

Gall Bladder Disorders

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Understanding the terminology:

- "Chol-" = bile
- "-docho-" = duct
- "-lith-" = stone
- "-ang-" = vessel
- "-iasis" = process
- "-stasis" = standing still
- "-itis" = inflammation

Cholestasis:

obstruction of bile flow along the biliary tract anywhere from the liver to the duodenum

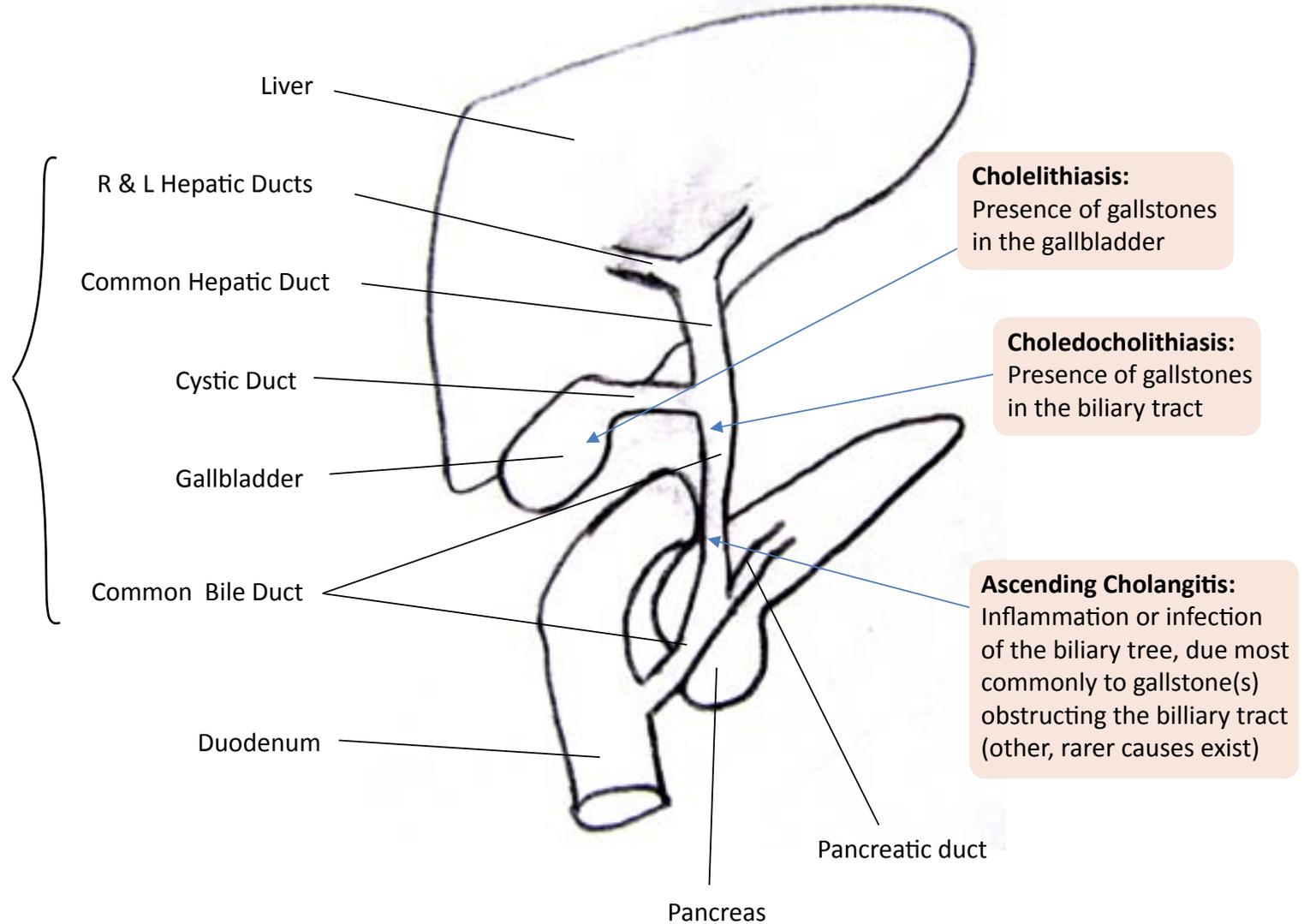


Illustration by Yan Yu, May 13th, 2012



Cholestasis: Causes, Signs and Symptoms

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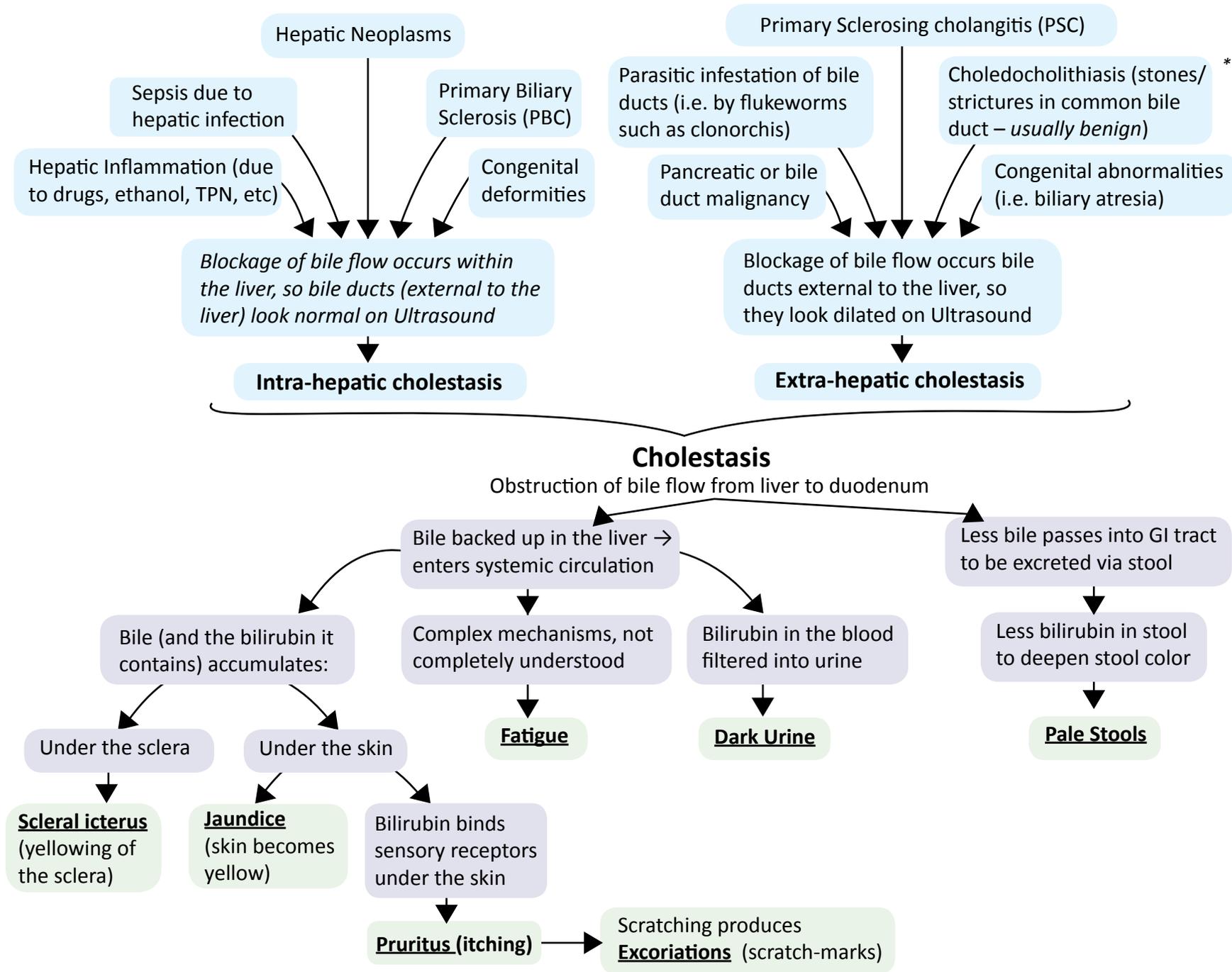
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Cholelithiasis:

Formation of Gallstones, and their Complications

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Note:

- Gallstones do not cause an elevation of ALP unless obstructing the bile ducts
- 80% of gallstones are silent.
- Gallstones only become symptomatic when they obstruct a duct.

6 F's: Female, Fertile, Fat, Forty+ (age), Family (Aboriginals > Hispanics > whites), Pharmacology (octreotide, fexofenadine)

Presence of certain gallbladder proteins (mucin, immunoglobulins)

Supersaturation of Bile (↑ cholesterol relative to bile acid solubilizing agent)

Impaired gallbladder contractility, gallbladder hypomotility

