

Outcomes of treatment of Glioblastoma multiforme :

A single institution experience from South India.

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Introduction

- Glioblastoma multiforme (GBM) is the most common primary tumor of brain in adults. Radiotherapy (RT) plus concomitant and adjuvant temozolomide, is the current standard of therapy, for newly diagnosed GBM.

Aim

- The aim of our study is to analyse the clinical results and prognostic factors of GBM patients treated by post operative RT and concomitant Temozolomide followed by adjuvant temozolomide in a tertiary care centre.

Methods

- 143 patients with GBM, treated in our institution from April 2006 to June 2015 were retrospectively evaluated.
- Primary endpoint was Overall survival(OS) and secondary endpoint was Progression free survival(PFS).
- OS was studied with respect to various variables including sex, ECOG score, extent of surgery, presentation with or without seizures, and number of adjuvant cycles of temozolomide (<6 versus 6).
- OS and PFS were determined by the Kaplan-Meier method and survival curves compared by the log rank test.

TYPE OF SURGERY	FREQUENCY	%
BIOPSY ONLY	22	15.4
PARTIAL RESECTION	93	65.0
COMPLETE RESECTION	28	19.6

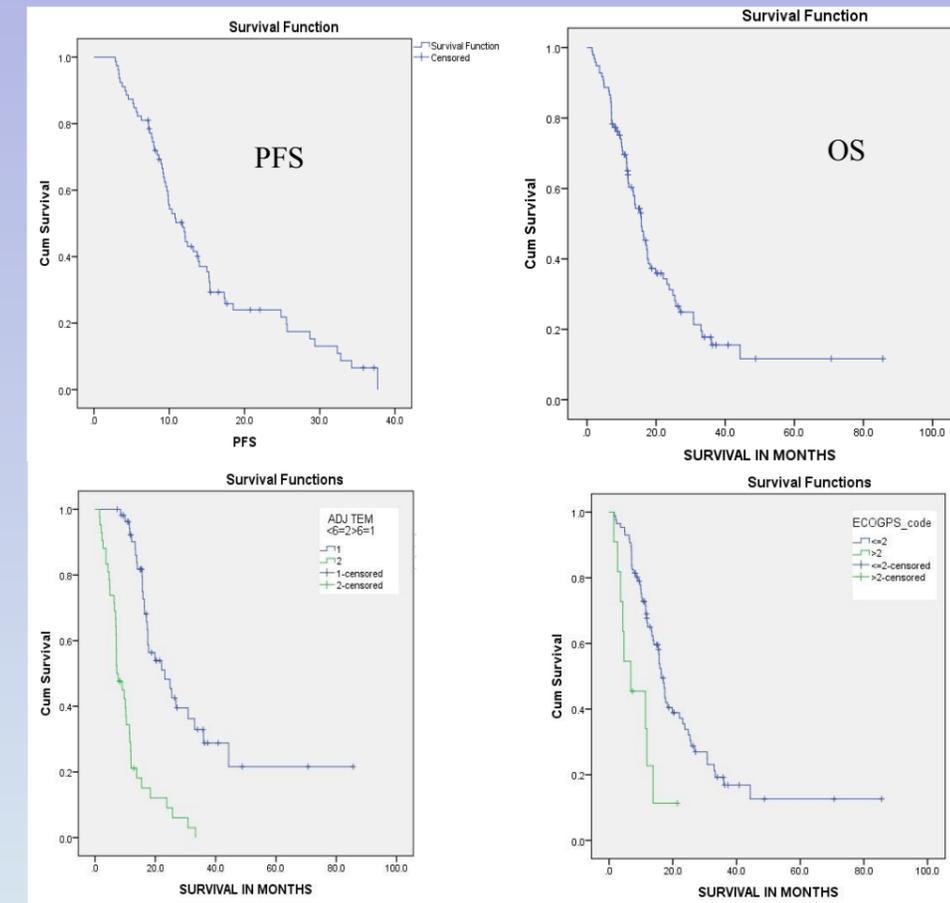
Results

- Median age at presentation was 52 years (range 18-77 years).36.4% were females.
- All patients received RT, 25 did not complete the prescribed 60 Gy either due to toxicity or disease progression.
- 88% received concomitant temozolomide, and 15(10.5%) completed less than 75% of the planned dose of temozolomide due to toxicity.
- Median OS was 13.8 months (95% CI 10.8 - 16.7). On univariate analysis, better survival outcome was seen with performance status ≤ 2 ($p=0.011$),gross total resection ($p<0.001$) and completion of 6 cycles of adjuvant temozolomide ($p<0.001$).
- Median PFS was 11.76 months (95% CI 9.5-14.0).
- The 1 and 2 year OS were 55.7% and 27.4% respectively.

Discussion

- In the landmark trial by Stupp et al , the median Overall survival was 14.6 months with radiotherapy plus temozolomide and 12.1 months with radiotherapy alone, while 2 year OS was 26.5 percent which is comparable to our results.

SURVIVAL IN MONTHS	OUR DATA	AIIMS, NEW DELHI, INDIA	KEM PAREL INDIA	KOREA	STUPP
OS	13.8	13	16.4	22.6	14.6
PFS	11.7	11	14.9	8.8	6.9



Conclusion

- Adherence to globally accepted guidelines for management of glioblastoma multiforme, gives similar results to that in literature.
- Good Performance status, lack of residual disease & completion of 6 cycles of adjuvant temozolomide are factors predicting a favourable outcome.

References

- Stupp R, Mason WP, van den Bent MJ et al. Radiotherapy plus concomitant and adjuvant temozolomide for glioblastoma. N Engl J Med 2005; 352:987–996.
- High-grade glioma: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. Annals of Oncology 25 (Supplement 3): iii93–iii101, 2014