Case 5. The Year in Review: An Irresistible Case

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Hematocrit	39.0 - 52.0 %	39.1
MCV	80.0 - 100.0 fL	105.3 (H)

Which of the following studies will NOT offer clarity in interpreting this abnormal lab value?

A. Methylmalonic acid level
B. Homocysteine level
C. γ-glutamyl transferase level
D. Warthin Starry silver stain of antral crypts

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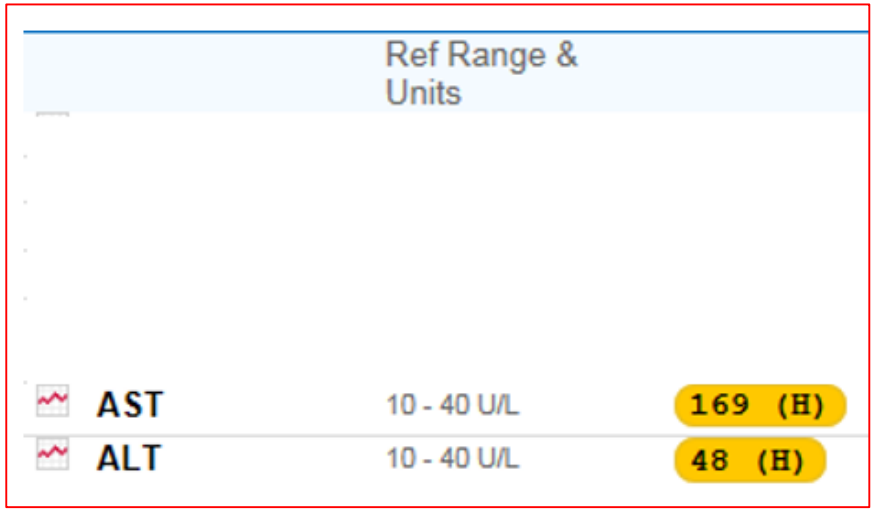

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AST	10 - 40 U/L	169 (H)
ALT	10 - 40 U/L	48 (H)

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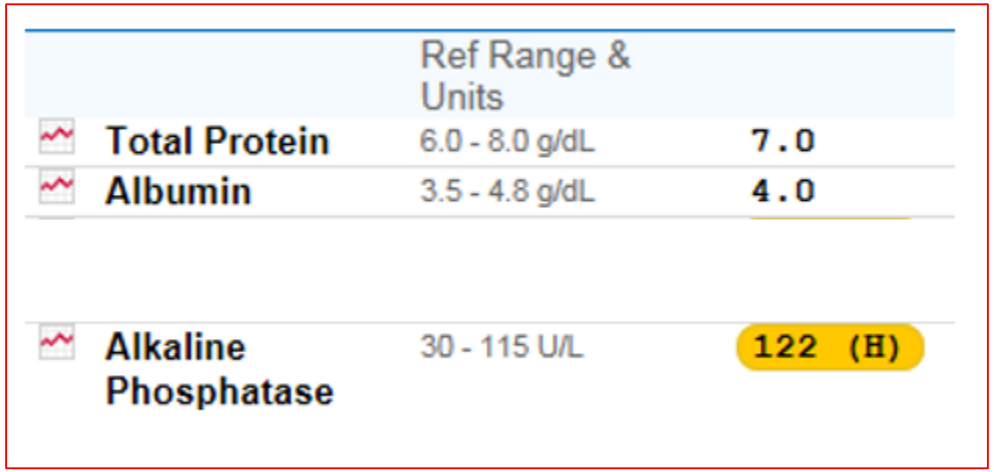

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H pylori causes Type B Gastritis, not macrocytosis

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These tests would identify causes of macrocytosis:

