10/16/24 Morning Report with @CPSolvers

"One life, so many dreams" Case Presenter: Mark (@Mark_Heslin) ***Case Discussants: Sharmin (@Sharminzi) and Reza (@DxRxEdu)***

CC: 59 y/o F, new AMS on day 24 of hospitalization

HPI:
Came in with diarrhea due to C diff - initially managed w/ catecholamines and fluids in the ICU. Polyarthritis (elbows, shoulders, bilateral). High ESR, CRP, seronegativity. Started on steroids. Arthritis not responding to steroids, Tocilizumab was started

Intubated for airway protection, initiated on CRT, in the ICU. Extubated

PMH:
DLBCL

Meds:
CAR-T therapy on year prior
Oxycodone 5mg as needed
Oxycodone 2.5mg as needed
Gabapentin 300mg
Baclofen 5mg
Prednisone 40mg (tapered down from 60 on week ago)

Fam Hx:
n/a

Soc Hx: n/a

Health-Related Behaviors:
n/a

Vitals: T: 98.7 **HR:** 80 **BP:** 130/77 **RR:** SpO2: 99%
Exam:
Gen: Cachectic, looked like shes in pain
HEENT: nl **CV:** nl **Pulm:** nl
Abd: nl
Neuro: AOx3, slow to respond, not focal, LE 5/5, **next day AOx1**, to person not to place or time, slower to respond, **3rd day AOx0,** withdrawal to pain
Extremities/skin: active synovitis, in shoulders, elbows, wrists, limited range of motion, no sensory deficits

Notable Labs & Imaging:
Hematology:
WBC: 6.1 (neutrophilic predominance) Hgb: 9.2 Plt: 621
Chemistry:
Na:139 K: 4.9 Cl:108 HCO3:15 BUN:51 Cr:0.77 glucose:normal Ca: 10.5
AST: 84 ALT: 346 Alk-P: 251 Albumin: 3.3 TBili: normal
CysC: 2.7 **AG 20** Cr GFR: 38
B12: normal HIV: -ve VBG: 7.5 7.61 lactate: normal UA: normal Hep Panel neg.
Venous Ammonia: 450 **Arterial Ammonia: 1400** LDH: normal **Urea plasma: +ve**

Imaging:
Renal US: normal RUQ US: normal
CT Head: no abnormality
MRI brain: 2 punctate acute infarcts in L parietal white matter, no surrounding edema/hemorrhagic conversion. New amorphous abnormal T2 signal along the peripheral occipital lobes → **Post Reversible Encephalopathy Syndrome (PRES)**
Background of severe white matter abnormalities → **Combination of chronic small vessel ischemic changes & tx effects**
CTA Abdomen & pelvis: no shunt , LP: bland

Dx: Ureaplasma bacteremia causing severe hyperammonemia (and thus AMS) and potentially septic polyarthritis

Problem Representation: 59F had new AMS on day 24 of hospitalization. PMH SLBCL, tx with CAR-T therapy. Went from AOx3 to AOx0 by day 3. She had active synovitis with limited ROM & severe pain. MRI brain showed PRES, AG 20, Arterial Ammonia 1400 & positive urea plasma → confirming dx.

Teaching Points (HEE):
Approach of 59F with new AMS after 24 days in hospital; broad differential includes MIST :metabolic, infection, stroke, meds, and neuro causes. Focus on mental status changes, long hospitalization causes and complications, and evaluate potential hospital-related complications

HPI/PMH: Seronegative polyarthritis raises questions but doesn't exclude; worsening clinical syndrome. Consider prednisone duration, possible relapse lymphoma . Evaluate CMP, infection, toxin for management.

LAB and Physical exam: Pt and bystanders unable to provide input—slow down; day 24, consult nurses, assess focal neuro deficit vs psych/global (acute/chronic); review meds (gabapentin, oxycodone, prednisone), check for hyper/sedation, toxic/metabolic (LFTs); consider monophasic vs biphasic patterns. Metabolic acidosis (↑lactate), hypercarbia, dehydration, exogenous alcohol; renal decline → gabapentin too high, baclofen, prolonged hospitalization (infection), autoimmune.

VBG shows increased ventilation due to pain; pCO2 15, cachexia clues to kidney injury discordant BUN/creatinine ratio—creatinine is a marker of muscle mass (low in cachexia), while BUN reflects amino acid metabolism and urea cycle(increase) **UA :** glomerulonephritis, autoimmune, and joint pain; assess for leptomeningeal involvement, diffuse large B-cell relapse invading liver, joints, kidneys; consider **MRI with gadolinium and EEG.**

DDx: High arterial ammonia (1400) causing brain permeability issues and neurological sequelae; consider urea cycle disorder, bypass, urease-producing organisms(ureaplasma), UTI, cirrhosis (unlikely, negative UA lab), or portal systemic shunt.//High-dose prednisone ->malignant transformation,meta, recurrent lymphoma-> Plan: reduce ammonia—consider rifaximin ->**urea cycle enzyme negative-> Ureaplasma bacteremia**
DX: Ureaplasma