

Repeated surgeries appear to extend life of patients with deadliest of brain cancers

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People who undergo repeated surgeries to remove glioblastomas—the most aggressive and deadliest type of brain tumors—may survive longer than those who have just a one-time operation, new Johns Hopkins research suggests.

Glioblastoma, the [brain cancer](#) that killed Sen. Edward Kennedy, inevitably returns after tumor-removal surgery, chemotherapy, and/or radiation. The median survival time after diagnosis is only 14 months. With recurrence a near certainty, experts say, many have questioned the value of performing second, third or even fourth operations, especially given the dangers of [brain surgery](#), including the risk of [neurological injury](#) or death.

"We are reluctant to operate on [patients](#) with brain cancer multiple times as we are afraid to incur new neurological deficits or poor wound healing, and many times we are pessimistic about the survival chances of these patients," says Alfredo Quinones-Hinojosa, M.D., a professor of neurosurgery at the Johns Hopkins University School of Medicine and leader of the study published recently in the [Journal of Neurosurgery](#). "But this study tells us that the more we operate, the longer they may survive. We should not give up on these patients."

For the study, Quinones-Hinojosa and his team reviewed the records of 578 patients who underwent surgery to remove a glioblastoma between 1997 and 2007 at The Johns Hopkins Hospital. At the last follow-up, 354 patients had one surgery, 168 had two resections, and 41 and 15

patients had three and four operations, respectively. The median survival for patients who underwent one, two, three and four operations was 6.8 months, 15.5 months, 22.4 months and 26.6 months, respectively.

Quinones-Hinojosa cautions that his analysis may overestimate the value of multiple surgeries based on patient selection, and that it's possible that the patients who did better had tumors with a biology that predisposed them to live longer. Further research will need to confirm his more positive conclusion.

Glioblastomas are cancerous tumors that become deeply intertwined with healthy [brain](#) tissue and, as a result, are difficult to remove. They are notoriously difficult to eradicate with surgery alone. "The only thing that has been proven to work for glioblastoma throughout history is surgery," Quinones-Hinojosa says. "Without surgery, these patients don't have much of a chance."

Along with reducing the size of tumors, repeated surgeries may also increase the efficacy of radiation and chemotherapy.

Quinones-Hinojosa says with each successive surgery, the procedure itself becomes more technically challenging as the anatomy changes, blood vessels are damaged and tissues become frail.

Patients, their families and their doctors must determine whether repeated [surgery](#) is the best course of action, weighing the potential risks against the potential benefits, Quinones-Hinojosa says. The procedure should only be done if it can be done relatively safely and patients can tolerate anesthesia and the long recovery period.

Provided by Johns Hopkins University School of Medicine

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