



9/27/24 Morning Report with @CPSolvers

“One life, so many dreams” Case Presenter: Masah (@MardiniMasah) Case Discussants: Reza (@DxRxEdu) and Rabih (@rabihmgeha)



Chief Concern: 77 yo, came to ED with progressive **yellowing** of skin and eyes with **dark urine** & **pale stools**

HPI:

Positives: Associated with fatigue & dyspnea on minimal exertion.

Negatives: No abdominal pain, nausea, vomiting, diarrhea, falls, weight loss or chest pain, chills, headache/ photophobia but eyes felt “glassy”

PMH:

2 weeks prior: Discharged from hospital after sepsis from osteomyelitis and an epidural abscess (treated w/6 weeks of IV Cefazolin)
Comorbidities CHF, CKD not on dialysis. DM2, Dyslipidemia HPT, and Afib Tolosa Hunt Syndrome Spondylosis. Prior right carotid endarterectomy

Family:

Prior ACS (father)

Meds

Insulin, Amiodarone, Statin, Clopidogrel, Omeprazole, Lisinopril

Allergies:

None

Vitals: Temp 36.5, HR 78. BP 117/64. O2 100% on RA

Exam: General: Fatigued. **Derm:** Generalized jaundice and petechiae on arms and back. Spider angiomas. 2+ pitting edema to knees **CVS:** JVP not raised. S1, S2. no murmurs. **Abdo:** Soft and non-tender. No organomegaly. 2+ pitting edema to knees. **Neuro:** Decreased strength in lower extremities. **Resp:** No distress, normal lung sounds.

Notable Labs & Imaging:

Hematology Hb 9.4 (MCV 101), WBC 11.4. Platelets 57

Chemistry Na 135, K 4.1, Po4 2.6, Mg 2.3, BUN 69, Creat 2.53, HGT 256, Lactate 7:

Liver enzymes: AST 797, ALT: high (but less than ALT). ALP 489 rising to 1004, Total protein 5.2 with albumin 3, Total bili 14, direct 9.

Coagulation studies: INR 2.2, PTT 29.7

Other: Normal thyroid function 0.8, CK 45.

Toxicology: Acetaminophen, salicylates and ethanol all negative

Micro: Hep B/C, HIV, HSV, EBV, CMV Negative.

Autoimmune: ANA, ANCA, antimitochondrial and anti smooth muscle negative.

CXR: congestion in hilar region

U/S: hepatomegaly, diffusely increased echogenicity. No stones in gallbladder or evidence of biliary dilatation

Further History: Amiodarone switched to Diliazem, Kefzol switched to Daptomycin and statin stopped with repeat liver enzymes of an AST of 142 & ALT in the 240 range.

Final Dx: Drug Induced Liver Injury

Problem Representation: 77yo male, with metabolic syndrome & recent discharge for osteomyelitis/SEA, now presenting with a **severe acute liver injury** (mixed pattern). Negative autoimmune, infectious & tox workup with final diagnosis of DILI after improvement in liver enzymes post-cessation of multiple drugs.

Teaching Points(Hee)::

HPI: Yellow eyes and pale stools with PMH of post-MSSA osteomyelitis and epidural abscess(cefazolin) ->(not using vancomycin/ daptomycin, not MRSA)

Hyperbilirubinemia in dark-skinned patients and dark urine : indistinguishable indirect vs. direct bilirubin; intravascular hemolysis or intra/extrahepatic direct bilirubin contribute both

Pale stool : indicated to direct bilirubin; lack of bile in the intestine

Intrahepatic vs Extrahepatic bilirubin: liver disease vs pancreatic cancer

The liver performs vital functions like nutrient metabolism, detoxification, coagulation, and albumin control, so isolated jaundice is not solely indicative of liver dysfunction.

Liver with high metabolic risk factors and jaundice; amiodarone is also hepatotoxic.

TEMPO Acute liver failure and cholangitis vs. **chronic cirrhosis**, with spider angiomas indicating elevated estrogen-> anemia, INR abnormalities, albumin changes, and hyperbilirubinemia; next step: imaging for acute processes and study petechiae (due to cirrhosis, thrombocytopenia, or something else)

Mitochondrial toxicity (ex alcohol and thiamine deficiency, along with linezolid use, is impairing liver metabolism), leading to elevated bilirubin and INR; the disease may be liver-related,

AST/ALT levels are significant => acute ->hepatitis drugs -> sono-> no ascites
AST>> ALT muscle => CK (alcohol /amiodarone) - LFT test repeat

Imaging reveals hepatomegaly, :hepatitis or with involvement of the heart or kidneys

Progressive liver dysfunction is reversible or not; hold antibiotics and drugs, involve specialists, and liver biopsy is indicated

Drug-induced liver injury from amiodarone and cefazolin