11//20 Neuro Morning Report with @CPSolvers

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CC: Seizure

HPI: 47-year-old male presents with generalized tonic clonic movements while sleeping without incontinence. Increasing somnolence during past 1-week; He has had his valproic acid dosing changed along with the addition of risperidone

PMH: Thombophilia with CRAO, DM (poorly controlled), CVA 10yrs ago, constipation, depression, prior suicide attempts, bilateral sensorineural hypoacusis, Mood disorder

Meds: Pradaxa 110 mg, Toujeo (Glargine) Insulin 40U/day, Humalog (Lispro) SS. Valproate 500, Galvus Met (Metformin with vildagliptin) 50/1000 twice a day, Atorvastatin 10 mg, Risperidone, Esomeprazole.

Fam Hx:

Soc Hx: Peruvian.

Health-Related Behaviors:

Allergies:

Vitals: **T**: afebrile **HR**: 123 **BP**: 120/60 **RR**: 21 **SpO_2**: Nml
Exam:
Systemic: PEERLA, able to follow examiner with eyes
Neuro:
- **Mental Status:** psychomotor agitation
- **Cranial Nerves:** Normal
- **Motor:** Normal, non focal
- **Reflexes:** Normal
- **Sensory:** Normal
- **Cerebellar:** Normal
- **Other:** 3 days later he was able to follow all motor commands. Clumsiness.

Notable Labs & Imaging:
Hematology: Nml
Chemistry: Glu: 175 mg/dL, Na; 132 mmol, Plts: nml, Lactic Acid: 44 mmol, VA level: low to WNL

Tox Screen: normal

Imaging: CT head w/o contrast: Deep grooves/fissures, cortical subcortical hypodensities compatible w/ischemic stroke, subcortical hypodensity on left c/w encephalomalacia

DW-MRI Brain: Ischemic sequelae in both lobes most prominent in temporal lobes, alteration in the blood brain barrier on Diffusion Restriction
Muscle Biopsy; Mitochondrial abnormalities consistent **MELAS (Mitochondrial encephalomyopathy, lactic acidosis, and stroke-like episodes)**

Problem Representation: 47-year-old presenting with new onset seizure w/PMHx of thrombophilia, previous CVA and mood disorders controlled with valproic acid and risperidone. Labs notable for lactic acidosis and multiple strokes on imaging.

Teaching Points (Maria): #EndNeurophobia
- **Seizures:** Real Seizure? (TIA, psychogenic, syncopes) → Systemic vs Neurologic? →
  - **Provoked** - acute reversible causes (Hypo everything Mg, Na, glucose), toxins, medications (new or new changes), infections (Neurocysticercosis - MC cause in world). May not need long term antiepileptics.
  - **Unprovoked** - or chronic: prior brain injury (parenchima, vascular - bleeding, ischemia, do not forget venous sinus or cortical vein thrombosis. Prior stroke - MC cause in developed countries), genetic causes.
  - Focal (w and w/out loss of consciousness) vs Generalized (tonic clonic) or Focal → Generalized.
  - **Postictal state:** Paralysis (Todd's), non-convulsive status epilepticus (Active EEGs), very sleepy and confused.
  - Irritative (seizure) moves eyes away from lesion; Ablative (stroke) move eyes towards lesion.
  - "At night" - EEGs are usually done btwn awake-sleep transitions.
- **Neurocysticercosis:** *T. solium.* MC illness script - calcified form, no focal deficits, new onset seizures and/or migraines. No need for antiparasitics at this stage
- **Stroke:** Buckets: Vessels (atherosclerosis, vasculitis), heart (AFib) or blood itself (hypercoag state). Oooor demand-supply mismatch: NO displacement of oxygen.
- **Mitochondrial disease:** Veryyyy rare. MELAS (not so rare - 1/4000) - mitochondrial encephalopathy, lactic acidosis and stroke-like episodes (NO mediated - cortex that doesn't conform to vascular territories).