Optimizing antiepileptic drug treatment in tumoral epilepsy.

Perucca E.

Author information

Department of Internal Medicine and Therapeutics, University of Pavia and C Mondino National Neurological Institute, Pavia, Italy.

Abstract

Between 30% and 50% of patients with brain tumors first present with a seizure, and up to 30% more will develop seizures later. Therefore, optimal management of these patients requires a rational approach to the use of antiseizure medications. Based on current evidence, prophylactic prescription of long-term antiepileptic drugs (AEDs) in patients with brain tumors in patients who did not present with seizures is not justified. Because of the high risk of recurrence, however, AED treatment should be strongly considered after a single seizure considered to be due to a tumor. Because of the lack of well-controlled randomized trials, the decision on which AED provides the best risk-benefit ratio in the individual patient is based mostly on physician's judgment rather than sound scientific evidence. In patients who may require chemotherapy, a non-enzyme-inducing AED is preferred for initial treatment to minimize the risk of drug interactions that impact adversely on the outcome of anticancer chemotherapy. Several retrospective studies in seizure patients with glioblastoma treated with chemotherapy have provided evidence for a moderately improved survival with the use of valproic acid, possibly due to inhibition of histone deacetylase. However, valproic acid may also increase the hematologic toxicity of antineoplastic drugs, presumably by inhibiting their metabolism, and may independently impair hemostasis, which is of some concern for patients who require surgical intervention. Among newer generation AEDs, levetiracetam has a number of advantageous features, including availability of a parenteral formulation, but other agents such as gabapentin, lamotrigine, oxcarbazepine, topiramate, and zonisamide may also be considered. Potentially more effective treatments targeting specific mechanisms of epileptogenesis and ictogenesis are being investigated. Resection of the tumor, radiation therapy, or chemotherapy can bring refractory seizures under control or prolong the duration of seizure freedom, an effect that does not appear to be necessarily related to removal or shrinkage of the tumor mass. In patients with a successfully treated tumor and an overall good prognosis for long-term survival, gradual discontinuation of AEDs may be considered.

Wiley Periodicals, Inc. © 2013 International League Against Epilepsy.

KEYWORDS: Antiepileptic drugs, Brain tumor, Medical treatment, Seizures

PMID: 24328881 [PubMed - indexed for MEDLINE]