INTRODUCTION

- Breast cancer is the second leading cause of cancer death in U.S. women.
- In 2013, an estimated 232,340 women will be diagnosed and 39,620 will die from breast cancer.
- There is no conclusive evidence of causality, but smoking may be associated with mortality in breast cancer patients.
- This association may differ by race, ethnicity, and socioeconomic status (SES).
- With enhancement of the Florida Cancer Data System (FCDS) Registry, disparities in survival of cancer patients can be examined.

PURPOSE

- The purpose of this study was to examine the association between smoking and mortality in breast cancer patients, and determine if this differs by race, ethnicity, and SES using an enhanced dataset of FCDS linked with the Florida Agency for Health Care Administration (ACHA).

METHODS

- Data from 1996-2007 FCDS was enhanced by linkage with AHCA and information from the US Census.
- AHCA contains diagnosis and procedure codes for all in- and out-patient encounters at hospitals & free standing surgical & radiological treatment centers.
- Outcome of interest: survival time from date of diagnosis to date of death.
- Inclusion criteria: Females ≥18 years old, diagnosed with breast cancer in the state of Florida.
- Smoking status was assessed by self report in FCDS.
- Final sample size, N=127,754.

- Statistical analyses:
  - Univariate and multivariate Cox proportional hazard regression models were conducted sequentially with progressive adjustments for:
    - Sociodemographic variables
    - Clinical-pathological variables
    - Comorbidities.

RESULTS

- The majority of the sample were White (90.4%), non-Hispanic (90.4%), and in the middle-high or highest SES category (59.5%).
- In the unadjusted model compared with never smokers, worse survival was found in:
  - Current smokers HR 1.15 (P<0.001)
  - Former smokers HR 1.04 (P=0.009)
- In the model adjusting for extensive demographic, clinical characteristics and comorbidities, worse survival was found in:
  - Current smokers HR 1.31 (P<0.001)
  - Former smokers HR 1.08 (P<0.001)
- In multivariate analyses on racial, ethnic, and SES subgroups of the population, compared with never smokers, we found:
  - RACE
    - Worse survival for Whites with current (HR 1.39; P<0.001), former (HR 1.08; P<0.001), or unknown (HR 1.07; P=0.01) smoking status.
  - No different in survival for Blacks based on smoking history.
  - ETHNICITY
    - Worse survival was seen for non-Hispanics who were current (HR 1.36; P<0.001) or former (HR 1.08; P<0.001) smokers.
  - SES
    - Worse survival was observed for current smokers across all SES categories (P<0.001 for all) and for former smokers in the middle 2 SES categories (P<0.001).

CONCLUSION

- Using an enhanced FCDS registry for female breast cancer patients provided a strengthened ability to identify an association of smoking status with survival as well as its differing associations by race, ethnicity, and SES, therefore:
  - Further use of an enhanced FCDS registry is needed to explore cancer disparities.
  - Further exploration is needed to clarify the survival disparities.

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