03/28/24 Morning Report with @CPSolvers

"One life, so many dreams" Case Presenter: Luis Zuniga (@) Case Discussants: Rabih (@rabihmgeha) and Dr. Brett Begley (@)

CC: 51 M; 5 days history of daily fevers, headaches, SOB, night sweats, one episode of non bloody emesis.

HPI: This gentleman visits ER with generalized fatigue, muscle pain, he feels like a "super flu".
ROS (-): Rash, joint pain, dizziness, cough, abdominal pain, weight loss, chest pain, diarrhea, bloody emesis.
Within 5 minutes in the ED he suddenly felt hot, nauseated, started vomiting, developed hypoxia, required high flow nasal oxygen of 6l 100% FiO2 , BP 70/50, fluid therapy of 2L i.v. to stabilized. Started on Ceftriaxone and Doxycycline

PMH:
None

Meds:
Daily multivitamin, for fever acetaminophen 100 mg/4h; 6 g/day.

Fam Hx: Unremarkable
Soc Hx: World travelers, 50 countries over last 20 years, water rafting, hiking. Works as an educator, involved in construction.
Health-Related Behaviors:
No tobacco, alcohol, recreational drugs.

Allergies: Denied

Vitals: T: afebrile **HR:**81 **BP:**120/71 MAP: 87 **RR:** 17 Spo2: 98% high flow NC (4L)
Exam:
Gen: fatigue, moderate distress, alert and oriented.
HEENT: clear conjunctive/pharynx, no acute findings, no LAD.
CV: No JVD; RRR no murmur, 2+ pulses bl.
Pulm: mild crackles bl lower lobes, no excessive muscle use
Abd: Soft, nontender **Neuro:** AAx3
Extremities/skin: normal intact skin, no peripheral edema. Skin flushed around neck and face.

Notable Labs & Imaging:
Hematology:
WBC: 6.4 68% band; no eosinophil; HCT 43.1; Hgb: 14.7; Plt: 35K(base line> 300K)
Chemistry:
Na: nl ; K: 3.6; Cl: 104; HCO3: 23; BUN: 15; Cr: 1.21(base line: 1); glucose: 102; AST: 100; ALT: 114; Alk-P: 139; Total bili: 4.1 (no fractionation at this point) → T.bili 7.8; direct bili: 0.5 ; acetaminophen (neg); LDH: 459; haptoglobin <30. PT: 13. 8; INR: 1.2; PTT: 32; D-dimer: 1500; fibrinogen nl; no schistocyte.
UA: nitrates, small bilirubin, trace leukocyte esterase.
Respiratory panel: negative; Acute hepatitis: negative ; HIV: negative;
West Nile: IgG (+); IgM (-); dengue: IgG (+) IgM (-); IGRA TB: indeterminate.

Peripheral Smear: Red cells with intracellular parasite, plasmodium falciparum→ 24h → 5.5 % parasitemia on smear.
Global fever panel: P.falciparum detected, Negative: chikungunya, Dengue, leptospirosis.

Imaging:
CXR: Multifocal bilateral opacities.
CT chest: no PE; no acute findings.

Dx: **Malaria (Plasmodium Falciparum)**

Problem Representation: 51 y/o male with acute inflammatory syndrome. Presented with thrombocytopenia, liver injury, and multifocal bilateral opacities on CXR.

Teaching Points (Kuchal Agadi):
1. **Previously healthy patient visiting ER is a Red Flag.**
2. Signs of Inflammation: Daily fever, fatigue etc. - Where is it? Is ?Headache, SOB/Chest pain? Localising. What's causing the inflammation? : ?Viral Syndrome. What's the signal?(SOB, Chest pain) What's the Noise (?Emesis)
3. **IMADE: Mnemonic for inflammation.** Infections: (a) commensal organism: Staph aureus. Localised, and in advanced stages systemic. (b) exogenous organism: more likely to cause systemic disease. Rickettsia, Parasitic, Lyme. -If the patient has systemic symptoms, but otherwise fine, its an exogenous org. If its disseminated infection due to commensal org, the patient will be toxic.
4.(a) **Tempo of the presentation: will help to decide whether to stabilise the patient, or proceed with further diagnostic.. Low BP(give fluids), Hypoxia (O2)-**
4. (b) Antibiotic: Broad coverage, Anti pseudomonas. Low threshold to adjust the drug as we get a clearer picture of the causative organism. -? Legionella due to Water exposure. ? Traveller:
Important drug combo for Atypical coverage: **(Doxy (Rickettsia/Lepto)+ Ceftriaxone + Antimalarial.)**
5. Fever: ?subjective, especially since T0- afebrile.
6.. Leucopenia, Elevated Liver enzymes,. Pulmon opacities. AKI (interstitial Nephritis). : Fever & ?Cholestasis- [Reynold's Pentad: Fever & Abdominal pain Jaundice, AMS+ low BP]: Cholangitis until proved.
7 **Thrombocytopenia** (r/o ITP, TTP, DIC, Drugs like Heparin, HUS, Sepsis-); MAHA (Env), Membrane(ITP), Internal (infectious)- Viral/Bacteria/ Drugs.
8. It is important to r/o Blast Cells/ Schistocytes on Peripheral Smear.