Prophylactic antiepileptic drug therapy in patients undergoing supratentorial meningioma resection: a systematic analysis of efficacy.

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Abstract

Objective: Meningiomas are one of the more common intracranial neoplasms. The risk of seizures and secondary aspiration, brain edema, and brain injury often leads practitioners to administer prophylactic antiepileptic drugs (AEDs) perioperatively. The efficacy of this practice remains controversial, however, with prior investigations reaching conflicting results and recent studies focusing on AED side effects. The authors performed a systematic analysis of outcomes following supratentorial meningioma resection with and without prophylactic AED administration in the hope of clarifying the role of AEDs in the perioperative care of patients with these lesions.

Methods: A MEDLINE search of the literature (1979-2010) was performed. Comparisons were made for patient and tumor characteristics as well as success of repair, morbidity, and seizure outcome. Statistical analyses of categorical variables were undertaken using chi-square and Fisher exact tests. Results: Nineteen studies, involving 698 patients, were included. There were no significant differences in the extent of resection, perioperative mortality, or recurrence between the AED and no-AED cohorts. Likewise, there were no significant differences in the incidence of early or late seizures between the cohorts. Conclusions: The results of this systematic analysis support the conclusion that the prophylactic administration of anticonvulsants during resection of supratentorial meningiomas provides no benefit in the prevention of either early or late postoperative seizures. Despite their traditional role in this patient population, the routine use of AEDs should be carefully reconsidered.

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