

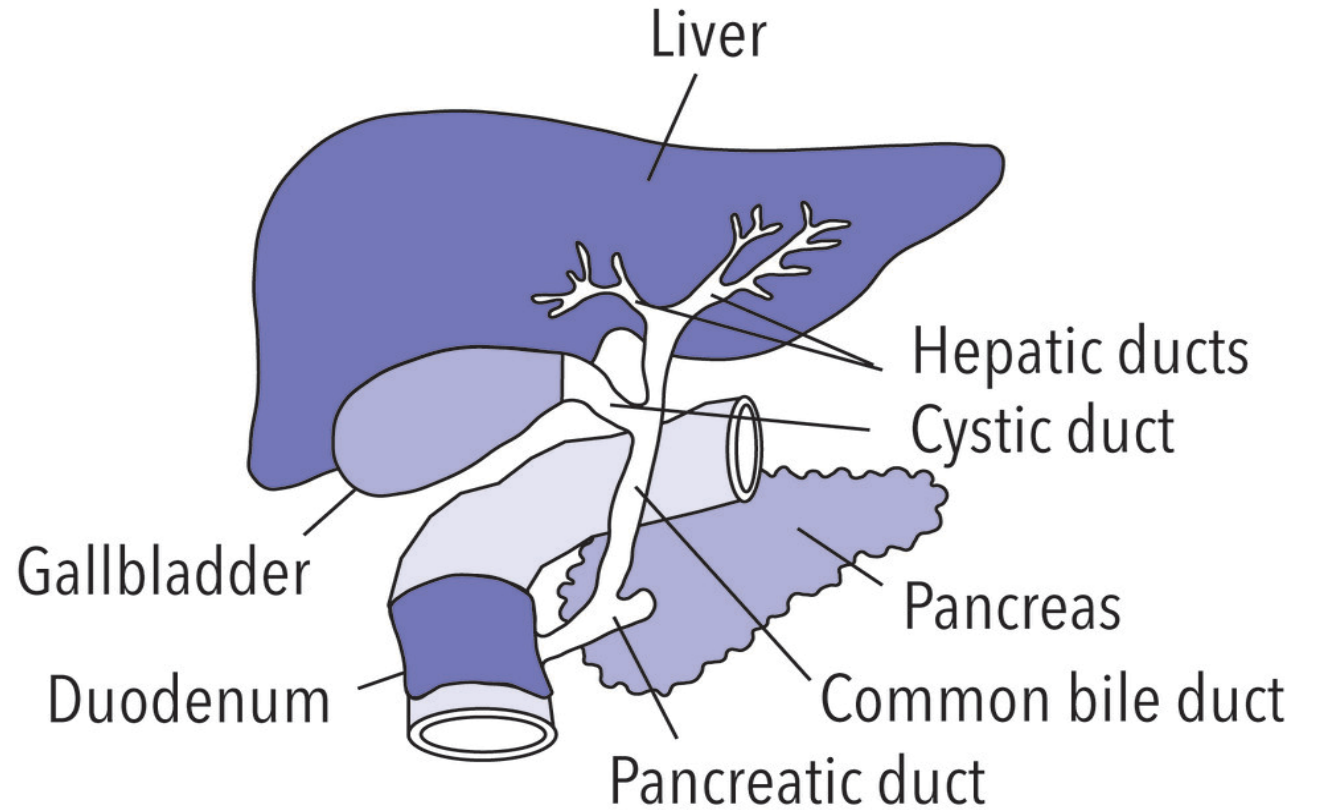


Gallbladder Pathology

Gabrielle Perry

The Gallbladder: General

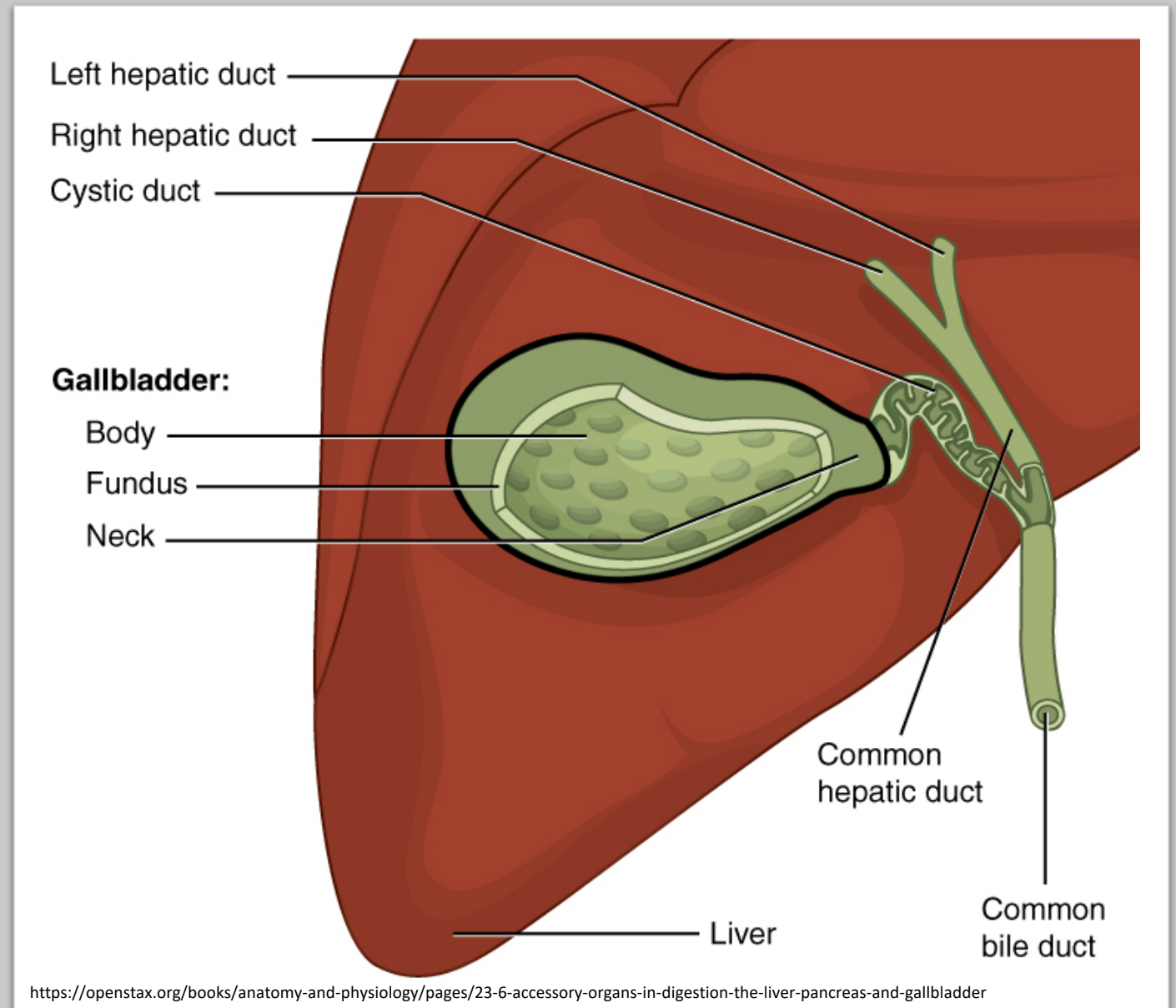
- Accessory organ of the GI tract located in the right upper quadrant of the abdomen.
- Intraperitoneal, pear-shaped musculomembranous sac that lies between the right and quadrate lobe of the liver, inferiorly.
- The liver secretes about 1 liter of bile per day. Some of this bile (up to 50 mL) is stored in the gallbladder between meals.



