RACIAL DISPARITIES IN OVERALL SURVIVAL IN PATIENTS WITH GLIOBLASTOMA PRE-2010 AND POST-2010

Abbey Joseph, Christopher Yin, Grettel Castro, Maria Santiago, Noël C. Barengo
Department of Medical and Health Science Research, Herbert Wertheim College of Medicine, Florida International University, Miami, Florida, United States of America
cyin002@fiu.edu

Introduction and objective. Glioblastoma is the most common and fatal malignancy of the brain, accounting for 45.2% of malignant brain tumors and having a median survival length of 12-14 months. Most studies suggest that patients of Asian Pacific Islander (API) ancestry have a greater overall survival; however, the results are conflicting with respect to other races. In addition, no study has analyzed whether the introduction of bevacizumab in 2009 modified the association between race and survival. The main objective of our study is to analyze if the year of diagnosis is a modifying factor in the association between race and three-year survival for patients diagnosed with glioblastoma. **Methodology.** This non-concurrent cohort study used data from the Surveillance, Epidemiology, and End Results Program (SEER) during 1975 and 2018. Data was obtained from 22,276 U.S adults with glioblastoma who were participants of the SEER database. Patients with death of an unknown cause, unknown survival times, and recurrent glioblastoma were excluded. Final sample size was 19,471 patients. The exposure variable was race (White, Black, and API). The outcome variable was 3-year survival (survival time in months from diagnosis to 3-year survival). The effect modifier was the year of diagnosis dichotomized into pre and post 2010. Unadjusted and adjusted Cox regression analysis were used to calculate hazard ratios (HR) and 95% confidence intervals (CI). **Results.** The racial makeup of the sample was predominantly White (91.4 %) and exhibited significant differences in diagnostic year, age at diagnosis, tumor size, and ethnicity but no significant differences in sex and surgical status. The year of diagnosis does not act as an effect modifier. Blacks and API had greater cause specific survival than White patients in the adjusted model (Blacks aHR: 0.85 (95% CI 0.79-0.92), API aHR: 0.90 (95% CI 0.83-0.98)). The HR was lower for patients diagnosed on/after 2010 in reference to patients diagnosed before 2010 (adjusted HR:0.71 (95% CI 0.69-0.74)). **Conclusions.** Further research should be conducted to clarify survival rates between races, provide possible biological or social explanations for these disparities, and provide studies post 2010 with higher power/sample size. These findings can be used to tailor future treatment for all patients and provide insight about prognosis.
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