ABSTRACT

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Updates in the Management of Recurrent Glioblastoma Multiforme.

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BACKGROUND: Glioblastoma is the most aggressive and diffusely infiltrative primary brain tumor. Recurrence is almost universal even after all primary standard treatments. This article aims to review the literature and update the standard treatment strategies for patients with recurrent glioblastoma.

METHODS: A systematic search was performed with the phrase "recurrent glioblastoma and management" as a search term in PubMed central, Medline, and Embase databases to identify all the articles published on the subject till December 2020. The review included peer-reviewed original articles, clinical trials, review articles, and keywords in title and abstract.

RESULTS: Out of 513 articles searched, 73 were included in this review after screening for eligibility. On analyzing the data, most of the studies report a median overall survival (OS) of 5.9 to 11.4 months after re-surgery and 4.7 to 7.6 months without re-surgery. Re-irradiation with stereotactic radiosurgery (SRS) and fractionated stereotactic radiotherapy (FSRT) result in a median OS of 10.2 months (range: 7.0-12 months) and 9.8 months (ranged: 7.5-11.0 months), respectively. Radiation necrosis was found in 16.6% (range: 0-24.4%) after SRS. Chemotherapeutic agents like nitrosourea (carmustine), bevacizumab, and temozolomide (TMZ) rechallenge result in a median OS in the range of 5.1 to 7.5, 6.5 to 9.2, and 5.1-13.0 months and six months progression free survival (PFS-6) in the range of 13 to 17.5%, 25 to 42.6%, and 23 to 58.3%, respectively. Use of epithelial growth factor receptor (EGFR) inhibitors results in a median OS in the range of 2.0 to 3.0 months and PFS-6 in 13%.

CONCLUSION: Although recurrent glioblastoma remains a fatal disease with universal mortality, the literature suggests that a subset of patients may benefit from maximal treatment efforts.

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