



BREAST CANCER DISPARITIES IN MINORITY COMMUNITIES HIGHLIGHTED AT 2008 ERA OF HOPE MEETING

*Studies Examine Stem Cells Differences between African American and White Women
and also Risk Factors in Hispanic Women*

Baltimore, Md. – June 26, 2008 – The Department of Defense Breast Cancer Research Program (BCRP) will present data this week examining breast cancer disparities among minority communities at the 2008 Era of Hope meeting. The 4-day meeting being held June 25–28 at the Baltimore Convention Center, will showcase to the public recent advances in breast cancer research funded by the BCRP and the program's progress toward its vision of eradicating breast cancer, the most commonly diagnosed cancer among women in the United States (excluding skin cancer).

According to the American Cancer Society, African American women have a higher incidence of breast cancer than white women before the age of 40 and are more likely to die from breast cancer at every age while breast cancer is more frequently diagnosed at a later stage in Hispanic women than in non-Hispanics.

“In order to help reverse the deadly breast cancer trends, it is essential to begin identifying and eradicating the causes of these health disparities,” said Dr. Barbara Terry-Koroma, Program Manager for the Minority and Underserved Populations Program, Congressionally Directed Medical Research Programs. “Since its inception, the BCRP has been dedicated to pushing the boundaries of conventional research while also identifying gaps for new research opportunities. Through the research that the BCRP is funding, it is our hope that one day we will be able to remove breast cancer from the vocabulary of the American public.”

The BCRP will showcase its progress in the study of breast cancer disparities at a plenary session entitled “Breast Cancer in Underserved Populations” scheduled to be held on Saturday, June 28 at 10:30 a.m. Some of the latest research being discussed on health disparities at the meeting will be presented, including the following abstracts:

A New Paradigm for African American Breast Cancer Involving Stem Cell Differentiation in a Breast Tissue Engineering System – Jean Latimer, University of Pittsburgh

Although socio-economic factors have in the past been attributed to explain African American's (AA) higher incidence of breast cancer (BC), data exists to support the less widely held hypothesis that there may be intrinsic biological differences in AA breast tissue compared with white breast tissue. Evidence for this hypothesis includes the fact that triple negative breast

tumors are more prevalent in AA women than in non-Hispanic white women. The researcher's laboratory has developed a novel tissue engineering system for Human Mammary Epithelial Cells (HMEC) that allows them to test their two hypotheses: 1) that intrinsic biological differences exist between AA and white breast tissue that can be demonstrated by the ability of this tissue to differentiate into a ductal network and 2) that this difference is due to a difference in the relative proportions of stem cells present. Preliminary stem cell analysis identified stem cells with greater potency in cell lines derived from AA breast tissue relative to tissue from white women, not greater relative proportions of stem cells. Stem cell potency means that these cells are more likely to form multiple cell types in culture. These findings are consistent with the idea that if a stem cell with greater potency becomes malignant, the type of cancer that develops may be more stem cell like and more aggressive clinically. This work as it progresses may explain the high prevalence of triple negative, basal type Breast Cancers in women of African American ancestry compared with European non-Hispanic white women.

Diabetes, Physical Activity, and Breast Cancer Among Hispanic Women – Maureen Sanderson, University of Texas Health Science Center at Houston

Diabetes has been associated with increased breast cancer risk while physical activity has been linked to reduced breast cancer risk. Hispanic women have high rates of diabetes but fairly low rates of physical activity. This study is one of the first studies that investigated the association between diabetes and breast cancer among Hispanic women. Researchers assessed whether physical activity modified the effect of diabetes on breast cancer incidence in Hispanic women. After adjustment for age, menopausal status, and body mass index, there was a reduction in breast cancer risk associated with diabetes and with physical activity. Although there was no association between diabetes and breast cancer among Hispanic women who did not engage in physical activity, the association between diabetes and breast cancer was greatly reduced among Hispanic women who exercised. While additional research is necessary, the results of this study suggest that exercise reduces the risk of breast cancer in Hispanic women with diabetes.

Body Composition and Postmenopausal Breast Cancer in Hispanic Women – Gerson Peltz, University of Texas at Brownsville

Obesity and body fat distribution have been shown to be associated with increased risk of breast cancer in postmenopausal women in many ethnic groups. Most of the studies have evaluated these associations using body mass index as a surrogate marker of obesity. In this study, researchers evaluated whether central adiposity and obesity assessed by both bioelectrical impedance analysis and body mass index are associated with breast cancer risk in postmenopausal Hispanic women. After adjustment for age and postmenopausal hormone use, there was a slight increase in breast cancer risk associated with increased body mass index and waist circumference but no association with percent body fat. The effects of obesity and central adiposity were accentuated with longer time since menopause (>4 years), which may reflect the time necessary for the production of estrogens by adipose tissue to become the main source of endogenous estrogen. Should larger studies confirm this study's findings, the conflicting evidence for the association between measures of body composition and postmenopausal breast cancer maybe explained.

About the BCRP and Era of Hope

The Department of Defense BCRP is a congressionally mandated program managed by the U.S. Army Medical Research and Materiel Command's Congressionally Directed Medical Research Programs (CDMRP). The BCRP seeks to eradicate breast cancer by funding innovative, high-impact research and has integrated the ideas and perspectives of breast cancer survivors into all aspects of the program. As the second largest source of breast cancer research in the United States, the BCRP has received over \$2 billion in congressional appropriations since its inception in 1992, granting over 5,000 unique awards that fulfill unmet

needs in breast cancer research. The success of these grants is illustrated in part by the fact that over 10,000 publications have resulted from BCRP-funded research, more than 11,000 abstracts have been published, and over 400 patents and licensures have been issued. In 2008, the program received \$138 million in congressional appropriations to be invested in breast cancer research. For more information about the BCRP, please visit <http://cdmrp.army.mil/bcrp/>.

The BCRP is hosting its fifth international Era of Hope meeting, a unique forum for scientists, clinicians, breast cancer survivors and advocates, policy makers, and the public to come together and discuss the latest findings in breast cancer research and future directions to eradicate this disease. More than 1,600 awardees, researchers, breast cancer survivors, and health advocates will attend this year's Era of Hope, which will feature more than 1,200 abstracts focusing on the program's breakthroughs in the prevention, detection, diagnosis, and treatment of breast cancer as well as quality of life issues. For more information about the Era of Hope meeting, please visit: <https://cdmrpcures.org/>.

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