



04/29/24 Morning Report with @CPSolvers



"One life, so many dreams" Case Presenter: Dr. Ghaznavi (@CGhaznavi) Case Discussants: Dr. Spottiswoode(@NSpottiswoodeMD)

CC: 70s yo F with PMH of ESRD on HD and HFrEF(55%), AF on apixaban, pancytopenia, hypothyroidism, chronic HBV infection presented with generalized weakness and AMS for 2 weeks

HPI: Her daughter noticed the pt didn't function well in recent weeks, presenting as more confused than usual. She was able to walk for short distance even upstairs and express herself very well before but have trouble in walking and speaking recently. No fever, SOB and GI discomfort. Generally the pt feels very weak.

PMH: as HPI

Fam Hx: schechphenia in her son

Meds: apixaban Lasix Gabapent in, Midodrin e, tenofovir

Soc Hx: originally from Indonesia, husband passed away, not sexually involved, no tobacco, alcohol, lived in California

Health-Related Behaviors: no strange animal contact
Allergies: None

Vitals: T: 36.5 HR: 100s turned to 170s (hypotensive) BP: 100/60 RR: SpO2 94% @RA
Exam:
Gen: generally weak and altered, A&O X2 **HEENT:** normal **CV:** **Pulm:** clear **Abd:** normal
Neuro: A&Ox2 initially, at floor: A&OX0, moving all the extremities spontaneously, only speak native language

Notable Labs & Imaging:

Hematology:

WBC: 5.3 Hgb:8.1 (bs 9-10) Plt: 118 -> retest with stable WBC and Hgb

Chemistry:

Na: 135 K: 5 Cl: 94 HCO3: 29 BUN: 45 Cr: 5.85 Ca:9.6 (elevated to 12.3) AST: 66 ALT: 24 Tbil 1.8; LP: CSF glucose 59, protein 26, RBC 1, WBC 0

The pt had 9 days at ICU on pressor and CRRT

Infectious workup: RPR neg, blood Cx neg, coxi antibody neg, crypto antigen neg, HIV neg, histo antibody neg, histoplasma antigen slightly elevated; AFB neg, clear smear, EBV and HSV (serum and CSF) neg, fungal Cx neg. Wilson test nl, autoimmune panel nl

Imaging:

CXR: large cardiac silhouette, clear lungs; Head CT: non acute changes no space occupation; Echo: no finding for IE

D2 ICU: CT abd: generalized lymphadenopathy with necrotic appearing. D6 ICU: MRI brain: new punctate infarcts

The pt was downgraded to floor: ill and delirious, tachycardia

Sputum Cx: positive NTM; FNA Biopsy of lymph nodes: neg in staining, cx neg, hypocellular and necrotic

->The pt get better in functioning w/o treatment. After 20ds, MRI showed new embolic shower phenomenal. The pt become more hypoxic and need more oxygen, CT chest: new and increased diffuse bl pulmonary nodules

Cx still neg, serum metagenomic testing neg, TEE: no vegetation or thrombus, normal

Repeated LP: 5 nucleated cells, glu low, protein nl, unremarkable; Lymph node core biopsy: positive for AFB organism; PET scan: no malignancy evidence.

Genetic testing: mycobacterium tuberculosis positive

On 31 days sputum successfully obtained again: TB growth

Dx: TB infection

Problem Representation: 70 yo F with PMH of ESRD, AF, HFrEF and chronic HBV presented with generalized weakness and AMS. She became tachycardia, hypotensive, hypoxic and found to have hypercalcemia, military pulmonary nodules and necrotic lymphadenopathy.

Teaching Points (Parisa):

Immunosuppression due to ESRD, HD, HBV (cirrhosis).

Which organ system is involved → AMS → CNS → meningitis;

encephalitis; typical (strep pneumo, staph)/ atypical (listeria; syphilis; TB)/ fungal (valley fever; cocci; cryptococcus neoformans; gatti ; histo)/ viral (herpes HSV 1, 2)/ parasite; **internal organs** → cirrhosis (HBV)

Sepsis → metabolic strain → RVR

LP characteristics → **Bacterial** (elevated protein; low Glc; neutrophil)

myco (high protein; low Glc; neutrophil/lymphocyte) **virus** vary (could be normal high protein; slightly low Glc not neutrophil dominant)

Bac meningitis → always consider due to high morbidity but it is Rare

Lab test => negative predictive value → Cryptococcal antigen>> galacto >

Beta D glucan; **Histoplasma antigen** more variable, could cause

pancytopenia, high ferritin; Quantiferon gold is not reliable for active TB, acceptable for latent.

Generalized LAD + necrotic → possible vascular process; endovascular IE Endocarditis → TTE; serology (based on RF);

IE culture negative → receive ABx earlier, organism is not culture easily → fungal; zoonotic (bartonella; coxiella; brucella)

Hypercalcemia → granulomatous process (TB; Histo) → R/o

Disseminated mycobacterial infection → AFB blood culture; LN bx(fungus; TB; NTM); LP AFB culture.

Finding non culturable organism → **1)** Metagenomic sequencing (plasma; CSF) **2)** universal PCR (classic pathogens; bac; fungai; mycobacteria; not for viruses)

→ Indication(Neutropenia; IE non culturable ; pulmonary lesion in IC patients; clear source of infection not able sample(CNS) ; FUO)

Elevated calcium + AFB(+) in core biopsy + military pattern →

disseminated mycobacterial process (TB; NTM)

Patients from endemic area → reactivation of TB in the context IC; repeat testing when patient is deteriorating.