

The Effects of Green Tea Consumption on Incidence of Breast Cancer and Recurrence of Breast Cancer: A Systematic Review and Meta-analysis

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Background: Green tea is widely used by women for the prevention and treatment of breast cancer. The authors aimed to determine the efficacy of green tea ingestion on the risk of breast cancer development and the risk of breast cancer recurrence.

METHODS: The authors conducted a systematic review and meta-analysis of observational studies from systematic searches of 8 electronic data sources and contact with authors. They included studies assessing breast cancer incidence and recurrence.

RESULTS: Results: The pooled relative risk (RR) of developing breast cancer for the highest levels of green tea consumption in cohort studies was 0.89 (95% confidence interval [CI], 0.71-1.1; P= .28; I(2)= 0%), and in case control studies, the odds ratio was 0.44 (95% CI, 0.14-1.31; P= .14; I(2)= 47%). The pooled RR of cohort studies for breast cancer recurrence in all stages was 0.75 (95% CI, 0.47-1.19; P= .22; I(2)= 37%). A subgroup analysis of recurrence in stage I and II disease showed a pooled RR in cohort studies of 0.56 (95% CI, 0.38-0.83; P= .004; I(2)= 0%). Dose-response relationships were evident in only 3 of the 7 studies.

CONCLUSION: To date, the epidemiological data indicates that consumption of 5 or more cups of green tea a day shows a non-statistically significant trend towards the prevention of breast cancer development. Evidence indicates that green tea consumption may possibly help prevent breast cancer recurrence in early stage (I and II) cancers. However, conclusions as to the potential therapeutic application of green tea are currently impossible to make due to the small number of studies conducted, the lack of any clinical trial evidence, the lack of a consistent dose-response relationship, and the potential for interaction with standard care.