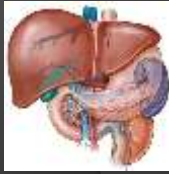


COMPLICATIONS OF LIVER DISEASE



Lisa McKnight, MD, FRCPC
CSGNA meeting
Moncton, NB
Sept 25, 2015

Objectives

- Distinguish between hepatitis and fibrosis
- Review common causes of cirrhosis
- Complications of cirrhosis
 - GI bleeding
 - Ascites
 - Encephalopathy
 - Malnutrition

Case

- 51 yo woman with ALT 3x ULN *persistently*
- PMHx: Cholecystectomy
- No metabolic risk factors other than obesity (BMI 32)
- No EtOH, laid off from work
- Cause of elevated ALT? What investigations would you send?

How does liver disease present?

- Abnormal liver enzymes
- Acute hepatitis
- Jaundice
- Fulminant liver failure
- **Complications of cirrhosis**



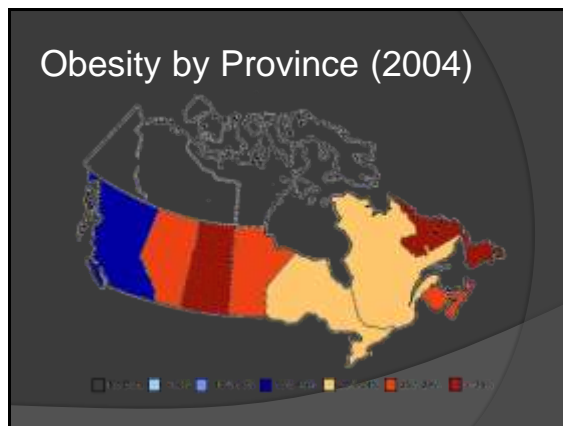
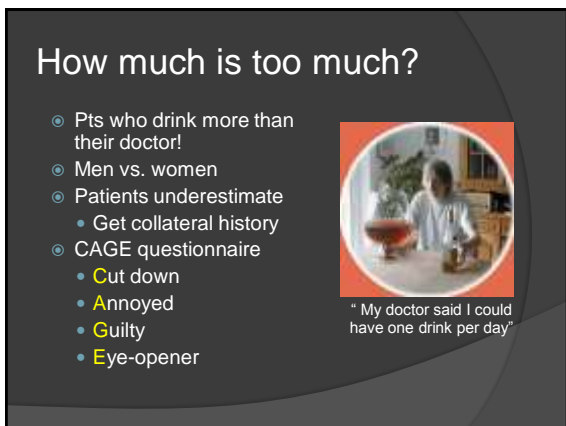
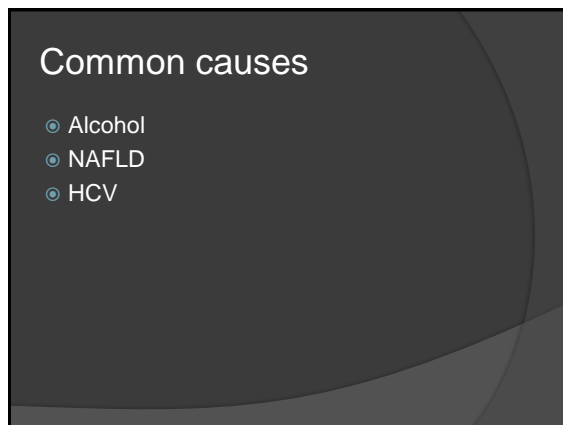
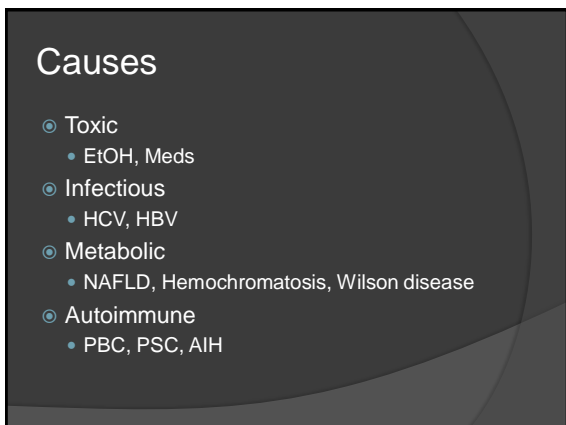
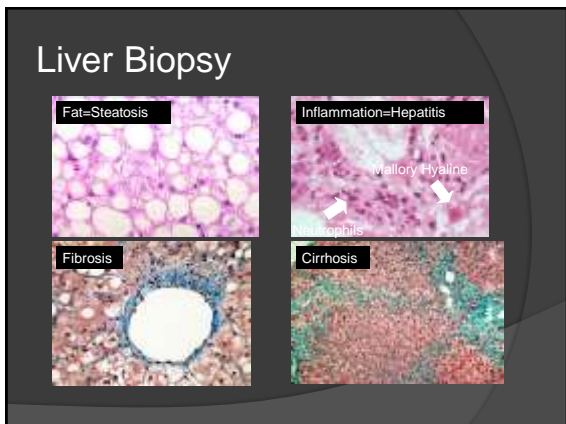
Enzymes don't tell function!

