Postoperative treatment of glioblastoma multiforme with radiation therapy plus concomitant and adjuvant temozolomide: A mono-institutional experience of 215 patients.

Julka PK, Sharma DN, Mallick S, Gandhi AK, Joshi N, Rath GK.
Department of Radiation Oncology, All India Institute of Medical Sciences, New Delhi, India.

Abstract

Objective: To study the clinical results and prognostic factors of patients with glioblastoma multiforme (GBM) treated by postoperative radiation therapy (PORT) and concomitant temozolomide followed by adjuvant temozolomide. Methods: From 2005 to 2008, 215 patients (median age 48 years) with GBM were treated with PORT plus temozolomide chemotherapy. Radiation therapy (RT) was employed with a dose of 60 Gy in 30 fractions over 6 weeks by conventional fractionation with concomitant temozolomide (75 mg/m²/day). Adjuvant therapy consisted of 6 cycles of temozolomide (150 mg/m² for 5 days, 28 days cycle). The primary end point of the study was overall survival (OS), and the secondary end points were progression free survival (PFS) and toxicity. OS was determined with respect to different variables to study the prognostic significance. Results: Median follow up was 11 months (range 2-50 months). Median OS and PFS were 13 months and 11 months respectively. The 1-year and 2-year OS was 44% and 18% respectively. There was no statistical significant impact of age, sex, KP score, anatomical location and extent of surgery. Presentation without seizures (on univariate analysis) and 6 cycles of adjuvant temozolomide therapy (on univariate as well as multivariate analysis) were found significant prognostic factors. Sixteen patients developed grade III-IV neutropenia/thrombocytopenia during the course of RT. Conclusion: Our results authenticate the role of concomitant and adjuvant temozolomide chemotherapy in combination with PORT for the management of GBM patients. We strongly recommend complete 6 cycle of adjuvant temozolomide since it significantly improved the survival in our study.

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