

# Alcohol Consumption and Risk of Postmenopausal Breast Cancer by Subtype: the Women's Health Initiative Observational Study

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## Abstract

Background Alcohol consumption is a well-established risk factor for breast cancer. This association is thought to be largely hormonally driven, so alcohol use may be more strongly associated with hormonally sensitive breast cancers. Few studies have evaluated how alcohol-related risk varies by breast cancer subtype. Methods We assessed the relationship between self-reported alcohol consumption and postmenopausal breast cancer risk among 87 724 women in the Women's Health Initiative Observational Study prospective cohort from 1993 through 1998. Multivariable adjusted Cox regression models were used to calculate hazard ratios (HRs) and 95% confidence intervals (CIs). All statistical tests were two-sided. Results A total of 2944 invasive breast cancer patients were diagnosed during follow-up through September 15, 2005. In multivariable adjusted analyses, alcohol consumption was positively related to risk of invasive breast cancer overall, invasive lobular carcinoma, and hormone receptor-positive tumors (all  $P(\text{trend}) \leq .022$ ). However, alcohol consumption was more strongly related to risk of certain types of invasive breast cancer compared with others. Compared with never drinkers, women who consumed seven or more alcoholic beverages per week had an almost twofold increased risk of hormone receptor-positive invasive lobular carcinoma (HR = 1.82; 95% CI = 1.18 to 2.81) but not a statistically significant increased risk of hormone receptor-positive invasive ductal carcinoma (HR = 1.14; 95% CI = 0.87 to 1.50; difference in HRs per drink per day among current drinkers = 1.15; 95% CI = 1.01 to 1.32,  $P = .042$ ). The absolute rates of hormone receptor-positive lobular cancer among never drinkers and current drinkers

were, 5.2 and 8.5 per 10 000 person-years, respectively, whereas for hormone receptor-positive ductal cancer they were 15.2 and 17.9 per 10 000 person-years, respectively. Conclusions Alcohol use may be more strongly associated with risk of hormone-sensitive breast cancers than hormone-insensitive subtypes, suggesting distinct etiologic pathways for these two breast cancer subtypes.

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