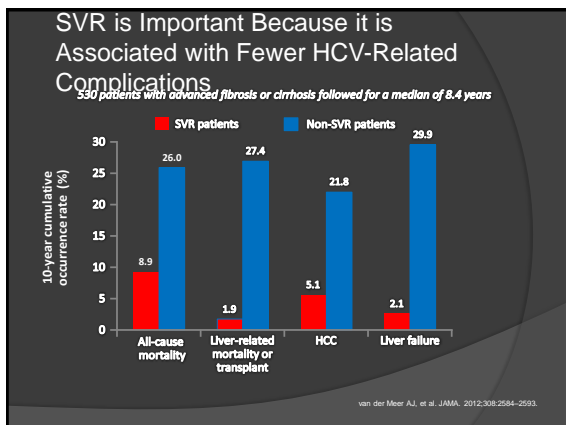
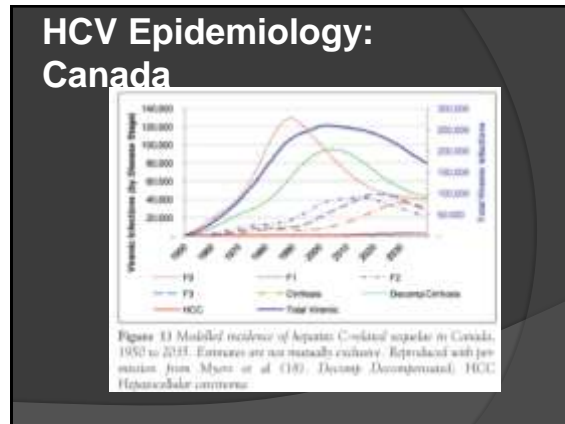
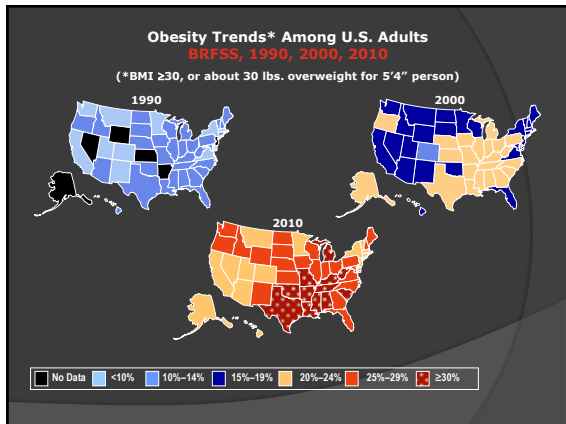
- INR
- Albumin
- T. Bilirubin

Cirrhosis

- Cirrhosis refers to irreversible fibrosis of the liver
- Eventually results in loss of function
- Cirrhosis may be present with normal liver enzymes







- ### Workup
- Step 1
 - Meds (Statins, NSAIDs), EtOH
 - Viral: HBsAg, Anti-HBs, Anti-HBc, Anti-HCV
 - Hemochromatosis: Ferritin, T Sat
 - Step 2
 - ANA, ASMA, Quantitative Igs
 - AMA
 - Celiac testing: Anti-TTG, IgA levels
 - Wilson disease: ceruloplasmin
 - Consider alpha1 AT, Thyroid, Adrenal insuff

