03/6/24 Morning Report with @CPSolvers

***"One life, so many dreams" Case Presenter**: Elhadi Elmahdi (@elhadielsadigg)* ***Case Discussants**: Zaven, Hans and Youssef (@SaklawiMD)*

CC: 18 y/o M presenting with loss of consciousness and several episodes of tonic-clonic seizures.

HPI: Patient had continuous tonic clonic seizures, specifically 2 episodes before. He complained of fever and neck pain. The fever progressed and was accompanied by fatigue. He also reported 1 episode of coffee ground vomit before seizure.

He consulted to a hospital where he was given antibiotics and lorazepam due to suspected meningitis. He was transferred and admitted to the ICU.

ROS: Patient feeling unwell, had episodes of diarrhea and abdominal pain. Rest negative.

PMH: No Sickle cell disease in family.

Meds: none

Fam Hx: No history of a similar presentation in relatives.

Soc Hx: He's a student who lives in a low socioeconomic area. He has goats and chickens at home.

Health-Related Behaviors: no smoke, alcohol, or tobacco chewing

Allergies: none

Vitals: T: 39C **HR:** 125 **BP:** 105/62 on noradrenaline **RR:** 25 **SatO2**: 96% intubated + mechanically ventilated.
Exam: Gen: Looks ill, sedated.
HEENT: Pupils equal size with sluggish reaction to light, abrasions on face, lower lip wound, no petechiae.
CV: wnl. **Pulm:** wnl. **Abd:** soft, no organomegaly, shifting dullness.
Neuro: GCS 7/15, no meningeal irritation, no weakness.
Extremities/skin: no rash, multiple skin abrasions on the hand 2/2 falling during seizures.

Notable Labs & Imaging:

Hematology:
WBC: 16k (71% neu 21% lymph) Hgb: 13.3 → 10.4 Plt: 72
PTT: 71 second; PT 16; INR 2.48.

Chemistry:
Na: 153 K: 3.1 Cl: HCO3: BUN: 49 Cr: 1.2 glucose: 79 Ca: 5.8 Mag:
AST: 30 ALT: 52 Alk-P: 228 T. Bili: 0.3 Albumin: CRP: 52
patient was given dexamethasone

Infectious Panel:
Blood Cultures: neg, malaria: neg, Hep C: neg, HIV: neg, *dengue: neg*
LP: normal gluc, elevated prot, lymphocytic pleocytosis, Gram stain: neg
HSV PCR: neg
ANA: neg
Urine tox screen: neg.

Imaging:
Head CT: generalized cerebral edema
Dx: Viral hemorrhagic fever: Dengue fever vs Rift Valley fever

Problem Representation: 18 yo male w/no PMH presenting for fevers and seizures. He was found to have meningoencephalitis and DIC-likely secondary to a viral hemorrhagic fever.

Teaching Points (Tansu):
LOC: Rx > Dx. SCAN (Sugar, CT, ABG/VBG, Narcan) first, assess for 5 S's. Young pt: Idiopathic/Primary epilepsy, (+fever, acute time course) infection, metabolic & toxic causes. VS. Older pts → intracranial process (tumor, ischemic/hemorrhagic stroke).
- Neurocysticercosis: #1 acquired cause of seizures worldwide. Less likely as the presentation is subacute-chronic w/ minimal inflammation.
- Fever + neck pain + LOC+ seizures → Meningitis
- M.C.C. of meningitis in Sub-Saharan Africa: Meningococcus.
- Coffee ground emesis → 2/2 to retching while vomiting or DIC going on? (High PTT, INR, low platelets → entering the world of DIC).
- CP > LP when "TAP AS IF" → Encephalitis (swollen brain on CT) >> meningitis vs. parenchymal issue.
- Bacterial, viral hemorrhagic etiologies → can cause DIC & encephalitis. Get cultures early, send PCR.
- Pneumococcal meningitis tx'd w/ Dexamethasone early (right before or with antibiotics) improves neuro outcomes (m.c. etio for meningitis in the US). // Pt's age and epidemiology → Neisseria m.c., but Dex was still given.
- LP: lymphocytic predominance → Fungal, Tb, Viral, sarcoid, malignancy, syphilis, lyme. Layer on the acute time course, normal glucose → viral (ddx. HSV, VZV, dengue, West Nile, Hantavirus, Ebola-Marburg, Crimean-Congo, Rift Valley Fever).
- Unknown viral etiology but high suspicion for Rift Valley Fever 2/2 outbreaks in Sudan, close contact with goats. Timing of serological tests on day 4 → IgM may still be undetectable.