



Types of Seizures

- Generalized
 - Traditional
 - Big bad ones - grand mal
 - Little bad ones - petit mal
- Partial
 - Weird ones - psychomotor (T p.1464; see also **Andromeda Strain** and **Terminal Man** - Michael Crichton, MD)



Pseudoseizures


- Very common
- Capable of purposeful activity during the seizure
- Reflex tests may assist diagnosis
- Squinting of the eyes is a classic presentation
- Pain response may or may not assist



Generalized Seizure


Phases

- Aura
- Loss of consciousness
- Abrupt body rigidity (tonus)
 - Apnea
 - Decerebrate posturing
- Jerking
 - Symmetric, rhythmic (clonus)
 - No purposeful movements
 - 60 - 90 sec.
- Postictal
 - Confusion which gradually improves
 - No recall of the seizure



Absence Seizures


- Abrupt ALOC
 - no response to stimuli
- Without muscle
 - rigidity (tonus)
 - posturing
 - jerking (clonus) - except eyelids
- no postictal confusion



Partial Seizures

Simple


- no ALOC
- “Jacksonian”
 - localized , focal tonic-clonic seizure
 - may progress to generalized “Todd's paralysis”



Partial Seizures

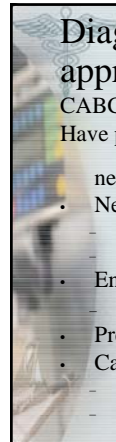
Complex

- ALOC
- “Temporal” or psychomotor
 - Wandering
 - “no purposeful activities”
 - Mumbling, lip smacking
 - Rage
 - Distorted perceptions and emotions



Status Epilepticus

- Defined as :
 - 2 or more seizures without regaining consciousness
 - Continuous seizures
 - ≥ 30 min.(R/O status after 10 min.)
- Mortality
 - 1 - 10% (same as MI +/-)
- Early intervention
 - Prevent death
 - Long term disability
 - May require RSI




Diagnostic and Therapeutic approach

CABCDE / COMEBIG


Have potentially life-threatening cardiovascular, toxic, environmental, neurologic and pregnancy causes been excluded

- Neurologic
 - Delirium / hypoglycemia
 - stroke
- Environmental
 - heat stroke
- Pregnancy
- Cardiovascular
 - arrhythmia
 - shock



History

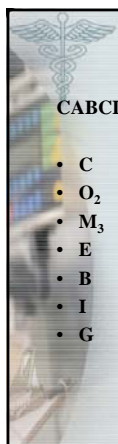
- PMH: seizures, trauma, CV disease, meds, alcoholism, DM, cancer
- Circumstances of the seizure?
 - Witnessed?
- Focal / Generalized
- ALOC
- Incontinence
- Rate of recovery



Physical Exam

2 TIPS AEIOU

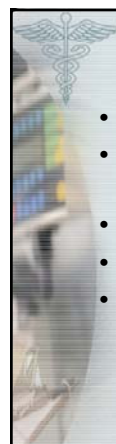
- VS
 - BP
 - HR
 - RR
 - T
 - O₂ sat
- HEENT
 - trauma
 - tongue
- NECK
- GU
- NEURO



Seizure Initial Treatment


CABCDE and CO₂M₃EBIG

- C spine, if any question of trauma
- O₂ NRB or NC; O₂
- M₃ BP / cardiac / O₂ sat. pulse oxymetry
- E expose (possible trauma; possible heat stroke)
- B blood for labs ("all tubes" - red, purple + blue)
- I IV NS 10 mL / hr or fluid challenge
- G glucose check



The Seizing Patient


- CO₂M₃EBIG
- O₂ / IV volume PRN / rule out dysrhythmias
- vital signs
- keep patient in coma position / comfort
- loosen restrictive clothing



Actively Seizing

For the actively seizing patient

- Coma cocktail
- pharmacological agents of choice
 - Diazepam 5 - 10 mg IV or Lorazepam 2 - 5 mg IV
 - Midazolam 1 - 10 mg IV
 - Magnesium 1 - 2 grams IV
 - Lidocaine 1 mg / kg IV
 - RSI
 - new therapies (vagus nerve stimulation device)



Summary

We have discussed:

- the pathophysiology of seizures.
- assessment findings in seizures.
- some common causes of seizure.
- potentially life-threatening causes of seizures.
- the comparison of various causes of seizures.
- the need for rapid intervention and management of a patient with status epilepticus.
- the need for transport of a patient with a first time seizure.