Complications



Jaundice

- Accumulation of bile pigment
 - Hemolytic
 - Hepatocellular
 - Obstructive
- “Scleral icterus” → Face → MM → Entire skin
- Most sensitive area: Conjunctiva under lower lid
- First detectable: tBili 20-30



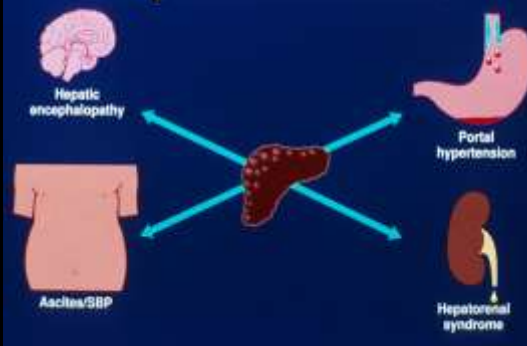
Signs of liver disease



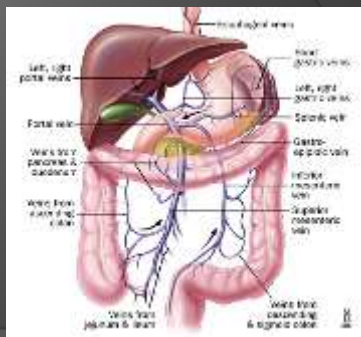
Common myths

- Myth: Some alcohol is ok
 - Puts pts at risk of decompensation
- Myth: Tylenol is dangerous in cirrhosis
 - NSAIDs, Opioids carry much more risk
- Myth: Protein should be restricted
 - This leads to malnutrition and does not prevent encephalopathy

Complications of Cirrhosis

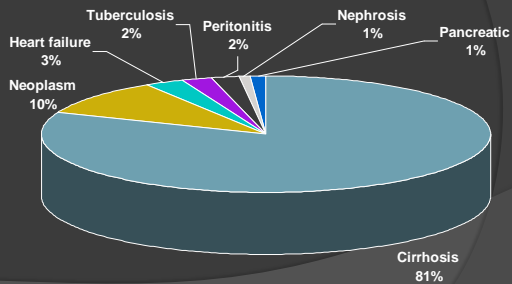


“Portal Hypertension”



Ascites

What Are The Common Causes of Ascites in North America?



Ascites

- Low salt diet
 - 2 grams/day
- Diuretics
 - Spironolactone
 - Lasix
- Paracentesis
- TIPS shunt



Encephalopathy

Encephalopathy

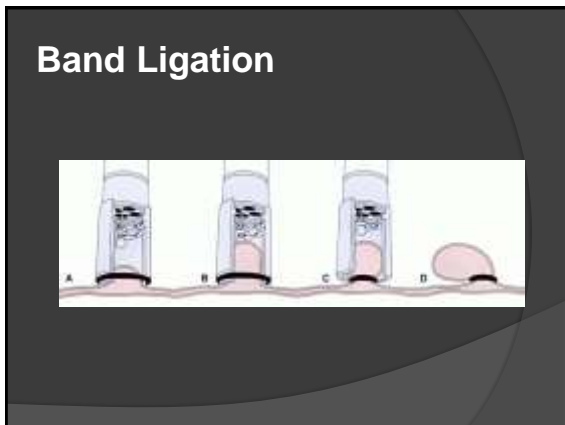
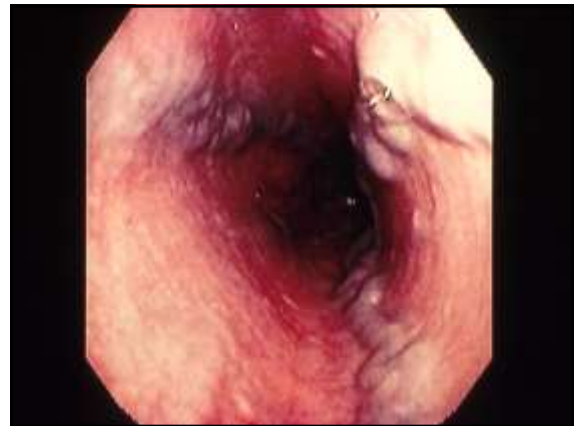
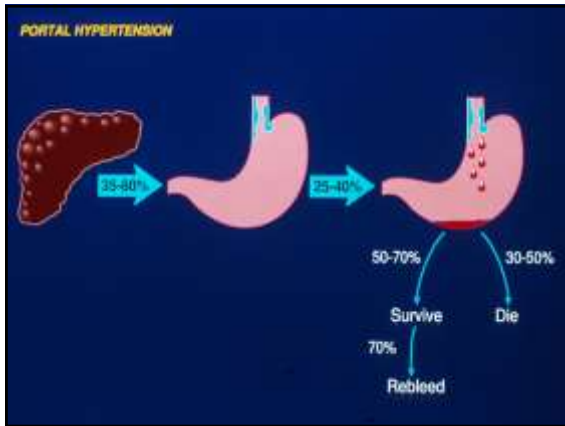
- Spectrum of disease
 - Sleep/wake reversal
 - Coma
- Avoidance sedatives
- Hydration
- Treatment specific cause
 - Infection
 - Bleeding
- Lactulose
- Metronidazole



