10/3/24 Morning Report with @CPSolvers

"One life, so many dreams" Case Presenter: Anh Dũng Trần*(@)* ***Case Discussants****: Rabih(@rabihmgeha) and Sawsan(@*sawsan_Hs*)*

CC: 72 yo female p/w **AMS**

HPI: left hand cramping, nausea, no vomiting, she was diagnosed with a **vestibular problem** and prescribed Mirtazapin und **Piracetam** 5 days prior to admission
in the primary hospital was found to have electrolyte disarrangement followed by **dysarthria**.
Na level at first hospital 100. Started hypertonic saline. Na level next day 124.
unconscious

PMH: long term HT, DMII,

Meds: Valsartan and hydrochlorothiazide, Metformin and Glipizide

Fam Hx: none

Soc Hx: Traveled to China 2 months ago, has a cat

Health-Related Behaviors: no alcohol or tobacco

Allergies: no

Vitals: T: 38 **HR:** 110 **BP:** 150/90 **RR:** 25
Exam: Gen: unconscious, PERRLA
HEENT: dry mucous membrane
CV: no JVD, no murmurs
Pulm: nl, **Abd:** nl
Neuro: GCS 7, positive hoffmann sign (upper motor neuron lesion)
Extremities/skin: dry skin

Notable Labs & Imaging:
Hematology:
WBC: 10.6 Hb 12.2 Plt: 281

Chemistry:
Na: 126 K:3.4 Cl: 101 HCO3:12.7 BUN: 14 Cr: 0.5 Glu: 162
Normal thyroid function

ABG ph 7.46 CO2 20, HCO3 12.7 Anion gap 11.8 (resp-Alk)
12 hours later: Ph 7.33 co2 12 HCO3 6.3 Anion gap 19.7, lactate 1
Urine: protein neg, Ketones 7.8, leukocytes neg

Imaging:
CXR: nl
LP: 340 WBC, neutr 94%, Glc 4.5 (Units?), protein 0.42
Repeated LP 5 days after ceftriaxone initiation showed WBC 5, normal Glc and normal Protein
Brain MRI: nl. Repeated 1 week later: classic findings of osmotic demyelination syndrome

Dx: Meningitis (ceftriaxone), euglycemic DKA and osmotic demyelination

Problem Representation: A 72 y/o male with a PMH of HT and DMII p/w AMS, dysarthria, unilateral hand cramping and nausea. On exam he showed an elevated body temperature with dry skin and mucous membranes.Labs were notable for hyponatremia and respiratory alkalosis.. His urine culture showed elevated ketones in the setting of an euglycemic DKA: LP was performed and was suggestive for for a bacterial meningitis. 5 days after treatment w/ceftriaxone his level of consciousness decreased 2/2 osmotic demyelination after a hypertonic saline drip.

Teaching Points(Parisa):
Being Altered (reduced level of arousal; diffuse cortical problem; systemic issue bathing cortex(metabolic causes intoxication; infectious; dehydration); same as prerenal kidney injury; not perfusing brain enough) vs confused d/t personality changes
Verbal expression difficulties or speech issue → **Dysarthria** (subtitle would fix the problem; cerebellum to lips; mechanical; motor) vs **aphasia** (subtitle does not make sense; localized to frontal Broca's vs temporal Wernicke's)
Infections (brain vs systemic) → {Empirical Abx meningitis: ceftriaxone; vanco; ampicillin; dexa;aciclovir} → 3Hs (day1) → Drug induced fever: hyperthyroid; hematological emergency (transfusion reactions, TTP); hyperthermic
Primary respiratory alkalosis → lung issue hyperventilated(PE asthma) vs substance(hyperthyroidism, salicylate, ammonia)
Hyperthermia(forced temperature elevation → hypothalamus is not in control of body temperature; generating more heat than dissipates; exposure related or spontaneous) vs **Fever(**hypothalamus choosing to increase T temporarily d/t infectious causes, skin is wet in this category)
Spontaneous hyperthermia (Skin and muscle-related problems resulting from drug-induced effects) → pathologic sustained muscle contraction; creating heat → reasons: baclofen withdrawal; serotonin syndrome; NMS
In the endemic region (Vietnam), bacterial meningitis can be mimickers of TB meningitis or Streptococcus suis
Progression AG and stable respiratory alkalosis → **salicylate acidosis**
Osmotic demyelination syndrome →myelin sheath destruction d/t rapid osmotic shifts following swift correction of hyponatremia