Improving Racial and Ethnic Disparities in Ambulatory Surgical Center Utilization for Anterior Cervical Discectomy and Fusion

Troy B Amen, Abhinaba Chatterjee[1], Sheeraz Qureshi[2]
[1]Weill Cornell Medicine, [2]Minimally Invasive Spine Surgery

INTRODUCTION: Racial and ethnic disparities within the field of spine surgery have been thoroughly documented. To date, it remains unknown how these disparities have evolved in the outpatient setting alongside the rapid emergence of ambulatory surgical centers (ASCs) and whether restrictive patterns of access to these free-standing centers exist by race and ethnicity. The purposes of this study were to 1) assess overall disparities in utilization of ASCs for spine surgery between white, Black, and Hispanic patients from 2015-2018 and 2) assess how these racial differences in ASC utilization have evolved over time.

METHODS: We conducted a retrospective review from 2015-2018 using the Healthcare Cost and Utilization Project (HCUP) New York State Ambulatory Database. Differences in ASC utilization of same-day discharge anterior cervical discectomy and fusion (ACDF) were assessed and trended over time by race and ethnicity. Poisson regression was used to evaluate the association between utilization rates for ACDF and race/ethnicity after adjustment for age, insurance, socioeconomic status, and Elixhauser comorbidity score. Additionally, year of discharge was included in the regression models to assess temporal trends. New York state population estimates obtained from the US census were included as offset values in the regression models.

RESULTS:

During the study period, Black and Hispanic patients were significantly less likely to undergo ACDF surgery at an ASC when compared to white patients ($p < 0.001$ for ACDF). However, from 2015 to 2018, an improving disparity was found in ASC utilization for ACDF among both Black and Hispanic patients (e.g. white vs. Black OP-ACDF rate per million person-years: 143.0 vs. 40.8 in 2015 compared with 184.3 vs. 97.9 in 2018, $p_{trend} < 0.001$). In adjusted Poisson regression models, there was a statistically significant interaction between year of discharge and non-white race/ethnicity (rate ratio, 1.18; 95% confidence interval, 1.22 – 1.14).

DISCUSSION AND CONCLUSION: In this study we found evidence of improving racial disparities in the relative utilization of ASCs for spine surgery between white, Black, and Hispanic patients. To our knowledge, this is the first study in orthopaedic surgery, and more specifically spine surgery, to assess racial and ethnic disparities in ASC utilization. These improving disparities in access to high volume same day surgery centers are encouraging and may help counteract previously documented disparities in spine surgery utilization within the inpatient setting. Additional research is needed to better understand some of the forces and policies which may have shaped and improved these disparities over time to inform and address continued disparities within the inpatient setting.