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B. *Homocysteine level*
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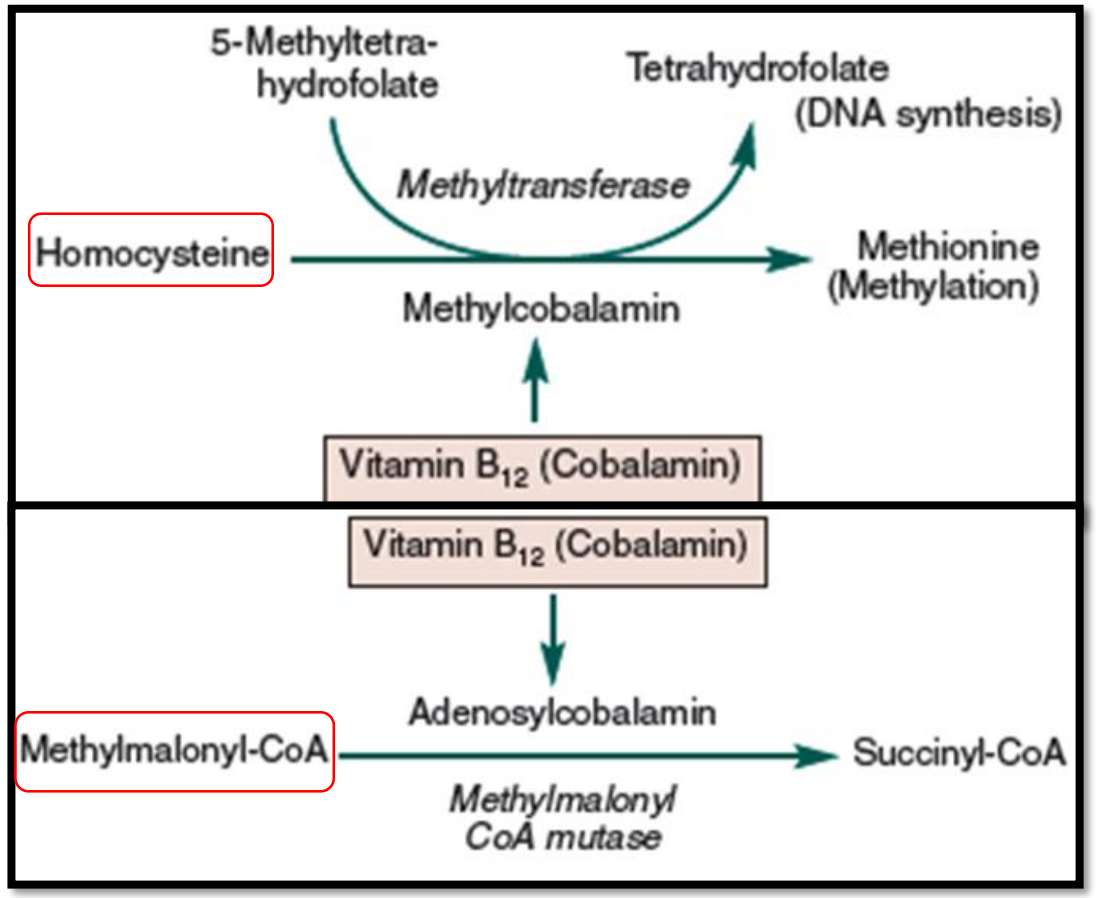

MMA elevated in B-12 deficiency only
Homocysteine elevated in B-12 AND folate deficiency

