

Awake sedation for brain surgery may shorten hospital stay

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The recovery time and cost of brain-tumor surgery might both be reduced if surgery is performed while patients are awake during part of the procedure, according to a new study conducted at The Ohio State University Comprehensive Cancer Center-Arthur G. James Cancer Hospital and Richard J. Solove Research Institute.

The study, published online June 18 in the *Journal of Neurosurgery*, examined the outcomes of 39 patients treated for glioma, a type of brain [tumor](#) that affects about 20,000 Americans annually. The doctors wanted to learn if surgeries that used conscious sedation - in which patients are initially anesthetized but restored to consciousness during [surgery](#) on the brain itself - had outcomes different from those using more traditional [general anesthesia](#).

"Our data suggest that patients who received conscious sedation had shorter hospital stays than those receiving general anesthesia, and that this reduced the cost of treatment," says study leader Dr. E. Antonio Chiocca, professor and chair of neurological surgery and Dardinger Family Endowed Chair in Oncological Neurosurgery.

"This finding needs to be validated with a randomized prospective clinical trial, but if it holds true, it would mean that changing our current way of delivering anesthesia for these patients could allow them to leave the hospital sooner and save resources."

Neurosurgeons usually reserve conscious sedation for patients with

tumors located near the brain's speech and sensorimotor centers, Chiocca says. The method was originally conceived as early as the 1950s to avoid or minimize the accidental damaging of these centers. Since then, additional studies have indicated that conscious sedation can result in more complications than procedures using general anesthesia, while others appear to show the opposite

To investigate the question, Chiocca and his colleagues studied the outcomes of 20 cases that used conscious sedation during surgery for stage II, III or IV gliomas and compared them with 19 cases that used general anesthesia.

The investigators evaluated each patient for the number of days they remained in the hospital and for the cost of four items that directly related to the surgery: the cost of the operating room, of anesthesia, of neurosurgical [intensive care](#) and of the hospital room. Each patient was also evaluated for neurological complications.

No significant differences were found in the percentage of complications. Regarding the four costs examined by the investigators, the expense associated with the operating room and anesthesia were the same in both groups, and both groups spent a similar period in neurosurgical intensive care. Patients receiving conscious sedation, however, had shorter hospital stays after leaving intensive care than did patients receiving general anesthesia, for a total of 3.5 days and 4.6 days respectively.

The shorter hospital stay led to an average 36 percent decrease in post-intensive-care direct cost for cases receiving conscious sedation compared with those receiving general anesthesia.

"Overall," Chiocca says, "our findings suggest that glioma resection under conscious sedation is associated with shorter hospital stays and

reduced inpatient expenses compared with the same surgery under general anesthesia."

Provided by Ohio State University Medical Center

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