Seizure, syncope and sleep disorders

Neurology Didactic Session 8
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Decision 1: Syncope or seizure?

- **Syncope**
  - BRIEF loss of consciousness
  - Minimal prodrome
  - More likely with cardiovascular disease and age
  - Minimal post-event confusion

- **Seizure**
  - May have aura
  - Prolonged LOC
  - Tongue bite or broken bones
  - Prolonged post event confusion
Decision 2: Provoked seizure?

- Definition
  - A significant number of people would seize under similar circumstances
  - Treatment is to avoid provoking cause

- Examples
  - Alcohol or benzodiazepine withdrawal
  - Sleep deprivation
  - Hypoglycemia
Decision 3: Partial or generalized at onset?

- **Partial**
  - Simple partial = Consciousness unaffected
  - Complex partial = Impairment but not loss of consciousness

- **Generalized**
  - Loss of consciousness at onset
  - May begin as partial and then generalize
Decision 4: Evaluation

- BRAIN IMAGING IS MANDATORY
  - Head CT acceptable for generalized at onset
  - MRI for all other cases
- EEG should be performed as soon as practical
  - Do NOT hospitalize for EEG
  - Obtain on outpatient basis
  - Patient should be sleep deprived for EEG
    - Wake up 2 hours earlier
    - Abnormalities are more likely when transitioning from sleep
- LP only required if meningitis suspected
Decision 5- Do I treat?

- Recurrent seizure less likely
  - Generalized at onset
  - No post-ictal focal deficit
  - MRI AND EEG are normal

- Recurrent seizure more likely
  - Partial onset
  - Specific seizure syndromes (e.g. Absence, JME)
  - Post-event focal neurological deficit
  - MRI is abnormal
  - EEG is abnormal – especially with a diagnostic pattern
What medicine do I choose?

- **Specific syndromes**
  - Absence alone = Ethosuximide
  - Juvenile myoclonic epilepsy
    - Depakote (not in women of childbearing age)
    - Lamotrigine

- **Generalized at onset (SANAD studies)**
  - Depakote or Lamotrigine
  - Note: Levetiracetam not studied in this trial

- **Focal at onset (SANAD studies)**
  - Carbamazepine or Lamotrigine
Drugs to avoid in adults

- Phenobarbital
  - Poor compliance
  - Highly sedating
  - There are more effective agents

- Phenytoin
  - Numerous drug interactions
  - Zero order kinetics at higher levels
  - Numerous side effects

- Valproate in women of childbearing age
Treatment principles- Part One

- Give lowest dose that treats all seizures with the fewest number of side effects
  - Levels are for guidance but are not absolute
  - Levels must be TROUGH Levels (just before a dose)
- Push dose until seizures controlled or patient has side effects
  - Continue effective dose for 2 years before considering a taper
  - If side effects occur, back down to previous dose
Treatment principles-Part Two

- Patient fails first agent
  - Add second agent to first agent
  - Control seizures
  - Taper first agent
- Patient fails two agents
  - Refer to epilepsy monitoring unit
    - Patient may be candidate for surgical resection
    - Patient may have non-epileptic seizures
Sleep disorders – DIMS + DOES

- **DIMS** = Disorder of initiating and maintaining sleep
  - Usually psychiatric (anxiety and/or depression)
  - Treat with non-medical methods first (sleep hygiene)
- **DOES** = Disorders of excessive somnolence
  - Most common = Obstructive sleep apnea
    - Neck circumference indicates risk
      - 16 inches in women
      - 17 inches in men
    - Prove with sleep study and then treat (CPAP or Bi-PAP)
  - Narcolepsy
    - Treat with stimulants