7/20/22 Morning Report with @CPSolvers

Case Presenter: *Rafael (@rafameed)* ***Case Discussants***: *Madellena (@MadellenaC), Abdulaziz Hasan, and Zaven (@sargsyanz)*

CC: SOB and jaundice

HPI:
84yo M with dyspnea and jaundice.
Over last 4 weeks had dyspnea after walking 700 feet. At baseline cycle 200 miles per week.
Yellowing of skin 3 week ago
B/l leg edema for 2 weeks
ROS: no subjective fevers, no CP, no PND, no orthopnea, bleeding ,abd pain, rash

PMH:
CABG 19> years ago
Aortic valve replacement 5yo
A fib
HF preserved EF

Meds:
Statin (20mg), furosemide 40mg, ramipril 2.5 mg, Rivaroxaban 20 mg

Fam Hx:

Soc Hx:

Health-Related Behaviors:

Vitals: **T**: **36.4, HR**: **98 BP**: **138/75 RR**:16 **SpO_2**: 95% room air
Exam:
Gen: fatigued / **HEENT**: no lymphadenopathy, scleral icterus
CV: early diastolic murmur, JVP 6 cm, no extra galops
Pulm: fine bibasilar crackles not cleared after changing position, no wheezing or rhonchi
Abd: non distended abdomen, bowel sounds present, no tenderness, no guarding, no hepatosplenomegaly. Negative Murphy sign.
Neuro: unremarkable
Extremities/Skin: skin warm and dry, no rashes, warm extremities 2+ pulses in upper and lower extremities and 2+ pitting edema up to the knees

Notable Labs & Imaging:
Hematology:
WBC: 9.09 Hgb: 8.5 (MCV 96) Plt: 392,000 Reticulocyte 3.55%
Chemistry:
Na: 139 K: 4.5 Cl: 101 CO2: 26 BUN:37 Cr: 1.2 (baseline 1) glucose: 113 Ca: 8.9 Phos:3.6 Mag: 2.2
AST: ALT: 54 Alk-P: 70 T. Bili: 3.4 (direct 1.1) Albumin: 3.5
Total Protein: 6.6
PT: 22.9 INR 2 PTT: 40.5 s Pro BNP: 6546 Lipase: 68
Haptoglobin 7.7 (low) LDH 625 Ferritin normal limits B12 and folate elevated
Imaging:
EKG: irregularly irregular rhythm, left axis deviation old septal infarcts/ CT angio: no evidence of PE, bilateral ground glass opacities, pleural effusion and cardiomegaly.
RUQ US - unremarkable
Smear: poikilocytosis, anisocytosis, macrocytosis. No spherocytes and schistocytes or schistocytes
Direct antibody negative for IgG and C3
Thin/thick blood smear negative / Malaria and Babesia testing negative Malaria and babesia negative
Echo: LVEF 68%, moderate diastolic dysfunction and elevated left ventricular filling pressure, no evidence of stenosis of the prosthetic valve, moderate to severe aortic regurgitation, severe elevated pulmonary artery pressure
Final diagnosis: Hemolytic anemia due to bioprosthetic aortic valve degeneration

Problem Representation: 85 yo man with past medical history of HF, CABG and s/p aortic valve replacement presenting with dyspnea, jaundice and leg edema.

Teaching Points (Yazmin):

- Jaundice: increased bilirubin production (prehepatic), diseases that impair hepatocyte production (hepatocellular), obstruction of the biliary system (cholestatic)
  - Hemolysis is a cause of PREHEPATIC jaundice: RBC structural defects, autoimmune hemolytic anemia, hemolytic transfusion reaction
- Congestive hepatopathy is suspected in px with Right-sided HF, jaundice and tender hepatomegaly → tests can show mild unconjugated hyperbilirubinemia, elevated aminotransferases, prolonged PT/INR ratio.
- High JVP (>4 cm) Right-sided HF, Fluid overload, Tricuspid valve dysfunction, pericardial effusion, constrictive pericarditis, SVC syndrome, Pulmonary HTN → JVP provides info about fluid status and cardiac function
- Irregularly irregular rhythm: Atrial Fibrillation (or wandering atrial pacemaker, multifocal atrial fibrillation)
- Haptoglobin <25-28 mg/dL is highly specific for hemolysis, not helpful to distinguish between intra or extravascular.
- High LDH may indicate cell injury → cancer, hemolytic anemia, myocardial infarction, infection, kidney/liver disease
- Hemolytic anemia: pallor, fatigue, exertional dyspnea, jaundice, splenomegaly → haptoglobin low, LDH is high, Indirect bilirubin can be normal or slightly elevated.
  - Mechanical destruction of RBCs: MAHA and Macroangiopathic hemolytic anemia