

Increasing Adherence to Prophylactic Anticonvulsants Guideline in Newly Diagnosed Brain

Tumor Patients

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Abstract

Background and Purpose: Clinical guidelines suggest that prophylactic anticonvulsants (AEDs) should be given to newly diagnosed seizure-naive brain tumor patients for up to one week after craniotomy. Yet, data suggest that prophylactic AEDs were used up to 12-months after surgery. A quality improvement project was implemented to improve adherence to evidence-based prophylactic AED guidelines.

Methods: A quasi-experimental, pre/post-test intervention design was used to assess the effect of a multi-phase intervention on guideline adherence and prophylactic anticonvulsant prescription rates. The 16-week intervention consisted of provider education sessions, provider alerts, documentation templates, and a weekly audit and feedback. Participants included 4 providers and newly diagnosed seizure-naive brain tumor patients. Measures included guidelines adherence rates and AED prescription rates extracted from chart review, and a provider attitude and knowledge survey. Analyses included descriptive statistics, Wilcoxon signed-rank and chi-square tests.

Results: Guideline adherence increased significantly ($p < .01$) from four-month pre-implementation 15.8% to one-year pre-implementation 27.8% and then to 93.3% post-implementation. Provider knowledge showed clinically meaningful decreases in the likelihood to prescribe prophylactic AEDs (-.5 points) and increased understanding of prophylactic AEDs side effects (+0.5 point), although these were not statistically significant ($p = 0.083$). Finally, prophylactic AED prescription rates decreased by 2.2% ($p = 0.119$) comparing to four months and one year pre-implementation 2.6% ($p = 0.072$)

Conclusion: This project highlights the important role of provider education, provider alert, documentation template, and audit-feedback in improving guideline adherence rate.

Findings suggest that the combination intervention and weekly audit-feedback strategy can improve guideline adherence to prophylactic anticonvulsant use in seizure-naïve newly diagnosed brain tumor patients.

Implications: By following prophylactic AEDs guideline recommendations, clinicians can avoid the potential side effects of anticonvulsant-induced cognitive, behavioral, and psychiatric issues that can impair the patient's quality of life.

Keywords: Prophylaxis, seizure, brain tumor, adherence