Intracranial ganglioglioma case series

2020

The Surveillance, Epidemiology, and End Results (SEER) database was used to investigate the potential clinicopathological factors of low-grade GGs in adult patients (age ≥18 years). Kaplan-Meier method and Cox regression model were utilized to evaluate the associations between variables and overall survival (OS).

Results: A total of 703 adult patients diagnosed with low-grade GGs were identified between 2004 and 2016, with a median follow-up period of 60.0 months. The median age at diagnosis was 32.0 years, with 50.1% of patients being male, 84.2% white people, and 40.2% of married status. The predominant tumor site was located in temporal lobe (38.8%). The median OS time for the whole cohort was not reached. The 5- and 10-year OS rates for patients underwent gross total resection (GTR) were 92.5% and 87.2%, respectively. Univariate and multivariate analysis showed age, gender, tumor site, and treatment pattern were significant factors for OS. The employment of adjuvant radiotherapy (RT) and/or chemotherapy would significantly shorten OS time.

This is the largest retrospective study of adult low-grade GGs up to date. Younger age, female gender, temporal lobe location, and GTR indicated better survival. Adjuvant RT and/or chemotherapy should not be considered after whatever surgery in adult patients with low-grade GGs, unless the malignant transformation has been confirmed [1)]

2016

27 patients with drug resistant epilepsy and brain tumor, aged up to 19 years at the time of surgery, were studied between 1996 and 2013 and followed up for at least one year. The mean interval between the onset of seizures and the diagnosis of the tumor was 3.6 years, and from diagnosis to the surgery, 18 months. The location of the tumor was in the temporal lobe in 16, with ganglioglioma and dysembryoplastic neuroepithelial tumors being the most frequent. Among the patients, 92.5% and 90.4% were seizure-free in the first and fifth year after surgery, respectively. Twelve of 16 children were successful in becoming drug-free, with complete withdrawal by 3.2 years. Surgery proved to be potentially curative and safe in these cases, suggesting that the tumor diagnosis and surgery cannot be postponed [2)].

Thirty-seven children were identified, with a median age at presentation of 8.2 years and median follow-up of 38.0 months. Eighteen tumors (48.6%) were typical and 19 (51.4%) were atypical. All typical lesions presented with seizures, whereas no atypical lesions did so. Sixteen (88.9%) typical lesions were located in the temporal lobe. In the atypical group, tumor location was variable, including 11 (57.9%) in the brainstem. Death during follow-up was statistically more common in the atypical group (31.6% vs 0%, $p = 0.02$). Gross-total resection (GTR) was achieved for 15 of 16 typical tumors (93.8%), compared with 3 atypical tumors (15.8%, $p < 0.0001$). Presentation with seizure or non-brainstem location were each associated with survival ($p = 0.02$ and 0.004, respectively). The presence of mutation in BRAF exon 15 did not differ between the 2 groups. Pediatric GG with typical

imaging features is associated with excellent rates of GTR and overall survival. Atypical GG is commonly encountered, less amenable to GTR, and associated with a worse outcome. This may relate to anatomical or biological characteristics and merits further investigation [3].

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348 children with low-grade GGs diagnosed from 2004 to 2010, with a median follow-up of 37 months. Tumors were more prevalent in males (n = 208, 59.8%) than females (n = 140, 40.2%) (P < .001). Almost 63% occurred in children >10 years, whereas only 3.5% were found in those <1 year old. Approximately 50% were located in the temporal lobes, and only 3.7% and 3.5% were located in the brainstem and spinal cord, respectively. Surgery was performed on 91.6% of cases, with gross total resection achieved in 68.3%. Radiation was used in 3.2%. Young age (<1 year) and brainstem location were associated with worse overall survival.

Low-grade GGs occur in older children with a male preference [4].

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3)
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4)
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