



12/24/24 Morning Report with @CPSolvers



"One life, so many dreams" Case Presenter: Robin Wilson & Nicholas Kurek Case Discussants: Ravi (@rav7ks) & AMK (@annkumfer)

CC: Elevated liver enzymes (AST 590)

HPI:

66 y F presented to new PCP with deranged liver profile. PCP Up to date on her check-ups

PMH:

Recent liver panel: AST 590
Hypothyroidism
GERD
Stress test 20y wnl

Meds:

Omeprazol 20mg
Synthroid 75 mcg
Fish Oil capsules

Fam Hx:

Father, brother, maternal and paternal grandfather died-MI
Maternal grandmother-stroke

Soc Hx:

retired office worker,

Health-Related Behaviors:

Never smoker or IV drugs; drinks 2 alcohol beverages per week, exercise regularly

Vitals: T: BP: 118/75 RR: HR:75 Sat:98% on RA BMI : 25

Exam:

Gen: well appearing adult
HEENT: no scleral icterus, no jaundice
CV: RRR, no murmurs
Abd: soft, non distended
MSK: no peripheral edema

Notable Labs & Imaging:

Hematology:

WBC: 4.2 Hgb: 14.3 Plt: 264 Hct:44

Chemistry

Na:143, K:4.6, Cl:101, HCO3: 28, Crea:1.11 , Glu:87
AST 643 , ALT 13, AP 94, Tbili 0.5, GGT 20, Albumin 4.6
TG 118, Cholesterol 225 , HDL:62 , LDL: 139
TSH: wnl

Small stitch on L side - transient, goes away with massage (2x a month; going on for decades), otherwise no chest discomfort

CK: 140 → 43

Coronary Calcium score: 0/0

GI-service:

Ferritin:182, ANA neg , Anti-Mitochondrial Ab:5.1(wnl) ,
Anti Smooth Muscle Ab: 11 (wnl)
Hepatitis Profile: Immunity to A & B, Hep C Ab neg,

Hepatology:

Ceruloplasmin: 28 (nl), PETH <10 (nl), Macro AST levels +

Imaging:

EKG: nl Sinus Rhythm, no signs for ischemia
US Abdomen: Possible hepatic steatosis

Dx: Macro AST

Problem Representation:

A 66yF w/ a PMH of hypothyroidism p/w isolated AST elevation - labs and imaging only notable for elevated cholesterol and possible hepatic steatosis. CK and other liver enzymes, hepatitis panel, AIH-workup, Ceruloplasmin and PETH unremarkable.

Teaching Points(Parisa):

Framing Elevated transaminase → AST less specific enzyme (Liver; muscle; heart) knowing about ALT; ALkp; Bili; associated sx; PMH; medication(Augmentin; hyeprlipidemic); Physical exam(looking for signs of chronic liver injury/ abdominal pain/scleral icterus/ anemia/jaundice/distention ascites/ caput medusa/ AVMs/ hepatomegaly/ splenomegaly); thrombocytopenia; coagulation profile → do not forget to ask about alcohol use.

Hypothyroidism → could cause anemia; impacting liver function

Thyroid role in regulating metabolism can affect hepatocyte function → check TSH

Elevated BMI → lead to non alcoholic fatty liver disease →

Hepatic steatosis can develop in lower BMI as well in individual with metabolic risk factors.

AST>>ALT → muscle injury (CK/myoglobinuria); myocardial infarction; hemolysis

Zieve syndrome → hemolytic anemia; jaundice; hyperlipidemia → rare condition in individuals with ALD

Broad differential approaching abnormal liver enzyme → Autoimmune causes; viral hepatitis; hemochromatosis; Wilson's disease

Macro AST → being rare condition AST is elevated d/t presence of macroenzymes, complex with IGS; can not be cleared by kidneys.

https://journals.lww.com/ajg/fulltext/2015/10001/macro_ast_a_normal_explanation_for_abnormal_liver.789.aspx#:~:text=Elevated%20levels%20of%20AST%20can,resulting%20in%20a%20diagnostic%20dilemma. (Macro-AST: A Normal Explanation for Abnormal Liver Function Tests, AJG, 2015)