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Racial and Gender Disparities in Neuroendocrine Tumors – A Retrospective Study Using a Single Institutional Database

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BACKGROUND

Neuroendocrine tumors (NETs) have increased in incidence over the past several years and occur more frequently in black Americans for unknown reasons. There are notable survival differences in NETs among racial, ethnic, gender, and socioeconomic groups which may reflect the effect of socioeconomic status on healthcare delivery broadly.

METHODS

Patients diagnosed with any stage NET (ICD-0-3/WHO 2008 histology recode: "8150-8157;8240-8249) of any primary site were identified from 2009 to 2017 using a tumor registry of an NCI-designated Comprehensive Cancer Center. The baseline patient characteristics were examined, and overall survival (OS) was estimated using the Kaplan-Meier method and Cox proportional hazards model with an index date of tumor diagnosis until death. A chi square test of independence was performed to examine the relationship between race and primary site of NET.

RESULTS

784 patients were identified, including 641 white patients and 143 black patients. There was a significant difference in distribution of primary site by race as determined by chi square analysis. Black patients were significantly more likely to have a rectal primary compared to white patients, and less likely to have a pancreatic or lung primary, X2 (41.73, N=784) = 41.17, p= <.001. In Cox regression analysis of a subset of 294 patients with lung, pancreatic, small intestinal, or colorectal primary, female gender was associated with longer OS (HR 0.5, 95CI: 0.3-0.8). Pancreatic primary was associated with longer OS compared to small intestine or lung primary (HR: 2, 95CI 1-5).

CONCLUSIONS

In this single institution cohort, black patients had a different distribution of primary site compared to white patients. Female gender and pancreatic primary site were associated with longer OS. Future research should examine for an association between area deprivation index, genomic mutations, or clinical treatment history with survival to further define the reason for survival differences between racial and gender groups.

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