

Abstract

Arch Intern Med. 2007 May 28;167(10):1050-9.

Intakes of calcium and vitamin D and breast cancer risk in women.

Lin J, Manson JE, Lee IM, Cook NR, Buring JE, Zhang SM.

Division of Preventive Medicine, Brigham and Women's Hospital, Harvard Medical School, Boston, MA 02215, USA.

BACKGROUND: Animal data suggest the potential anticarcinogenic effects of calcium and vitamin D on breast cancer development. However, epidemiologic data relating calcium and vitamin D levels to breast cancer have been inconclusive.

METHODS: We prospectively evaluated total calcium and vitamin D intake in relation to breast cancer incidence among 10,578 premenopausal and 20,909 postmenopausal women 45 years or older who were free of cancer and cardiovascular disease at baseline in the Women's Health Study. Baseline dietary intake was assessed by a food frequency questionnaire. We used Cox proportional hazards regression to estimate hazard ratios and 95% confidence intervals.

RESULTS: During an average of 10 years of follow-up, 276 premenopausal and 743 postmenopausal women had a confirmed diagnosis of incident invasive breast cancer. Higher intakes of total calcium and vitamin D were moderately associated with a lower risk of premenopausal breast cancer; the hazard ratios in the group with the highest relative to the lowest quintile of intake were 0.61 (95% confidence interval, 0.40-0.92) for calcium ($P = .04$ for trend) and 0.65 (95% confidence interval, 0.42-1.00) for vitamin D intake ($P = .07$ for trend). The inverse association with both nutrients was also present for large or poorly differentiated breast tumors among premenopausal women ($P < \text{ or } = .04$ for trend). By contrast, intakes of both nutrients were not inversely associated with the risk of breast cancer among postmenopausal women.

CONCLUSIONS: Findings from this study suggest that higher intakes of calcium and vitamin D may be associated with a lower risk of developing premenopausal breast cancer. The likely apparent protection in premenopausal women may be more pronounced for more aggressive breast tumors.

PMID: 17533208