## ABSTRACT

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The role of chemotherapy in the treatment of adult medulloblastoma.

Chen B(1), Chen C(2), Zhao Y(1), Cui W(3), Xu J(4).

Author information:

(1)Department of Neurosurgery, West China Hospital, Sichuan University, Chengdu, China; West China School of Medicine, Sichuan University, Chengdu, China.
(2)Department of Neurosurgery, West China Hospital, Sichuan University, Chengdu, China; State Key Laboratory of Biotherapy and Cancer Center, West China Hospital, Sichuan University, and Collaborative Innovation Center for Biotherapy, Chengdu, China.

(3)Department of Neurosurgery, West China Hospital, Sichuan University, Chengdu, China.

(4)Department of Neurosurgery, West China Hospital, Sichuan University, Chengdu, China. Electronic address: drjianguoxu@gmail.com.

BACKGROUND: The role of chemotherapy (CT) in the treatment of adult MB patients is unclear. The aim of this study is to compare the survival difference between adult MB patients treated with and without chemotherapy.

METHODS: Data were derived from the Surveillance Epidemiology and End Results (SEER) database from 2010 to 2018. Kaplan-Meier method with log-rank tests, univariate and multivariate Cox proportional hazard analyses, and propensity score matching (PSM) were used to investigate the association between chemotherapy and survival. We further conducted an exploratory subgroup analysis. The outcomes of interest were cancer-specific survival (CSS) and overall survival (OS).

RESULTS: We included 333 patients in this study, with 227 cases in the CT cohort and 106 in the non-chemotherapy (NCT) cohort. The median follow-up time and the median age of the study population were 61 months and 30 years, respectively. The 5-year CSS of the CT cohort was superior to the NCT cohort, while the 5-year OS was not. Kaplan-Meier curves after PSM supported the survival benefit of CT on CSS but not on OS. In the multivariate analysis after PSM, CT was the only prognostic factor for CSS, while there were no independent prognostic factors for OS. The survival of patients receiving CT who diagnosed between 2010 and 2018 was better than previous patients. The subgroup analysis revealed that there were interaction effects between CT and sex.

CONCLUSION: CT improved CSS for adult MB patients. With the therapeutic advances, adult MB patients might benefit from the use of CT.

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