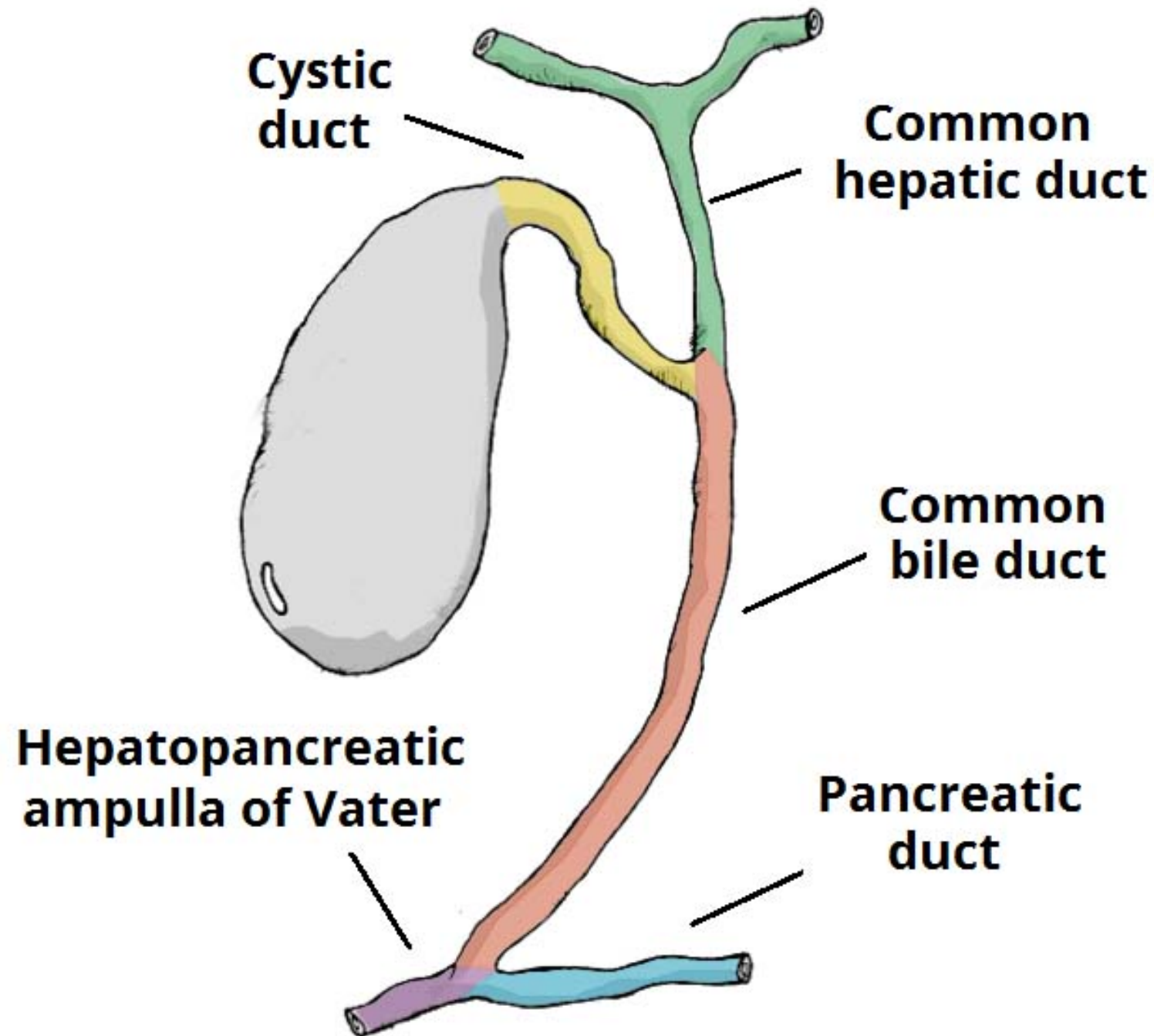
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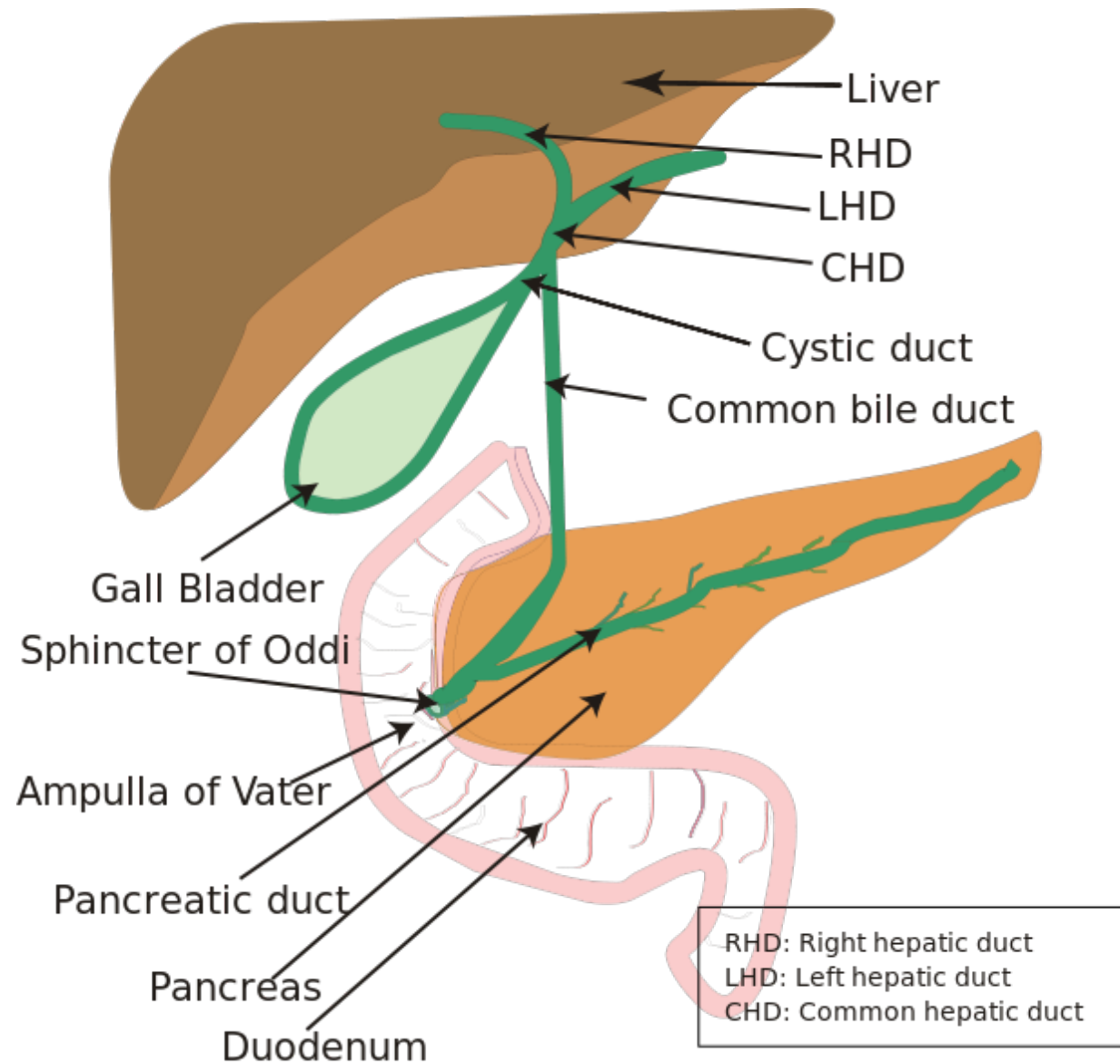
