

Acute toxicity predicts overall survival in high-grade gliomas

June 7 2010

Patients with high-grade gliomas who experience acute (early) neurological toxicity during their treatment were more likely to experience chronic (late) neurological toxicity and shortened overall survival, according to researchers from the Kimmel Cancer Center at Jefferson. The study will be presented at the 2010 ASCO Annual Meeting in Chicago.

Yaacov Lawrence, M.D., assistant professor of [Radiation Oncology](#) at Jefferson Medical College of Thomas Jefferson University, and colleagues at the Radiation Therapy Oncology Group (RTOG) used the RTOG database to identify 2,610 patients with high-grade glioma who participated in clinical trials from 1983 to 2003. Toxicity and outcome data were analyzed for all subjects.

All of the patients had received fractionated radiation therapy to treat their brain cancers. The researchers observed 182 acute neurological toxicity events. On a multivariate analysis, poor performance status, more aggressive surgery, poor [neurological function](#) and [cognitive impairment](#) were associated with increased acute neurological toxicity.

Acute neurological toxicity was significantly associated with chronic neurological toxicity. It was also found to predict overall survival: 7.8 months in patients who experienced acute neurological toxicity vs. 11.8 months in patients who did not.

"As brain tumor patients begin living longer thanks to modern

therapeutics, treatment-related side effects become more important," Dr. Lawrence said. "Traditional cancer trials have emphasized tumor control as a means to increase overall survival. Our study emphasizes the association of treatment side effects with long-term outcomes. This novel finding is yet to be fully explained. The bottom line is that we have to be especially careful with patients who experience significant toxicity during treatment. Conversely, we can reassure those patients who have a smooth ride through radiation therapy that they are likely to do above average."

Provided by Thomas Jefferson University

Citation: Acute toxicity predicts overall survival in high-grade gliomas (2010, June 7) retrieved 2 May 2024 from <https://medicalxpress.com/news/2010-06-acute-toxicity-survival-high-grade-gliomas.html>

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