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# Radiation therapy in paediatric gliomas: our institutional experience.

Sharma DN, Goyal SG, Muzumder S, Haresh KP, Bahl A, Julka PK, Rath GK.

Department of Radiation Oncology, All India Institute of Medical Science, New Delhi, India. sharmadn@hotmail.com

### Abstract

**BACKGROUND AND PURPOSE:** The aim of our retrospective study was to analyze the clinical outcome of paediatric glioma patients treated with radiation therapy (RT) in our institution. **MATERIAL AND METHODS:** We retrieved the case records of all children with gliomas (age < 18 years) who received RT in our department between 2004 and 2007. We analyzed the information regarding patients' demography, clinical details, treatment given, RT details, and survival. The event-free survival (EFS), the period from the date of completion of RT to the date of the event, i.e. death/recurrence, was calculated with respect to age, sex, location of tumour (brainstem vs. non-brainstem), histopathology (low grade vs. high grade), extent of surgical resection, dose and duration of RT, and use of chemotherapy. **RESULTS:** A total of 70 children with glioma received RT during the above-mentioned period. The 3-year EFS rate for all patients was 44% and the median EFS period was 18 months. The 3-year EFS in patients who underwent surgical decompression and no surgery was 58% and 25%, respectively ( $p < 0.05$ ). Patients with brainstem lesions had statistically significantly lower 3-year EFS to non-brainstem gliomas (28% vs. 56%,  $p < 0.01$ ). Chemotherapy use showed no statistically significant trend towards better survival. **CONCLUSIONS:** RT is an effective modality of treatment in paediatric glioma patients in our setup. Early use of RT in incompletely resected low-grade gliomas is worth revisiting. Results of chemotherapy in high-grade glioma and brainstem gliomas are encouraging.

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