

Differences Between Hispanic and Non-Hispanic White Breast Cancer Patients: Molecular Subtypes and Survival

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Introduction

- Prior studies have noted that Hispanic women were more likely than non-Hispanic white women to be diagnosed with triple negative tumors
- Some studies have suggested that Hispanic women are also more likely than non-Hispanic women to die of their breast cancer.



Objective

The goal of this study was to assess differences in risk of the major molecular subtypes of breast cancer between Hispanic and non-Hispanic white women in California, and to assess the role of molecular subtypes and other factors on survival.

Methods

- ▶ Non-Hispanic white (NHW) and Hispanic women diagnosed with a first primary invasive breast cancer between 2004 and 2013 were identified through the California Cancer Registry.
- ▶ Information on age, stage, payer, tumor characteristics, and first course of treatment was extracted from the CCR database.
- ▶ Nativity was imputed from age received Social Security Number (foreign birthplace assumed for women who received an SSN after age 21).

Methods (continued)

- Neighborhood socioeconomic status based on address at diagnosis was derived from census level data.
- Tumors were classified into four categories based on hormone receptor status. Those with either estrogen receptor (ER) positive or progesterone receptor (PR) positive were classified as hormone receptor (HR) positive.
- Patients missing either HR or HER2 receptor status were excluded (approximately 15%).



Methods (continued)

- ▶ Logistic regression was used to estimate differences in distribution of subtypes between Hispanic and non-Hispanic white patients.
- ▶ Cox proportional hazard models were used to estimate differences in survival for Hispanics compared to non-Hispanic whites. Follow-up was through December 2013.

Results

- ▶ 20,543 Hispanic women and 69,693 NHW women diagnosed with invasive breast cancer 2004-2013 were identified through the California Cancer Registry.
- ▶ Hispanic women were younger at diagnosis: 36.8% of Hispanics versus 20.0% of NHW were diagnosed under age 50.
- ▶ Hispanic women were more likely to reside in neighborhoods classified as low SES.

Results (continued)

	Hispanic		NH White	
Age	N	%	N	%
20-39	2,199	10.7	2,838	4.1
40-49	5,521	26.9	11,501	16.5
50-59	5,597	27.3	17,794	25.5
60-69	3,994	19.4	17,953	25.8
70-79	3,232	15.7	19,607	28.1

Results (continued)

SES	Hispanic		NH White	
	N	%	N	%
Q1 (low)	5,560	27.1	4,699	6.7
Q2	4,794	23.3	9,398	13.5
Q3	3,879	18.9	13,271	19.0
Q4	3,096	15.1	17,059	24.5
Q5 (high)	2,097	10.2	21,074	30.2

Results (continued)

- ▶ Hispanic women were less likely than NHW to be diagnosed at Stage I (37.0% vs 48.9%).
- ▶ Hispanic women were less likely than NHW to be diagnosed with HR+HER2- tumors (62.8% vs 72.5%) and more likely to be diagnosed with the other three subtypes.
- ▶ This was found in all age and stage subgroups.

Results (continued)

Odds of dx with specific subtypes among Hispanics compared to NH Whites:

Subtype	OR	CI
HR+/HER2-	1.0	
HR+/HER2+	1.29	1.23-1.35
HR-/HER2+	1.54	1.45-1.64
HR-/HER2-	1.39	1.33-1.46

Results (continued)

- ▶ Similar increased odds of the three less common subtypes, particularly HR-/HER2+, were seen in each age category and stage of diagnosis.
- ▶ Foreign-born Hispanic women were at slightly higher risk of both HER2+ subtypes than US-born Hispanic women.

Results (continued)

- Risk of death was 20-30% higher for Hispanic women than NHW across all tumor subtypes.
- This disparity diminished but remained statistically significant after adjustment for treatment.
- However this result was no longer statistically significant after adjustment for SES and health insurance.

Discussion

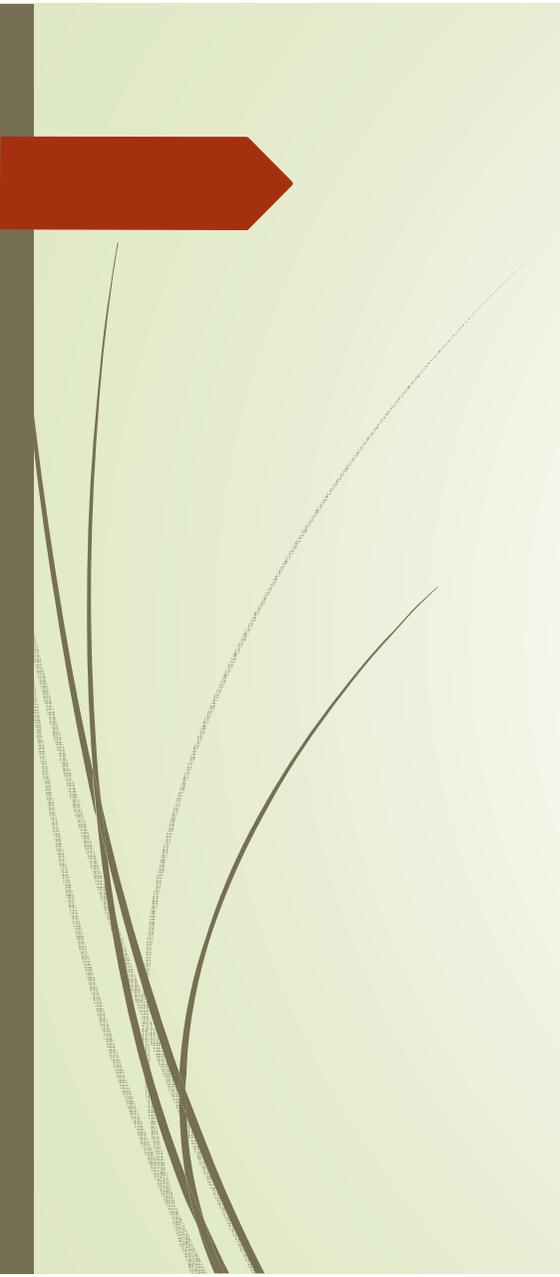
- ▶ Results of this analysis show that Hispanic women are more likely than NHW to be diagnosed with triple negative tumors and those overexpressing HER2.
- ▶ These results persisted regardless of age, stage at diagnosis, or birthplace.
- ▶ Hispanic women were more likely to die of their breast cancer regardless of subtype.

Discussion (continued)

- ▶ This disparity persisted after adjustment for treatment but was largely explained by SES and health insurance.
- ▶ Analysis is ongoing to further define the roles of both social determinants and biologic differences in survival.
- ▶ We are also evaluating the possible impact of differential loss to follow up for Hispanic patients.

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Questions?