

## B vitamins slow brain shrinkage, may delay dementia

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Daily doses of very high levels of B vitamins appear to slow brain shrinkage in elderly people with memory problems, data from a new British study shows.

The researchers from Oxford University found that vitamins B6, B12, as well as folic acid, lowered the levels of an amino acid called homocysteine that is linked to brain-cell damage similar to that seen in Alzheimer's.

Those with the highest levels of homocysteine in their blood showed the most benefit.

But the results conflict with a study published two years ago in the *Journal of the American Medical Association*, which found that Alzheimer's patients didn't benefit from B vitamins.

The research also comes amid evidence from several recent studies that folic acid (also known as vitamin B9, and folate in its naturally occurring form), may raise the risk of some types of cancer in men, such as colorectal cancer and prostate cancer.

This new research, published in the journal *PLoS One*, looked at 168 seniors over the age of 70 who were already experiencing mild memory problems.

Half of them took high-dose vitamin B tablets for two years. The pills were called "TrioBe Plus" and contained around 300 times the recommended daily intake of B12, four times daily advised folate levels and 15 times the recommended amount of B6. The rest of the volunteers were given a placebo.

The aim was to control homocysteine levels in the blood, since high blood levels of the amino acid are linked to an increased risk of developing Alzheimer's disease.

The researchers then used MRI (magnetic resonance imaging) to measure the rate at which their brain shrank over the course of the study. Normally, the human brain shrinks by about half a per cent per year.

Those who took folic acid, vitamin B6 and B12 had their brains shrink by 0.76 per cent a year on average, while those on placebo had an atrophy rate of 1.08 per cent, the study found. In patients who had the highest levels of homocysteine in their blood at the beginning of the study, the shrinkage was reduced by 53 per cent.

"This is a very dramatic and striking result. It's much more than we could have predicted," the study's lead author, Dr. A. David Smith from Oxford's Department of Pharmacology said in a statement.

Although the study was not designed to assess cognitive ability, the researchers found those who had lowest rates of brain shrinkage had the highest scores in mental tests.

The researchers suggest that, since the rate of brain atrophy is known to be more rapid in those with mild cognitive impairment who go on to develop Alzheimer's, it is possible that the vitamin treatment could slow down the development of dementia. But they added more clinical trials are needed to test this.

At a news conference to announce the study findings, Smith warned patients not to try taking high doses of the vitamins on their own, even though the results were "immensely promising."

"I wouldn't yet recommend that anyone getting a bit older and beginning to be worried about memory lapses should rush out and buy vitamin B supplements without seeing a doctor," he said.

Yet when asked whether he would take it if he were diagnosed with mild cognitive impairment, he replied: "Yes, no hesitation. I would take it."

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