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## Study questions smoke-breast cancer link Big British survey finds no evidence

The Boston Globe

By Sara Shipley Hiles, Globe Correspondent | January 1, 2007

Is it possible that secondhand smoke causes breast cancer?

In 2005, the well-respected state Environmental Protection Agency in California reviewed the scientific literature and decided that women were more likely to get breast cancer at a young age if they regularly inhaled someone else's cigarette smoke.

But now, preliminary findings from the British Million Women Study, described as the largest study of its kind in the world, suggest there is no link.

So should women get more-frequent mammograms if they worked in smoke-filled restaurants or bars or had parents or a spouse who smoked? There are passionate scientists on both sides of the debate, and the answer may come down to the details of the research.

The British work looked at 1.3 million women ages 50 to 64. The preliminary results, presented at a conference in September, showed absolutely no link between secondhand smoke and breast cancer, according to Dr. Michael Thun, who saw a copy of the presentation and heads up epidemiological research for the American Cancer Society.

"These data are strong, and they seriously weaken the evidence that there is in fact any connection," said Thun, adding that he is now reconsidering whether it's worth the American Cancer Society's resources to study the subject further, as it had planned to do. The study "seems like a major challenge to the hypothesis."

The California study agreed that there is no association between older secondhand smokers and breast cancer. But it did find that premenopausal women exposed to secondhand smoke were at a 70 percent higher risk for developing breast cancer than those who weren't exposed.

"According to our calculation, a third of the breast cancer in young women who worked as waitresses is attributable to secondhand smoke," said Stanton Glantz, a professor of medicine at the University of California-San Francisco who was on the scientific panel that reviewed the study.

Melanie Marty, the California EPA scientist who oversaw the study, said she can't explain why the finding applies only to younger women. One theory is that breast cancer in older women is caused by different factors than in younger women. Another explanation is that a woman's breast tissue is most susceptible to carcinogens from puberty until her first child is born, making younger women more vulnerable to tobacco smoke.

But Dr. Valerie Beral, the coordinator of the British study, doesn't buy it. She said that when she looked at premenopausal women in her group, she found no association between breast cancer and passive smoking.

Some researchers are skeptical of the California finding, Thun said, because many previous studies have failed to establish a link between active smoking and breast cancer -- so there should be even less of a connection with the smaller doses of carcinogens in secondhand smoke.

"There is little effect of either active smoking or passive smoking on breast cancer," said Sir Richard Peto, an epidemiologist at Oxford University in England who collaborated on the forthcoming British study.

Marty and Glantz disagreed, saying that some studies do, in fact, find an association between active smoking

and breast cancer. There's also a theory that smoking actually mutes the carcinogenic effect of cigarettes by suppressing estrogen production, which is associated with some breast cancer development.

The risk of getting breast cancer from secondhand smoke is even higher than the risk of getting lung cancer, the California report said.

Toxicology studies also support the California conclusion. Scientists identified 20 chemicals in tobacco smoke that cause tumors in the breast tissue of rodents, giving the connection "biological plausibility," Marty said.

Even if the evidence for a link between breast cancer and secondhand smoke isn't there, people should still be concerned about exposure, said Gary Giovino, a public health professor at the State University of New York in Buffalo who was formerly chief of epidemiology at CDC's Office on Smoking and Health.

"We know there are tons of things wrong with secondhand smoke," Giovino said. "If I had a restaurant, I wouldn't want to be exposing my waitresses to it for this reason and many other reasons."

At a minimum, Thun said, women should know about the scientific debate.

"We don't have a final answer, but it's one additional reason to avoid secondhand smoke," he said. ■

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