The Impact of Socioeconomic Status on the Timing of Stereotactic Radiosurgery After a Diagnosis of Brain Metastases

Socioeconomic status (SES) is known to affect the survival of cancer patients, likely due to differences in management and unequal levels of care3. When treating brain metastases, minimizing the time between diagnosis and stereotactic radiosurgery (SRS) is important since tumor growth can influence patient outcomes2. One study reported no difference in clinical outcomes for patients of different SES treated with SRS for brain metastases, however, it did not investigate the time interval from brain met diagnosis (BMDx) to SRS1. This single-institution review analyzes the relationship between the SES of cancer patients with brain metastases and the time between BMDx and SRS. Data on race/ethnicity, insurance status, marital status, BMDx, and SRS was collected using Epic@UNC. Patients were excluded if they received whole brain radiotherapy, systemic therapy, or resection prior to SRS. A chi-square test comparing intervals of $\leq 1$ and $>1$ month was conducted. Among 100 cancer patients with brain metastasis treated with SRS, 62% received treatment within one month. The median time in months from BMDx to SRS was 0.9 for White, 0.75 for Black, 1.1 for Hispanic and 0.7 for other/unknown races/ethnicities ($p = 0.32$). Patients who identified their relationship status as single had median interval in months of 0.6, married 0.9, divorced 0.9, and widowed 0.8 ($p=0.31$). Patients with Medicare/Medicaid insurance had median interval of 0.9 months and privately insured and uninsured patients 0.8 months to SRS ($p=0.56$). There was no statistically significant difference between the SES factors studied on the time from BMDx to SRS.