

Folic acid, B vitamins do not appear to affect cancer risk

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A daily supplementation combination that included folic acid and vitamin B6 and B12 had no significant effect on the overall risk of cancer, including breast cancer, among women at high risk of cardiovascular disease, according to a study in the November 5 issue of *JAMA*.

Folate, vitamin B6, and vitamin B12 (water-soluble, essential B vitamins) are thought to play an important role in cancer prevention. "Background fortification of the food supply with folic acid (a synthetic form of folate), a policy that began in the United States in 1998 to reduce risk of neural tube defects, has improved folate status in the general population. Approximately one-third of U.S. adults currently take multivitamin supplements containing folic acid, vitamin B6, and vitamin B12," the authors write. Data from randomized trials of folic acid alone or in combination with B vitamins and cancer risk are limited, not entirely consistent, and one trial has even raised concerns about harmful effects.

Shumin M. Zhang, M.D., Sc.D., of Brigham and Women's Hospital and Harvard Medical School, Boston, and colleagues conducted a trial to evaluate the effect of combined folic acid, vitamin B6, and vitamin B12 treatment on cancer risk in women at high risk for cardiovascular disease. The Women's Antioxidant and Folic Acid Cardiovascular Study included 5,442 U.S. female health professionals age 42 years or older, with pre-existing cardiovascular disease or three or more coronary risk factors, who were randomly assigned to receive either a daily

combination (n = 2,721) of folic acid (2.5 mg.), vitamin B6 (50 mg.), and vitamin B12 (1 mg.) or a matching placebo (n = 2,721). They were treated for 7.3 years, from April 1998 through July 2005.

"A total of 379 women developed invasive cancer (187 in the active treatment group and 192 in the placebo group)," the authors write.

"Compared with placebo, women receiving the active treatment had similar risk of developing total invasive cancer, breast cancer, or any cancer death." There were no differences according to current use of multivitamin supplements, intakes of total folate, vitamin B6, and vitamin B12, or history of cancer at baseline. Lack of effect for total invasive cancer did not vary over time.

Age significantly modified the effect of combined B vitamin treatment on risk of total invasive cancer and breast cancer. A significantly reduced risk was observed for total invasive cancer and breast cancer among women age 65 years or older at study entry, but no reductions in risk were observed among younger women (40-54 years or 55-64 years).

"If the finding is real and substantiated, the results may have public health significance because the incidence rates of cancer are high in elderly persons. The finding is biologically plausible because elderly individuals have increased requirements for these B vitamins," the authors write.

"In conclusion, treatment with combined folic acid, vitamin B6, and vitamin B12 provided neither beneficial nor harmful effects on overall risk of total cancer, breast cancer, or deaths from cancer among women at high risk for CVD."

Source: JAMA and Archives Journals

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