antioxidant beta carotene and its effect on cognitive ability in two groups of men. The long-term group included 4,052 men who in 1982 had been randomly assigned to take placebo or 50 milligrams of beta carotene every other day. Between 1998 and 2001, an additional 1,904 men were randomly assigned to one of the two groups. Both groups were followed through 2003, completing yearly follow-up questionnaires with information about their health and their compliance with taking the pills. The men were assessed by telephone for cognitive function at least once between 1998 and 2002.

The long-term participants were treated for an average of 18 years and the short-term participants for an average of one year. Men in the short-term group displayed no differences in cognition regardless of whether they took beta carotene or placebo, but men in the long-term group who took beta carotene had significantly higher scores on several of the cognitive tests compared with men who took placebo.

“In this generally healthy population, the extent of

protection conferred by long-term treatment appeared modest; nonetheless, studies have established that very modest differences in cognition, especially verbal memory, predict substantial differences in eventual risk of dementia; thus, the public health impact of long-term beta carotene use could be large,” the authors write.

Beta carotene is not without risks—for example, it may increase the risk of lung cancer in smokers, the authors note. However, its benefits against dementia surpassed those of other medications tested in healthy older people. “Thus, the public health value of beta carotene supplementation merits careful evaluation,” the authors conclude. “Moreover, as these data support the possibility of successful interventions at early stages of brain aging in well-functioning subjects, investigations of additional agents that might also provide such neuroprotection should be initiated.”

Source: JAMA and Archives Journals

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