Grades of Encephalopathy

	Mental Status	Neuro Sign
Subclinical	Impaired psychomotor testing	None
1	Mild confusion, Irritability ↓ Attention Inverted sleep habits	Incoordination Tremor Impaired handwriting
2	Drowsiness Amnesia Disorientation to time	Asterixis Ataxia Dysarthria
3	Somnolent Disoriented to place Marked confusion	Hyperreflexia Muscle rigidity Babinski
4	Coma	No response to pain

GI bleeding



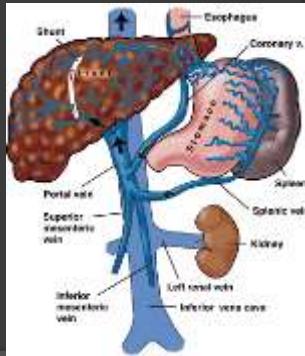
RECURRENT VARICEAL BLEEDING

Prevention

- Endoscopic ligation or sclerotherapy
- Beta-blockers
- TIPS
- Surgical shunts
- Liver transplantation

Risk of rebleed is 70%

TIPS



Malnutrition

Subjective Global Assessment

- History
 - Weight change: Amount and Pattern
 - Dietary intake
 - Significant GI symptoms
 - Functional capacity
- Physical exam
 - Loss of SC fat: Triceps, Midaxillary line, Interosseous, deltoid
 - Muscle wasting: Quadriceps and deltoids
 - Edema and ascites



Nutritional Status

- Important for survival
- Balanced diet
- Small frequent meals
- Bedtime snack
- Supplements
 - Boost
 - Ensure



Liver Transplant

Reasons for liver transplant

- Severe ascites
- Severe GI bleeding
- Encephalopathy
- Malnutrition
- Liver Synthetic dysfunction (INR, Bili, Cr)
 - MELD score
- Hepatocellular Carcinoma

Diseases leading to liver transplant

- ⦿ Viral: Hepatitis C, Hepatitis B
- ⦿ Alcohol
- ⦿ Hepatocellular carcinoma
- ⦿ Bile duct diseases: PSC
- ⦿ Autoimmune: PBC, AIH
- ⦿ Metabolic: Hemochromatosis
- ⦿ Other toxins: Tylenol, Amanita



Transplant outcomes to consider

- ⦿ Short-term survival of patient
- ⦿ Long-term survival of patient
- ⦿ Long-term survival of graft

Take-home points

- ⦿ Workup of elevated liver enzymes should include testing for HCV, esp in baby boomers
- ⦿ Beware of progression from liver inflammation to liver cirrhosis
- ⦿ Pts with cirrhosis should have US Q 6 months
- ⦿ Most with cirrhosis are stable for years, some may require transplant
- ⦿ Effective therapy is available for HCV

Questions?

