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Dairy, soy, and risk of breast cancer: those confounded milks

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Abstract

Background

Associations between soy, dairy intakes and breast cancer risk are

inconsistent. No studies exist with large numbers of dairy consumers and soy consumers to assess mutual confounding.

Methods

The study cohort contains 52 795 North American women, initially free of cancer, followed for 7.9 years (29.7% were Black). Dietary intakes were estimated from food frequency questionnaires and, for 1011 calibration study subjects, from six structured 24-h dietary recalls. Incident invasive breast cancers were detected mainly by matching with cancer registries. Analyses used multivariable proportional hazards regression.

Results

The participants (mean age of 57.1 years) experienced 1057 new breast cancer cases during follow-up. No clear associations were found between soy products and breast cancer, independently of dairy. However, higher intakes of dairy calories and dairy milk were associated with hazard ratios (HRs) of 1.22 [95% confidence interval (CI): 1.05−1.40] and 1.50 (95% CI 1.22−1.84), respectively, comparing 90th to 10th percentiles of intakes. Full fat and reduced fat milks produced similar results. No important associations were noted with cheese and yogurt. Substituting median intakes of dairy milk users by those of soy milk consumers was associated with HR of 0.68 (95% CI: 0.55−0.85). Similar-sized associations were found among pre- and post-menopausal cases, with CIs also excluding the null in estrogen receptor (ER+, ER−), and progesterone receptor (PR+) cancers. Less biased calibrated measurement-error adjusted regressions demonstrated yet stronger, but less precise, HRs and CIs that still excluded the null.

Conclusions

Higher intakes of dairy milk were associated with greater risk of breast cancer, when adjusted for soy intake. Current guidelines for dairy milk consumption could be viewed with some caution.

Keywords: Soy isoflavones, soy intake, meat analogues, soy milk, tofu, breast cancer, Western population

Topic: survival analysis, calories, cancer, diet, calibration, cheese, follow-up, food, isoflavones, meat, milk, postmenopause, estrogen receptors, receptors, progesterone, yogurt, guidelines, breast cancer, invasive breast cancer, soy milk, breast cancer risk, measurement error, tofu

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