Outcome in elderly patients undergoing definitive surgery and radiation therapy for supratentorial glioblastoma multiforme at a tertiary care institution

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Background
The treatment of elderly patients with glioblastoma is controversial. In light of the poor prognosis with aggressive treatment, many physicians advocate palliative measures which would serve to limit cost and possibly lessen the burden on the patient and his family of having to go thorough the rigors of aggressive treatment. Unfortunately, the benefit of treatment in this patient population is unknown largely because most studies of glioblastoma exclude patients over the age of seventy. For this reason, the report in the December 1, 1998 issue of International Journal of Radiation Oncology, Biology and Physics is much needed.

Methods
The authors retrospectively reviewed the charts of one hundred and two patients, all of whom were age greater than seventy and treated for glioblastoma between 1977 and 1996. Fifty-eight patients were treated with definitive radiation, defined as receiving a dose greater than 5500cGy. Nineteen patients received palliative radiation (lower doses). Patients were categorized by whether they received optimal treatment (gross total or subtotal resection and definitive post-operative radiation) or suboptimal treatment (surgery alone or surgery followed by palliative radiation). Thirty-nine patients who underwent optimal treatment and had a Karnofsky performance status of 70 or greater were considered to have a favorable prognosis.

Results
The median overall survival for the group as a whole was 5.3 months. Comparing patients who received definitive versus palliative radiation, the median survival was 7.3 verses 4.5 months favoring definitive radiation. Patients undergoing biopsy alone had the worst median survival of any sub-group, 1.2 months.

Optimally treated patients had a significantly longer median survival (7.4 moths) compared to 2.4 months for suboptimally treated patients. Similarly, the group of patients with a favorable prognosis survived significantly longer than those with poor prognosis.

In order to compare results of this report with randomized trials of younger patients; the authors analyzed survival according to the Radiation Therapy Oncology Group (RTOG) prognostic categories. RTOG group IV is defined by patient age greater than fifty, Karnofsky performance status greater than 70, able to work, and undergoing a resection. RTOG group VI is defined as patient age greater than 50 and performance status less than 70 or a higher performance status but treatment with biopsy and radiation dose less than 5400cGy. RTOG group V includes patient age greater than 50 who do not meet the criteria for group IV or VI.

The median survival for these three RTOG prognostic groups was significantly different: 9.2 months, 6.6 months and 3.1 months for groups IV, V and VI respectively. These results compare poorly to a study published by the RTOG in which median survival was 11.1 months, 8.9 months and 4.6 months for groups IV, V and VI respectively. However, the RTOG patients were all less than seventy years old.

Conclusions
Aggressive treatment of selected elderly patients with glioblastoma appears warranted given the improved survival following aggressive treatment. Patients age greater than seventy who should be considered for aggressive treatment include those with good performance status and no co-existing medical conditions. Treatment for elderly patients who are in poor medical condition must be individualized.
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