↑ nucleation points physically facilitating gallstone crystallization

↓ mixing of gallbladder contents, ↑ residence time for stone growth within the gallbladder

Cholelithiasis

Presence of gallstones in the gallbladder, 20% of which develop complications:

Mechanical and chemical irritation of the gallbladder's epithelial mucosa

Gallbladder contractions (in response to hormonal/neural stimulation after food ingestion) force stone(s) against cystic duct opening

Gallstone migration into biliary tract (**Choledocholithiasis**)

Acute inflammation of the gallbladder

Bacteria colonization of the gallbladder occurs in 50-85% of cases, can worsen inflammation

Acute Cholecystitis

↑ intra-gallbladder pressure

Impulses propagated via autonomic nerves

Biliary Colic: constant, crescendo pain, starting in RUQ, radiating to the back and chest

Blocks sphincter of oddi or the ampulla of Vater, obstructs pancreatic duct!

Backed up pancreatic secretions ↑ pressure on acinar cells, injuring them

Acinar cell injury auto-activates pancreatic proteases, which digest pancreatic tissue

Acute Pancreatitis

Blocks the common bile duct, preventing normal bile flow

Cholestasis

Infection of the biliary tree as duodenal bacteria "ascend" up the bile duct

Ascending Cholangitis (medical emergency)

