

Large Variations Seen in Treatment of Adults with Brain Cancer

Many adult patients with malignant glioma receive care that varies widely from established standards or generally accepted practices, according to new research on patterns of care for this disease.

Most troubling about the study's findings, according to its lead investigator Susan Chang, M.D., is that only 15% of the more than 700 patients studied were participating in clinical trials, and only 54% of all patients studied received chemotherapy, despite evidence showing that chemotherapy can extend survival.

Malignant glioma is a relatively uncommon cancer, with only about

9,000 new patients diagnosed annually in North America. Patients with glioma generally receive a very dismal prognosis of 1 to 2 years to live, said Chang, a neuro-oncologist at the University of California at San Francisco. "That is one of the challenges of caring for patients with this disease."

Some of the other challenges come from the location of the tumors. It is difficult for most drugs to penetrate the blood-brain barrier, and primary brain tumors are quite treatment resistant to begin with. Moreover, tumors are often widely disseminated throughout the brain, making surgery to remove the

cancer difficult if not impossible. However, some types of glioma have better prognoses than other types, and chemotherapy with radiation does increase the lifespan of many patients, Chang noted.

There are few evidence-based guidelines for treating primary brain cancer, in part because the disease is relatively rare, and general oncologists may see only a few patients each year with the disease. In addition, data from clinical trials have been sparse because relatively few adults with brain cancer participate in clinical trials; in contrast, children with brain tumors participate in clinical trials in large numbers. “While current treatment for glioma includes maximum safe resection, radiation, and chemotherapy, few clear evidence-based treatment guidelines can be drawn from the literature,” Chang said.

Nevertheless, clinical research has answered some treatment questions, so Chang and her colleagues followed the 788 patients from 52 academic and community practices in North America enrolled in the Glioma Outcomes Project to determine community practice patterns for brain cancer. Their study, published in the February 2 issue of the *Journal of the American Medical Association*, showed that, although some practice patterns were consistent with published literature, such as the use of radiation therapy, others contradicted guidelines or conflicted with published literature.

Overall, patterns of care were related to whether patients received care at an academic center or community hospital, and also to age: In general, patients treated at academic sites were often younger and were more likely to receive more aggressive treatment—including chemotherapy—and to participate in a clinical trial than those treated in community settings.

The research uncovered other discrepancies between recommended and real-world care. Although the American Academy of Neurology recommends stopping anticonvulsive drugs 1 week after surgery and giving

these drugs afterward only to patients with disease-related seizures, about 89% of brain tumor patients in the study received the drugs. (Only 32% of patients in the study had seizures prior to treatment.) This is one of the few areas where guidelines have been published, Chang noted. She is concerned that patients should not be taking these drugs unless they are necessary.

Relatively few glioma patients with symptoms of depression received antidepressants, possibly because of physicians’ fear that they will interact with anticonvulsants. In addition, few patients in the study (7%) received heparin despite the fact that deep venous thrombosis occurs in anywhere from 3% to 60% of glioma patients after surgery. However, the authors noted that the evidence to date on the safety and efficacy of prophylactic heparin is conflicting and that there is an ongoing randomized clinical trial that should provide an answer about the utility of low-dose heparin in the adjuvant setting.

The Glioma Outcomes Project was started in 1997 with the goal of tracking clinical practice patterns and outcomes to provide benchmark data to enable individual practice patterns and outcomes to be compared. “The goal of this study was not to point the finger, but to uncover discrepancies in treatment, to investigate where more research is needed, and to underscore the need for community physicians and those in academic centers to work together to care for these patients, and to raise awareness of this disease,” Chang explained.

The study emphasizes the importance of clinical trials in brain cancer, said Bernadine Donohue, M.D., associate professor of radiation oncology at the New York University School of Medicine. “If we’re going to make improvement in treatments, we have to increase enrollment of adults in clinical trials,” she said. “[This] new study indicates that brain cancer is now where we were with breast cancer 15 to 20 years ago,” Donohue said.

—Vicki Brower