

Ventricular high grade glioma

Aggressiveness of surgical resection for periventricular/ventricular high-grade gliomas(HGGs) is determined by operative risks and assumed effectiveness of radiation therapy(RT) on residual tumor. We aim to clarify the impact of surgery and postoperative RT on patient survival in a population-based study.

METHODS: This is a population-based study utilizing the SEER database. Patients with ventricular malignant tumor were screened for HGGs. In accordance with the WHO 2016 classification, we included cases with "Diffuse astrocytic and oligodendroglial tumors", "Other astrocytic tumors", "Ependymal tumors", and "Other gliomas". Tumor grading follows definitions established by WHO with supplementation from SEER classifications. Only grades III/IV were included. Individual factors were assessed by hazard ratio(HR) from multivariable survival analysis using Accelerated Failure Time(AFT) regression.

RESULTS: We included 353 patients after application of inclusion and exclusion criteria. The average age of all patients is 38.77 ± 24.95 years, with 61.5% male. Overall median survival is 12 months, with notable improvement over the last 3 decades. In multivariate AFT model, older age(per 10-year increase, HR:1.19, $p < 0.001$) was the only non-treatment variable to be found to predict survival, whereas postoperative RT pose significant survival benefit (HR:0.50, $p < 0.001$). None of the tumor characteristics(size, extent of invasion) predicted prognosis. Interestingly, neither partial resection nor TR/GTR were associated with improved outcome.

CONCLUSIONS: Prognosis of ventricular HGGs is poor, with worse prognosis in older patients. We found no evidence to support aggressive surgical resection. Postoperative chemo-radiation should be administered; however, whether modification of protocol for chemo-radiation specifically for ventricular HGGs remains unknown and warrants further investigation ¹⁾.

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Yang W, Xu T, Garzon-Muvdi T, Jiang C, Huang J, Chaichana KL. Survival of Ventricular and Periventricular High-Grade Gliomas (HGG): A Surveillance, Epidemiology, and End Results Program (SEER) Based Study. World Neurosurg. 2017 Dec 16. pii: S1878-8750(17)32168-X. doi: 10.1016/j.wneu.2017.12.052. [Epub ahead of print] PubMed PMID: 29258929.

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Last update: **2024/06/07 02:49**

