

Racial and Sex Differences in Presentation and Outcomes of Small Cell Lung Cancer in the United States: 1973 to 2010

To the Editor:

Studies regarding sex and racial differences in small cell lung cancer (SCLC) are limited. We aimed to determine the differences between presentation and outcomes in SCLC between male and female patients among black and white populations using the Surveillance, Epidemiology, and End Results (SEER) data registry 18 from the National Cancer Institute.

A total of 94,7463 patients with lung cancer were identified between 1973 and 2010 (Tables 1, 2). The proportion of SCLC to total lung cancers decreased over the years along with the sex gap; the ratio of men to women decreased from 2.69:1 in 1973 to 1:1 in 2010. The findings were consistent between both black and white patients. The incidence of SCLC compared with all lung cancer was consistently higher in whites compared with the black population. There were no differences in the stage at presentation between blacks and whites (24.17% vs 23.1% presented in limited stage and 53.68% vs 52.55% presented in extensive stage, respectively; $P = .343$). Women presented with limited-stage disease more often than men (26.28% vs 20.75%, respectively; $P \leq .0001$); this difference was consistent in white (26.22% vs 20.4%, $P < .0001$) as well as black subgroups (26.79% vs 22.15%, $P = .0184$). Blacks presented at a younger age compared with whites. Some 48.45% of blacks presented with SCLC before the age of 65 years compared with 39.49% of whites. There were no differences in the age of presentation between sexes in either blacks or whites. Although there were no differences in mortality between races, survival analysis showed that women had a better

TABLE 1 Sex and Race of Patients With SCLC in SEER Registry 1973-2010

SCLC	White	Black	Percentage
Male	61,316	5,882	54.4
Female	52,946	4,512	45.6

SCLC = small cell lung cancer; SEER = Surveillance, Epidemiology, and End Results.

TABLE 2 Race of Patients With SCLC and NSCLC in SEER Registry 1973-2010

Lung Cancer	White	Black	Total
SCLC	113,937	10,349	124,286
NSCLC	675,609	88,702	764,311

NSCLC = non-small cell lung cancer. See Table 1 legend for expansion of other abbreviations.

cancer-specific survival than men (Kaplan-Meier curves) (Fig 1). This finding was consistent in both whites and blacks ($P \leq .0001$).

Our analysis of the SEER database for the years 1973 to 2010 suggests that the incidence of SCLC has been decreasing over the years in both black and white populations, but the incidence of SCLC in women is increasing compared with men. We speculate that these results could be due to changes in smoking habits over time. The percentage of smokers has decreased over the years,¹ but the prevalence of female smokers has been increasing.² There were no significant differences in mortality between races, but when comparing sex, women have a better survival, which could be explained partially by being presented at an earlier stage compared with men.³ Other studies have shown that female sex is a favorable prognostic factor independent of age, performance status, stage, and presence of metastases.^{4,5}

SCLC remains a disease with poor prognosis and high mortality. Further studies on epidemiology of SCLC may help understand pathogenesis and eventually lead to improved survival.

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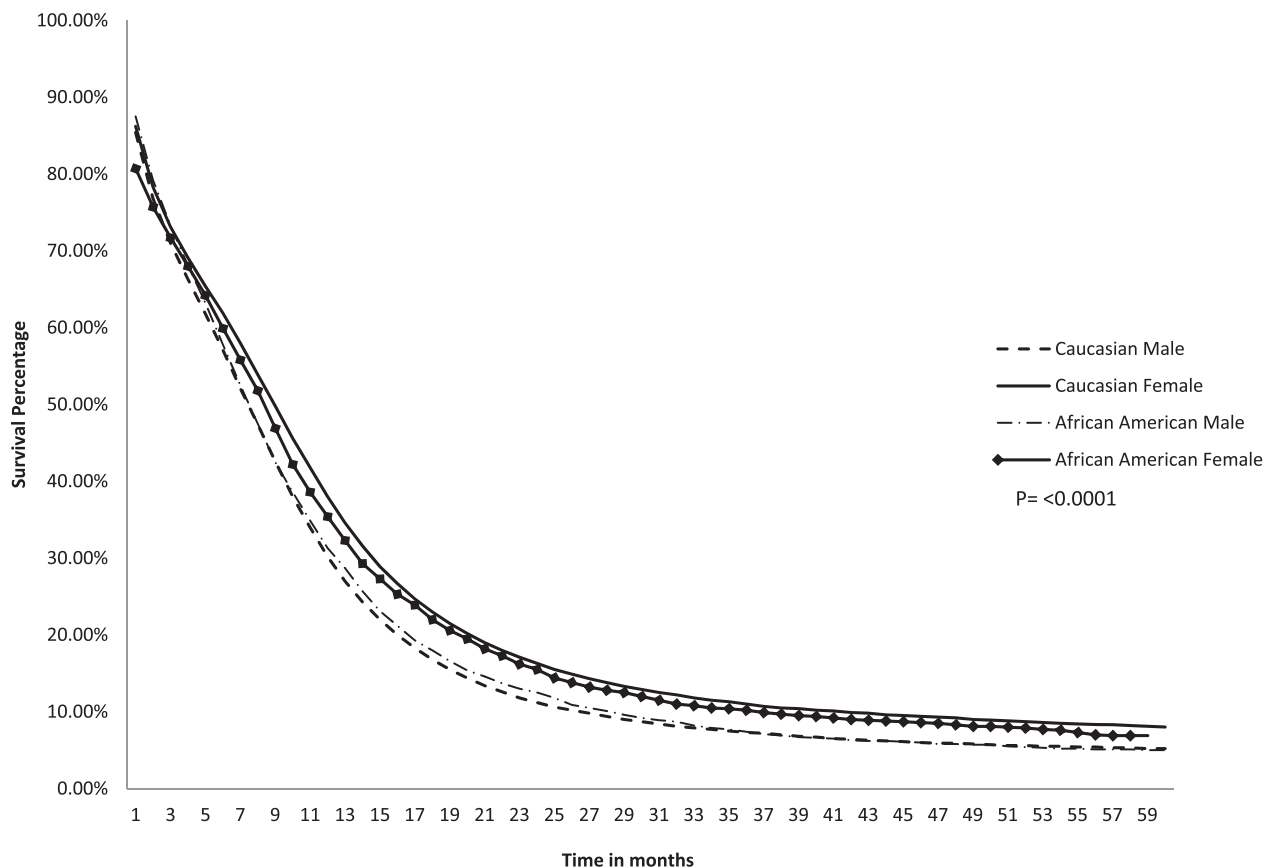


Figure 1 – Kaplan-Meier survival curves of racial and sex differences in small cell lung cancer in the Surveillance, Epidemiology, and End Results (SEER) Registry: 1973 to 2010.

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