

# Drop in Detection of Breast Cancer Analyzed

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Disuse 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:10.1186/1186/bcr1672]).

Based on these registries, the researchers found that 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 most women 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 from 2002 to 2003 among women aged 55-59 years (11.3%), 60-64 years (10.6%), and 65-69 years (14.3%).

A joint analysis of tumor size and stage showed that overall, 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.

Two patterns of breast cancer trends emerged from the study.

First, 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

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DR. LICHTENFELD

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.

Second, 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 50-69 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.

"You can't dismiss the impact of stopping hormones on the decreased detection of breast cancer, but the current article supports what we know, which is that the incidence of mammography is also declining," he said.

But from a clinical standpoint, the findings represent a decline in detection, not necessarily an absence of cancer cases.

"I don't know any experts that think that breast cancer has gone away; there are breast cancers that have not been detected," Dr. Lichtenfeld said.

The decline in the numbers of women having mammograms might include a lack of access or a woman's belief that if she has had one mammogram, she doesn't need additional mammograms, he noted. "The falloff in detection is much greater than one would have expected from hormones alone."



# Intrauterine Environment May Be Where Obesity Originates

BY TIMOTHY F. KIRN  
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LOS ANGELES — Obesity, like cardiovascular disease risk, can originate in the womb, a phenomenon that could have important implications in managing the current obesity epidemic, Dr. Thomas R. Moore said at a meeting of the Obstetrical and Gynecological Assembly of Southern California.

Much evidence now indicates that infants born to mothers with diabetes are likely to become overweight children and adults. They are also more likely to develop gestational diabetes and possibly diabetes as adults.

However, the evidence also seems to suggest that infants born underweight may face a similar risk of obesity and are more likely to experience cardiovascular disease, said Dr. Moore, the chairman of the department of reproductive medicine at the University of California, San Diego.

With regard to the association between a diabetic mother and later obesity in the child, Dr. Moore cited a study of the Pima Indians of Arizona, who have been followed closely in a study since 1965 and among whom there is a high rate of obesity and diabetes.

In that study, the investigators looked at siblings in families with a mother who was diabetic. They compared siblings born before the mother was diagnosed as diabetic with siblings born after her diagnosis. In 19 families in which one sibling had diabetes and the other did not, 15 of the diabetic children were born after their mother's diagnosis, and only 4 were born before (Diabetes 2000;49:2208-11).

There was no difference in the number of siblings with diabetes in those families born before or after a father's diabetes diagnosis.

The siblings who were exposed to intrauterine diabetes also were a mean 2.6 kg/m<sup>2</sup> heavier than were their nonexposed siblings.

In another study linking heaviness and

diabetes in the child to that in the mother, Norwegian investigators looked at almost 140,000 women who had given birth. They found that the rate of gestational diabetes among the women was 31/1,000 in those whose own mothers had diabetes when they were born, compared with a rate of 4/1,000 in those whose own mothers did not have diabetes (BMJ 2000;321:546-7).

Dr. Moore said that in his own practice, he is careful to measure and record body mass index, not just weight, and to help patients who want to lose weight before conception.

Moreover, whenever he manages maternal diabetes in pregnancy, Dr. Moore said he is mindful that the disease can have critical implications for the life of the infant.

"I actually believe I'm making a difference in the adult health of the fetus, who I am helping to treat through the mother by optimizing glucose control," Dr. Moore said.

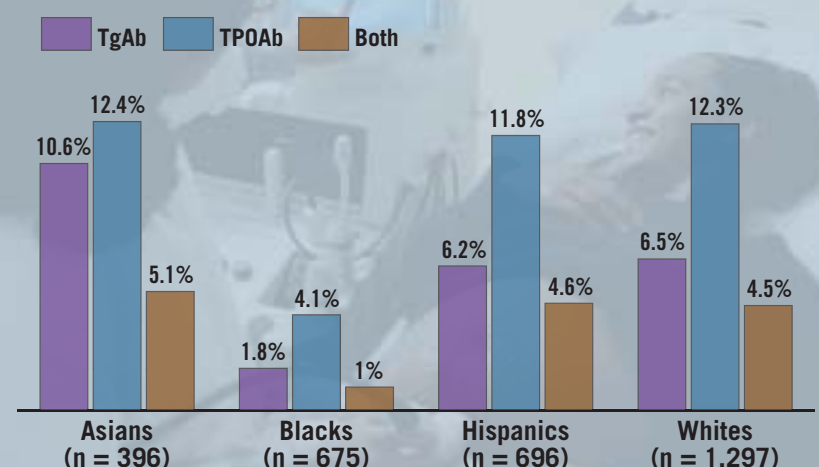
In reference to the risks facing underweight newborns, Dr. Moore said that most of the data come from epidemiologic studies that show those infants are more likely to develop high insulin levels, hypertension, diabetes, stroke, and heart disease.

He said that the theory explaining this phenomenon, the "thrifty phenotype," asserts that when a fetus is growth- or nutrient restricted, it shunts nutrients to the most essential organs. One of the mechanisms the fetus body uses to prevent nutrients from going to less essential systems, such as the musculature, is by making those systems insulin resistant. This insulin resistance persists after birth and predisposes the individual to the conditions associated with metabolic syndrome.

The theory calls into question the common practice in neonatal nurseries of trying to get as many calories as possible into underweight infants in an effort to get them to gain weight quickly, said Dr. Moore. ■

## DATA WATCH

### Black Women Have Lower Prevalence of Thyroid Autoantibodies During Second Trimester of Pregnancy



Source: Dr. William L. Roberts, University of Utah, Salt Lake City