Glioblastoma Multiforme: Enhancing Survival and Quality of Life

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A diagnosis of a malignant brain tumor is devastating to patients and their families. The patients' inevitable loss of independence, which can occur suddenly or gradually, is tragic, and the eventual complete dependence can be overwhelming to the family and caregivers. Glioblastoma multiforme (GBM) is the most common type of primary malignant brain tumor in adults and is associated with a disproportionately high mortality rate. The highly malignant tumor grows rapidly and has a tendency to recur through treatment. The brain itself presents a multitude of barriers to treatment, such as tumor location, accessibility for surgery, and the blood-brain barrier's natural protection. Despite access to optimal multimodality treatment, patients diagnosed with GBM have a low survival rate. Patients and families need emotional and practical support throughout the continuum of this devastating disease. Astute neurologic assessment skills and immediate and appropriate interventions are required to maintain the patient's functional status. This article provides an overview of the treatment of GBM and reviews how oncology nurses can intervene to positively improve the quality of life of patients and their families.

An estimated 64,530 new cases of primary brain tumors will be diagnosed in 2011. Of these, about 24,070 are estimated to be malignant (Central Brain Tumor Registry of the United States, 2011). Brain tumors are quite rare when compared to other malignant tumors, accounting for about 1% of all primary cancers; however, they are associated with a disproportionately high mortality rate of about 2% of all cancer deaths (Lobera, 2009).

Gliomas arise from glial cells that surround and support neurons. Gliomas are graded based on the World Health Organization's system, which is based on cellular characteristics (Louis, Ohgaki, Wiestler, & Cavenee, 2007). The tumor-node-metastasis (TNM) staging system is not relevant to gliomas because these tumors rarely metastasize to lymph nodes or other distant locations outside of the central nervous system. Grading determines the degree of malignancy or aggressiveness of the tumor. In the World Health Organization's system, glioblastomas are grade IV gliomas, the most malignant and aggressive of all brain tumors (Louis et al., 2007) (see Table 1).

At a Glance

- Glioblastoma multiforme is a rare cancer with a poor prognosis.
- Treatment is multimodal, using surgery, radiation, chemotherapy, and targeted therapies, with the overall goal of extending survival while maintaining quality of life.
- Nursing interventions designed to address the unique supportive care needs of this population can positively impact patients and their families.

Clinical Presentation

Clinical presentation of glioblastoma multiforme (GBM) varies depending on the location of the tumor and the anatomic structures of the involved brain (Lobera, 2009). The most common symptoms at presentation are headache, seizure, motor weakness, and progressive neurologic deficit (Brandes et al., 2008). These symptoms typically develop over days

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