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Breast Cancer Mortality Higher in Hispanic Women

- Hispanic women had a 20 percent increased risk for death from breast cancer.
- Tumor-related factors may primarily account for this difference.
- Hispanic women may be more likely to have a tumor phenotype resistant to chemotherapy.

SAN ANTONIO — Hispanic women are more likely to die from breast cancer than non-Hispanic white women, according to research presented at the 2011 CTRC-AACR San Antonio Breast Cancer Symposium, held Dec. 6-10, 2011.

“This difference may be associated with a tumor phenotype that is less responsive to chemotherapy,” said Kathy B. Baumgartner, Ph.D., professor of epidemiology and associate dean for faculty affairs in the School of Public Health and Information Sciences at the University of Louisville in Kentucky. “Increased awareness of this ethnic disparity is needed to improve survival in Hispanic women with breast cancer.”

Breast cancer is the most common cancer and is the second cause of cancer death in women in the United States. Incidence and survival rates vary by ethnicity, and previous research has demonstrated a trend toward poorer survival in Hispanic women.

From 1992 to 1996, Baumgartner and colleagues conducted the New Mexico Women’s Health Study (NMWHS), a statewide, population-based, case-control breast cancer study that examined the difference between Hispanic and non-Hispanic white women for breast cancer risk. In all, 692 women with a first primary breast cancer participated.

In a recent study, researchers followed the 577 women with invasive breast cancer through 2008 to assess differences in long-term survival between Hispanic and non-Hispanic white women in the NMWHS.

Hispanic women were about 20 percent more likely to die from breast cancer than non-Hispanic white women, which is consistent with other reports, Baumgartner said. After adjusting for age, stage, lymph node involvement and estrogen receptor (ER) status, the researchers saw the risk drop considerably to almost equal that of non-Hispanic white women — suggesting that “the ethnic difference in breast cancer mortality may be mostly biologically based,” Baumgartner said.

In addition, Hispanic women who received chemotherapy were about 1.5 times more likely to die from breast cancer compared with non-Hispanic white women who received chemotherapy, after adjusting for age and the characteristics noted above.

“It is not clear how much of this ethnic difference in survival is due to socioeconomic factors influencing access to screening and treatment or to biological ones,” Baumgartner said. “Some studies suggest that Hispanic women are more likely to develop ER-negative tumors that are resistant to chemotherapy.”

She added, “Altered response to chemotherapy may partly explain the Hispanic vs. non-Hispanic white disparity in breast cancer survival.”

There was no difference between Hispanic and non-Hispanic white women for all-cause or non-breast cancer mortality.

Baumgartner and her colleagues will continue to monitor this cohort for the long term. This research was supported by a grant from the National Cancer Institute and the James Graham Brown Cancer Center.

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The mission of the CTRC-AACR San Antonio Breast Cancer Symposium is to produce a unique and comprehensive scientific meeting that encompasses the full spectrum of breast cancer research, facilitating the rapid translation of new knowledge into better care for patients with breast cancer. The Cancer Therapy & Research Center (CTRC) at The University of Texas Health Science Center at San Antonio, the American Association for Cancer Research (AACR) and Baylor College of Medicine are joint sponsors of the San Antonio Breast Cancer Symposium. This collaboration utilizes the clinical strengths of the CTRC and Baylor and the AACR’s scientific prestige in basic, translational and clinical cancer research to expedite the delivery of the latest scientific advances to the clinic. The 34th annual symposium is expected to draw nearly 8,000 participants from more than 90 countries.

Presenter: Kathy B. Baumgartner, Ph.D.

Abstract Number: P1-08-28

Title: Differences in long-term survival for Hispanic and non-Hispanic white women with breast cancer.

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Body: Trends towards poorer survival in Hispanic (H) women have been previously reported, but these studies are limited by small sample sizes or lack of sufficient covariate data. Overall, H women are more likely to be diagnosed with breast cancer at a younger age, with hormone receptor negative tumors, with more advanced stage at diagnosis, and with worse prognosis. Data are limited on survival experience for H women, leading to unanswered questions and concerns, as this ethnic group is a rapidly growing fraction of the U.S. population. Although survival can be evaluated based on national data, important covariates are lacking. The analyses for this study focus on survival differences between H and non-Hispanic white (NHW) women and factors associated with this difference. Previous reports suggest that breast cancer survival is significantly worse in H compared to NHW women, even with adjustment for age, stage, histology, and treatment. The New Mexico Women's Health Study (NMWHS) was a statewide population-based, case-control breast cancer study that included 1,566 H and NHW women conducted from 1992-1996. It was designed to investigate etiologic risk factors associated with the difference in breast cancer incidence between H and NHW women. Women diagnosed with a new primary in situ or invasive breast cancer were ascertained through the New Mexico Tumor Registry (NMTR) and eligibility was based on the following criteria: age 20-74 years, diagnosis year 1992-1994, and New Mexico residence at diagnosis. All identified H cases and approximately 33% of identified NHW cases comparable to the age and geographic distribution of H cases were eligible for the study. Of the 984 eligible cases identified, 73% completed an interview: 339 H (69%); 388 NHW (78%). The National Death Index (NDI) was used to determine vital status through December 31, 2008, the most recent date for which NDI data are available. Data for clinical and tumor characteristics were obtained through linkage with the NMTR. The respective crude hazard ratios (HR) for all-cause, breast cancer-specific, and non breast cancer mortality over the 14-year follow-up period for H women compared with NHW women were 1.09 (95%CI 0.84-1.42), 1.29 (0.91-1.84), and 0.88 (0.59-1.31), respectively. These results suggest that breast cancer-specific mortality, is increased in H relative to NHW women, while there is no ethnic difference in all-cause or non-breast cancer mortality. Restriction of the analysis for breast cancer mortality to cases with invasive cancer (n=692) did not meaningfully alter the crude HR for H women (HR=1.24, 95%CI 0.84-1.74). Evaluation of breast cancer mortality by ethnicity and chemotherapy treatment, adjusting for stage of disease, lymph node and estrogen receptor status suggested that H women receiving chemotherapy have worse

survival ($p=0.052$ for statistical interaction), which may be due to factors such as altered response to chemotherapy or possibly poor compliance.