Cureus

Open Access
Abstract

Cureus

Clinical review and treatment outcome in Glioblastoma : Saskatchewan experience

Rashmi Koul, Gopinath Narasimhan , Arbind Dubey , Patricia Tai

Corresponding author: Rashmi Koul

1. Radiation Oncology, CancerCare Manitoba, University of Manitoba 2. Epidemiology and Performance Measurement, Saskatchewan Cancer Agency 3. Radiation Oncology, Cancer Care Manitoba, University of Manitoba, Canada 4. Department of Radiation Oncology, Allan Blair Cancer Center, University of Saskatchewan

Categories: Radiation Oncology
Keywords: glioblastoma, temozolomide, radiotherapy

How to cite this abstract
Koul R, Narasimhan G, Dubey A, et al. (September 09, 2015) Clinical review and treatment outcome in Glioblastoma : Saskatchewan experience. Cureus 7(9): a18

Abstract

Introduction: Glioblastoma multiforme (GBM) accounts for up to 60% of all malignant primary brain tumors in adults, occurring in 2-3 cases per 100,000 in North America. In 2005 maximum safe surgical resection, followed by radiotherapy with concomitant temozolomide (TMZ), followed by adjuvant TMZ became the standard of care for glioblastoma (GBM). We adopted new standard of care in 2007 in the province of Saskatchewan.

Material and Methods: A historical cohort of 393 patients with pathologically proven GBM, who had been registered in the Province of Saskatchewan from 2000 to 2010, was examined. Survival analysis was performed using Kaplan-Meier curves and a log-rank test for comparing subgroups. The independent effect of factors that predicted survival at the bivariate level was determined using a Cox proportional hazard model.

Results: Median age at diagnosis in females was 67 years and males were 63 years. The median overall survival was 13.8 months (95% CI: 12.6, 15.1 months). Based on a literature review and after the univariate analysis, the following variables were included in the Cox's multivariable model: age at diagnosis, ECOG status (dichotomous variable created), type of surgery (complete vs. sub-total), whether chemotherapy and radiotherapy were done after surgery and KPS score. Patients who received chemotherapy had better median survival 18.1 months' vs 11.3 months. This however was not replicated in multivariate analysis. On multivariate analysis, independent predictors of survival included age and performance status. Patients younger than 50 years with good performance status did better than elderly population. For fit elderly patients > 70 years, 11.0 months median survival was achieved. Contrary to common belief in literature, patients with headache do not have a worse survival (Figure 4) and patients who presented with seizure survived better

Conclusion: This paper failed to demonstrates improved survival outcomes consistent with those published in the literature for the addition of concurrent and adjuvant TMZ to radical RT for the treatment of GBM. This can be explained as practice between 2000-2006 was adjuvant radiation post-surgery which confounded data. Age and performance status were strong

Open Access
Abstract
Published 09/09/2015

Copyright
© Copyright 2015
Koul et al. This is an open access article distributed under the terms of the Creative Commons Attribution License CC-BY 3.0., which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Distributed under
Creative Commons CC-BY 3.0

predictors of better outcome