06/14/24 Morning Report with @CPSolvers

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

CC: SOB on exertion for 4 weeks
HPI: **52 YO M** who was in his usual state of health 4 weeks ago presents w/ progressive SOB on exertion. He is now so SOB that he has to crawl up the stairs from a baseline of being able to walk multiple blocks.
He noted LE swelling and paroxysmal nocturnal dyspnea over the same period of time. Abdomen is now so swollen that he cannot see his feet any more. Noticed he has gained weight. Has a dry, non-productive cough.

ROS (-): fever, chills, rhinorrhea, no sick contact
He noted dark urine over the same period of time.

PMH:
None, uninsured and hasnt seen a doctor in over a decade

Meds:
None

Fam Hx:
None

Soc Hx:
Lives in Philadelphia, no travel Hx.
Works as a Clerk, had "odd jobs" in the past

Health-Related Behaviors:
No alcohol or drug use
Not sexually active

Vitals: T: afebrile **BP:** 203/91 **HR:** 121 **RR:** 20 **SpO2**: 98%
Exam: Gen: Well appearing, breathing comfortably
HEENT: Icteric sclera, sublingual yellowing. No conjunctival injection or swelling
Pulm: Mild crackles at the bases
CV: RRR, no JVD
Abd: Protuberant, but soft
Extremities/skin: 4+ pitting edema, edema also in the arms and chest, no rash

Notable Labs & Imaging:
Hematology: WBC: 13K (normal diff) Hgb: 8.3 MCV: 96 Plt: 550
Chemistry:AST: 51 ALT: 40 Alk-P:143 TBili: 14 Dbili: 5 Albumin: nl INR: 1.5
Crea: 1.2 (no baseline) BNP: >6000
Hapto undetectable, Retic 334K, LDH: 526, DAT IgG positive, Fibrinogen 316 (nl), INR 1.2 after VitK, D-dimer 2.53
UPCR borderline elevated, but no proteinuria on 24h collection. UA w/o RBCs
TSH nl, HIV neg., BCs no growth
Smear: spherocytes
Imaging: **EKG**: Sinus tachycardia
CXR: Diffuse interstitial airspace opacities (likely edema)
CT w/ IV contrast: Multifocal nodular foci of GG and consolidative opacities throughout the lungs (favoring multifocal pneumonia), right trace effusion.
CTAP: Hepatomegaly w/o bile dilatation. Generalized anasarca.
TTE: EF 55%, elevated PASP, dilated ICV
Admitted and started on CAP coverage and diuretic therapy.
Ferritin 340, Mycoplasma/Chlamydia neg. G6PD nl, CK nl
ANA 1:320, SPEP nl, Light chain in the urine neg, IgG4 neg.
Hepatitis panel neg. Ceruloplasmin, AMA, ASMA neg
A1C 8, LDL mildly elevated
SCV, IVC w/o evidence of clot, nl dopplers of LE and UE
Axillary LAD noted on CT Chest
Started on steroids (80mg for AIHA), diuresis improved HR
LN Biopsy: atypical lymphoid infiltrates, neither nl nor revealing
IgM EBV neg, IgG pos., FACS nl
Dx: Lymphoproliferative process VS HFpEF + AIHA

Problem Representation: 52 YO M w/o PMH presents with significant SOB, anasarca as well as dark urine and was found to have

Teaching Points (Sohil):

- **SOB is a subjective concern.** Can't tell someone they are SOB, so patient has greatest insight into SOB. O2sat is an objective abnormality. Order CXR, ABG, and pulse ox first step. **Dyspnea pyramid is a great start, but need to break it further into anatomical structures** (eg: for heart, myocardium, valve, etc. and for lung, airway, etc.). ACS, PE, shock would be uncommon in this case, but small minority of patients may present subacutely
- **LE swelling and volume overload → SOB. Three etiologies: heart, liver, kidney.** However, dark urine purely noise, most of the time concentrated urine due to RAAS activation and dehydration. Dark urine can also be due to presence of direct hyperbilirubinemia. Direct = soluble. (look at other structures, such as sclera and conjunctiva). Pts may not notice jaundice in eyes! SOB b/c compressive nature of ascites on diaphragm. Cautious with terms of paroxysmal nocturnal dyspnea b/c specific to heart. Patient wakes up from sleep with SOB and gets to the edge of bed → dyspnea is relieved due to decreased venous return
- **Dark urine most common etiologies: dehydration, meds, hematuria. Heme-positive: hematuria, myoglobinuria, hemoglobinuria (intravascular hemolysis). Heme-negative: direct bilirubin**
- BP and HR elevated. Why HR elevated usually? B/c impending hypotension, which is not what this patient is having, so most probably from excessive sympathetic tone (due to exogenous cause, but need to consider thyroid)
- SOB but O2sat and RR normal so sways us AWAY from heart but cannot ignore high BNP
- **Liver pathology → portal HTN → diaphragmatic compression.** Primarily indirect hyperbilirubinemia (though indirect usually does not exceed 6). Hemolysis cannot explain 4+ pitting edema. Need to obtain LDH, haptoglobin, retic, peripheral blood smear, serum albumin and a UA to examine the 3 organs
- Hemolytic syndrome with HF alone or additional hepatic involvement? How do we fit the pulmonary pathology? **Spherocytes c/w AHA, can be primary or secondary.** High-output HF due to anemia but need to do more studies on HF or transfuse blood to see if anemia → HF. Let us treat anemia as primary, then can consider secondary
- **Lupus, scleroderma, MCTD can cause high ANA but pt does not have kidney disease.** So most likely secondary due to lymphoma, particularly Castleman's disease due to anasarca out of proportion to kidney disease. 50% of AHA is idiopathic, so may all be separate conditions
- **Sometimes we do not arrive at a diagnosis, but our goal is to make the patient better**