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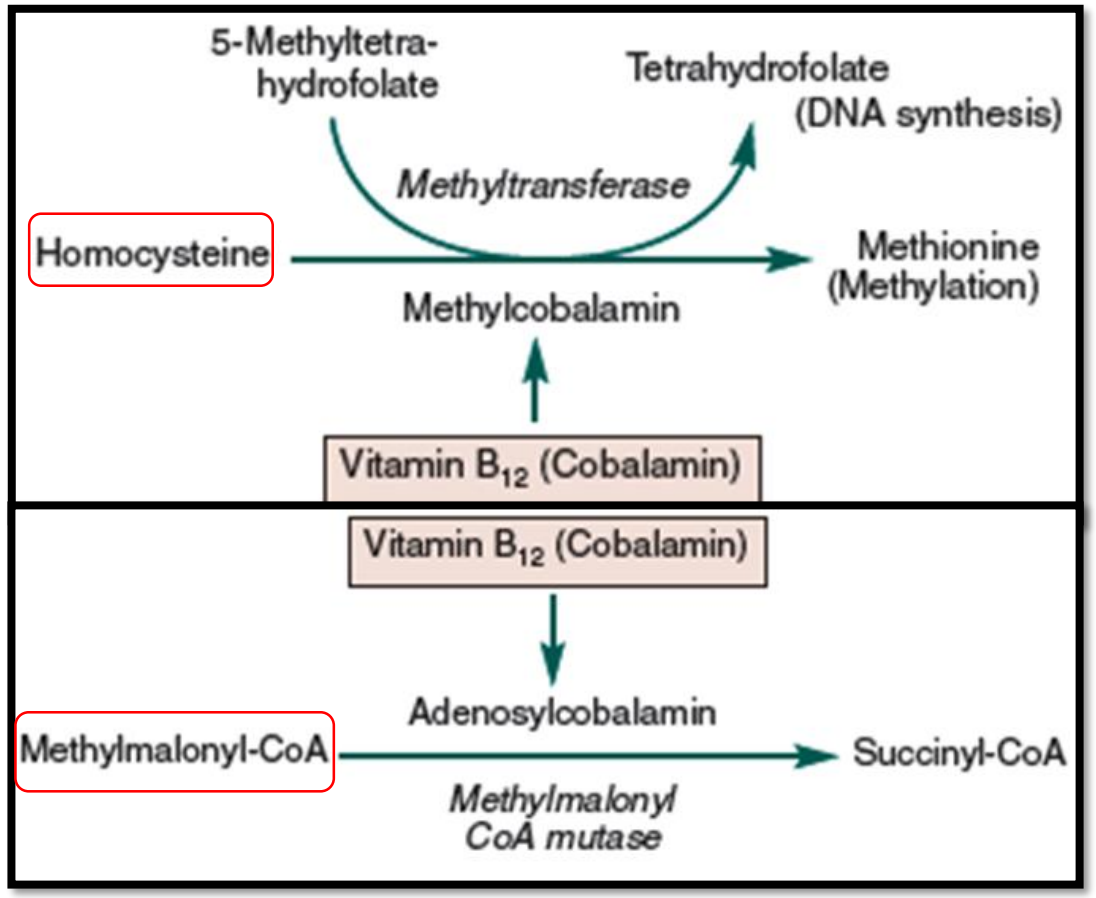
Chronic alcoholic liver disease leads to macrocytosis
Mechanism: 'membrane lipid abnormalities'



