

## Extended Abstract

Life after seizures and  
neurosurgery

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## Abstract

A febrile seizure began the 30 year journey from captivity of seizures to freedom after neurosurgery: Left Anterior Temporal Lobectomy/ Left Hippocampus removal had to be considered for best end result. 80% of patients after surgery were seizure free one year post op and 90% showed marked improvement.([neuro.mcg.edu/episurg.htm](http://neuro.mcg.edu/episurg.htm)) It was suspected that he had been having petite mal seizures all along.

At age 14 and 16 years of age, he experienced seizure activity that put him into a coma for 3 days leaving him with some memory loss. By the time the subject was 32, medication was no longer effective, having approximately 800 seizures a year. It was determined at this time that surgery was his only option if he was to continue to live. Because of the extent of the surgery, it was thought it would leave him a nonfunctioning adult that he would be bound to a wheelchair and unable to care for himself, when he opened his eyes after surgery he had no memory.

No memory of the ability to function in everyday living, or who or what people surrounding him in hospital were. He had no memory of family or friends, that he had children or a wife and had difficulty retaining short term memory without continual repetition. But he learned again how to eat, walk, use the toilet and care for his personal needs. He returned to work, drives and lives on his own. The one thing he did retain was his craft as a master welder.

To determine the incidence, risk factors and outcomes of early post-craniotomy seizures. This was a retrospective cohort study of all patients who underwent craniotomy for primary brain tumor resection (2002-2011) and admitted postoperatively to the intensive care unit. The patients were divided into 2 groups depending on the occurrence of seizures within 7 days.

One-hundred-ninety-three patients were studied: 35.8% had preoperative seizure history and 16.6% were on prophylactic antiepileptic drugs (AEDs).

Twenty-seven (14%) patients had post-craniotomy seizures. The tumors were mostly meningiomas (63% for the post-craniotomy seizures group versus 58.1% for the other group;  $p=0.63$ ) and supratentorial (92.6% for the post-craniotomy seizures versus 78.4% for the other group,

$p=0.09$ ) with tumor diameter= $3.7\pm 1.5$  versus  $4.2\pm 1.6$  cm, ( $p=0.07$ ). One (3.1%) of the 32 patients on prophylactic AEDs had post-craniotomy seizures compared with 12% of the 92 patients not receiving AEDs preoperatively ( $p=0.18$ ). On multivariate analysis, predictors of post-craniotomy seizures were preoperative seizures (odds ratio, 2.62; 95% confidence interval, 1.12-6.15) and smaller tumor size  $<4$  cm (odds ratio, 2.50; 95% confidence interval, 1.02-6.25). Post-craniotomy seizures were not associated with increased morbidity or mortality.

Early seizures were common after craniotomy for primary brain tumor resection, but were not associated with worse outcomes. Preoperative seizures and smaller tumor size were independent risk factors.

his study was a retrospective cohort of all patients admitted to the intensive care unit (ICU) of King Abdulaziz Medical City in Riyadh, Saudi Arabia between 01/01/2002 and 31/12/2011 after craniotomy for total or partial resection of a primary brain tumor.

The ICU admitted medical and surgical patients and worked as a closed unit in which onsite board-certified intensivists were directly responsible for the provision of intensive care management on a 24 hours a day, The Institutional Review Board of King Saud bin Abdulaziz University for Health Sciences approved this study and granted waiver of consent.

In the 10-year period, 193 patients had craniotomy for primary brain tumor resection and were admitted to the ICU. The characteristics of these patients are found in Table 1. They had a mean age of  $45.7\pm 15.4$  years and were predominantly (64.8%) males. Almost half (47.8%) of the patients were obese (body mass index  $\geq 30$  kg/m<sup>2</sup>). Most of the tumors were meningiomas (58.5%) and supratentorial (80.3%). Sixty-nine (35.8%) patients had seizure history before craniotomy. Preoperative seizures were generalized in most patients (57.1%) and partial in 38.9% of them. Only 3.7% of patients had status epilepticus. Thirty-two (16.5%) patients were on AED prophylaxis (25 patients on phenytoin, 3 on carbamazepine and 4 on other AEDs).

Twenty-seven (14.0%) patients had post-craniotomy clinical seizures describes the characteristics of patients who had and did not have post-craniotomy seizures. Twelve patients (44.4%) had seizures within the first 24 hours after craniotomy.