"FRONTIERS IN BREAST CARE"

Explaining the Results - Continued

Risk estimates calculated by the tool are estimates of absolute breast cancer risk. Absolute breast cancer risk is the chance of probability of developing invasive breast cancer in a defined age interval. One way to evaluate the accuracy of the risk estimate is to determine whether it correctly predicts average risk in a group of women with the same risk factors and age. The Breast Cancer Risk Assessment Tool does predict such average risks well.

Although a woman's risk may be accurately estimated, these predictions do not allow one to say precisely which woman will develop beast cancer. In fact, the distribution of risk estimates for women who develop breast cancer overlaps the estimates of risk for women who do not.

Decrease in Breast Cancer Rates Related to Reduction in Use of Hormone Replacement Therapy

The sharp decline in the rate of new breast cancer cases in 2003 may be related to a national decline in the use of hormone replacement therapy (HRT), according to a new report in the April 19,2007 issue of the *New England Journal of Medicine.* The report used data from the Surveillance, Epidemiology and End Results (SEER) program of the National Cancer Institute (NCI), part of the National Institutes of Health.

Age-adjusted breast cancer incidence rates in women in the United States fell 6.7% in 2003. During this same period, prescriptions for HRT declined rapidly, following highly-publicized reports from the Women's Health Initiative (WHI) study that showed an increased risk of breast cancer, heart disease, stroke, blood clots, and urinary incontinence among postmenopausal women who were using hormone replacement therapy that included both estrogen and progestin. The two most commonly prescribed forms of HR in the United States, Premarin® and Prempro TM, had their steepest declines starting in 2002-2003 - from 61 million prescriptions written in 2001 to 21 million in 2004.

Led by senior investigator Donald Berry, PhD., of the University of Texas M.D. Anderson Cancer Center, Houston, Texas, the research team showed that the decrease in breast cancer incidence began in mid-2002 and leveled off after 2003. Comparing rates from 2001 and 2004 showed a decrease in annual age-adjusted incidence of 8.6%. The decrease occurred only in women over the age of 50 and was more evident in women with cancers that were estrogen receptor (ER) positive - tumors that need estrogen in order to grow and multiply. The speed at which breast cancer rates declined after the WHI announcements may indicate that extremely small ER-positive breast cancers may have stopped progressing, or even regressed, after HRT was stopped.

"Breast cancer is the most frequently diagnosed cancer among women in the United States, and we have made great strides in its treatment," said NCI Director John E. Niederhuber, M.D. "Still, we don't know all the causes of breast cancer, and breast cancer rates had been increasing for two decades up to 2002. Finding the simple ways, such as limiting HRT use to decrease breast cancer risk, is a step forward."

Preliminary findings of this report were presented at the 29th annual San Antonio Breast Cancer Symposium in 2006. Data from 2004, which was of great interest to those present for the meeting, were not available at that time. This report now includes the data from 2004, which show a leveling-off of breast cancer incidence from 2003 to 2004. This observation, combined with a stabilization of HRT use in 2004, further strengthens the association between breast cancer incidence and use of HRT.

Understanding the effect of cessation of HRT may be complex. Effects may vary depending on the type of HRT used and other factors specific to how the hormones affect the body. From the data in this report, it seems that the decline in breast cancer incidence that is related to a nationwide decline in use of HRT may have had run its course, and breast cancer incidence rates may stabilize or even begin to rise again. Researchers do not yet know if this reduction in HRT use will have a long-term effect on rates, or whether reduction in hormone levels simply slowed the growth of clinically detectable tumors, in which case as HRT use stabilizes, breast cancer incidence will begin to rise again.

Several other possibilities were considered to explain the sudden decrease in new breast cancer cases, including changes in reproductive factors, rates of mammography screening, environmental exposures, and changes in diet. HRT was the only risk factor that changed substantially from 2002 to 2003 and provides a possible explanation for this trend. "Recent reports have suggested a small decline in mammography use after 2000," said Kathy Cronin Ph.D., of the Surveillance Research Program at NCI. Screening may play a role as well, and the contribution of mammography to the observed decline in incidence is currently being investigated."

Because this analysis is based on population statistics, the study does not prove a link between HRT and breast cancer incidence. Only a randomized clinical trial could prove causation. When the link between breast cancer and HRT was first confirmed in the WHI, which was a randomized clinical trial, women in the study were asked to discontinue their study medications (either placebo or hormones), and were encouraged to continue undergoing annual mammography. These women are still being followed, and the WHI researchers are expected to release a follow-up report later this year about the group who received HRT (estrogen and progestin). This report will provide a much higher level of evidence about the influence of HRT (and cessation of HRT) on the incidence of breast cancer.

"The decision about use of HRT is complex," says study researcher Christine Berg, M.D., from the National Cancer Institute. "While HRT provides relief from the symptoms of menopause, it may also increase one's risk of breast cancer. It is important that women meet with their doctor to discuss what decision is right for them, particularly if they are at high risk of breast cancer. It is important that women meet with their doctor to discuss what decision is right for them, particularly if they are at high risk for breast cancer.

Happy New Year,

We'll start 2010 as we ended 2009, encompassing the needs of our patients with breast disease. Accurate information is vital, therefore breaking breast cancer myths can promote both a healthy mind and body.

Breast cancer myths:

- *Father's family history isn't important — a diagnosis in your father's family is as vital as one on your mother's side.*
- *Breast cancer is usually hereditary—in fact, less than 10% of breast cancer diagnoses can be blamed on genetics.*
- *Mastectomy is a must to treat breast cancer—lumpectomy and radiation are also effective measures used to control the growth of cancer cells.*
- *Deodorants cause cancer—this is a myth, but deodorant should not be worn when undergoing a mammogram, as it can be seen on the screen during the test which may cause confusion.*
- *Breast cancer means death. The survival rate for breast cancer Is as high as 98%, when the cancer is limited to the breast only, and is detected early.*

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