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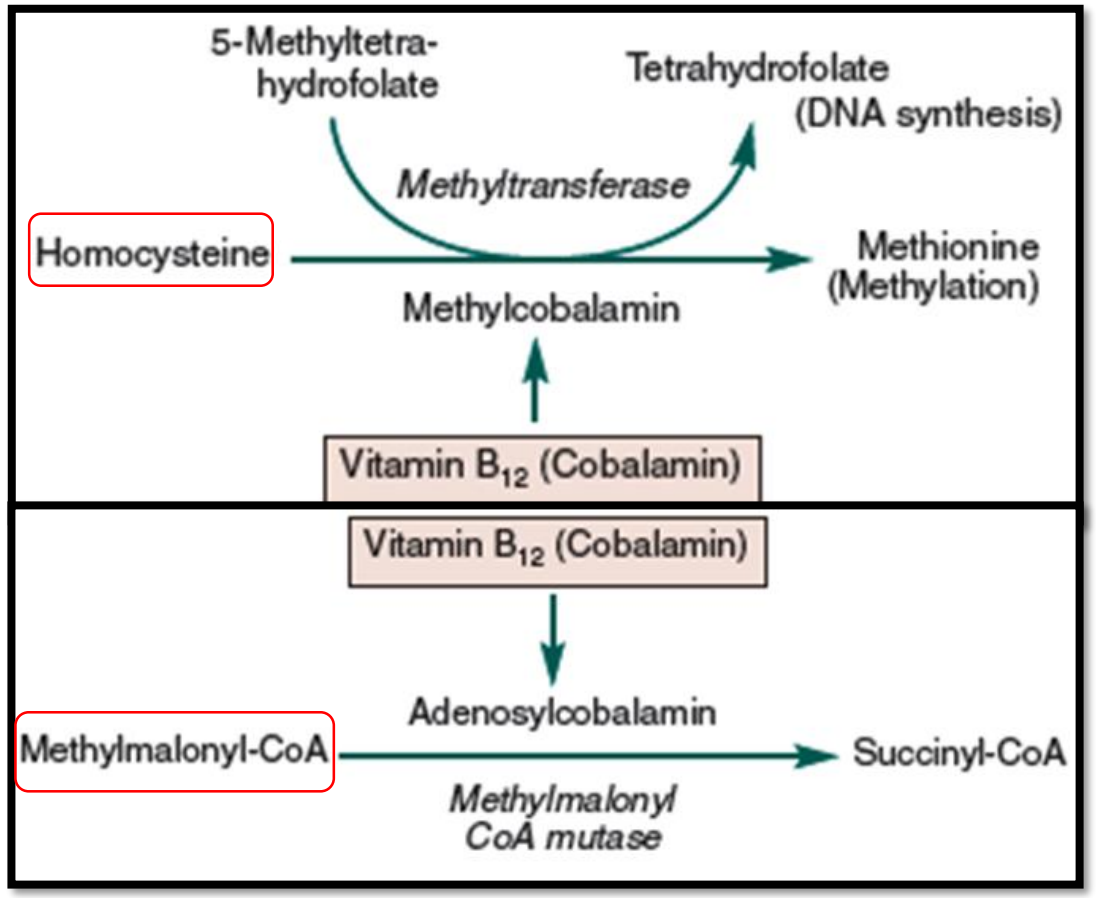
Possible mechanism: *defective cholesterol esterification*



