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Treatment-related myelodysplasia/AML in a patient with a history of breast cancer and an oligodendroglioma treated with temozolomide: Case study and review of the literature

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The emergence of temozolomide as an effective alkylating agent with little acute toxicity or cumulative myelosuppression has led to protracted courses of chemotherapy for many patients with gliomas. Secondary, or treatment-related, myelodysplasia (t-MDS) and acute myelogenous leukemia (t-AML) are life-threatening complications of alkylating chemotherapy and have been reported in patients with primary brain tumors. We describe a case of temozolomide-related t-MDS/AML and discuss the clinical features of this condition. Administration of an alkylating agent in patient populations with long median survivals must be undertaken with an understanding of the potential for this treatment complication.

Key Words: brain neoplasm • glioblastoma • myelodysplastic syndrome • recurrent glioma • secondary leukemia • secondary myelodysplastic syndrome • temozolomide • treatment complication