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### **Therapeutic approaches to brain cancer**

The standard treatment of newly diagnosed glioblastoma, the most aggressive brain cancer, is surgical resection followed by radiation and chemotherapy. This treatment, however, has failed to signi-

cantly extend the patient's life expectancy which is typically one year. By the time the disease is diagnosed, tumor cells have already migrated to other parts of the brain. Based on clinical data, we shall evaluate different combination protocols of resection, radiation and chemotherapy that may increase a patient's survival time. We shall also consider viral therapy, currently at the preclinical stage, and the effect of drugs that slow down glioma cell migration. The mathematical models used in our analysis are based, primarily, on systems of partial differential equations.