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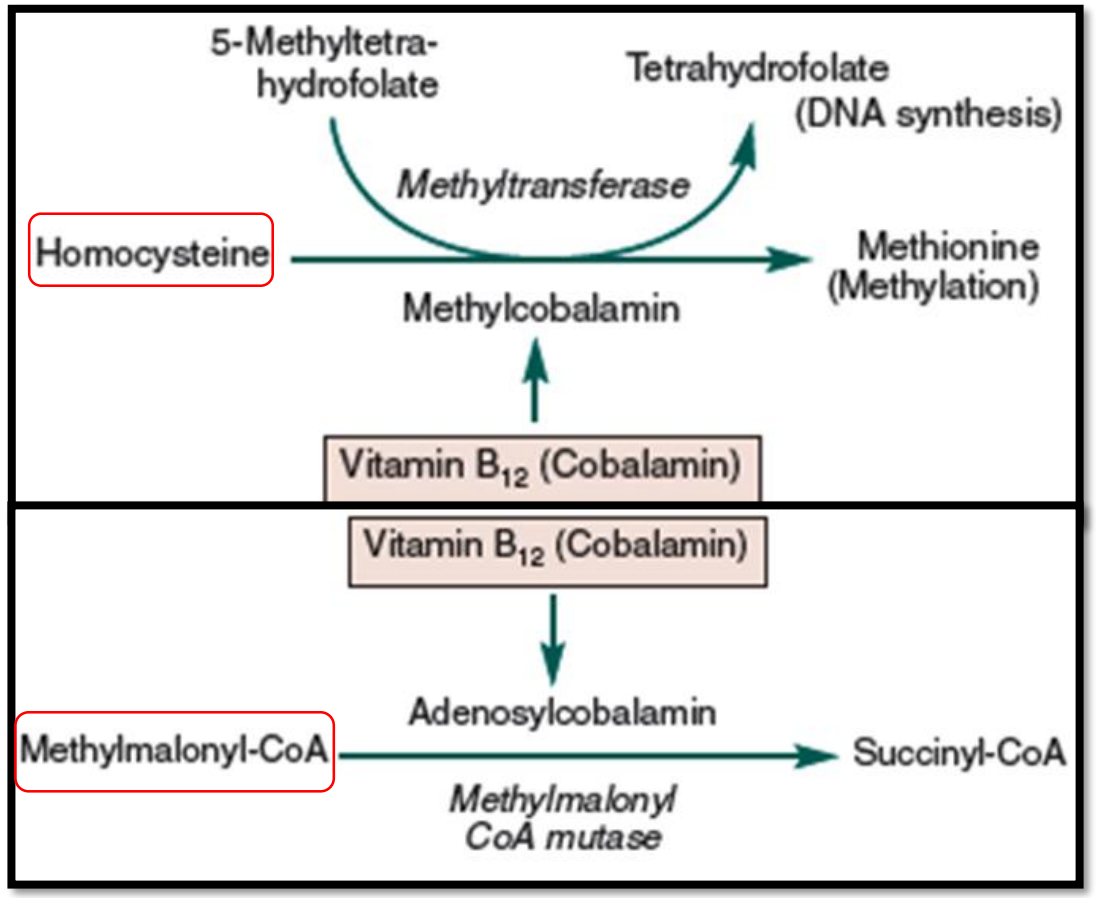
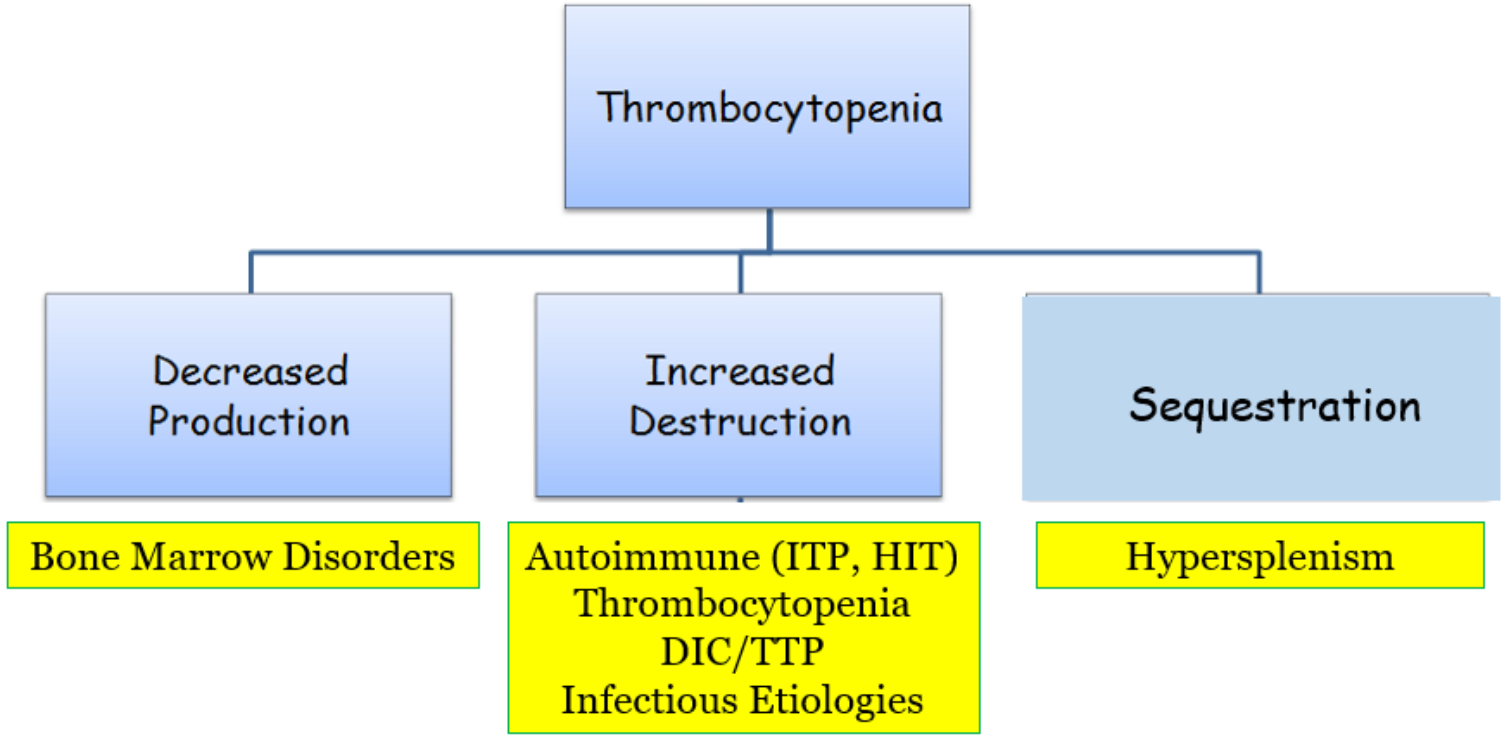
'Fatty Liver, Fatty RBC Membranes'





