Source: University of Texas M. D. Anderson Cancer Center
Released: Wed 13-Dec-2006, 16:40 ET
Embargo expired: Thu 14-Dec-2006, 11:45 ET

Decline in Breast Cancer Cases Likely Linked to Reduced Use of Hormone Replacement

Libraries
Medical News

Keywords
HORMONE REPLACEMENT THERAPY, SAN ANTONIO BREAST CANCER SYMPOSIUM, PETER RAVDIN, M.D., PH.D.

Contact Information

Available for logged-in reporters only

Description

In 2003, breast cancer incidence in the United States dropped sharply, and this decline may largely be due to the fact that millions of older women stopped using hormone replacement therapy (HRT) in 2002, according to a new analysis led by researchers at The University of Texas M. D. Anderson Cancer Center.

Newswise — In 2003, breast cancer incidence in the United States dropped sharply, and this decline may largely be due to the fact that millions of older women stopped using hormone replacement therapy (HRT) in 2002, according to a new analysis led by researchers at The University of Texas M. D. Anderson Cancer Center.

At the 29th annual San Antonio Breast Cancer Symposium, the investigators report that there was an overall 7 percent relative decline in breast cancer incidence between 2002 and 2003, and that the steepest decline - 12 percent - occurred in women between ages 50-69 diagnosed with estrogen receptor positive (ER-positive) breast cancer. This is the kind of breast cancer that is dependent on hormones for tumor growth.

From this, the researchers conclude that as many as 14,000 fewer women were diagnosed with breast cancer in 2003 than in 2002, a year in which the American Cancer Society estimates 203,500 new cases of breast cancer were diagnosed.

"It is the largest single drop in breast cancer incidence within a single year I am aware of," says Peter Ravdin, M.D., Ph.D., a research professor in the Department of Biostatistics at M. D. Anderson.

"Something went right in 2003, and it seems that it was the decrease in the use of hormone therapy, but from the data we used we can only indirectly infer that is the case," he says.

"But if it is true, the tumor growth effect of stopping use of HRT is very dramatic over a short period of time, making the difference between whether a tumor is detected on a mammogram in 2003 or not," says Ravdin.

The study's senior investigator, Donald Berry, Ph.D., professor and head of the Division of Quantitative Sciences at M. D. Anderson, says he was, at first, very surprised by both the magnitude and the rapidity of the decline in incidence, but adds "it makes perfect sense" if you consider that use of HRT may be an important contributing factor to breast cancer development.

"Incidence of breast cancer had been increasing in the 20 or so years prior to July 2002, and this increase was over and above the known role of screening mammography," he says. "HRT had been proposed as a possible factor, although the magnitude of any HRT effect was not known. Now the possibility that the effect is much greater than originally thought all along is plausible, and that is a remarkable finding."

HRT provides both estrogen and sometimes also progestin hormones to women who are postmenopausal. The ongoing Women's Health Initiative study of 16,608 women 50-79 years old using HRT was prematurely stopped in July, 2002 when the combination of estrogen and progestin was found to significantly increase the risk of developing invasive breast cancer.

Ravdin said about 30% of women older than 50 had been taking HRT in the early years of this decade, that about half of these women stopped using HRT in late 2002 after the results of the large study were announced. "Research has shown that ER-positive tumors will stop growing if they are deprived of the hormones, so it is possible that a significant decrease in breast cancer can be seen if so many women stopped using HRT," he says.

"It takes breast cancer a long time to develop, but here we are primarily talking about existing cancers that are fueled by hormones and that slow or stop their growing when a source of fuel is cut," Berry adds. "These existing cancers are then more likely to make it under mammography's radar."

But the researchers stress that because the analysis is based solely on population statistics, they cannot know for certain the reasons why incidence declined. "We have to sound a cautionary note because epidemiology can never prove causation," he says. They considered whether other effects may be involved (such as decreased use of screening mammography and changes in the use of anti-inflammatory agents, SERMs or statins) but only the potential impact of HRT was strong enough to explain the effect."

To conduct the study, Ravdin, Berry, and researchers at the National Cancer Institute (NCI) and Harbor UCLA Medical Center analyzed data from nine regions across the country that contribute data to the NCI's Surveillance Epidemiology and End Results (SEER) database, from which national cancer incidence statistics are derived.

They examined rates of breast cancer in the United States from 1990 to the end of 2003 and found that while incidence increased at 1.7 percent per year from 1990 to 1998, it began to decrease, relative to other years, 1 percent each year from 1998 to 2002. When that 1 percent increase was adjusted for age in each of those years, incidence from 1998 to 2002 stayed about the same, Ravdin says. "There were more cases of breast cancer being diagnosed, but that was because women were getting older and entering the higher risk pool."

But by the end of 2003, there was a 7 percent, age-adjusted decrease in the number of breast cancer cases diagnosed. With further analysis, the researchers discovered that decline in incidence was far greater in ER-positive breast cancer (8 percent) compared to ER-negative breast cancer (4 percent). And when they looked at women 50-69 years old, the decline in ER-positive cancer was 12 percent, compared to 4 percent in ER-negative breast cancers. After adjusting for age, the researchers concluded that there was an absolute decline of about 14,000 fewer women diagnosed with breast cancer in 2003 than in 2002.

The study was funded by grants from the National Cancer Institute and from M. D. Anderson.

Coauthors also include Kathy Cronin, Ph.D., and Nadia Howlader from the National Cancer Institute, and Rowan Chlebowski, M.D., Ph.D., from Harbor UCLA Medical Center.
