3/13/23 ID Morning Report with @CPSolvers

***Case Presenter**: Dr. Jorge Salazar (@Jorge_SalazarMD) **Case Discussants**: Dr. Monica Gandhi (@MonicaGandhi9)*

CC: Generalized weakness, fatigue, weight loss

HPI: 44 yo transgender woman with recent diagnosis of HIV/AIDS **(CD4 14, VL 2 million)**; next day went to ED. Prior to admission - seen in clinic for HIV intake after positive HIV screen, obtained labs, and started on ART. Sent to ED after labs came back with some abnormalities. Past 3-4 weeks, feeling unwell, fatigue, generalized weakness (barely able to get out of bed). **Unintentional weight loss ~80 lbs.** No dyspnea, but chronic non-productive cough for years, somewhat worse in past weeks

No fevers, chills, sweats, abdominal pain, vomiting, diarrhea, rashes. Dysphagia.**R eye blurry vision (past year). Frontal headaches with some photophobia (past 2 weeks, intermittent, sharp in quality)**. No neck pain, no confusion. **Tinnitus bilaterally**

PMH:
R corneal ulcer (2020)
Substance use Psychosis NOS
Meds:
Took Bitarvy for 1 day

Soc Hx/Health-Related Behaviors:
Living in Southern California, now in SF
-Living in an SRO; has access to food
-Uses IV drugs; drinks daily
-Past sexual partners (men and women) not currently sexually active. Never previously on PreP
-No exotic or farm animal exposures
No allergies; unknown FHx

Vitals: **T**: 98.6F **HR**: 90 **BP**: 102/65**RR**: 20 **SpO$_2$**: 99%
Weight: 112lbs (51.2kg)

Exam: **Gen:** Chronically ill appearing, thin, cchetic, frail, no lymphadenopathy
Mental status: wnl responding appropriately
HEENT: R corneal defect, oral cavity with poor dentition and extensive thrush present
CV: RRR, normal S1/S2, no murmurs
Pulm: Clear, no rhonchi or rales
Abd: Healed midline surgical scar. Soft abdomen, but mildly tender diffusely. No rebound or guarding.
Neuro: CN intact, moving extremities normally, no nuchal rigidity
Extremities/Skin: No lower extremity edema, no rashes

Notable Labs & Imaging:

Hematology:
WBC: 2.9, ALC: 0.21 Hgb: 12.1 Plt: 92; CD4: 13/4%
Chemistry:
Na:125 K: 4 Cl:91 CO2: BUN: Cr: 0.9 glucose: 68 AST: 77 ALT: 57 Alk-P: 914 T. Bili: 0.4 Albumin: 2.4
ID work up: Adeno, metapneumo, Flu, RSV, Rhino, Entero, Bordetella, mycoplasma and Chlamydophila all negative
COVID: negative; CMV: negative; HSV: negative
Syphilis: Positive 1:256
Beta d-glucan: >500
Chronic Hep B, with immunity; Hep C: Negative; Hep A: negative
Serum CrAg: 1:1024 (serum)
VLDR: negative
Imaging:
CT Head: Unremarkable, no midline shift
CXR: Patchy opacities within L retrocardiac region, no effusion
CT Chest: Ground glass opacities bilaterally, no effusion
CT Abd: enlarged liver with severe periportal edema, mild intra-hepatic biliary ductal dilation. GB and extrahepatic biliary ductal wall edema with mucosal hyperenhancement. Spleen normal, no LAD present.
LP: opening pressure 14; WBC: 2(lymph 56%; PMN1%, monos 43%); 0RBCs, protein 48 glucose 33

Lungs(BAL): **PJP positive, Cryptococcus positive**
Blood Culture: **Grew cryptococcus (2/2)**
On empiric PJP treatment
Initially treated with Fluconazole

Final Dx: Disseminated Cryptococcus (CNS, blood and pulm), PJP pneumonia, suspected otic syphilis in the setting of advanced HIV/AIDS.

Problem Representation:

Teaching Points (Yaz):

On immunocompromised px → Check the CD4 count
4 infectious etiologies:
1) Bacteria: TB vs. non-TB, "weird" gram (+) that could be a mix or Nocardia, "weird" (-) usually pyogenic
2) Fungal → PCP is the #1, endemic fungi (histo, blasto, coccidio/paracoccidio)
3) Parasites
4) Viral

Keep a category for non-infectious etiology: paraneoplastic sx vs. primary CA (lymphoma)
Headaches Can be caused by Cryptococcus, endemic fungi, mycobacteria, and virus (CMV)
Dysphagia: Most common etiology → Candida
In px with very low CD4 count: Bartonella can cause chronic endocarditis and LP may not reflect the infectious etiology. **Think of more than 1 process**
On PE, remember to look at the oral cavity (thrush? leukoplakia?), poor dentition? (think anaerobes) and don't forget to perform fundoscopy
Next steps:
- Imaging → Head CT to evaluate IP, White matter enhancement, Ventricular size, and posteriorly get a LP
- Serology: Serum CRAG, CSF CRAG, CMV antigen (which may not be conclusive)

Approach to serology findings:
Leukopenia: MAC can infiltrate BM → BM biopsy is the fastest way to dx vs. Lymphoma vs. EBV and CMV
HypoNa: Suggest relation with CNS (meningitis, encephalitis, TB, toxoplasmosis, CNS lymphoma)
Cholangiopathy: Main differentials → **HIV, CMV, Crypto, HSV, EBV**
↑ Alk Phos: Liver infiltration
Ground glass opacities: PCP is the most common but also consider infiltrative dx.
Severe immunodeficiencies may show very LOW white count,
↑ CrAG titer: Suggests cryptococcus infection → lung or brain → CSF CrAg and VDRL may be the next step. **The higher, the more dissaminated**
Should I start ATB/Prophylaxis?
No S&S of bacterial dx/ Bland CSF don't consider empiric ATB, and before giving Crypto tx get the LP and imaging. **Do not start ART unless**: severe crypto (↑OP and low WBC) or CNS process that creates a mass effects.
PJP tx with TMP/SMX Vigilate WBC, One dose of Ampho B and continue with Fluconazole OR start High dose fluconazole