

PubMed

U.S. National Library of Medicine
National Institutes of Health



Display Settings: Abstract

[J Neurosurg.](#) 2011 Jan 14. [Epub ahead of print]

Impact of temozolomide chemotherapy on seizure frequency in patients with low-grade gliomas.

Sherman JH, Moldovan K, Yeoh HK, Starke RM, Pouratian N, Shaffrey ME, Schiff D.

Departments of Neurological Surgery.

Abstract

Object Seizures occur in approximately 80% of patients with low-grade gliomas (LGGs). The majority of patients are treated with anticonvulsant monotherapy; however, many patients require multidrug therapy, or their seizures are refractory to antiepileptic drugs altogether. The oral alkylating agent temozolomide has emerged as a potential initial treatment option for LGG. A few reports suggest an association between temozolomide and reduced seizure frequency in patients with intractable epilepsy. Methods Using their clinical database, the authors identified adult patients whose LGGs were treated using temozolomide as the initial antineoplastic therapy at the University of Virginia Health System. As a control group, the authors assessed patients whose LGGs were under observation. All patients had seizure disorders that were treated with anticonvulsants. Seizure frequency in patients with intractable epilepsy was analyzed before and after treatment with temozolomide. Age at diagnosis, sex, antiepileptic drugs, pathological subtype, surgical treatment, and follow-up until progression were also assessed. Interval seizure frequency was meticulously analyzed at each neurooncology clinic visit. A meaningful difference in seizures was defined as a reduction in seizure frequency of greater than 50% per month. Results Thirty-nine patients were identified in the temozolomide cohort and 30 patients in the control cohort. The median age at diagnosis was 46 years for the former cohort and 41.5 years for the latter. The median length of follow-up was 39 months for the temozolomide group and 37 months for the control group. There was a significant difference in reduced seizure frequency between patients receiving temozolomide (59%) and those who did not receive temozolomide (13%, $p < 0.001$). Seven patients (18%) in the temozolomide group displayed this improvement independent of antiepileptic drug adjustment compared with no patient in the control group ($p < 0.001$). Conclusions The authors' data suggest that a subset of patients with LGGs experience improvement in seizure frequency during treatment with temozolomide independent of antiepileptic drug adjustment. This decrease in seizure frequency appears independent of the natural history of seizures in patients whose tumors are under observation. Consequently, seizures in patients with LGGs may be better controlled with the combination of AEDs and temozolomide.

PMID: 21235313 [PubMed - as supplied by publisher]

[LinkOut - more resources](#)