The use of antiepileptic drugs in pediatric brain tumor patients.

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Antiepileptic drugs are frequently used in children with brain tumors. This retrospective study reviewed chronic use of antiepileptic drugs in children with brain tumors at two children's hospitals between 2000 and 2007. Antiepileptic drugs were used in 32/334 pediatric brain tumor patients (10%). Almost all (94%) had supratentorial tumors, of which 78% were glial tumors. The most common localization was temporal (70%). The most frequently used initial antiepileptic drugs were phenytoin (n = 14) and oxcarbazepine (n = 7). Initial antiepileptic drugs were frequently changed, because of lack of efficacy and adverse effects, as well as concerns about possible drug interactions. At last follow-up, the most common antiepileptic drugs were oxcarbazepine (n = 11) and levetiracetam (n = 10). Levetiracetam was more likely to be used in children who received chemotherapy or radiation therapy (8/14, or 57%) than in those who did not receive adjuvant therapies (3/18, or 17%) (P = 0.03). The patients started on newer-generation antiepileptic drugs (levetiracetam, oxcarbazepine, lamotrigine) tended to remain on the same antiepileptic drugs more than did patients on older-generation antiepileptic drugs (valproic acid, phenytoin, phenobarbital) (73% vs 28%) (P = 0.04). Newer antiepileptic drugs, especially those without significant drug-drug interactions, may be a more appropriate first choice in children with brain tumors and seizures.

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