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Study finds aggressive surgery is best for children with brain tumors

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A new Mayo Clinic study found that children with low-grade brain tumors (gliomas) who undergo aggressive surgery to completely remove the tumor have an increased chance of overall survival. If complete removal is not possible, adding radiation therapy to a less complete surgery provides patients with the same outcomes as a complete removal. This study was presented at the Society for NeuroOncology Annual Scientific Meeting and Education Day in Montreal on Nov. 21.

"This study further reinforces Mayo Clinic's practice of aggressive surgical resection," says Nadia Laack, M.D., a Mayo Clinic radiation oncologist and the study's lead author. "We found that when compared to previous studies, more children are now able to have complete removals, most likely due to the fact that we have better neurosurgical techniques and better imaging techniques that help guide the surgeons."

As part of an ongoing study, Dr. Laack and a team of Mayo Clinic researchers identified 127 consecutive pediatric patients with World Health Organization Grade I and Grade II low-grade gliomas treated at Mayo Clinic between 1990 and 2005. Of those, 90 patients had complete removal of their tumor and 20 patients had subtotal resections with added radiation therapy. Results showed that greater than 89 percent of the patients are surviving more than 10 years later.

When combined with results from a previous Mayo Clinic study, this is the largest group of patients reported and was conducted through long-term follow-up by the Mayo Clinic team.

"This is great news for families because it shows that even if a complete surgery isn't possible, adding radiation to a less than complete surgery reduces their chances of tumor progression to yield the same outcome as if there was a complete removal," says Dr. Laack.

Provided by Mayo Clinic