

Race may play role in presentation of triple-negative breast cancer in hispanic women

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Hispanic women in Puerto Rico who have triple-negative breast cancer share similar disease characteristics with Hispanic women in California, suggesting that race plays a significant role in the presentation of triple-negative breast cancer among Hispanic women.

These study results were presented at the AACR Annual Meeting 2012, held here March 31 - April 4.

"We think the fact that our patients are geographically located outside the mainland and still have the same disease characteristics suggests that the biology of the disease plays a major role in how the disease is expressed in these patients compared with other factors that have been considered like [socioeconomic status](#), access to treatment, etc.," said Edna M. Mora, M.D., associate professor in the University of Puerto Rico School of Medicine department of surgery and the University of Puerto Rico Comprehensive Cancer Center in San Juan, Puerto Rico.

"Based on our results, we speculate that the biology of the disease promotes the tumors to be more aggressive," she said. "Knowing that biology is important, because then we can develop different [treatment strategies](#) for the different subtypes of triple-negative cancers."

Overall, [Hispanic women](#) have a lower incidence of [breast cancer](#), but among those who develop the disease, prognosis and survival are poor, Mora said.

In this cross-sectional study, the researchers analyzed data from 1,082 women with breast cancer who were diagnosed between 2000 and 2005. Mora and colleagues obtained data from hospital cancer registries and through a [medical record](#) review.

The prevalence of triple-negative breast cancer was 16.3 percent, which is comparable to the percentage among Hispanics in California, Mora said. Compared with women with HER2-negative, estrogen receptor-positive disease, patients in the triple-negative group were younger at diagnosis and had larger [tumor size](#), invasive ductal histology and higher tumor grades.

Most importantly, these results showed that the HER2-negative patients whose tumors expressed estrogen receptors had a dramatically different disease presentation and better outcomes, Mora said.

"When the patient's tumor expressed estrogen receptor, it made a significant difference in terms of how the patient responds to therapy and behaves in terms of survival," she said.

More information: Characterization of Triple Negative Breast Cancer Patients among Hispanics in Puerto Rico

Abstract

Introduction: Hormone receptor status had been correlated with prognosis in breast cancer patients. Breast cancer patients with no expression of estrogen receptor (ER), progesterone receptor (PR) and her-2 neu (her-2) have been grouped in the Triple Negative Breast Cancer (TNBC) category. At present, these patients have very limited adjuvant therapy alternatives. TNBC has been correlated with poor prognosis among African-American and Hispanic populations. However, there is very few data regarding the prevalence and characterization of TNBC among Hispanics groups (e.g. Puerto Ricans, Cubans, etc.). The

objective of this study is to characterize the TNBC population among the Puerto Rican population and to assess whether expression of ER changes the characteristics of the disease in this group. We hypothesize that expression of ER+ in her-2 negative breast cancer tumors will change the initial presentation of the disease.

Methods: This cross-sectional study analyzed data from female patients with breast cancer diagnosed between 2000 and 2005, at the I. Gonzalez Martinez Hospital and the Auxilio Mutuo Hospital (n=1,082) in San Juan, Puerto Rico. Information on Her-2 status and other clinical characteristics were retrieved from the hospital's cancer registries and from medical record review. This study was approved by the Institutional Review Boards of the participating hospitals. Logistic regression models were used to evaluate the associations between relevant clinical characteristics and TNBC. We also evaluated whether there were any interaction between age, tumor size and receptor status.

Results: The prevalence of TNBC in our study was 16.3% and 58.7% for the Her-2-ER+s phenotype. Patients in the TNBC group have a younger age (2cm) (70.3% vs 45.6%), invasive ductal histology (87.3% vs 68.7%), and higher tumor grades (III-IV) (49.7% vs 13.2%) compared to Her-2-ERs+. Using multinomial models, we found that, compared to TNBC, women with Her-2-ER+PR- and those with Her-2-ER+PR+ were 1.99 (CI95%=1.15,3.44) and 1.66 (CI95%= 1.11, 2.46) times more likely to have > 50 years at diagnosis as compared to those with 2cm. There was no interaction between receptor status, age and tumor size (p=0.582).

Conclusions: TNBC in Hispanics from Puerto Rican origin showed the same prevalence of Hispanic women in California. Furthermore, disease characteristics (early age at diagnosis, tumor size, histology and tumor grade) were also similar, suggesting that race has a significant effect in the presentation of TNBC in Hispanic women. In addition, the expression of ER, but not PR in Her-2 negative patients dramatically changes the initial presentation of the disease.

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