

Case # 08

MRK

Chief Complaint

24-year-old female

- ▶ 911 is called
- ▶ To a social event (pool party at a private house)
- ▶ Generalized seizures

Save Cinderella



What could cause it?

Priorities:

- ▶ H/o seizures? Yes/no?
 - ▶ Medication changes?
 - ▶ Illicit drug/EtOH use/withdrawal?
 - ▶ Infection?
 - ▶ Trauma?
 - ▶ Intracranial bleeding?
 - ▶ Tumor?
 - ▶ Hypoglycemia?

Other important considerations

- ▶ Hyperglycemia
- ▶ Uremia
- ▶ Hepatic encephalopathy
- ▶ Hyponatremia
- ▶ Vit B-6 deficiency

What can you do as an EMT?

- ▶ Establish IV
- ▶ Fluids?
- ▶ CBG?
- ▶ Lorazepam 1 mg IV x 4
- ▶ Transport to ED?



ER management: Seizures

Stabilization

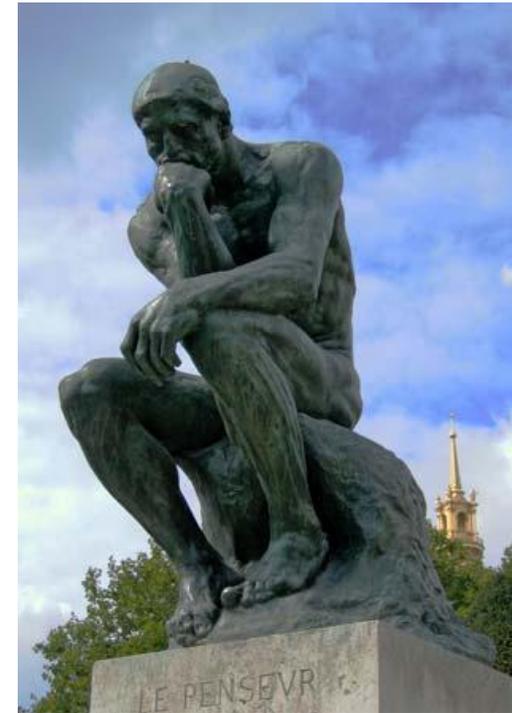
- ▶ Another seizure
- ▶ Lorazepam 2 mg IV
- ▶ Dextrose with 1 dose of thiamine
- ▶ Loading dose of fosphenytoin 20 mg/kg
- ▶ Propofol infusion started 40 mcg/kg
- ▶ Remember Michael Jackson!

Investigation

- ▶ Drug serum screen
- ▶ Pregnancy test
- ▶ Blood and urine cultures
- ▶ CT ordered, but she dropped pressure to 80/40. thoughts?
- ▶ Propofol can cause hypotension, she was switched to midazolam. CT was WNL

More results

- ▶ BMP-WNL
- ▶ CMP-WNL
- ▶ HCG (-)
- ▶ CBC – WBC 20,000
 - ▶ Neutrophils 78%
 - ▶ Lymphocytes 17%



Pertinent

Positives

- ▶ Frequent seizures, without return to baseline neuro status, lasting longer than 5 minutes
- ▶ Seizures refractory to Propofol, midazolam, and fosphenytoin loading dose
- ▶ Elevated WBC, increased neutrophils

Negatives

- ▶ Head CT
- ▶ BMP
- ▶ LFT
- ▶ Renal function

Summary in one sentence

- ▶ 24-year-old female with new onset generalized seizures, now in status epilepticus, despite propofol, midazolam, and fosphenytoin, with elevated WBC with elevated neutropils.



Fam is here!

PMH

- ▶ Bike accident at age of 15
- ▶ S/p splenectomy
- ▶ ED visit 1 month ago: dehydration, vomiting x 36 hours, given fluids and Zofran
- ▶ Recent UTI 5 days ago, treated with Abx

Social history

- ▶ Hiker
- ▶ Works in animal shelter

The smoking gun: SPLEEN

The role

- ▶ Spleen processes encapsulating organisms :
 - ▶ Streptococcus (pneumococcal) pneumonia
 - ▶ Neisseria meningitides
 - ▶ Klebsiella pneumonia
 - ▶ Haemophilus influenzae type b,
 - ▶ Group B Streptococcus
 - ▶ Salmonella typhi

Vaccinations

- ▶ **Pneumococcal q 6 years**
- ▶ **Meningococcal q 3-5 years**
- ▶ **Haemophilus influenzae (Hib) q 3-5 years**

What's next?

- ▶ LP?
- ▶ Unable to perform safely d/t/ seizures
- ▶ Possible bugs:
 - ▶ Staphylococcus pneumonia
 - ▶ Neisseria meningitides
 - ▶ group B Streptococcus
 - ▶ Haemophilus influenza
 - ▶ Listeria monocytogenes (age>80)
- ▶ Antibiotics:
 - ▶ Ceftriaxone (Rocephin) for 1&2
 - ▶ Vancomycin (MSSA & MRSA)
 - ▶ Ampicillin for Listeria
 - ▶ Acyclovir - Viral

Meningitis s/s

Meningitis Symptoms in Adults			
These symptoms may not all occur at the same time			
			
Vomiting	Headache	Drowsiness	Seizures
			
High Temperature	Joint Aching Joint Pain	Stiff Neck	Dislike of Light
Meningitis Symptoms in Children			
These symptoms may not all occur at the same time			
			
A high-pitch Moaning Cry Whimpering	Dislike Of Being Handled, Fretful	Arching Back, Neck Retraction	Blank, Staring Expression
			
Difficult to wake up or very lethargic	Fever & may have cold hands & feet	Refusing feeds or vomiting	Pale, Blotchy Skin Color

Signs of Meningism

▪ Kernig's Test

- Performed with the patient supine or in a chair.
- The hip and knee are flexed to 90° and attempt is made to extend the knee.
- The test is positive if the manoeuvre causes pain in the neck or back.



▪ Brudzinski's Test

- Flexion of the neck causes flexion of the hips and knees.



Two more diagnostic tests

cEEG

- ▶ continuous electroencephalograph
 - ▶ Effectiveness of anti-convulsive therapy
- ▶ LP done under short-acting neuromuscular blocking agent: Rocuronium 50 mg

LP

Typical CSF Findings in Meningitis					
Type	Appearance	Pressure (cm H ₂ O)	WBC/mm ³ Predom type	Glc (mg/dL)	TP (mg/dL)
Normal	Clear	9–18	0–5 <i>lymphs</i>	50–75	15–40
Bacterial	Cloudy	18–30	100–10,000 <i>polys</i>	<45	100–1000
TB	Cloudy	18–30	<500 <i>lymphs</i>	<45	100–200
Fungal	Cloudy	18–30	<300 <i>lymphs</i>	<45	40–300
Aseptic	Clear	9–18	<300 <i>polys → lymphs</i>	50–100	50–100

Thank you for saving Cinderella

