

## **AAN Practice Parameter: Treatment of the child with a first unprovoked seizure**

Past thinking was that seizures were dangerous and had long-term effects and that AEDs were benign and effective.

### Potential risks from a second seizure

- Kindling—relevance of animal models unclear
- Injury—safety precautions
- SUDEP—risk of death in childhood-onset epilepsy is same as general population
- Psychosocial

### Factors that increase recurrence risk

- 30-50% general recurrence risk by 2 years
- for remote symptomatic seizures, >50%
- with abnormal EEG, as above
- following prolonged first seizure, RR is no different than for brief first seizure
  - BUT more likely to have a prolonged sz at recurrence if they do recur

### Effect of treatment

- Seizure recurrence might be decreased but pediatric data is weak
- No difference in achieving 1 or 2 year remission between starting med after 1<sup>st</sup> or 2<sup>nd</sup> sz

### Side Effects of AEDs

- PHB—drowsiness, hyperactivity, sleep disturbance, IQ
- CBZ—slower information processing, dizziness, leucopenia (clinically significant?), hyponatremia (clinically significant?)
- PHT—gum hyperplasia, hirsutism, liver dysfunction
- VPA—alopecia, weight gain, polycystic ovarian disease, hepatic failure, pancreatitis, thrombocytopenia (dose-related)
- TPM—poor concentration and cognitive processing, kidney stones, glaucoma, oligohydrosis, acidosis (asymptomatic)
- LMG—Stephens-Johnson
- ZNS—kidney stones, hyperthermia
- OXC—reportedly less SE than CBZ, also hyponatremia
- LVT—behavioral, psychosis

### Recommendations

1. AED not indicated for prevention of epilepsy
2. AED may be considered when benefits of reducing risk of 2<sup>nd</sup> sz outweigh risks of pharmacologic and psychosocial side effects

Hirtz D, Berg A, Bettis D, et al. Practice parameter: treatment of the child with a first unprovoked seizure. Report of the quality standards subcommittee of the American Academy of Neurology and the practice committee of the Child Neurology Society. *Neurology* 2003;60:166-175.

## **AAN Practice Parameter: Evaluating a first nonfebrile seizure in children**

### Laboratory Studies

- Unlikely to be abnormal if > 6 mos old, returned to baseline, no suggestive hx or sx
- Should be based on historical or clinical findings (e.g. dehydration, persistent MS change)
- Consider tox screen

### Lumbar Puncture

- Perform if clinical concern of meningitis or encephalitis (e.g., < 6 mos old, persistent change in MS, meningeal signs)

### EEG

- STANDARD
- Prognosis—1/2 of kids with sz and abnl EEG will recur versus 1/4 with nl EEG
- Determination of seizure type and epilepsy syndrome
- Timing?
  - No need for EEG before discharge from ED
  - Abnormalities within 24-48 hrs of a sz may be transient

### Neuroimaging

- “Emergent” CT if will influence management or treatment
  - i.e. to rule out hemorrhage, mass effect, edema
  - e.g. if Todd’s paresis not quickly resolving or persistent change in MS
- Consider MRI on nonurgent basis if cognitive/motor impairment, exam findings, sz of partial onset, under 1 year of age, or focal EEG findings not suggestive of “benign”

### Reference

Hirtz D, Ashwal S, Berg A et al. Practice parameter: evaluating a first nonfebrile seizure in children. Report of the quality standards subcommittee of the American Academy of Neurology, the Child Neurology Society, and the American Epilepsy Society. *Neurology* 2000; 55:616-623.