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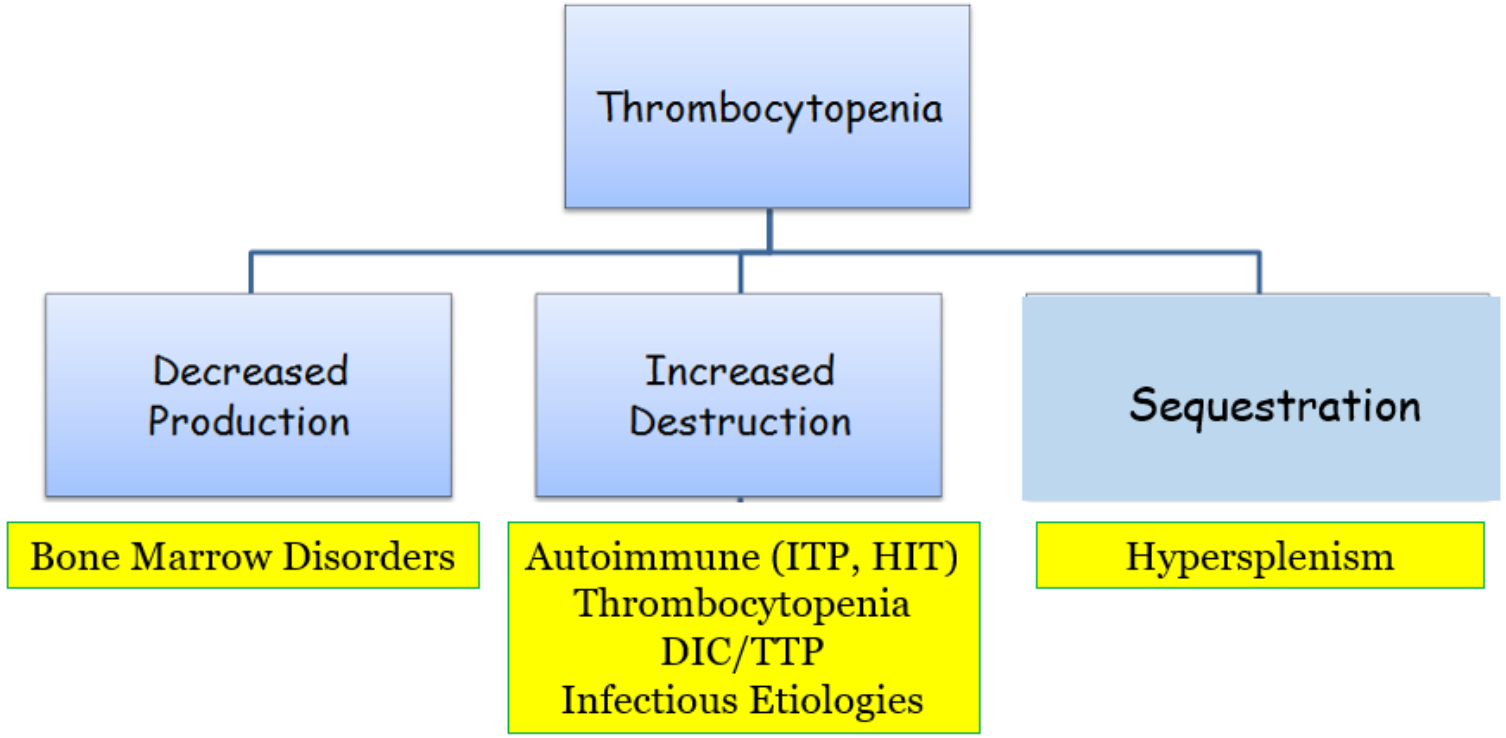

