

Vitamin K does not stem BMD decline in postmenopausal women with osteopenia

October 14 2008

In a randomized controlled trial called the "Evaluate the Clinical use of vitamin K Supplementation in Postmenopausal Women with Osteopenia" (ECKO) trial, Angela Cheung and colleagues at the University of Toronto found that a high dose daily vitamin K1 supplement did not protect against age-related bone mineral density (BMD) decline. However, as reported in this week's *PLoS Medicine*, the findings also suggest that vitamin K1 may protect against fracture and cancer in postmenopausal women with osteopenia.

Dr. Cheung and colleagues randomized 440 postmenopausal women with osteopenia to receive either 5 mg of vitamin K1 or a placebo daily for two years. Two hundred and sixty one of these women continued their treatment for two more years to gather information about the long-term effects of vitamin K1 supplementation.

After two years and after four years, lower back and hip measurements of bone mineral density (BMD) had decreased by similar amounts in both the vitamin K and the placebo groups.

Over the four-year period, fewer women in the vitamin K group had fractures (9 versus 20 women in the placebo group) and fewer women had cancer (3 versus 12). Vitamin K supplementation was well tolerated over the four-year period and adverse health effects were similar in the two treatment groups, report the researchers. They emphasize that the study was not powered to examine fractures or cancers and the numbers were small, therefore the findings must be interpreted with caution.

The researchers say that larger studies are needed to examine the effect of vitamin K1 on fractures and on cancer and, until these are done, high dose vitamin K1 supplementation should not be recommended for the prevention of osteoporosis.

In the US, 10 million people have osteoporosis and 18 million have osteopenia, a milder condition that precedes osteoporosis.

Source: Public Library of Science

Citation: Vitamin K does not stem BMD decline in postmenopausal women with osteopenia (2008, October 14) retrieved 25 April 2024 from <https://medicalxpress.com/news/2008-10-vitamin-stem-bmd-decline-postmenopausal.html>

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