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Racial, ethnic, and socioeconomic disparities in patient outcomes after craniotomy for tumor in adult patients in the United States, 1988-2004.

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OBJECTIVE: Racial disparities in American health care outcomes are well documented. We investigated racial disparities in hospital mortality and adverse discharge disposition after brain tumor craniotomies performed in the United States from 1988 to 2004. We explored potential explanations for the disparities. METHODS: The data source was the Nationwide Inpatient Sample. We used multivariate ordinal logistic regression corrected for clustering by hospital and adjusted for age, sex, primary payer for care, income in postal code of residence, geographic region, admission type and source, medical comorbidity, treatment year, hospital case volume, and disease-specific factors. Random-effects pooling was also used. RESULTS: A total of 99 665 craniotomies were studied. Hospital mortality and adverse discharge disposition (any discharge other than directly home) were more likely in black patients than others for all tumor types. Pooled odds ratios (ORs) and 95% confidence intervals (CIs) for blacks were: hospital craniotomy mortality (OR, 1.64; 95% CI, 1.32-2.03; $P < .001$), and adverse discharge disposition (OR, 1.43; 95% CI, 1.31-1.56; $P < .001$). Medicaid patients had higher mortality, while private-pay patients had lower mortality. Hospital annual case volume was lower for black and Hispanic patients and for those with Medicaid as the primary payer in pooled analyses, whereas patients with private insurance received care at higher-volume hospitals. Black patients generally presented with higher disease severity, including more emergency or urgent admissions (OR, 1.71; 95% CI, 1.54-1.89; $P < .001$); more hemiparesis and hemiplegia for primary tumors, meningiomas, and metastases ($P < .04$ for all); and more hydrocephalus for acoustic neuromas ($P = .1$). CONCLUSION: Black patients died more often or had an adverse discharge disposition after tumor craniotomies in the United States in the period studied (1988-2004). Blacks had more severe disease at presentation and were treated at lower-volume hospitals for surgery. Other socially defined patient groups also showed disparities in access and outcomes of care.

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