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LETTER TO THE EDITOR

# Glioblastoma multiforme with very rapid growth and long-term survival in children

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Dear editor,

We read with great interest the article entitled "Glioblastoma multiforme with very rapid growth and long-term survival in children: report of two cases and review of literature" published in August 2011 issue of your journal. We agree with the authors that such long-term survival is possible, particularly in children; however, it is extremely rare. The senior author has an experience of a patient who was operated in 1975 at the age of 7 years, with a biopsy-proven glioblastoma multiforme (GBM), who was well for 16 years until 1991 before he was lost to follow-up. The author have also previously reported six patients of GBM having survival of more than 5 years, two of those were less than 18 years of age [1]. This accounted for 0.5% of all cases of GBM (1,296 cases) operated at our center from 1969 to 1999.

Recently, we analyzed our data of pediatric GBM operated at our center from 2002 to 2009. Seventy cases of pediatric GBMs (≤18 years), presented to our department, at a tertiary care neurosurgical center from January 2002 to December 2009. These cases were analyzed with respect to clinical presentation, location of the tumor, surgical intervention, perioperative complications, postoperative radiotherapy/chemotherapy, and outcome. Immunohistochemical staining was performed for p53 and MIB-1 labeling index. Fluorescence in situ hybridization analysis was performed on a representative sample to evaluate epidermal growth factor receptor (EGFR) amplification and phosphatase and tensin homolog (PTEN) deletion. Follow-up data were available for 44 patients out of 61 survivors (72%). The median follow-up was 10 months (range, 1–36 months). Eleven patients (11/70) were alive at 1-year follow-up period (16%), while only two patients (2/70) were alive at 2 years follow-up (3%). Out of these two survivors, one died at 28 months following surgery and other was alive until 36 months following surgery before he was lost to follow-up. The extent of surgical resection coupled with postoperative radiotherapy and chemotherapy seem to prolong survival. Our neuropathology colleagues performed molecular analysis of a subgroup of these patients and concluded that in pediatric primary GBMs, deletion of PTEN, and EGFR amplification were rare, while p53 alterations were more frequent as compared with primary adult GBMs [2].

The senior author along with the neuropathology colleagues at our center have also tried to analyze histopathological and molecular genetic factors contributing to long-term survival in GBM patients. A relatively young age of onset (48 years), with a high O6-methylguanine-DNA methyltransferase promoter methylation and PTEN homolog protein expression were favorable factors for long-term survival [3]. Similar results have been reported by Sonoda et al. [4]. It would have been very helpful if the author of the published article had performed detailed molecular genetic analysis of these two cases to either support or refute the available literature.

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