Treatment of newly diagnosed malignant glioma in the elderly people: new trials that impact therapy.

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Abstract

Glioblastoma (GB), World Health Organization Grade 4 glioma, is the most common malignant primary brain tumour with an annual incidence of 12,943 cases in the United States. It is a tumour of the elderly people with a median age of onset of 64 years, although children and young adults are also affected. GB is associated with a poor prognosis; despite best treatment, most community-based patients will not survive 1 year. Cures are rare and overall survival rates at 2 and 5 years are 26-48% and 12%, respectively, in highly selected, contemporary, clinical trial eligible patients. For protocol eligible US patients, the median survival is 16-17 months, which is partly a reflection of improved supportive care, recognition of pseudoprogression, exclusion of patients undergoing biopsy only and availability of bevacizumab at recurrence. Initial treatment for patients with high performance [Karnofsky Performance Status (KPS) > 60 and age < 71 years) consists of maximal safe surgical resection followed by adjuvant focal, external beam radiotherapy (RT) with concurrent temozolomide (TMZ) chemotherapy and post-RT TMZ for 6 months. TMZ and carmustine (BCNU) biodegradable wafer (Gliadel) are the only adjuvant chemotherapies that have improved survival in randomised GB clinical trials. The current standard treatment is based upon a European Organization for Research and Treatment of Cancer (EORTC) and National Cancer Institute of Canada (NCIC) randomised, phase 3 trial of 573 patients with newly diagnosed GB (age 19-71 years and World Health Organization Performance Status ≤ 2) that compared RT alone [total dose 60 Gray (Gy)] to TMZ chemotherapy in combination with RT (total 60 Gy), followed by 6 months of post-RT TMZ (4,6,8).

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PMID: 24246204 [PubMed - in process]