DIFFERENCES IN SURVIVAL OF NON-SMALL CELL LUNG CANCER BY RACE/ETHNICITY/SES

Stacey L. Tannenbaum†, Tulay Kuru-Sengul‡, Wei Zhao‡, Feng Miao‡, Margaret M. Byrne¹,³
¹Sykes Comprehensive Cancer Center, ²Department of Epidemiology & Public Health and ³Department of Surgery
University of Miami Miller School of Medicine, Miami, Florida
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INTRODUCTION

- Lung cancer is the leading cause of cancer death in the U.S.
- An estimated 160,340 deaths in the year 2012
- Disparities by race, ethnicity and socioeconomic status (SES) have been found in some cancers, but not others
- Unclear if disparities exist for non-small cell lung cancer (NSCLC)
- Examining the potential role and influence of such disparities is essential for improving survival rates in all patients
- The objective of this study was to determine whether survival disparities by race, ethnicity, and SES occur in patients with NSCLC

METHODS

- Linked data (1996-2007) from:
  - Florida Cancer Data System – a population based cancer registry for patients’ demographic and clinical characteristics
  - Florida’s Agency for Health Care Administration for patients’ procedure and diagnosis codes
  - U.S. census
- Main outcome is overall survival that is defined as elapsed time from the dates of NSCLC diagnosis to death or last contact
- Primary Predictors of Interest:
  - Race: White, Black, Asian, Others (to include: Native American, Pacific Islander, Asian Indian or Pakistani, and any other race)
  - Ethnicity: Hispanic, non-Hispanic
  - SES (% of the neighborhood living in poverty)
  - lowest (<20%), middle-low (20%-50% and <20%), middle-high (25% and <30%), highest (≥30%
- Statistical analyses:
  - Descriptive; median survival time and 1, 3, 5-year survival rates
  - Univariate and multivariate Cox proportional hazards regression models - used to estimate unadjusted and adjusted hazard ratios (HR) and corresponding 95% confidence intervals (95%CI)

RESULTS

- n = 98,541, the majority of which were White (91.9%) and non-Hispanic (94.1%)
- Significant predictor of worse survival in the unadjusted model was black compared to white (hazard ratio [HR] 1.21; p<0.001)
- Compared to lowest SES; improved survival was seen in:
  - Middle-low (HR 0.89), Middle-high (HR 0.82), and Highest SES (HR 0.75; all p<0.001)
- In the adjusted model controlling for extensive variables and comorbidities:
  - Asians had improved survival (HR 0.79; P<0.001)
  - Blacks no longer had worse survival compared to whites
  - Being of Hispanic ethnicity became a protective factor (HR 0.90; P<0.001)
  - A monotonic improvement in survival for each higher SES category was maintained from univariate to multivariate model

CONCLUSION

- Our results show that race, ethnicity and SES disparities in survival outcomes for patients diagnosed with NSCLC do exist
- Being Asian, Hispanic, or having higher SES confers improved survival; but Black race alone is not predictive of worse survival
- Therefore:
  - Further research is needed to understand the mechanism of these disparities
  - Ensuring equal access to treatments across SES groups would likely reduce survival disparities

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