

NURS 821 Gastrointestinal Disorders

Lecture 8
Part 6 Disorders of the Hepatobiliary Tree

Risk Factors for Gallbladder Disease

- 5 Fs!
 - Fair
 - Fat
 - Fertile
 - Forty
 - Flatulent



Obstructive Disorders of Gallbladder

- Cholecystitis and cholelithiasis
- Stones composed of:
 - Cholesterol-80%
 - Pigment
 - With bile
- Incidence-Increased in American Indians and Swedish extraction

Pathophysiology

- Stone migration and obstruction of common bile duct causes colicky pain and bile obstruction
- Bile duct obstruction leads to acute cholecystitis
 - Gallbladder ischemia, pressure, or chemical irritation
- Pancreatic reflux may result in pancreatitis
- Pain-severe, steady RUQ w right shoulder radiation
- Acute complications-abscess or perforation; septicemia
- Chronic complications-fatty food intolerance; postprandial N, V, pain

Functions of the Liver

- | | |
|---|--|
| <ul style="list-style-type: none">● Storage<ul style="list-style-type: none">– Blood– Glucose– AA– Fe– Cu– Vits. B complex, B₁₂, A, D, K● Secretion into Bile<ul style="list-style-type: none">– Bilirubin– Bile salts, cholesterol, FA– Ca and electrolytes | <ul style="list-style-type: none">● Conversion<ul style="list-style-type: none">– Glucose– Fats– AA– Plasma proteins-albumin, fibrinogen, globulins– Triglycerides– Urea– Activated Vitamin D– lipoproteins● Detoxification<ul style="list-style-type: none">– Bacteria– Drugs– hormones |
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Bilirubin

- 85% produced by RBC breakdown
- Hgb catabolized in spleen
 - Globin dissociates from heme
 - Heme converted to biliverdin

Hepatobiliary Causes of Jaundice

- Intrahepatic obstructive jaundice
- Unconjugated bilirubin formed from biliverdin
 - Bound to albumin and transported in blood to liver where metabolized
 - liver can't conjugate and excrete
 - Causes:
 - Hepatocellular damage
 - Bile canaliculi obstruction
 - Lipid soluble, water insoluble-not excreted in urine; found on skin

Extrahepatic Obstructive Jaundice

- Conjugated bilirubin-Liver conjugates but excretion is blocked
- Cause: bile duct obstruction causing cholestasis and hyperbilirubinemia
 - Clay colored stools
 - Lipid insoluble
 - Water soluble-excreted in urine
 - Transported across cell membrane and secreted into bile canaliculi, the final step of bilirubin metabolism in liver

Hematologic Causes of Jaundice

- Hemolytic Jaundice
- Etiology-excess RBC lysis
- Overwhelm hepatocytes
- Leads to unconjugated hyperbilirubinemia

Hepatitis

- Definition-Viral inflammation of the liver
- Etiology-Many different viruses, A,C, B + D. D must occur with B.
- Transmission
 - A-oral-fecal route, sex, household contamination
 - C, B, D-blood and sexual transmission
 - B-frequently no known risk factors
 - C-50% carriers do not know-testing firemen, police, and veterans; slow progression; genotype 1 (most common) is least responsive to treatment (CDC, 2000; NIH, 2000)

Hepatitis C

- HCV first isolated 10 yrs ago, unrelated to other HV
- DX-antibody test; liver bx
- Incidence-4 million in U.S., with 1.8 million persistently infected; 50% of carriers unaware
- Risk-persons with hx of IVD use, multiple sexual partners, received blood or blood products before 1992



Hepatitis C

- Manifestations-no symptoms for 10 years until significant irreversible damage
- Progression-20% progress to cirrhosis; alcohol and viruses hasten
- Slow-most-20 years of infection
- Medium
- Fast
- (NIAID, 2001)
