

Minimizing side effects from chemoradiation could help brain cancer patients live longer

19 April 2011

Minimizing neurological side effects in patients with high-grade glioma from chemoradiation may result in improved patient survival, a new study from radiation oncologists at the Kimmel Cancer Center at Jefferson suggests. These [findings were reported in the April issue](#) of the *British Journal of Cancer*.

The researchers found that the occurrence of early [side effects](#), such as fatigue and loss of short-term memory, that manifest during or soon after treatment is significantly associated with both late side effects (after 90 days) and overall survival in patients who suffer from malignant [brain tumors](#), such as glioblastoma.

High-grade glioma patients who did not experience neurological side effects during chemoradiation for the brain cancer were found to have lived 4 months longer compared to those who did experience such effects.

The findings suggest the importance of normal tissue damage in determining long-term survival and how minimizing side effects could end in more positive outcomes.

The team reports their findings from a retrospective analysis of high-grade glioma patients from the Radiation Therapy Oncology Group (RTOG) database.

"As survival in glioblastoma multiforme increases, the prevention of treatment related side-effects becomes more important," said Yaacov Richard Lawrence, MRCP, an Assistant Professor in the Department of [Radiation Oncology](#) at Thomas Jefferson University and director of the Center for Translational Research in Radiation Oncology at Sheba Medical Center in Israel.

"It is generally considered that the only way to improve survival in malignant brain tumors is to more effectively attack the tumor," Dr. Lawrence

said. "Fascinatingly, our research suggests that damage to surrounding normal tissue may also play a role in determining a patient's long term outcome."

There are approximately 17,000 primary brain tumors diagnosed in the United States each year, 60 percent of which are gliomas. The most common and malignant glioma is glioblastoma, the type of [brain cancer](#) Senator Ted Kennedy was diagnosed with and died from.

Standard treatment for the cancer typically includes surgery, radiation and chemotherapy after the tumor is identified. It is often impossible to determine whether these treatments, the combination of these treatments or the tumor itself cause neurological symptoms, which include fatigue, headache, nausea, motor/sensory disturbance, short-term memory loss and/or seizures.

For the study, researchers analyzed data amongst 2,761 patients from 14 RTOG radiation therapy glioma studies that accrued patients from 1983 to 2003. Patients considered were more likely to have side effects if they were older, frailer, had more symptoms, and were receiving radiation twice daily.

"Our results support the personalized approach to brain tumor management currently being developed within the Jefferson Multidisciplinary Brain Clinic, and emphasize the importance of minimizing side effects," Dr. Lawrence said.

Provided by Thomas Jefferson University

APA citation: Minimizing side effects from chemoradiation could help brain cancer patients live longer (2011, April 19) retrieved 8 May 2021 from <https://medicalxpress.com/news/2011-04-minimizing-side-effects-chemoradiation-brain.html>

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