



A service of the [U.S. National Library of Medicine](#)  
and the [National Institutes of Health](#)

Select 19344222

---

1: [J Neurosurg](#). 2009 Apr 3. [Epub ahead of print]



## **Long-term seizure outcomes in adult patients undergoing primary resection of malignant brain astrocytomas.**

[Chaichana KL](#), [Parker SL](#), [Olivi A](#), [Quiñones-Hinojosa A](#).

Department of Neurosurgery, Johns Hopkins School of Medicine, and Neuro-Oncology Surgical Outcomes Research Laboratory, Baltimore, Maryland.

Object Seizures are a common presenting symptom and cause of morbidity for patients with malignant astrocytomas. The authors set out to determine preoperative seizure characteristics, effects of surgery on seizure control, and factors associated with prolonged seizure control in patients with malignant astrocytomas. Methods Cases involving adult patients who underwent primary resection of a hemispheric anaplastic astrocytoma (AA) or glioblastoma multiforme (GBM) at the Johns Hopkins Medical Institutions between 1996 and 2006 were retrospectively reviewed. Multivariate logistical regression analysis was used to identify associations with preoperative seizures, and multivariate proportional hazards regression analyses were used to identify associations with prolonged seizure control following resection. Results Of the 648 patients (505 with GBM, 143 with AA) in this series, 153 (24%) presented with seizures. The factors more commonly associated with preoperative seizures were AA pathology ( $p = 0.03$ ), temporal lobe involvement ( $p = 0.04$ ), and cortical location ( $p = 0.04$ ), while the factors less commonly associated with preoperative seizures were greater age ( $p = 0.03$ ) and larger tumor size ( $p \leq 0.001$ ). Among those patients with a history of seizures, outcome 12 months after surgery was Engel Class I (seizure free) in 77%, Class II (rare seizures) in 12%, Class III (meaningful improvement) in 6%, and Class IV (no improvement) in 5%. Postoperative seizures were rare in patients without a history of preoperative seizures. The factor positively associated with prolonged seizure control was increased Karnofsky Performance Scale score ( $p = 0.002$ ), while the factors negatively associated with seizure control were preoperative uncontrolled seizures ( $p = 0.03$ ) and parietal lobe involvement ( $p = 0.005$ ). Seizure recurrence in patients with postoperative seizure control was independently associated with tumor recurrence ( $p = 0.006$ ). Conclusions The identification and consideration of factors associated with prolonged seizure control may help guide treatment strategies aimed at improving the quality of life for patients with malignant astrocytomas.

PMID: 19344222 [PubMed - as supplied by publisher]

---