

FOLIC ACID FOR PREVENTING STROKE

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In observational studies, elevated plasma total homocysteine levels have been associated with increased ischemic stroke risk. To determine whether high doses of folic acid, pyridoxine (vitamin B₆), and cobalamin (vitamin B₁₂), given to lower total homocysteine levels, reduce the risk of recurrent stroke, we conducted a double-blind randomized controlled trial. 3,680 adults with cerebral infarction received best medical care plus a daily multivitamin containing the US Food and Drug Administration's recommended daily intake of other vitamins and 20 µg of folic acid. Mean reduction of homocysteine was 2 µmol/L greater in the high-dose than in the low-dose group. After two (2) years there was no treatment effect on any end point. The unadjusted risk ratio for any stroke, cardiac event, or death was 1.0 (95% confidence interval [CI], 0.8-1.1). The chance of any event within 2 years was 18.0% in the high- and 18.6% in the low-dose groups.

In this trial (1), moderate reduction of total homocysteine after nondisabling cerebral infarction had no effect on vascular outcomes during the 2 years of follow-up. However, the consistent findings of an association of total homocysteine with vascular risk suggests that further exploration of the hypothesis is warranted and longer trials in different populations with elevated total homocysteine may be necessary.

Toole JF, Malinow MR, Chambless LE, Spence JD, Pettigrew LC, Howard VJ, Sides EG, Wang C-H, Stampfer M. Lowering Homocysteine in patients with ischemic stroke to prevent recurrent stroke, myocardial infarction, and death. The Vitamin Intervention for Stroke Prevention (VISP) Randomized Controlled Trial. *JAMA*. 2004;291(5):565-575.