2/28/22 Morning Report with @CPSolvers

***Case Presenter**: Reza (@DxRxEdu) **Case Discussants**: Rabih (@rabihmgeha)*

CC: Confusion and disorientation

HPI: 65 year old male brought to ED by his daughter for confusion. Previously able to do ADLs. Over last few days he didn't seem his usual self. He seemed disoriented and she noticed his hands shaking.

PMH:
Bipolar disorder

Meds:
Lithium

Fam Hx:

Soc Hx:

Health-Related Behaviors:

Allergies:

Vitals: **T**:37.6 **HR**:110 **BP**:170/100 **RR**:nl **SpO_2**: nl
Exam:
Gen: Awake
HEENT:
CV:
Pulm:
Abd:
Neuro: Repetition of questions asked (perseveration). Follows commands. nl strength. Reflexes difficult to elicit. Bilateral tremor
Extremities/Skin:

Notable Labs & Imaging:
Hematology:
WBC:nl Hgb: mild anemia Plt:

Chemistry:
Na: K: Cl: CO2: BUN: Cr: 1.6 (baseline 0.9) glucose: Ca: Phos: Mag: AST: ALT: Alk-P: 300 (chronically elevated) T. Bili: Albumin: TSH- nl, Serum alcohol and Urine tox-neg, GGT- negative, PTH- nl

Imaging: Evidence of Paget's disease

Evolution: Cr downtrended with hydration

Final dx: Li neurotoxicity + Paget's disease

Problem Representation: A 65-year-old male on lithium, presenting with confusion, disorientation, and tremors with evidence of chronically elevated alkaline phosphatase

Teaching Points (Seyma⭐):

- **AMS**: **M**etabolic (electrolytes)-**I**nfection (e.g. HSV-encephalitis)-**S**tructural (subdural hemorrhage)-**T**oxins (opioids, withdrawal), Psychiatric (dementia +/- delirium) → TIME course!
- Focal-neurological deficit, unilateral deficit → prioritize structural problem
- Persevations → consider frontal lobe dysfunction
- Physiological Sinustachycardia → prevents from hypotension
- **Sympathetic toxicity**: Diaphoresis, enhanced physiological Tremor, Tachycardia, Hypertension →e.g. Serotonergic syndrome, MNS, withdrawal (EtOH, Benzos), endogen (hypogylcemia, pheo, hyperthyroidism, seizure); Note: Li-Toxicity can mimick SS and MNS
- **Tremor:** Resting (Parkinson's), Cerebellar (Intention), (enhanced) physiological (Sympathetic toxicity)
- **AKI in elderly**: meds (e.g. Lithium), BPH-urinary retention, hypovolemia
- **Alk-P↑**: Is it bony (pain!) or liver-mediated?
  - Other causes: Lithium!, pregnancy, paraneoplastic
  - Bone: Osteomalacia, bony tumor, prostate cancer
  - Chronic Alk-P elevation w/o pain: classic for Paget's dz → usually not painful!
  - Note: Alk-P is usually normal in multiple myeloma
- **Lithium-toxicity:** tremor, nephrogenic DI (polyuria, polydypsia), encephalopathy, ALK-P elevation (--> primary hyperpara due to PT hyperplasia); alteration of bone homeostasis), hyperthyroidism
  - Also consider the **SILENT syndrome**: mostly w/ normal/low Li-levels w/ apathy and later ataxia
  - Acute Sx: GI (diarrhea, nausea), Neuro (late->tremor, ataxia, seizure, myoclonus), no renal, cardiac (Qt prolongation)
  - Chronic Sx: Neuro (early), Renal (chronic int. Nephritis, nephrogenic DI, RTA1)