Overview

• What is a seizure?
  • Paroxysmal spell of transitory alteration in consciousness, motor activity, or sensory phenomenon
  • Basically, a disruption in normal neuronal activity in the brain
• About 1% of the population has epilepsy
• 30,000 new case per year
• 30% misdiagnosis rate
• When a person has had 2 or more seizures, they are considered an epileptic

Causes

• Primary (idiopathic)
  • Genetic predisposition
  • 50% of the time, the cause is unknown
• Secondary (symptomatic)
  • Seizures arise from other medical conditions
  • Congenital conditions, or perinatal injuries
  • Brain tumors or other cancers
  • Stroke or heart attack
  • Head trauma
  • Infections
  • Dementia
  • Alcoholism or drug abuse

Signs and Symptoms

• Precipitating factors
  • Stress
  • Fatigue
  • Sensory stimuli (flashing light, noises, odors)
  • Alcohol and drug use or withdrawal
• Aura
  • Warning sign of an oncoming seizure
  • Not all patients have this
  • Smells, sounds, visions, or possibly numbness, tingling, twitching, stiffness of muscles

Classifications and Types

• Partial
  • More common in adults
  • Involves part of the brain
• Simple
  • Without loss of consciousness
  • Staring
  • Dizziness
  • Involuntary twitching of muscles in limbs and mouth
• Complex
  • Symptoms of simple
  • Person may lose awareness (minis- tris)
  • Purposeless repeated movements (rubbing hands, walking a circle), followed by confusion, incoherent speech, bad temper
  • Does not remember what happened

Classifications and Types

• Generalized
  • Involves more or all of the brain
  • Loss of consciousness (LOC)
  • Petit-mal (absence)
    • LOC begins abruptly (5-30 sec)
    • Most common in children
    • Blank stare, fixed posture, stare, rhythmic twitching of facial muscles
    • Ends as abruptly as it started
Classifications and Types

• Grand mal (Tonic-clonic)
  • “Epileptic cry”
  • LOC is sudden and complete
  • Tonic phase: muscle rigidity
  • Clonic phase: muscle contraction and relaxation
  • 1-3 minutes, 5+ minutes=EMERGENCY (status epilepticus)

Medications

• 70% of epileptics can stop seizures with medications
• May have to try many types to find one that works
• May combine several drugs
• Depends on type of seizures

Side Effects

• Allergic reactions, fatigue, nausea, vomiting, memory loss, liver damage
• Oral
  • GINGIVAL HYPERPLASIA!! (phenytoin)
  • Thrombocytopenia = increased bleeding & petechiae
  • Xerostomia
  • Leukopenia = delayed healing, and infection
  • Osteoporosis = Bone loss?
  • Sore, blisters, ulcers

Medications Cont.

• Anticonvulsants
  • Carbamazepine (Carbatrol)
  • Phenytin (Dilantin)
  • Gabapentin (Neurontin)
  • Lamotrigine (Lamictal)
  • Valproate (Depakote)
• Antisedatives
  • Benzoazepines
    • Klonopin
    • Valium

Drug interactions

• Acetaminophen
• NSAIDs
• Erythromycins
• Reduced efficacy of oral contraceptives
• OTC herbal supplements
  • Taurine
  • Folic acid
  • B12
  • Vitamin E
• Herbs
  • Ginko
  • St. John’s Wort
  • Some essential oils

Other Treatments

• Surgery
  • Resection
  • Gamma-knife radiosurgery
• Vagus nerve stimulation
  • Pacemaker in chest
  • Stimulates vagus nerve
• Ketogenic diet
  • High fat, low carbs and protein
  • Works best with kids
  • Goal is to maintain ketosis
Other Treatments cont..

• Herbal supplements
  • Bacopa
  • Chamomile
  • Kava
  • Valerian
  • Passionflower
• Alternative therapies

Oral Findings

• Gingival Hyperplasia (Wilkins pg 947)
  • Greater incidence in young patients
  • Anterior maxilla is most often affected
• Treatment
  • Change prescription
  • Scaling with biofilm control
  • Chlorhexidine
  • More frequent appointments
  • Surgery
    • Gingivectomy
    • Perio flap
• Scars on lips, cheeks and tongue
• Fractured or broken teeth

Treatment Modifications

• Thorough MDHX!
  • Find out everything you can about their condition
  • Wilkins pg 948, Box 62-3
• Calm environment
• Be apathetic
• Be patient
• Stress home care
• Biofilm prevention is a must

Emergency situations

• Objective is to prevent injury
• If a patient begins to seize
  • Do NOT restrain
  • Keep patient from falling out of chair
  • Make area safe
  • Turn them on side
  • Stay with patient
  • DO NOT put things in their mouth!!
  • If it lasts more than 5+ mins, CALL EMS!

Case Study

Thomas Hall

Vital signs
BP: 115/80
Pulse Rate: 88 bpm
Respiration: 14 rpm

Patient history synopsis:
Age: 32 years
Gender: Male
Height: 5’7”
Weight: 185 lbs

https://www.youtube.com/watch?v=ZdkBvUZB7dc
Medical History:
Intellectual disability, specific subtype being mental retardation. Epileptic seizures respond well to current medications and appear to be controlled. Last episode was eight months ago; appear to be precipitated by monotonous sounds, music, and loud noises.

Under Care of Physician: 

Has or Had the following conditions:

- Epilepsy

Current medications:
- Carbamazepine (Tegretol) – anticonvulsant
- Phenytoin (Dilantin) – anticonvulsant
- Topiramate (Topamax) – anticonvulsant

Current and hygiene status:
- Spontaneous marginal bleeding
- Generalized moderate subgingival calculus

Questions

1. Which one of the following treatment regimens may pose the greatest risk for potentially exacerbating this patient’s risk of a seizure?
   a. General polishing
   b. Subgingival irrigation
   c. Ultrasonic scaling
   d. Root planing
   e. Toothbrushing

2. Each of the following must be identified before treating this patient EXCEPT one. Which one is the exception?
   a. Type of seizure
   b. Frequency of seizure episodes
   c. Degree of control
   d. Known precipitating factors
   e. Change in mental status

3. Should a seizure occur while treating this patient, emergency medical assistance be summoned if the seizure lasts longer than?
   a. 5 minutes
   b. 10 minutes
   c. 15 minutes
   d. 20 minutes
   e. 30 minutes

Resources


