9/6/24 Morning Report with @CPSolvers

"One life, so many dreams" Case Presenter: (Patricia) Case Discussants: (Rabih @rabihmgeha) and (Reza @DxRxEdu)

CC: 81 yo man who presented to the ED with AMS and drowsiness

HPI: 5 days ago the patient developed mild headache and fever 105 F (40.5C) contributed to common cold/ flu but the symptoms progressed with fever spiking at 103 F (39.4 C), accompanied by muscle weakness, nausea , and generalized weakness. Two days before presenting, his wife noticed that he was becoming increasingly forgetful and confused. He struggled to find words, had difficulty following simple instructions, and appeared drowsy for most of the day. His balance seemed impaired, and he required assistance to walk due to leg weakness. This prompted his wife to bring him to the emergency department. ROS: no recent upper respiratory symptoms, cough, sore throat, chest pain, or shortness of breath.

PMH:

- HTN
- DM type 2
- CAD
- Atrial fibrillation

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Fam Hx:
No pertinent family history

Soc Hx:
No tobacco use, no alcohol or illicit drug use. Lives with wife in suburbs, no recent travel outside US

Vitals: T: 102.8 F (39.3 C) **HR: 98 BP:** 135/85 **RR: 28 sat: 98 RA**
Exam:
Gen: ill appearing drowsy
HEENT: pupils round and reactive to light, equal size
CV: normal rate and rhythm no abnormal sounds
Pulm: clear to auscultation bilaterally
Abd: soft non tender abdomen
Neuro: patient is not alert, unable to speak , cranial nerves 2-12 intact, deep tendon reflexes 2+ on upper extremity but diminished no lower extremity
Extremities/skin: ⅘ weakness bl LE, sensory: intact; unable to walk, no tremor, fasciculation.

Notable Labs & Imaging:
Hematology:
WBC: 10K Hgb: 13 Plt: 144K CMP unremarkable

CSF analysis: Elevated protein (80 md/dl), Mildly elevated WBC (80 cells/ ul) lymphocyte predominant, Normal glucose 60 mg/dl
CSF viral panel: negative for VZV, HSV, enterovirus
West nile virus IgM in serum and CSF: both positive
Imaging:
CT scan -> no abnormalities, no masses, no hemorrhage

Dx: West nile encephalitis

Problem Representation: 81 yo febrile man who presented with AMS and progressive symptoms including lower extremity bilateral weakness and a final diagnosis of west nile encephalitis

Teaching Points (Zakariyya)

1) **AMS**

Acute causes are often considered first, but variations in time course suggest different diagnosis. **Decreased LOC** typically indicates a diffuse brain issue from systemic disease, especially in the elderly. Focal brain lesions rarely present with reduced arousal alone. **Focal neurological deficits** suggest a brain-related cause for AMS, though **pseudo-focality** is frequently observed in altered patients.

2) **CNS infection**

In AMS, encephalitis is prioritized over meningitis, with viral causes being a primary concern, especially if the spinal cord is involved. **Bacterial clues:** Patients are extremely ill with a sepsis-like presentation. **Atypical causes:** Low platelets can suggest tick-borne illnesses. Fever with AMS is usually not a CNS infection. Clue: AMS in CNS causes appears later as the illness progresses.

3) **Lymphocytic Pleocytosis**

Base rate: Infections, almost always viral Rarer Infections: : granulomatous, parasitic, rickettsia. Other causes: Autoimmune: Systemic = demyelinating. Cancer, drugs

4) **West-Nile Virus**

- 75% - Asymptomatic.
- 24% Symptomatic with mild viral syndrome.
- 1% - Neuroinvasive disease, usually older and immunosuppressed.