Approach to Chronic Liver Disease

John Morse, Internal Medicine
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History

- Usually nonspecific
- Constitutional-malaise, listless, weight loss, nausea
- Alcohol ingestion
- Drugs-all of them, including IVDU
- Herbals
- Family history
- Transfusion
Physical exam

- **HEAD:** parotid, enlargement, JVP elevation
- **HANDS:** muscular wasting, palmar erythema, dupuytren’s
- **CHEST:** Spider nevi, gynecomastia, R pleural effusion
- **AB/PELViS:** caput medusae, testicular atrophy, lymphadenopathy, ascites, splenomegaly, liver size, texture and tenderness, mass
Palmar erythema
Spider
Caput
Abnormal Liver Chemistry

- 4% of population have an abnormal test
- ALT (alanine aminotransferase)
- AST (asparate aminotransferase)
- SAP/ALP (serum alkaline phosphatase)
- GGTP (gamma glutamyl transpeptidase)
- Bilirubin (conjugated or not)
- Albumin (produced)
- INR
Liver injury/Hepatocellular

- AST and ALT released
- High levels with acute injury
- AST also from heart and skeletal muscle
Cholestatic injury

- Anything that impairs bile flow

- SAP, GGTP raised when chronic,
  - transaminases elevated with acute obstruction, e.g., passing a stone

- Bilirubin rises with biliary obstruction.
  - Mixed conjugated and unconjugated.
  - Nearly pure unconjugated with hemolysis or Gilbert’s syndrome
Liver function

- Albumin decreased with advanced liver failure. Remember losses of albumin from kidney and gut and malnutrition also decrease.
- INR/prothrombin time. Also correlates with liver function.
Approach to Liver disease

- Start with pattern, degree and duration of enzyme changes.
- Hepatocellular vs. cholestatic
Case 1: 45 year old male. Long standing alcoholic with AST 2-3 ULN and ALT 1-2 ULN. Presents with RUQ pain, jaundice, fever, chills. Liver normal size and diffusely tender. WBC 15,000. Bili 25. AST 200. Alt 220. SAP/ALP 150. What are next steps?

1. Ultrasound biliary tree and abdomen
2. Blood cultures
3. Antibiotics
4. Screen for drugs
Hepatocellular
Hepatitis A

- Never chronic
- IgM HAV positive (IgG positive = previous infxn)
- AST > ALT
Hepatitis B

- Contact with blood/body fluids
- Incubation 1-4 months
- 94% acute only, .1% die, and 5% chronic
- Chronic
  A. immune tolerant-perinatal infection. Usually HBeAG + and HBV DNA high
  B. immune clearance-immune system trying to clear virus. High transaminases and DNA. Active biopsy and HBeAG seroconversion
  C. inactive carrier-spontaneous seroconversion with low DNA and quiet biopsy. Annual rate 0.5%.
- More treatment options now.
Hepatitis C

- 1% prevalence in Canada - most don’t know they are infected
- Rarely see acute infection
- 80% become chronic and of these only 20% develop end stage liver disease and/or HCC
- Screen with HCV Ab
- HCV RNA to confirm active infection
In BC, treatment covered if

A. ALT>1.5ULN on 2-3 occasions over 6 months
B. advanced fibrosis on biopsy
C. <50 years genotype 2,3
D. assoc. GN, PCT, or cryo glob.
Porphyria cutanea tarda
Alcoholic Liver Disease

- Starts with fatty liver and progresses to cirrhosis
- Need 60 gms/day in males and 30 gms/day in females. One drink is 10 gms.
- Not everyone is susceptible
- Acute alcoholic hepatitis-AST>ALT.
- If severe consider corticosteroids for 1 month in consult with IM/Hepatology.
Drug/Toxic Hepatitis

- Acetaminophen (esp. with ethanol)
- INH, rifampin
- Minocycline, trimethaprim, clavulinic acid
- diclofenac, phenytoin, valproic acid, DDI, tamoxifen, methotrexate, amiodarone
- MANY herbals-get names and check list, eg Uptodate
Autoimmune Hepatitis

- Mostly female and middle aged
- High gammaglobulins (IgG increase for Girls)
- Raised AST/ALT
- Low SAP/ALP
- Positive ANA and ASM (smooth muscle)
- Treatable
Metabolic Liver Disease

- NASH/NAFLD

A. 20% of obese, 2-3% cirrhosis
B. assoc. with metabolic syndrome
C. biopsy is AST/ALT>2ULN
D. statins okay
E. treatment is weight loss
F. similar biopsy to alcoholic liver disease
Metabolic: Wilson’s Disease

- acute or chronic,
- <40 years
- assoc. neurological disease and KF rings.
- Abn Cu excretion in bile
- Screen with ceruloplasmin
Metabolic Liver Disease (cont’d)

- Alpha 1 antitrypsin deficiency. Protein electrophoresis
- Hemachromatosis screen with Fe/TIBC. If >45% consider genetic testing and liver biopsy
Cholestatic Liver Disease
Cholestatic Liver Disease

- SAP/ALP elevates with age-esp in females
- GGTP/5’NT as elevated with liver disease
- Rule out extrahepatic obstruction/infiltrative with US, MRCP, or ERCP
- Primary Biliary Cirrhosis (PBC)
  - AMA(mitochondrial)
  - common on local First Nations
  - improved with Ursodiol.
Case 2: 55 year old male. RUQ pain, loss of appetite and weight over 7 month. Pain variable. Sometimes nil. Father has hemachromatosis. Initial AST 140, ALT 175, bili 50, SAP 150, and amylase 2000. US normal. CT also unremarkable. Screening for metabolic liver diseases neg. Admitted with fever and worsening pain and jaundice. Next steps?

1. Blood cultures / antibiotic
2. Liver biopsy
3. Repeat US and/or CT
4. MRCP
5. ERCP