

CAT Prognostic Factors for GBM

Clinical Bottom Line(s):

1. Post-biopsy treatment modality was the strongest predictor for survival ($p \leq 0.001$); age ≤ 50 years also had significant influence on survival ($p \leq 0.05$).
2. Combined radio-/chemotherapy treatment yields the greatest median survival.

Citations(s): Fazeny-Dorner B, Wenzel C, Veitl M, Piribauer M, Rossler K, Dieckmann K, Ungersbock K, Marosi C. Survival and prognostic factors of patients with unresectable glioblastoma multiforme. *Anti-Cancer Drugs*. 2003; 14(4): 305-312.

Three/four part clinical question: What is expected survival of a 39 year old male undergoing radiotherapy for GBM in the parietal-temporal lobe?

The study: Retrospective analysis (n = 98) to assess survival and prognostic factors in patients with unresectable GBM after biopsy. Six factors were analyzed: treatment modality (no specific therapy, radiotherapy, radio-/chemotherapy), age, gender, Karnofsky performance score, tumor location, and tumor size. The study endpoint was survival until death (from any cause).

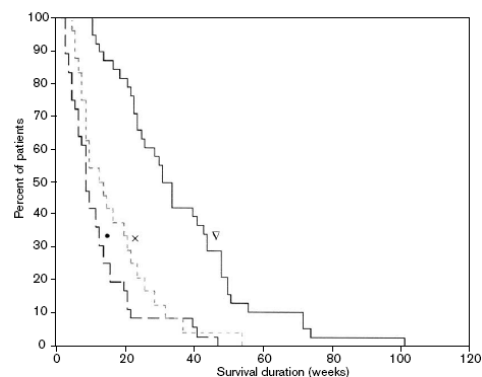
The study patients: Consecutive patients (64 years old, range 21-84 years old) with unresectable GBM diagnosed between 1993 and 1998 (see Table 1). Neurosurgical resection was contraindicated in all of the patients.

The evidence: Median survival time in all patients was 17 (range 3-101) weeks. Six-month survival was 37% and twelve-month survival was 12%.

Treatment	Time to Outcome
No specific therapy	9 (3-47) weeks
Radiotherapy	13 (5-54) weeks
Radio-/Chemotherapy	31 (11-101) weeks

Table 1 Characteristics of the three patient groups according to the year of diagnosis and treatment subsequent to stereotactic biopsy (BX)

	BX	BX + radiotherapy	BX + radiotherapy + chemotherapy
Year of diagnosis	1993-1995	1996	1997-1998
No. patients	36	24	38
Median age	65	61.5	61
Median KI	80	80	90
Tumor diameter [no. patients (%)]			
<5 cm	15 (42)	8 (33)	16 (42)
≥ 5 cm	21 (58)	16 (67)	22 (58)
Tumor location			
frontal	12	5	10
parieto-temporal	7	4	6
central	14	12	17
occipital	3	3	5
Tumor multiplicity (no. patients)	4	3	3



Survival of 98 patients with unresectable GBM according to the treatment modalities: (circle) survival of patients without any specific therapy (n=36), (cross) survival of patients receiving radiotherapy (n=24) and (triangle) survival of patients receiving combined RCT (n=38). $p < 0.001$.

Comments:

1. Glioblastoma multiforme is a neuroglia cell tumor of the central nervous system, especially of the cerebrum.
2. Among all patients with GBM, those with unresectable tumors have the worst prognosis.

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