Breast Cancer Decline Tied to Detection Rates

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Discuss of hormone therapy might have fueled a significant drop in breast cancer detection rates in recent years, but a plateau in screening mammography among women older than 45 years also contributed to the decline, according to new data from an American Cancer Society study published in Breast Cancer Research.

To assess women’s breast cancer trends over the period before the results of the Women’s Health Initiative brought to light the possibility of a link between hormone therapy and an increased risk of breast cancer, Dr. Ahmedin Jemal and colleagues at the American Cancer Society reviewed data from the nine oldest Surveillance, Epidemiology, and End Results cancer registries (Breast Cancer Res. 2007;9:R28 [Epub doi:10.1186/bcr1672]). Based on these registries, 394,891 invasive and 59,837 in situ breast cancer cases were diagnosed in U.S. women aged 40 years and older from 1975 through 2003. Age-specific incidence of invasive breast cancer declined in all 5-year age brackets for women aged 45 years and older between 1999 and 2003, although the degree of the decline varied among the age groups. The decrease in breast cancer incidence among women aged younger than 60 years or older than 69 years began in 1998 or 1999. By contrast, the decrease in breast cancer incidence among women aged 60-64 years and 65-69 years occurred from 2002 to 2003 (the most recent year for which data are available). The largest percentage decreases occurred among women aged 55-59 years (11.3%), 60-64 years (10.6%), and 65-68 years (14.3%).

A joint analysis of tumor size and stage showed that the incidence of small tumors (2 cm or less) decreased by 4.1% per year from 2000 through 2003 and the incidence of localized disease decreased by 3.1% per year from 1999 through 2003. No decrease in the incidence of larger tumors or advanced-stage disease was found during these periods. Also, in situ disease rates were stable from 2000 through 2003 after increasing since 1981.

Trend data based on receptor status showed an annual increase in the incidence of both estrogen receptor-positive tumors and progesterin receptor-positive tumors from 1990 to 2000, followed by a 9.1% drop from 2002 to 2003 for both of these types. Estrogen receptor-negative and progesterin receptor-negative tumors also showed their largest overall decreases in incidence, 4.8% and 6.9% respectively, between 2002 and 2003. The drop in incidence that began in 1998 coincides with a plateau in screening mammography, and the types of cancers detected by mammography were the types that had a decrease in incidence (small tumors and localized disease). Data from the National Health Interview Survey show that the percentage of women aged 40 years and older who reported having a mammogram within the past 2 years was 70.3% in 1999, 70.4% in 2000, and 69.5% in 2003.

Typically, incidence rates decrease when the penetrance of a screening test reaches a plateau due to a reduced pool of undiagnosed prevalent cases,” the researchers wrote.

The sharp declines in breast cancer from 2002 to 2003 that were reported at a breast cancer symposium sponsored by the Cancer Therapy and Research Center last year might have been due in part to a reduced use of hormone therapy in response to data from the Women’s Health Initiative that linked hormone therapy to an increased risk of breast cancer. The sharp drop was observed mainly in estrogen receptor-positive tumors in a subset of women aged 60-69 years.

“Clearly there are many of us who feel that [the] drop in breast cancer detection rate has many factors,” Dr. Len Lichtenfeld, deputy chief medical officer for the American Cancer Society, said in an interview. But from a clinical standpoint, the findings represent a decline in detection, not necessarily an absence of cancer cases.

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