WHAT'S HAPPENING IN

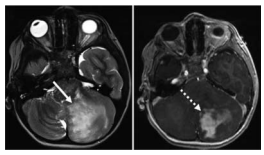
Neurology® Clinical Practice

Neurology.org/CP

Abstracts

Articles appearing in the August 2018 issue

Increased prevalence of brain tumors classified as T2 hyperintensities in neurofibromatosis 1



Background We sought to define the radiologic features that differentiate neoplastic from non-neoplastic T2 hyperintensities (T2Hs) in neurofibromatosis type 1 (NF1) and identify those lesions most likely to require oncologic surveillance.

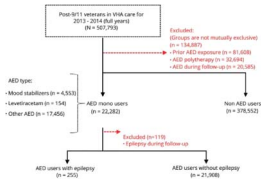
Methods We conducted a single-center retrospective review of all available brain MRIs from 68 children with NF1 (n = 190) and 46 healthy pediatric controls (n = 104). All T2Hs identified on MRI were characterized based on location, border, shape, degree of T1 hypointensity, and presence of mass effect or contrast enhancement, and subsequently classified using newly established radiologic criteria as either unidentified bright objects (UBOs) or probable tumors. Lesion classification was pathologically confirmed in 10 NF1 cases.

Results T2Hs were a highly sensitive (94.4%; 95% confidence interval [CI] 86.4%–98.5%) and specific (100.0%; 95% CI 92.3%–100.0%) marker for the diagnosis of NF1. UBOs constituted the majority of T2Hs (82%) and were most frequently located in cerebellar white matter, medial temporal lobe, and thalamus, where they were more likely than probable tumors to be bilateral ($p < 0.001$) and have nondiscrete borders ($p < 0.001$). Surprisingly, 57% of children with T2Hs harbored lesions classified as probable tumors, and 28% of children with probable tumors received treatment. In contrast to UBOs, probable tumors were most frequently located within the globus pallidus and medulla, and rarely occurred prior to 3 years of age.

Conclusions With the implementation of standardized radiologic criteria, a high prevalence of brain tumors was identified in this at-risk population of children, of which nearly one-third required treatment, emphasizing the need for appropriate oncologic surveillance for patients with NF1 harboring nonoptic pathway brain tumors.

NPub.org/NCP/9202a

Antiepileptic drugs and suicide-related behavior: Is it the drug or comorbidity?



Background We sought to compare trends of suicide-related behavior (SRB) before and after initiation of antiepileptic drug (AED) therapy among AED users (with and without epilepsy) to that of individuals without AED use controlling for sociodemographic characteristics and mental health comorbidity.

Methods We used national Veterans Health Administration (VHA) data for post-9/11 veterans who received VHA care (2013–2014) without prior AED use. We conducted generalized estimation equation (GEE) analyses, stratified by epilepsy status and type of AED received, to assess the trend of SRB prevalence the year prior to and after the index date (date of first AED prescription/date of first health care encounter for non-AED users) controlling for sociodemographic factors and mental health comorbidity.

Results The GEE analysis showed significant curvilinear trends of SRB prevalence over the 24-month study period among the AED users, indicating that the probability of SRB diagnoses increased over time with a peak before the index month and decreased thereafter. Similar patterns were observed among non-AED users, but significantly lower odds for SRB. Among AED users, there were no significant differences by epilepsy status; however, higher SRB prevalence and differential SRB trajectory measures were observed among those who received AEDs with mood-stabilizing action.

Conclusions The peak of SRB prior to and rapid reduction in SRB after initiation of AED, and the finding that individuals eventually prescribed a mood-stabilizing AED (vs other AED or levetiracetam) had higher odds of SRB, suggests a strong possibility that the relationship of AED and SRB is one of residual confounding.

NPub.org/NCP/9202b

Practice Current

We invite neurologists, resident and fellow trainees, and advanced practice providers worldwide to explore controversial clinical topics that do not have sufficient diagnostic or therapeutic evidence. Share your practice with fast online surveys on hot topics, see real-time results displayed on an interactive world map, compare your practice with peers, and access commentary on available evidence and opinions from internationally recognized experts with diverse backgrounds.

NPub.org/NCP/practicecurrent