Epidemiology of Pineoblastoma in the United States, 2000-2017

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Pineoblastoma (PB) is a malignant brain tumor that originates in the pineal gland. Patients diagnosed with PB experience headaches, sleepiness, vomiting, and vision changes. This epidemiological study was performed to determine at-risk populations, treatment, and prognosis. Data on 1,178 patients with PB were acquired from the Central Brain Tumor Registry of the United States (CBTRUS) from 2000-2017. PB was defined by the International Classification of Diseases for Oncology (ICD-0-3) code 9362/3 and primary site code C75.3. Frequencies and age-adjusted incidence rates and rate ratios per 100,000 were calculated using SEER*Stat. Median survival and survival curves were generated using the NPCR survival database. PB occurred equally in females and males. The incidence rate of PB decreased as age at diagnosis increased with the highest incidence at 00-04 years (AAIR: 0.05, 95% CI: 0.043-0.058). There was a higher frequency in white patients (71%) compared to black patients (23%) although the incidence rate ratio was higher for black patients (AAIRR: 1.698, 95% CI: 1.473-1.954, p< .0001). The incidence rate ratio of black patients stratified by age was highest in pediatric patients 5-9 years (AAIRR: 3.5532, 95% CI: 2.4627- 5.1027, p< .0001). However, as age at diagnosis increased, the incidence rate ratio decreased. Survival was lower among patients who did not receive surgery (p=0.001), males (p=0.021), and lowest in children ages 0-4 (p<.0001). This study proposes the most current and comprehensive analysis to provide vital information for current clinicians, public health planners, and patients to improve diagnosis and patient care.

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