

ABSTRACT

Clin Neurol Neurosurg. 2021 Dec;211:107015. doi: 10.1016/j.clineuro.2021.107015. Epub 2021 Nov 6.

Ventricle wall resection contributes to supramaximal resection and prognosis in SVZ-involved frontal gliomas: A single center retrospective study.

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BACKGROUND: Frontal glioma frequently invaded the subventricular zone (SVZ), which existed glioma stem cells and might be involved in the development of primary and recurrent gliomas. We attempted to identify whether ventricle wall resection contributed to the maximal extent of resection (EOR) and increased the patient's survival during frontal glioma resection.

METHODS: A total of 151 adult patients with primary SVZ-involved frontal gliomas were obtained between January 2012 and December 2018. We analyzed clinical data, EOR, complications and survival profiles between the ventricle wall group and the ventricle intact/opening group.

RESULTS: Applying ventricle wall removal had similar effect on the improvement of neurological function compared to applying ventricle intact/opening and did not increase the incidence of new neurological deficits, hydrocephalus, and ependymal dissemination in SVZ-involved frontal gliomas. A positive correlation was identified between EOR and the ventricle wall handling ($r = 0.487$, $P < 0.001$), which indicated that ventricle wall resection could contribute to achieve supramaximal resection. Applying supramaximal resection and ventricle wall resection could significantly prolong overall survival and progression free survival. Ventricle wall resection could be regarded as an independent prognostic indicator for both overall survival and progression free survival in patients with SVZ-involved frontal gliomas.

CONCLUSIONS: Ventricle wall resection in SVZ-involved frontal gliomas could contribute to achieve supramaximal resection and could significantly prolong

overall survival and progression free survival.

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DOI: 10.1016/j.clineuro.2021.107015
PMID: 34775256 [Indexed for MEDLINE]