01/08/24 Rafael Medina Subspecialty VMR with @CPSolvers

"One life, so many dreams" Case Presenter: Dr. Natasha Spottiswoode (@NSpottiswoodeMD) ***Case Discussants****: Dr. Laila Woc-Colburn (@DocWoc71)*

CC: 55-year-old male with a 30 pack-year smoking history and HLD presenting with headache

HPI:
His symptoms started 3 months ago with some vague discomfort, malaise, fatigue, night sweats, and 20 lbs weight loss. He noticed that he was less active in his job. An outpatient CXR showed lung nodules concerning for malignancy. 2 days ago he developed severe unipolar headache and presented to the ED.

PMH:
HLD
Chole

Meds:
Atorvastatin

Fam Hx: None relevant.

Soc Hx:
Works in construction. Recent church demo - bird and rat droppings. Family in north Mexico. Lives in north CA. Contact with farm animals and cats.

Health-Related Behaviors:
Married and monogamous with his partner. No drug use.

Vitals: T: afeb **HR:** 84 **BP:** 140/80 **RR:** 20 **SpO2:** 98% RA
Exam:
Gen: Chronically ill appearing gentleman
Pulm: Mild expiratory wheeze diffusely
Neuro: Double vision with both eyes open, inattention.
Extremities/skin: No obvious rash or lesions.

Notable Labs & Imaging:
Hematology:
WBC: 5.1 no eosinophilia Hgb: 9.5 Plt: 400k

Chemistry:
BMP and LFTs within normal limits. HIV negative.

Imaging:
MRI: Right cerebellopontine angle T2 hyperintense mass exerting significant mass effect upon the right middle cerebellar peduncle and displacing the right cranial nerve VII/VIII complex.
NSGY consulted, went into the OR, underwent defenestration of arachnoid cyst (fluid was murkier than expected) given mass effect. Immediately after, became febrile and had altered mental status.
HIV viral load, T-cell breakdown, bartonella, q-fever, BC, echinococcal antibody, TB-quant, neurocysticercosis, histo, coccidio negative.
Crypto serum positive, crypto CSF positive.
LP: Pressure 10 cm H20 Glucose: 9 Protein: 689 WBC: 39 (2% neutrophils 98% lymphocytes).
Chest CT: Diffuse nodules in peripheral distribution and spiculated lesions.
Pathology from mass: PCR positive for Cryptococcus gattii.

Final Dx: Cryptococcosis

Problem Representation: 55 yo M w/ smoking hx p/w chronic constitutional sx and acute headache on a background of multiple exposures. Found to have cerebellar cyst, hypoglycorrhachia, elevated protein in CSF.

Teaching Points (Anmolpreet):
I] Immune status is very important to guide the next steps.
II] Smoking+Hyperlipidemia+Headache:- Malignancy/Infection
III] Nodularity in CXR+constitutional symptoms:- granulomatous bucket**.**
IV] Headache is concerning and must be excruciating enough for the construction worker to come up to ER, CT head would be important. Could be anything ranging from SAH to something unrelated.
V] Infectious- endemic fungi; cryptococcosis, histoplasmosis (bird); coccidiomycosis (northern Ca); toxoplasmosis(cats), bartonella; **Non infectious-** cancer, autoimmune
VI] HIV test is not reliable. We need to confirm with **viral load.**
Even if negative HIV test, normal viral load- pts can have low CD4 and they have many infections- **Idiopathic CD4 lymphocytopenia**
VII] Headache: increased ICP? Cavernous sinus thrombosis? As because of **diplopia**, we think of something compressing optic chiasm**., Diplopia shifts our focus more towards some sort of an intracranial mass.**
VIII] CT chest and MRI/CT Head are awaited in this case post which we can decide if Lumbar Puncture is needed.
IX] Chronic history of granulomas in this patient alongwith B symptoms makes us think of TB as well.- sputum, CBNAAT
X] CYSTIC lesion in brain: we need to check differentials for eosinophilia, we suspect cancer too.**we think of parasites!! Rare: Amoebic abscess** as an extraintestinal manifestation in a pt with dysentery.
XI] ECHINOCOCCUS: cystic lesion in brain + lung nodules; releases a lot of cytokines leading to anaphylaxis; we suspect NOCARDIA as well.
XII] NEUROCYSTICERCOSIS: cystic lesion, we look for scolex
Xiii] Low glucose in LP: Ix like TB, overwhelming bacterial Ix, endemic fungi
XiV] High proteins in LP: parasitic, TB , disruption in BBB leading to some leak.
shunt can get plugged up due to high levels of proteins that are produced.
XV] About 15-20% of Cryptococcus do not grow in cultures
XVI] Cryptococcus gattii: pacific Northwest, Vancouver; smoking: Risk factor
-aggressive indolent endemic fungi, can cause prostatitis, osteomyelitis, colitis, endocarditis
XVII] Crypto, Coccidio, Paracoccidio, Histo- don't need to be immunosuppressed to acquire Ix
XVIII] Treatment: liposomal Amphotericin, Flucytosine, Fluconazole
XIX] TB Quantiferon is not ordered to diagnose active pulm TB, it just tells if the body has been exposed to TB