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Review of 20 years of adult medulloblastoma treatment: Chemotherapy prescription trends and survival

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Abstract

Background: The historic standard of care for adult medulloblastoma has been considered surgery and radiation, while chemotherapy is increasingly being prescribed. This study reviewed 20-year chemotherapy trends at a high-volume center, as well as overall and progression free-survival.

Methods: Adults with medulloblastoma treated at an academic center from January 1, 1999 to -December 31, 2020 were reviewed. Patient baseline data were summarized and Kaplan-Meier estimators were used for survival.

Results: Forty-nine patients were included; median age was 30 years and male: female ratio was 2:1. Desmoplastic and classical histologies were most common. Of all patients, 23 (47%) were high risk and 7 (14%) metastatic at diagnosis. Only 10 (20%) received initial chemotherapy, of which 70% were high risk and 30% metastatic, with most treated from 2010 to 2020. Forty percent of initial chemotherapy patients received salvage chemotherapy for recurrence or metastases (of all patients, 49% required salvage). Initial chemotherapy regimens were mainly cisplatin/lomustine/vincristine, and at recurrence cisplatin/etoposide. Median overall survival was 8.6 years (95% CI 7.5-∞), with 1-, 5-, and 10-year survival at 95.8%, 72%, and 46.7%. Median overall survival for those who did not receive initial chemotherapy was 12.4 years and 7.4 years for those who did (*P*-value .2).

Conclusions: Twenty years of adult medulloblastoma treatment was reviewed. Initial chemotherapy patients, most of whom were high risk, trended towards worse survival, but this was nonsignificant. The ideal timing and choice of chemotherapy for adult medulloblastoma is unknown-challenges of administering chemotherapy following photon craniospinal irradiation may have prevented it from becoming routine.

Keywords: adult; chemotherapy; medulloblastoma; radiation; retrospective cohort study.

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