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## The Effect of Anesthetic Drugs During Craniotomy on Patient Outcomes

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**Submission title:** The Effect of Anesthetic Drugs During Craniotomy on Patient Outcomes

**Abstract (250 words or less):**

Glioblastoma remains an aggressive, highly malignant brain cancer with poor prognosis despite treatment options including surgery, radiotherapy, and chemotherapy. The objective of this retrospective chart review study was to evaluate if there is a correlation between the type and dose of anesthetic drugs administered during craniotomy surgery for glioblastoma and the time to first postoperative tumor progression and mortality. Based on preliminary data in mice, it was hypothesized that the use of propofol during surgery is associated with slower tumor progression and lower mortality, when compared with other anesthetic drugs. In the observed time frame, 133 patients were diagnosed with glioblastoma and underwent a total of 161 craniotomy surgeries (23 awake, 138 asleep) at Henry Ford Hospital. Propofol was utilized in 97.5% of these surgeries. Other anesthetics such as isoflurane (53.4%), dexmedetomidine (37.7%), sevoflurane (31.0%), desflurane (14.3%), and nitrous oxide (4.9%) were used less frequently. Data analysis regarding time to progression and mortality after use of each anesthetic remains in progress. This study will guide the administration of anesthetic drugs during surgery to treat glioblastoma, with potential to improve the poor prognosis for these patients.

**A list of keywords (10 maximum):**

craniotomy, anesthetic, anesthesiology, outcomes, mortality, propofol, isoflurane, glioblastoma