

Early-stage breast cancer treatment disparities in the Midsouth

Ambria S Moten, MD, MS¹; Payton Grande, BS²; Ashley Hendrix, MD¹; Martin D Fleming, MD¹

¹Department of Surgery, The University of Tennessee Health Science Center, Memphis, TN

² The University of Tennessee Health Science Center College of Medicine, Memphis, TN

Background: Racial treatment and survival differences among patients with breast cancer in the Midsouth region of the US have been previously described. The goal of this study was to determine if such disparities have improved in recent years.

Methods: Data regarding patients with stage I or II breast cancer diagnosed between 2013 and 2020 were obtained from the tumor registry of a large healthcare system in the Midsouth. Descriptive statistics were calculated, and regression analyses performed to determine how patient race was associated with the likelihood of receiving treatment and survival.

Results: Among 4,605 patients, the median age was 61 years, 61.2% were White and 38.8% were Black. Black patients were 34% less likely to undergo surgery (OR = 0.66; 95% CI: 0.49 – 0.89) and 34% less likely to receive hormone therapy (OR = 0.66; 95% CI: 0.58 – 0.76) compared to White patients. However, Black patients were 20% more likely to receive radiation (OR = 1.20; 1.06 – 1.36). Black patients were also more likely to receive chemotherapy (OR = 1.38; 95% CI: 1.18 – 1.61), and this association persisted among the subset of patients who were Her2 negative (OR = 1.38; 95% CI: 1.01 – 1.88) and the subset who were ER positive (OR = 1.35; 95% CI: 1.01 – 1.81). Black patients had a 29% increased risk of all-cause mortality compared to White patients (HR = 1.29; 95% CI: 1.06 – 1.58). Undergoing surgery was associated with a lower risk of death among both White (HR = 0.38; 95% CI: 0.21 – 0.67) and Black (HR = 0.28; 95% CI: 0.16 – 0.49) patients, as was receipt of hormone therapy among both White (HR = 0.70; 95% CI: 0.52 – 0.94) and Black (HR = 0.46; 95% CI: 0.32 – 0.65) patients. Receipt of radiation was associated with a lower risk of death among White patients (HR = 0.58; 95% CI: 0.41 – 0.81), but this association was not quite significant among Black patients (HR = 0.69; 95% CI: 0.47 – 1.01). Chemotherapy was associated with poorer survival among White patients (HR = 1.81; 95% CI: 1.30 – 2.54), while receipt of chemotherapy was not significantly associated with mortality among Black patients (HR = 1.24; 95% CI: 0.81 – 1.89).

Conclusion: In the Midsouth, Black patients with early-stage breast cancer received radiation and chemotherapy at a greater rate than their White counterparts, however this was not associated with improved survival. On the other hand, although surgery and receipt of hormone therapy were associated with improved survival, Black patients had lower rates of surgical intervention and use of hormone therapy. There is still much work to be done to provide treatments that optimize survival among this patient population.