Impact of particular antiepileptic drugs on the survival of patients with glioblastoma multiforme.

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Abstract
Object Glioblastoma multiforme (GBM) is the most common astrocytic brain tumor and carries a dire prognosis. Despite current therapeutic options—surgery, radiotherapy, and chemotherapy—survival varies from 11.3 to 14.6 months. A group of drugs known as histone deacetylase inhibitors (HDIs) has demonstrated a potentially beneficial role in cancer treatment, particularly in combination with other therapies. A drug that exhibits potential as an HDI is sodium valproate (VPA), which is frequently used to treat seizures in patients with cerebral neoplasms. The present study was undertaken to investigate the role of VPA as an antitumor agent in the management of patients with GBM.

Methods A review was conducted in terms of how HDIs work, the use of antiepileptic drugs (AEDs), and the effects of AEDs on survival in a local cohort of patients diagnosed with GBM. The local cohort of patients was determined by reviewing the electronic histopathology and AED informatics systems. A meta-analysis of papers on the use of AEDs in GBM was also performed. Results The local cohort consisted of 236 patients with GBM, 210 of whom had complete data available for analysis, a median age of 62 years, and 1-year survival of 26%. Patients treated with AEDs had a significantly longer survival than those who were not (Mantel-Cox log-rank test 19.617, p < 0.001). Those treated with VPA had significantly longer survival than those who did not receive an AED (Mantel-Cox log-rank test 17.506, p < 0.001), and patients treated with VPA had a significantly longer survival than those who had received other AEDs (Mantel-Cox log-rank test 5.303, p < 0.02).

Conclusions Authors of this study demonstrated evidence supporting the theory that VPA may benefit patients with GBM in terms of survival.

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