



Does Rurality Affect Stage and Prognosis of Salivary Gland Malignancy

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INTRODUCTION

The incidence of salivary gland tumors has increased in the past few decades. Much of this increase is attributable to diagnosis of tumors measuring less than 2 cm. Geography, rural vs metropolitan, has been shown to be a major factor in the early diagnosis and treatment of cancer. The goal of this study is to investigate whether rurality affects salivary gland cancer outcomes.

METHODS

DATA

- NIH's Surveillance, Epidemiology, and End Results Program (SEER) was queried from 2011 to 2019.
- Primary diagnosis of salivary gland malignancy.

ANALYSIS

Examined three primary outcomes: stage at time of diagnosis, time-to-treatment from initial diagnosis, and survival.

Stage at time of diagnosis

- Multivariate log-link generalized linear model
- Controls include race, hispanic identity, age, sex, income, and year

Time-to-Treatment From Initial Diagnosis

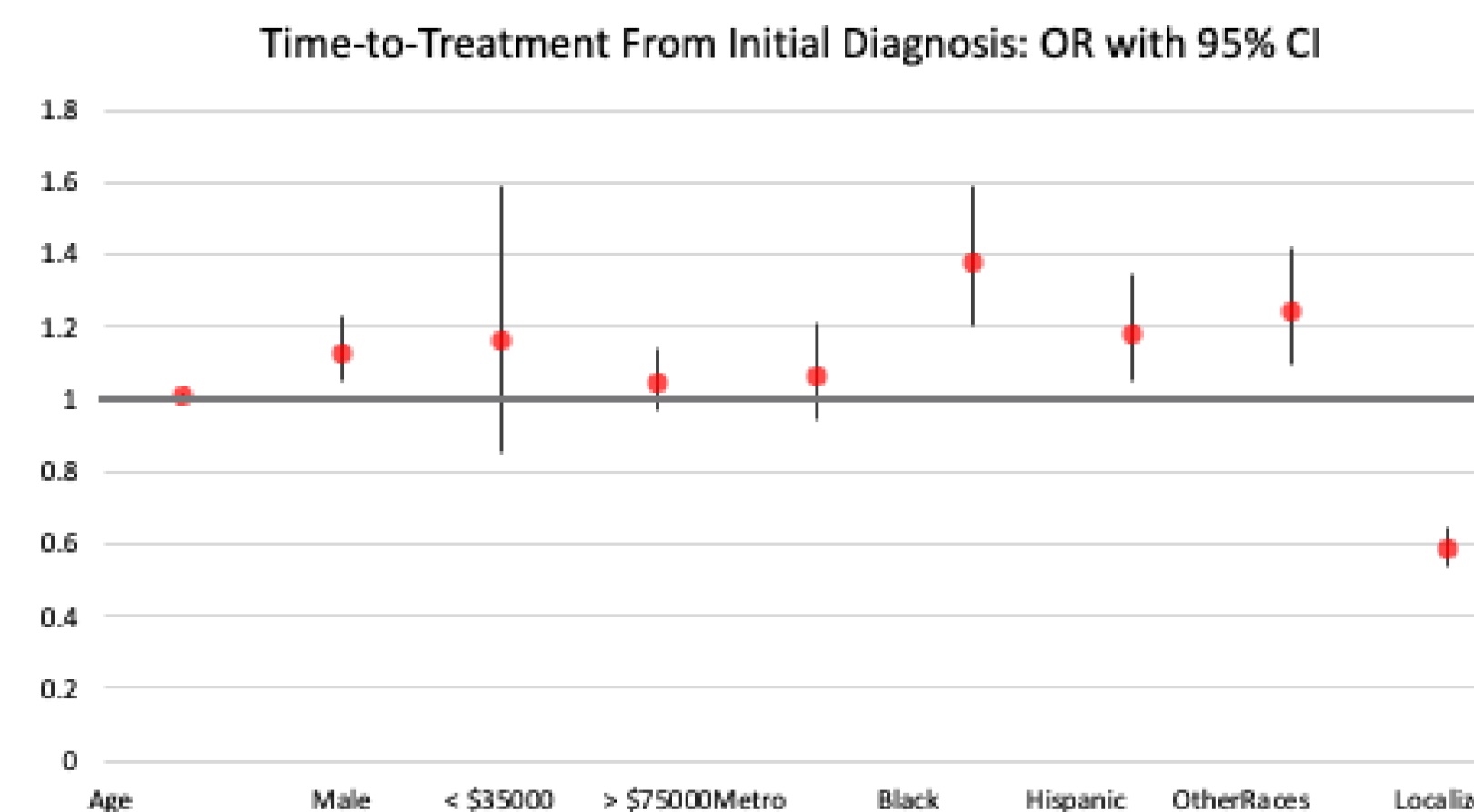
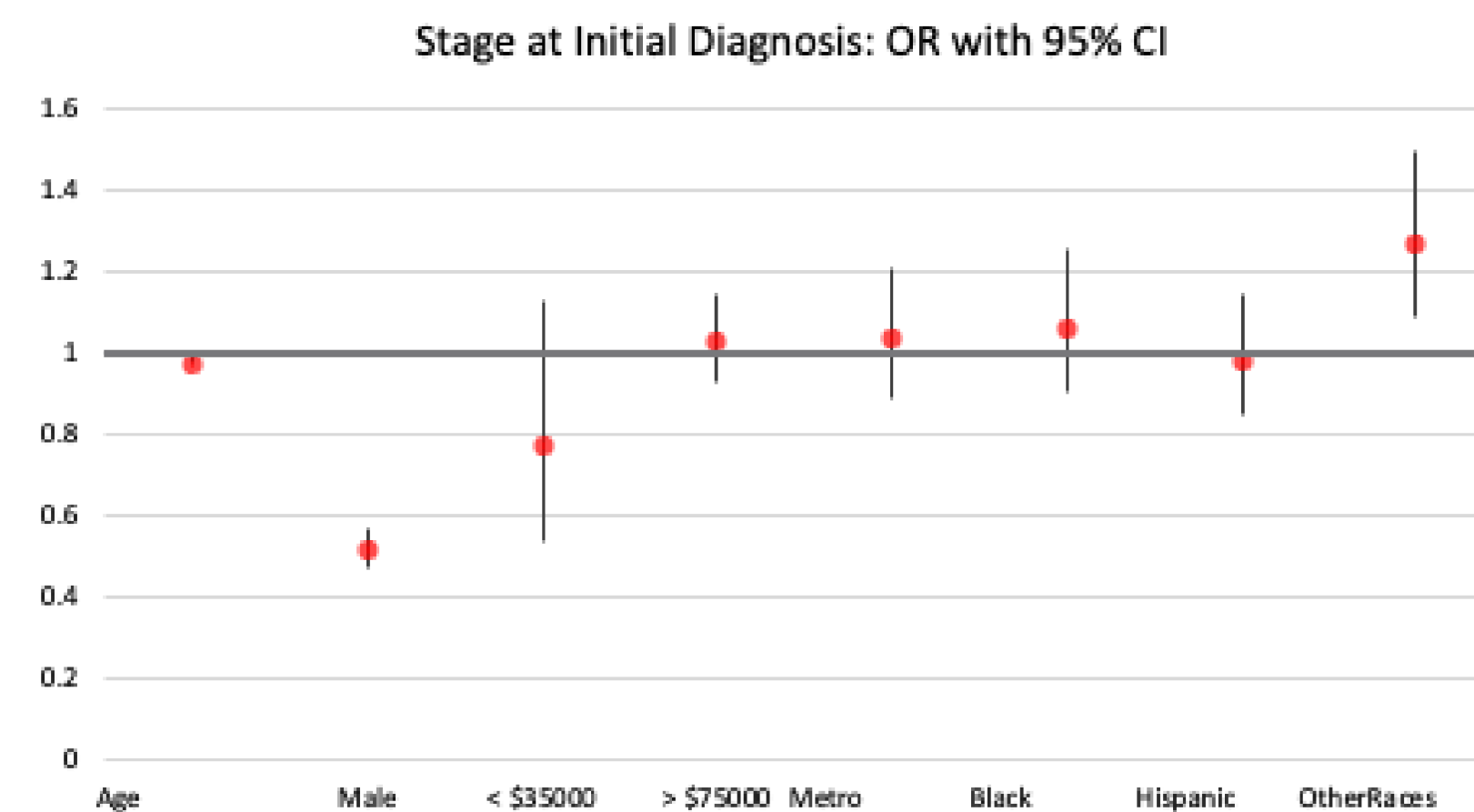
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Survival

- Univariate Kaplan-Meier
- Multivariate Cox Proportional Hazards regression

RESULTS

10,283 patients were eligible for analysis, with 88.33% living in metropolitan areas. Patients living in rural areas were no more likely to have advanced tumor stage at presentation (Odds Ratio: 1.038, $p=0.631$, CI: [0.891, 1.209]) or longer time-to-treatment 6.80% ($p=0.318$, CI: [-6.12%, 21.53%]). CPH regression demonstrated no significant difference in survival in metropolitan areas, with a hazard ratio of 0.91 ($p=0.22$, CI: [0.71, 1.04]).



CONCLUSION

In our study there were no significant differences in tumor stage, time to treatment and survival rates between metropolitan and rural patients with salivary gland cancer. This is noteworthy as these findings contrast with previous research on lung and breast cancer, which have shown that patients in rural areas tend to have more advanced stages of the disease, longer time to treatment, and worse prognosis.

FUTURE DIRECTIONS

- Comparison between the effect of rurality on salivary gland tumors versus other malignancies of the head and neck region.
- Isolating differences between other cancers known to have disparities in outcome from rurality.

CITATIONS & ACKNOWLEDGEMENTS

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