04/09/25 Morning Report with @CPSolvers

"One life, so many dreams" Case Presenter: Lera (@LNovotnaya) Case Discussants: Sharmin (@Sharminzi) and Rahul(@RahulPottabath1)

Scribing (Sawsan)

CC: 19 Y/O woman presenting with fever and chills for ~1 week.

HPI: Also endorses generalized weakness, myalgias and arthralgias, but no rhinorrhea, cough, headache, N/V, abdominal pain, changes in bowel habits, dysuria, or flank pain. She looks ill and really uncomfortable with taking deep breaths, reporting shortness of breath and chest pain. Labs and imaging are pending, but we want to admit her.

ROS: No weight loss or gross hematuria. Endorses some hair loss, but no oral ulcers, photosensitivity, or sicca symptoms. No sick contacts or travel. Some mild sore throat. Six months ago she had an episode of similar flu-like Sx that took a couple months to resolve. At the time it all started with fevers, nausea, generalized weakness, myalgias, arthralgias, along with a diffuse pruritic maculopapular rash. She was diagnosed with COVID, otherwise infectious and AI workup was negative, CT chest was nonspecific and the patient was discharged home once vitals stabilized, though without complete resolution of symptoms. In the following month she continued to have severe body aches for which she re-presented to another hospital. She reports having some biopsies, but was not sure of the results. She thinks she got some symptomatic treatment which helped some and she was discharged, but was not told what the cause of her symptoms was.A few weeks after being discharged, she reported that her symptoms resolved spontaneously and didn't bother her for a few months. During this asymptomatic period she was following up with a PCP, received no Tx, but ESR levels remained moderately elevated. However, over the past week the sx began to return, though this time a bit less severe than prior. Given she continued to feel worse, she decided to come in.

PMH: T2DM last A1C 6.6%

Meds: N/A

Fam Hx:Dx of asthma in mother, sister and brother. Father has a Hx of diabetes. Otherwise, no family Hx of autoimmune disease or malignancy.

Soc Hx:Currently a high school student. Never been sexually active. From the US, though she lived in Mexico until 15 years of age, after which she returned to the US, and now lives in south Texas. Last traveled back to Mexico 1 year prior to presentation.

Health-Related Behaviors: no history of smoking, drinking or recreational drug use.

Allergies:

Vitals: T: 39.5 BP: 112/54 **RR:**25 **HR:**119 **Sat: 95%**

Exam: Gen: Awake, in acute distress due to SOB and pain. BMI 35 kg/m².

HEENT: Mild posterior oropharyngeal erythema. Otherwise normal.

CV: Tachycardia up to 130 bpm. Rhythm was regular. S1/S2 normal. No JVD. Pleuritic chest pain with any deep breath or talking too much. No appreciable rub.

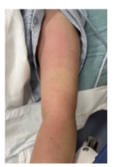
Pulm: Bilaterally diminished breath sounds over the lung bases. No apparent pleural friction rub or crackles.

Abd: soft, non-tender, non-distended without evident HSM, masses or ascites.

Neuro: Alert and oriented x3.

MSK: no signs of jaundice, cyanosis, or peripheral edema. No rashes. No significant LAD. **Joint examination:** showed mild synovitis in small hand joints. Tender knee and ankle joints with intact ROM. **On muscle exam:** 3/5 strength in proximal LE, 4/5 and symmetric elsewhere. Muscles **were not t**ender to palpation. But the patient noted pain when moving them and required assistance to ambulate.

Notable Labs & Imaging:



Hematology:

WBC: 19.5 (89% with neutrophils and slight monocytosis) Hgb:10.7 Plt: 278 MCV: 75.2

Chemistry

Na:129 K: 3.3 Cr:0.7 BUN:9 Ca:8.6Mg: 2.6 Glu: 117 Cl: 93

CRP:27.5 ESR: 93 AST: 46 ALT:18 ALP: 85 Bili:0.3

Total protein 8.1 albumin: 3.6 UA: protein 0.7 likely contaminated ,- glucose ,trace ketones, 3RBC 3 WBC negative nitrites Serum hCG **negative.** Influenza A, Influenza B, RSV, COVID-19 PCR **negative.** HIV-1/HIV-2 **negative.** TSH 1.27. B12 level low. Procalcitonin 0.34 (↑)

. **Imaging**:EKG: sinus tachy Troponin neg BNP nl. **TTE:** unremarkable, LVEF 60%. No pericardial effusion **CT C/A/P:No evidence of PE.** Bibasilar subsegmental atelectasis but **no infiltrates or pleural effusion**. Hepatosplenomegaly and diffuse lymphadenopathy. **infx workup:** HAV, HBV, and HCV negative. **BCx NGTD**. Quantiferon-TB — results were intermediate. PCR for CMV, EBV negative. EBV VCA positive IgG, negative IgM [suggestive of prior infection]. IgM and IgG for Bartonella henselae and quintana, Brucella, Typhus Fever, and Parvovirus B19 all negative. **ANA 1:80 in speckled pattern**. CK was 150 (N,), but given muscle weakness, aldolase was sent and returned elevated at the level of 16.5. LDH = 918 (high, normal <280). Uric acid normal. **PBS:** anisopoikilocytosis with occasional elliptocytes and acanthocytes. Neutrophils are mature and segmented forms. Some reactive lymphocytes. No blasts. **SPEP:** acute phase response pattern. SFLC kappa/lambda ratio of 0.68. Peripheral blood flow cytometry negative AI:RF, anti-ds DNA, Smith, anti-CCP, RNP antibodies, Anti-SS-A, Anti-SS-B **were negative**. C3 and C4 complement **normal.** Direct Coombs **negative.** APL Abs screening **negative.** Ferritin > 7500 (usually not measured about this, but once the lab measured it the peak was 22K). Triglycerides 361 normal <150).

Dx **Adult Onset Still's Disease complicated by Macrophage Activation Syndrome/HLH.**

Problem Representation: 19 y/o F presenting with fever, pharyngitis, and chills of 1 week duration, with previous hx of a similar presentation. She also has bilateral symmetrical small joint infection . labs showed neutrophilia, anemia,and elevated inflammatory markers . imaging showed HPS and diffuse adenopathy, with elevated ferritin, LDH, and TG.

Teaching Points(SEEME):

Approach to fever and chills:

IMADE mnemonic: Infections, malignancy, autoimmune, drugs and everything else. Always rule out viral infection and recent travel history is important.

Approach to chest pain:

Pain on deep breathing- 4Ps-pericarditis, pleuritis, pneumothorax and pulmonary embolism (rule out by Wells criteria).

Approach to constant myalgias and elevated ESR:

Infections can trigger autoimmune diseases. Elevated ESR, constant myalgias and chest pain can make us think about autoimmune diseases such as SLE and Still's disease.When patients have myalgias, thorough exam,ruling out infections and CK levels are helpful.

Approach to proximal muscle weakness and lung exam findings:

Atelectasis or fluid accumulation can cause bilateral decreased breath sounds. Proximal muscle weakness can make us think about endocrine issues, myositis, myopathy. Leukocytosis indicates presence of infection.Elevated procalcitonin can be seen in lung inflammation. Small joint pains are indicative of autoimmune etiology.

Approach to hepatosplenomegaly and lymphadenopathy:

Always a good idea to rule out HIV, EBV and lymphoma. Lupus and Still's disease are worth considering. When splenomegaly and neutrophilia is present, endocarditis and Still's disease are worth considering.