10/22/26 Morning Report with @CPSolvers

"One life, so many dreams" ***Case Presenter****: (@) Mengyu* ***Case Discussants****: Rabih (@) & Evan (@)*

https://clinicalproblemsolving.com/present-a-case/

Scribing (Truth):

CC: agitation

HPI: 26 M, came home and very **agitated**; **intermittent vomiting** over past 3 days. In the ED, spiked a **fever to 38.4 C**, severely agitated with restraints despite dronabinol, midazolam, antipsychotic, precedex (dexmedetomidine). Intubated for imaging. Ceftriaxone, vanc, acyclovir given. Improvement by day 3, extubated, no more fevers. Extubated. Encephalopathy resolved but mild headache. Cef / vanc/acyclovir discontinued. Discharged. **2w later: headache, eye pain persisted, more vomiting, became agitated again**. Febrile to **39 C,** started on abx. Treated with RIPE and dex. Later MRI had resolved leptomeningeal enhancement, PCR TB later came back positive.

Vitals: T: 37ºC **HR**: 105 **BP**: 137/74 **RR**: 28 **Sat**: 97%

Exam: Gen: **Altered, yelling, incoherent speech.**

HEENT: **Right periorbital trauma**

CV: tachycardic with reg rhythm

Pulm: wnl

Abd: soft, nontender

Neuro: extraocular nl. Extremity mvmts nl

MSK/skin: no rash

PMH: None

Meds: ?

Fam Hx: unknown

Social Hx: Smokes marijuana weekly; from Guatemala, works at sawmill

Problem Representation: 26 M with no known PMH presents with subacute, intermittent agitation, vomiting, and headache. He is found to have a lymphocytosis on LP, leptomeningeal enhancement on MRI, and tree-in-bud on CT chest with positive Quantiferon and negative sputum and CSF TB PCR.

Notable Labs & Imaging:

Hematology: **WBC: 14.8** Hgb: 14 Plt: 428

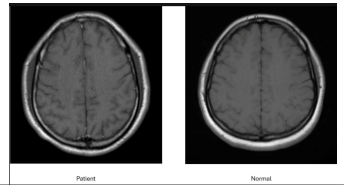
Chemistry: Na: 141 K: 3.4 Cl: 96 **HCO3: 31** BUN: 14 Cr: 0.81 **Glu: 176**

AST: 74 ALT: 74 ALP: 145 T. Bili: 0.9 **Lactate: 4.5** → 1.1 (IV fluids); **CK: 140 TSH low**, T4 nl; Ethanol/Tylenol/Salicylate neg, **Cannabis (+);** Syphilis/HIV neg

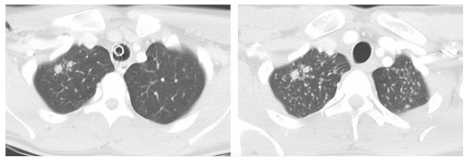
LP: pressure 27, clear, colorless, **cells 186, rbc 38, neut 3%, lymph 87%**, monocytes 9%, **total protein 245, glucose 69** HSV/VZV CSF negative. PCR pending; **Repeat LP**: cells 175, protein 71, additional workup sent **Third LP:** similar to prior VDRL, west nile, enterovirus neg. CSF **oligoclonal bands, IgG 0.96 (high),** myelin basic protein. Cytology: lymphocytosis, anti-thyroid Ab's neg, autoimmune/paraneoplastic pending. Blood culture neg.

Imaging:CT head: no intracranial pathology. CT chest/abd/pelvis: possible **tree-in-bud,** some **LLL bronchial plugs** Paraneoplastic, meningitis panel, fungal panel, ANA/ANCA neg; **Quantiferon (+) but sputum/CSF TB PCR (-)**

MRI: leptomeningeal enhancement



Repeat CT chest:



Teaching Points (Lourenço)

- **Agitation vs confusion:** it's very important to clarify the type of encephalopathy, since it helps to prioritize certain etiologies. Agitation usually occurs when the basal ganglia are affected. Rarely occurs in the context of a structural problem, and so it's more common to be a substance problem (eg., drugs or exogenous toxins, viral encephalitis, autoimmune encephalitis).
- **Severe agitation**: whenever a patient is a risk to himself or others, chemical sedation is necessary, and most likely intubation. In a young patient with encephalopathy and fever, one should think of CNS infections. However, beware that elevated temperature doesn't always equate to fever (remember hyperthermia!).
- **CNS infections**: always rule out bacterial meningitis, due to its morbidity. Although, after 3 days of admission, it is unusual for a patient to develop a fever and agitation in the context of encephalitis. So, think of other etiologies.
- **Glucose consumption**: whenever you see glucose consumption, think of non-viral organisms. Be careful with temporarily elevated serum glucose (with falsely-low LP glucose).
- **Subacute diseases**: these diseases usually come and go. In this context, subacute meningitis + atypical pneumonia is the problem. The etiology depends on the epidemiology. The main considerations are: TB, cryptococcus and coccidioidomicosis.
- **TB testing**: TB is known to be very difficult to diagnose. Either try to confirm the diagnosis through multiple tests of multiples samples, or wait for TB cultures.