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Incidence and survival characteristics of pediatric ganglioglioma from 2004 to 2018, with focus on infratentorial sites

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Abstract

Background: Ganglioglioma (GG) is a slow-growing glioneuronal neoplasm, most frequently seen in the supratentorial location in older children and associated with epilepsy syndromes. GG is rare in the infratentorial location, hence we embarked upon analyzing the National Cancer Institute's (NCI) Survival, Epidemiology, and End Results (SEER) database to better evaluate GG outcomes by location in comparison to the broader pediatric low-grade glioma (pLGG) population.

Methods: Pediatric patients diagnosed with GG and pLGG from 2004 to 2018 were included in the study. Their demographic, clinical, and survival characteristics were analyzed using SEER*Stat.

Results: This study describes the largest cohort of pediatric GG, including 852 cases from year 2004 to 2018, with focus on infratentorial sites. Patients with brainstem GG or those with subtotally resected disease were identified as having higher risk of death.

Conclusions: Our analysis highlights brainstem GG as a high-risk, poor-prognostic subgroup and elaborates on the incidence and survival characteristic of this lesser-known subgroup.

Keywords: SEER; ganglioglioma; glioma; infratentorial; pediatric.