Other disorders associated with thrombocytopenia:

B. IgG antibody directed against platelet glycoprotein: autoimmune thrombocytopenia
C. Splenic sequestration (i.e. hypersplenism): portal HTN
D. Rickettsial infection: RMSF (platelets are consumed, probably on an immunologic basis?)

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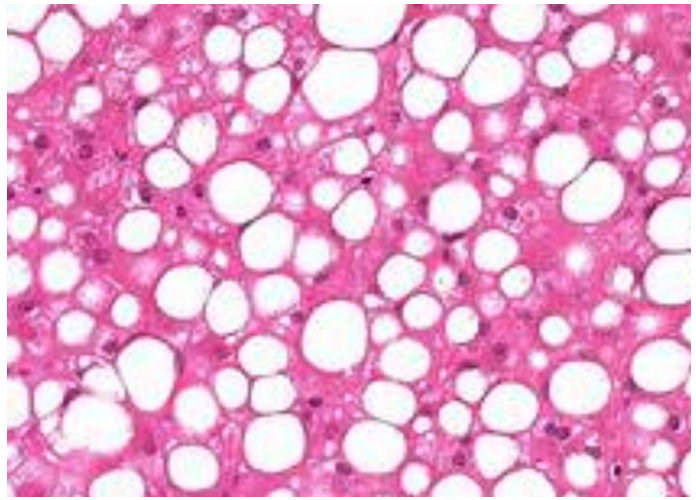

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Step One (elevated alk Φ): Is it Bone or Liver?

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OK kids, how do you put this case together?

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Alkaline phosphatase = may be elevated in alcoholic liver disease (but not on the USMLE Step One)

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Gilbert's Syndrome (unconjugated hyperbilirubinemia)
0.8/1.8 = 0.4

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All the other causes would be associated with conjugated hyperbilirubinemia (direct/total ratio >50%)

A. Microvesicular steatohepatitis: Alcoholic liver disease (usually described with Mallory bodies)
B. Lymphocyte-mediated attack of intralobular bile ducts: Primary Biliary Cholangitis
C. Fibrosis and stricture formation of intra- and extra-hepatic bile ducts: Sclerosing Cholangitis
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E. Ground-glass hepatocytes with fine, cytoplasmic granular inclusions: Hepatitis B (with surface antigen inclusions)

