03/21/24 Morning Report with @CPSolvers

"One life, so many dreams" ***Case Presenter****: Laura Pax* ***Case Discussants****: Rabih (@rabihmgeha) and Navpreet (@navpreetcheema1)*

CC: Unidentified/unknown age (probably 30´s) M patient is taken to the ED for altered mental status of unknown duration.

HPI: Patient was found obtunded on the ground on a bus station, minimally responsive. On arrival to the ED, BP= 80's. HE received a dose of naloxone with mild improvement of RR and bradycardia. He was put on a drip with naloxone and given empiric ATB (ceftriaxone & vancomycin). He was directed to the ICU.

PMH: unknown

Meds: unknown

Fam Hx: Unknow

Soc Hx: Unknow

Health-Related Behaviors: Unknow

Allergies: Unknow

Vitals: T: 30.4°C **HR:** 55 **BP:** 121/87 **RR:** 15 **SatO2:** 100%
Exam: Gen: no acute distress, GCS 7
HEENT: superficial abrasions, pinpoint pupils
CV: bradycardic, regular, no murmurs
Pulm: clear bilaterally
Abd: non remarkable
GU: clear urine on Foley catheter
Neuro: obtunded, no responding to pain, no focalizing
Extremities/skin: no edema, palpable pulses

Notable Labs & Imaging:
Hematology:
WBC: 2.7 (Neutro: 2.5, Lympho 0.1, Monocytes 0.1) Hgb: 12.6 HCT: 37.8 Plt: 227
Chemistry:
Na: 131 K: 3.4 Cl: 93 CO2:24 HCO3: BUN: 22 Cr: 0.7 glucose: 133 Ca: 8.5 protein: 6.5 AST: 28 ALT: 19 Alk-P: 67 Albumin: 3.1 Total Bili: 0.7, D. Bili: 0.1
Lactate 2.4 → 1.3 Troponin: 2
UA: SG 1.029, pH 5, 2 + protein, - glucose, - ketones, - bilirubin, 2+ urobili, 2-5 WBC < 3 RBCs per HPF
INR 1.2, CPK 2.01, TSH 1.63, acetaminophen <10, ETOH: <10, urine drug screen: neg
LP: WBC 132 (54% neu 36% leuc), prot 226, gluc 25.
Imaging:
EKG: Sinus bradycardia w/49 bpm, TWI in III, AVF, Qtc 543, LVH
CT head: hypodensities in cerebellum → probably chronic infarcts (no comparison) // CT chest: peripheral GGO's, contusion R side, few pulmonary nodules, lower lobe nodule 1.4 cm
CT abdomen: unremarkable
HIV : + viral load PCR 1.26k copies cd4 9 21%
LP: crypto antigen 1: 1280
Non-reactive VDRL, JC virus, MTB (-)
Dx: Newly diagnosed HIV + Cryptococcal meningitis (started on amphotericin B + flucytosine, serial LPs to manage ICP).

Problem Representation: A 30 yo M was found obtunded with altered mental status, being minimally responsive. He was administered naloxone and empiric antibiotics. His vital signs revealed a hypothermia and bradycardia. He had isolated leukopenia and pathological CT head & chest findings. LP results were concerning for meningitis.

Teaching Points (Shreyas):
1. AMS approach: **MIST** (metabolic, infectious, structural, toxins); when was the patient's last known normal, time duration, events prior and post AMS are helpful clues on initial evaluation.
2. It is **useful to create a problem list**: AMS + low HR + low RR + low BP + low temperature as in our case! **Hypothermia** has the least extensive differential **(MCC= exposure related).** Hypothermia can be a cause of bradycardia, but we must explore all causes!
3. Pinpoint pupils + abrasions + AMS is concerning for an intracranial pathology 2º to **trauma**.
4. Ddx (Hypothermia): 1/ **Loss of heat** to environment ; 2/ Loss of heat d/t **vasodilation** 2º to sepsis 3/ Medication induced **impairment of shivering/anorexia/neurologic signalling/hypothyroidism [heat generation]** (esp- antipsychotics). **Hypothermia ⇄ AMS!** For our patient: Rx for sepsis, environment exposure, and non hypothermic causes
5. Ddx (Pinpoint pupils): 1/ **Pontine hemorrhage** 2/ **Opioid overdose** ; Small pupils - **excessive parasympathetic tone** (cholinergic toxicity) and **loss of sympathetic tone** (Horner's). Loss of tone - U/L, CN III lesion- U/L. Parasympathetic ↑(generally B/L): Toxins, opiates/cholinergic meds, hypothermia
6. Isolated leukopenia:1/**Infection**: HIV, Sepsis 2/ **Autoimmune**: lupus 3/ **Drugs**: Antithyroid drugs 4/ **Malignancy**: LGL
7. Massive proteinuria: Think nephrotic syndrome!
8. LP with **low glucose and neutrophil predominance**- we think of bacterial meningitis. MCC of bacterial meningitis = Strep pneumo. Lung nodules + meningitis is concerning for TB, and histoplasmosis. AMS + meningitis also makes us think of Cryptococcus!
9. **TB/ Crypto/Syphilis** can cause vascular damage d/t **extension of arachnoiditis** leading to **infarcts**.
10. Rx of Cryptococcal meningitis: Amphotericin B + flucytosine f/b fluconazole long term. Serial LPs help with elevated ICP in cryptococcal meningitis.