

Association of Diet and Mammographic Breast Density in the Minnesota Breast Cancer Family Cohort¹

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February 2000 9; 151

Cancer Epidemiol Biomarkers Prev

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Abstract

Mammographic breast density is a significant risk factor for breast cancer. The present report analyzes the association of breast density and dietary factors in 1508 women in a historical cohort study of breast cancer families in Minnesota. Diet was assessed by a semiquantitative food frequency questionnaire. Percent breast density was estimated visually by a radiologist experienced in mammography. The association of percent breast density with quartiles of energy-adjusted dietary intakes was examined in analysis of covariance models adjusting for potential confounding effects of age, body mass index, and other covariates as well as correcting for familial correlation. Analyses were performed on all women combined and were also stratified by menopausal status. Among premenopausal women, percent breast density was positively associated with intakes of polyunsaturated fat, polyunsaturated:saturated fat ratio, and vitamins C and E and was inversely associated with saturated fat and total dairy intake. Among postmenopausal women, vitamin B12 was linearly associated with increased breast density. The positive associations for vitamin C and B12 were attributable to supplement intake only. There was a suggestive positive trend between breast density and daily alcohol consumption in both premenopausal and postmenopausal women. **After adjustment for other sources of alcohol, only wine intake among postmenopausal women was significant such that white wine showed a positive association and red wine an inverse association with percent breast density.** There was no association with other examined dietary factors. The cross-sectional differences in breast density across levels of dietary factors were small in magnitude but may have implications for breast cancer risk.

Received March 22, 1999.

Revision received November 15, 1999.

Accepted November 30, 1999.