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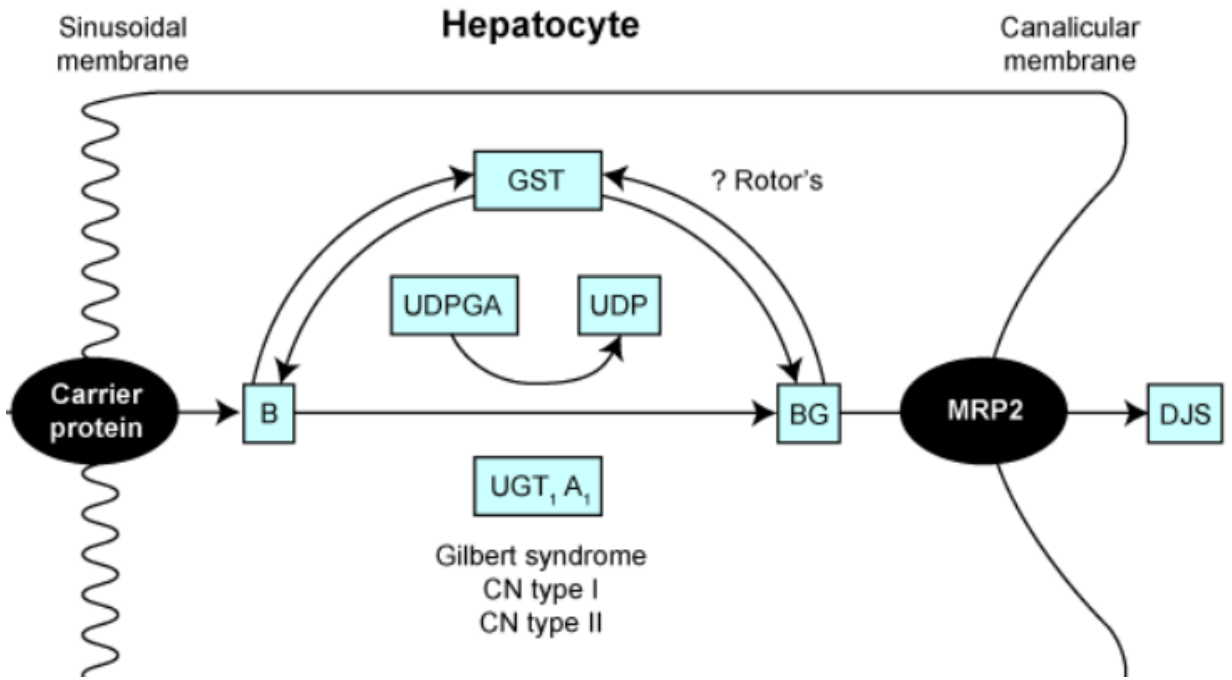
Gilbert's Syndrome (unconjugated hyperbilirubinemia): *insufficiency* of UGT involved in conjugation



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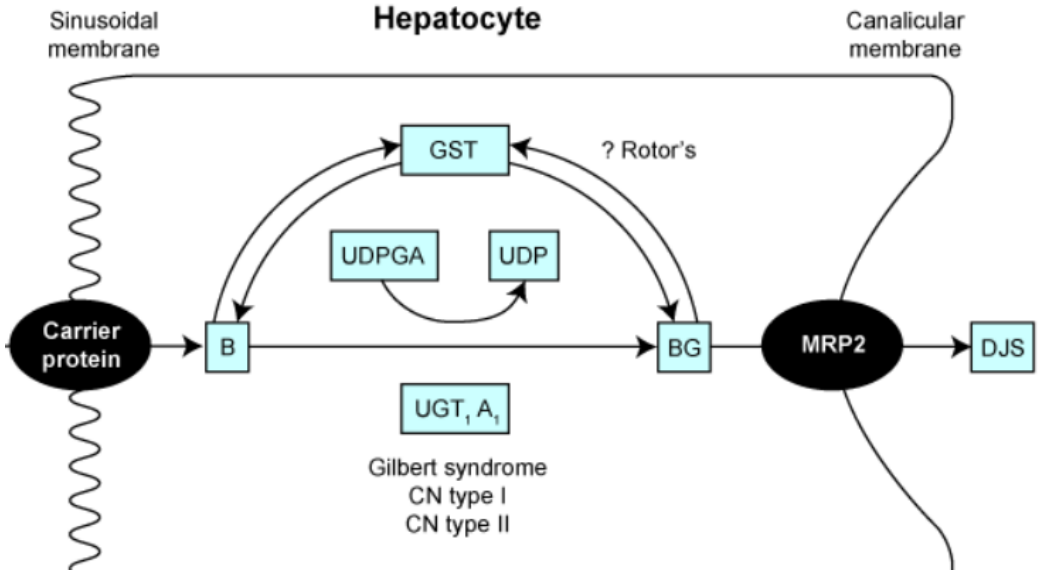
Repeat fasting value following 6 weeks of alcohol cessation



Case 5. The Year in Review: An Irresistible Case

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