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The role of smoking in breast cancer development: an analysis of a Mayo Clinic cohort.

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The purpose of this study was to assess the predictive value of smoking history on breast cancer diagnosis in a referral clinic population. We conducted a case-control study using clinical data collected on 8,097 female patients (1,225 breast cancer cases and 6,872 controls) seen in the Mayo Clinic Breast Clinic between August 1, 1993 and November 31, 2003. Breast cancer patients and noncancer patients significantly differed with respect to age at time of the index visit ($p < 0.001$), number of pregnancies ($p = 0.006$), number of live births ($p = 0.002$), vital status at last known follow-up ($p < 0.001$), current menstruation ($p < 0.001$), age at menopause ($p < 0.001$), history of hysterectomy ($p < 0.001$), use of oral contraception ($p = 0.05$), duration of oral contraception use ($p = 0.001$), use of other exogenous hormones ($p < 0.001$), duration of exogenous hormone use ($p = 0.05$), breast pain at time of index visit ($p = 0.002$), smoking status ($p < 0.001$), and use of five or more alcoholic beverages per week ($p = 0.002$). After adjustment for these baseline characteristics, having a personal history of smoking was found to be predictive of breast cancer diagnosis (odds ratios [OR] = 1.25, $p = 0.004$). Other positive predictors for breast cancer diagnosis were: age (OR = 1.02, $p < 0.001$), history of hysterectomy (OR = 0.66, $p < 0.001$), prior use of oral contraception for more than 11 years (OR = 2.10, $p < 0.001$), and prior use of other exogenous hormones/estrogen (OR = 1.81, $p < 0.001$). In this referral practice having a personal history of smoking is predictive of breast cancer diagnosis. Further studies are needed to further explore this relationship.

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Nearly any lifetime smoking ups breast cancer risk

By Joene Hendry,
Reuters



Researchers compared smoking history and other breast cancer risk factors among 1,225 women who developed breast cancer and 6,872 who did not during the first year after their initial visit to the Mayo Clinic Breast Clinic. Photograph by: Frederic J. Brown, AFP/Getty Images

NEW YORK - Women taking the next puff of a cigarette might consider this: smoking 100 or more cigarettes may substantially increase their odds of developing breast cancer, researchers report.

Previous studies linked regular exercise, limiting alcohol intake, and avoiding postmenopausal obesity as lifestyle changes that can reduce women's odds of developing breast cancer, notes Dr. Ivana T. Croghan and colleagues in *The Breast Journal*.

The current study provides new evidence that "a woman smoker can reduce her risk of breast cancer by stopping smoking as soon as possible," Croghan commented to Reuters Health via email.

Croghan's group compared smoking history and other breast cancer risk factors among 1,225 women who developed breast cancer and 6,872 who did not during the first year after their initial visit to the Mayo Clinic Breast Clinic.

Surveys completed during this visit indicated just over 10 percent were current smokers, almost 9 percent were former smokers, and 81 percent had never smoked, Croghan, with the Mayo Clinic Nicotine Research Program in Rochester, Minnesota, and associates report.

In addition to the link with smoking, women who had used oral contraceptives for 11 years or longer had a whopping 200 percent increase in the odds of developing breast cancer. Women who used postmenopausal hormone therapy showed 81 percent increased odds, while aging raised the odds of developing breast cancer by 2 percent per year.

On the flip side, Croghan and colleagues report that having a hysterectomy decreased women's odds by 35 percent. Also, they did not see a compounding increase in risk for breast cancer among women with more than one risk factor.

Croghan noted that prior investigations with contradictory results regarding smoking and breast cancer risk did not consistently define smoking as current, former or never. The current study defines anyone who ever smoked more than 100 cigarettes at any time as having a history of smoking. Those who smoked less were considered never-smokers.

Croghan's group suggests further investigations using similar smoking definitions to assess how pre- and post-menopausal duration of smoking, amount smoked, and exposures to second-hand smoke might alter a woman's odds of developing breast cancer.

SOURCE: The Breast Journal, September/October 2009