



Alcohol and Breast Cancer in Women

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Background

Many studies have shown an increased risk of breast cancer with alcohol consumption. The mechanism is not completely understood, but some studies have shown an increased estrogen level in women who have a moderate to high alcohol daily intake. Most are small studies or meta-analysis, which have their inherent biases. The Pooling Project of Prospective Studies of Diet and Cancer was established to evaluate associations between lifestyle factors and breast cancer.

Methods

Seven prospective studies of lifestyle and cancer risks were deemed eligible for evaluation:

1. Canadian National Breast Screening Study
2. Iowa Women's Health Study
3. Netherlands Cohort Study
4. New York State Cohort
5. Nurses' Health Study '80 - '86
6. Nurses' Health Study '87 - '91
7. Sweden Mammography Cohort.

All studies had food frequency questionnaires that included detailed inquiries about alcohol consumption. Calculations were made such that a standardized amount was agreed upon. Grams of alcohol consumption were the basis for comparison. Ten grams of alcohol are equal to > - 1 drink. Over 4000 cases were assessed. The studies had a range of 23% to 55% nondrinkers to which the other cases were compared.

Results

The mean alcohol consumption ranged from 3.22 grams/day for the Swedish group to 12.58 grams/day for the Canadians. The relative risk for breast cancer seemed to be little affected by average consumptions in the range of less than 15 grams/day. The relative risk increased to 16% above nondrinkers when consumption was 15 to less than 30 grams/day. When the alcohol intake is 30 to less than 60 grams/day (2 - 5 drinks), the relative risks were 41% greater than nondrinkers. Beyond that, the risk plateaus without incremental increase.

Type of alcohol was not a significant factor in predicting risk. Associated factors of menopausal status, family history of breast cancer, hormone replacement therapy and obesity were evaluated and not found to be of significance in relative risk.

Discussion

The investigators conclude that breast cancer risk is positively correlated with alcohol consumption rate. Their results seem to confirm the 1994 meta-analysis (Longnecker MP. *Cancer Causes Control* 1994; volume 5: pages 73 - 82) that quoted a 9% increase in relative risk of breast cancer for every 10 gram/day of alcohol consumption.

There were inherent limitations of this study, some of which were detailed by the authors. Only the initial baseline alcohol consumption was known. Over time, the drinking habits of most individuals change. Taking, essentially, what seems to be a snapshot of a person's life to determine overall lifetime risk cannot be fully valid. As with all survey/questionnaire type of studies, the validity of the data relies on the recall ability and

also somewhat on the interpretive abilities of those surveyed. This leads to many opportunities for misrepresentation.

While there are many health-related reasons to avoid alcohol consumption, breast cancer risk cannot be fully validated as being increased. There have been as many studies disproving the theory as supporting it. As with everything, moderation is the important step.

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