Ashes to Ashes: Smoking's Impact on Thyroid Cancer

Warren Chun, BS[1]; Jan Bian, MD[1]; Pawan Acharya[2];
Matthew Krutz, MD[1]; Lurdes Queimado, MD, PhD[1]

[1]*University of Oklahoma College of Medicine, Department of Otolaryngology-Head and Neck Surgery*
[2]*University of Oklahoma Health Sciences Center; Hudson College of Public Health*

INTRODUCTION

- Thyroid cancer has become increasingly prevalent worldwide, with a notable surge in incidence witnessed in recent decades, including high-income countries like the United States where thousands of new cases are diagnosed annually.
- Thyroid cancer etiology is multifactorial, with certain factors such as race, radiation exposure, and gender implicated in its risk.
- Recent studies exploring the relationship between smoking and thyroid cancer have suggested a potential protective effect on incidence.
- Uncertainties persist regarding the precise role of smoking in thyroid cancer development and progression.
- Our investigation aims to better understand the relationship between cigarette smoking and recurrent PTC to see if a similar relationship exists.

HYPOTHESIS

Smoking may prevent initial onset but not recurrence of papillary thyroid cancer after treatment

METHODS

- Retrospective chart review at OU Medical Center (2012-2023) for PTC patients
- Exclusion criteria: prior cancer diagnosis, incomplete records
- 135 patients met inclusion criteria
- Patients stratified by smoking status: Never Smokers, Previous Smokers, Current Smokers
- Primary outcomes: recurrence rates, overall survival
- Analytical methods: Fisher's exact test, Kaplan Meier survival analysis

RESULTS

- Of the 135 patients, 67% were never smokers, 19% were previous smokers, and 14% were current smokers
- 10 never smokers recurred, 5 previous smokers recurred, and 2 current smokers recurred (p>0.05)
- No significant differences in overall survival or recurrence-free survival among groups (p>0.05)
- No significant difference in recurrence rates for patients quitting smoking at time of therapy initiation
- Alcohol use significantly varied based on smoking status (p<0.001)

FIGURES

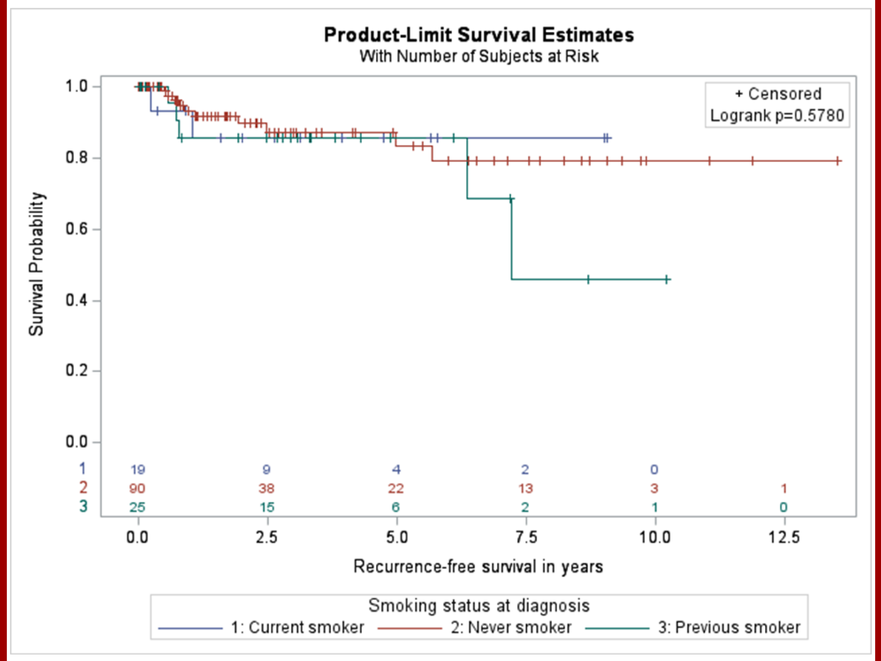

Figure 1. Recurrence-Free Survival, Kaplan Meier Survival Curve

FIGURES cont.

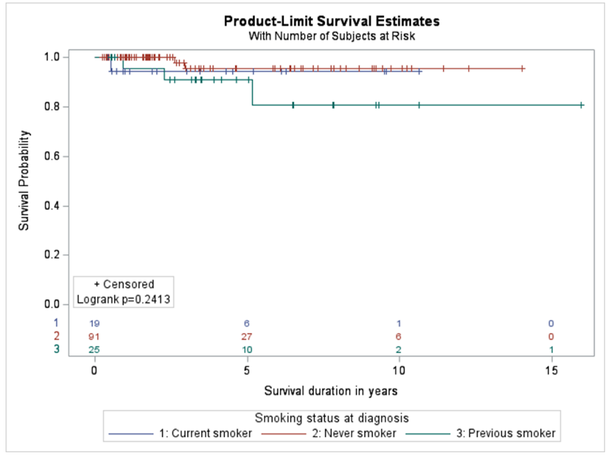

Figure 2. Overall Survival, Kaplan Meier Survival Curve

DISCUSSION

- No significant association found between cigarette smoking and PTC recurrence
- No significant difference observed in sex, treatment group, or vital status in PTC recurrence
- Larger sample size needed for short-term recurrence analysis
- Further investigation warranted into the impact of alcohol use

CONCLUSIONS

Our study highlights the complexity of smoking habits and cancer outcomes, emphasizing the need for further investigation into the factors influencing disease progression