

## Interaction of Racial and Gender Disparities in Salivary Gland Cancer Survival in the United States: A Surveillance Epidemiology and End Results Study

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**Abstract :** Introduction: Racial and Gender disparities have been found to be independently associated with Salivary Gland Cancers (SGCs) survival; however, to our best knowledge, there are no previous studies on the interplay of these social determinants on the prognosis of SGCs. The objective of this study was to examine the joint effect of race and gender on the survival of SGCs. Methods: We analyzed survival outcomes of 13,547 histologically confirmed cases of SGCs using the Surveillance Epidemiology and End Results (SEER) database (2004 to 2015). Multivariable Cox regression analysis and Kaplan-Meier curves were used to estimate hazard ratios (HR) after controlling for age, tumor characteristics, treatment type and year of diagnosis. Results: 73.5% of the participants were whites, 8.5% were blacks, 10.1% were Hispanics and 58.5% were males. Overall, males had poorer survival than females (HR = 1.16, p=0.003). In the adjusted multivariable model, there were no significant differences in survival by race. However, the interaction of gender and race was statistically significant (p=0.01) in Hispanic males. Thus, compared to White females (reference), Hispanic females had significantly better survival (HR=0.53), while Hispanic males had worse survival outcomes (HR=1.82) for SGCs. Conclusions: Our results show significant interactions between race and gender, with racial disparities varying across the different genders for SGCs survival. This study indicates that racial and gender differences are crucial factors to be considered in the prognostic counseling and management of patients with SGCs. Biologic factors, tumor genetic characteristics, chemotherapy, lifestyle, environmental exposures, and socioeconomic and dietary factors are potential yet proven reasons that could account for racial and gender differences in the survival of SGCs.

**Keywords :** salivary, cancer, survival, disparity, race, gender, SEER

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