ABSTRACT

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Optimizing post-operative adjuvant therapy in elderly patients with newly-diagnosed glioblastoma: single-institution audit of clinical outcomes from a tertiary-care comprehensive cancer centre in India.

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INTRODUCTION: There is lack of consensus regarding optimal adjuvant therapy in elderly glioblastoma (GBM). We have been treating elderly (≥60 years) GBM patients with normofractionated or hypofractionated radiotherapy (RT) plus temozolomide (TMZ) based on Karnofsky performance status (KPS). Herein we report clinical outcomes in this cohort treated at our institute using this approach.

METHODS: Medical records of elderly GBM patients (≥60 years) treated between 2013 to 2017 with either normofractionated RT (59.4-60Gy/30-33 fractions/6-6.5 weeks) or hypofractionated RT (35Gy/10 fractions/2 weeks) plus TMZ were reviewed retrospectively. Outcomes of interest included progression-free survival (PFS), overall survival (OS), and ≥grade 3 myelotoxicity. Time-to-event outcomes were analyzed with Kaplan-Meier methods, compared using log-rank test, and reported as point estimates with 95% confidence interval (CI).

RESULTS: Normofractionated cohort (n=126) was characterized by higher proportion of patients with age <65 years, KPS ≥70, methylated O6-methylguanine DNA methyltransferase (MGMT), and receiving adjuvant TMZ including extended adjuvant TMZ (>6-cycles) compared to hypofractionated cohort (n=20) confirming selection bias At a median follow-up of 13 months, 1-year Kaplan-Meier estimates of PFS and OS were 43% (95%CI: 36-52%) and 56% (95%CI: 48-64%) yielding median PFS and OS of 11.0 months and 13.1 months respectively. Higher KPS, methylated MGMT, normofractionated RT, and extended adjuvant TMZ emerged as favorable prognostic factors. TMZ was well tolerated with low risk of ≥grade 3 myelotoxicity.

CONCLUSIONS: Our single-institution clinical audit confirms poor survival in elderly GBM with suboptimal performance status; but demonstrates acceptably fair outcomes in patients with preserved KPS comparable to the non-elderly cohort.

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