Lung Cancer Histology, Stage, Treatment, and Survival in American Indians and Alaska Natives and Whites

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2010.

Abstract

BACKGROUND: Studies of lung cancer disparities between American Indians and Alaska Natives (AIANs) and whites have yielded mixed results. To the authors' knowledge, no studies to date have investigated whether race-based differences in histology could explain survival disparities.

METHODS: Data were obtained on AIANs and whites with lung cancer from the 17 population-based cancer registries participating in the Surveillance, Epidemiology, and End Results (SEER) program from 1973 to 2006. Logistic regression was used to determine whether race and other covariates were associated with histology, stage at diagnosis, and receipt of surgery. Cox regression was used to determine the risk of death associated with race, after adjusting for histology, stage, and other covariates.

RESULTS: Histology, but not race, was found to be associated with stage at diagnosis, and both race and stage were found to be associated with histology. AIANs were less likely to receive surgery than whites, after adjusting for patient and tumor characteristics. Survival improved for both AIANs and whites after 2000, compared with the 1973 through 1999 period, but survival was consistently shorter for AIANs. The association between AIAN race and decreased survival was strongest in the later time period.

CONCLUSIONS: Lung cancer histology appears to be associated with tumor characteristics, treatment, and survival. AIAN race is associated with tumor histology, receipt of surgery, and survival. In the future, studies with access to smoking data, patient comorbidity information, and health systems-level data will be able to identify factors responsible for the disparities observed in these analyses.