Delay in starting radiotherapy due to neoadjuvant therapy does not worsen survival in unresected glioblastoma patients.


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PURPOSE: We retrospectively examined the potential effect on overall survival (OS) of delaying radiotherapy to administer neoadjuvant therapy in unresected glioblastoma patients.

PATIENTS AND METHODS: We compared OS in 119 patients receiving neoadjuvant therapy followed by standard treatment (NA group) and 96 patients receiving standard treatment without neoadjuvant therapy (NoNA group). The MaxStat package of R identified the optimal cut-off point for waiting time to radiotherapy.

RESULTS: OS was similar in the NA and NoNA groups. Median waiting time to radiotherapy after surgery was 13 weeks for the NA group and 4.2 weeks for the NoNA group. The longest OS was attained by patients who started radiotherapy after 12 weeks and the shortest by patients who started radiotherapy within 4 weeks (12.3 vs 6.6 months) (P = 0.05). OS was 6.6 months for patients who started radiotherapy before the optimal cutoff of 6.43 weeks and 19.1 months for those who started after this time (P = 0.005). Patients who completed radiotherapy had longer OS than those who did not, in all 215 patients and in the NA and NoNA groups (P = 0.000). In several multivariate analyses, completing radiotherapy was a universally favorable prognostic factor, while neoadjuvant therapy was never identified as a negative prognostic factor.

CONCLUSION: In our series of unresected patients receiving neoadjuvant treatment, in spite of the delay in starting radiotherapy, OS was not inferior to that of a similar group of patients with no delay in starting radiotherapy.

KEYWORDS: Glioblastoma; MGMT; Neoadjuvant; Neoadjuvant therapy; Overall survival; Prognosis; Radiotherapy delay; Unresected; Waiting time to radiotherapy

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