Anatomy Review

- The gallbladder is surrounded by visceral peritoneum and adventitia
- It can be divided into three parts: neck, body, and fundus



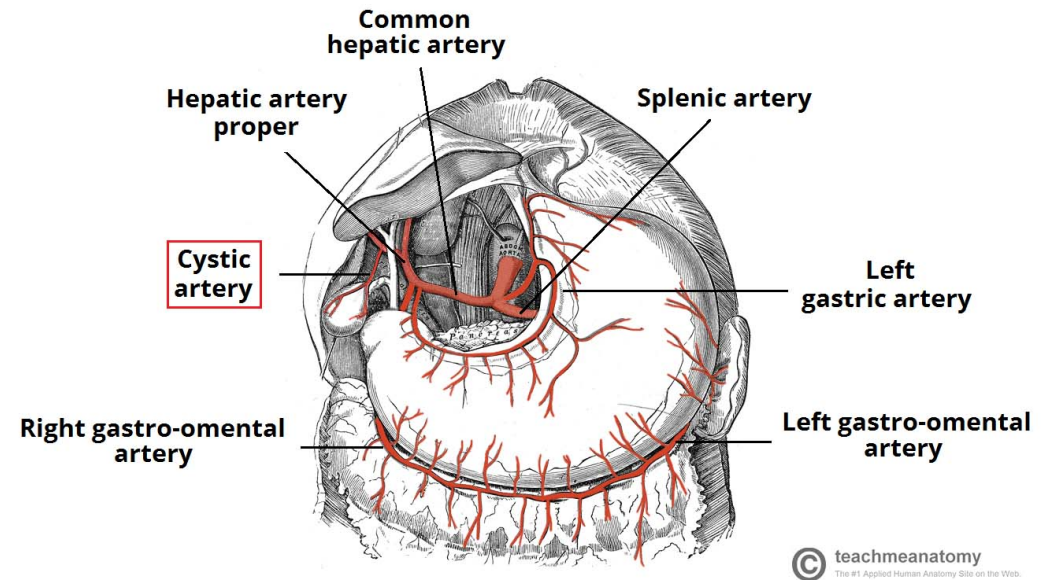
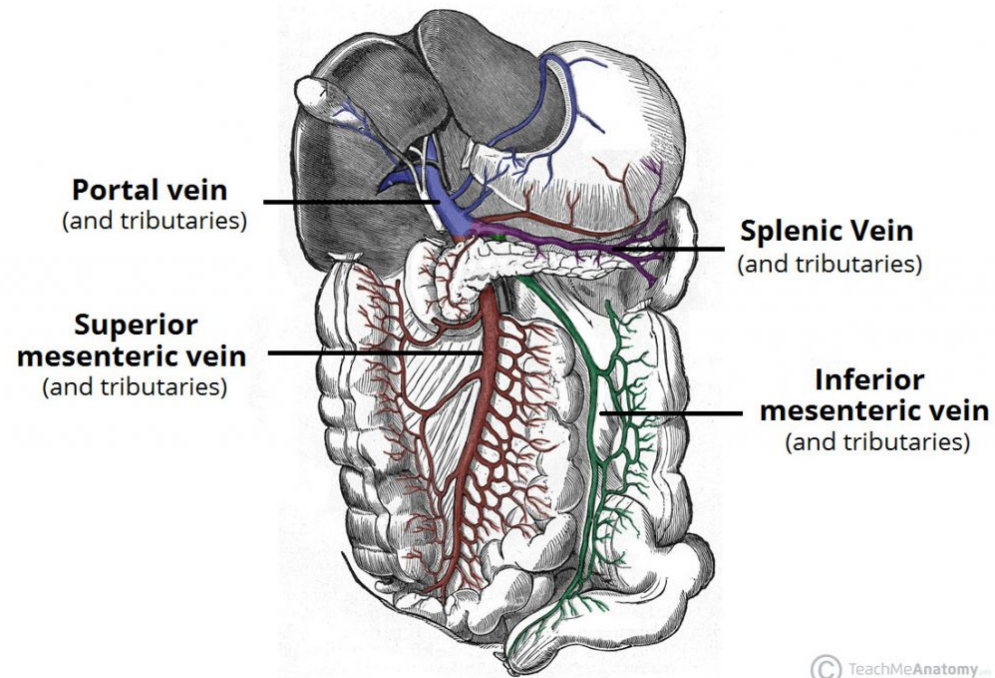
Biliary Tree





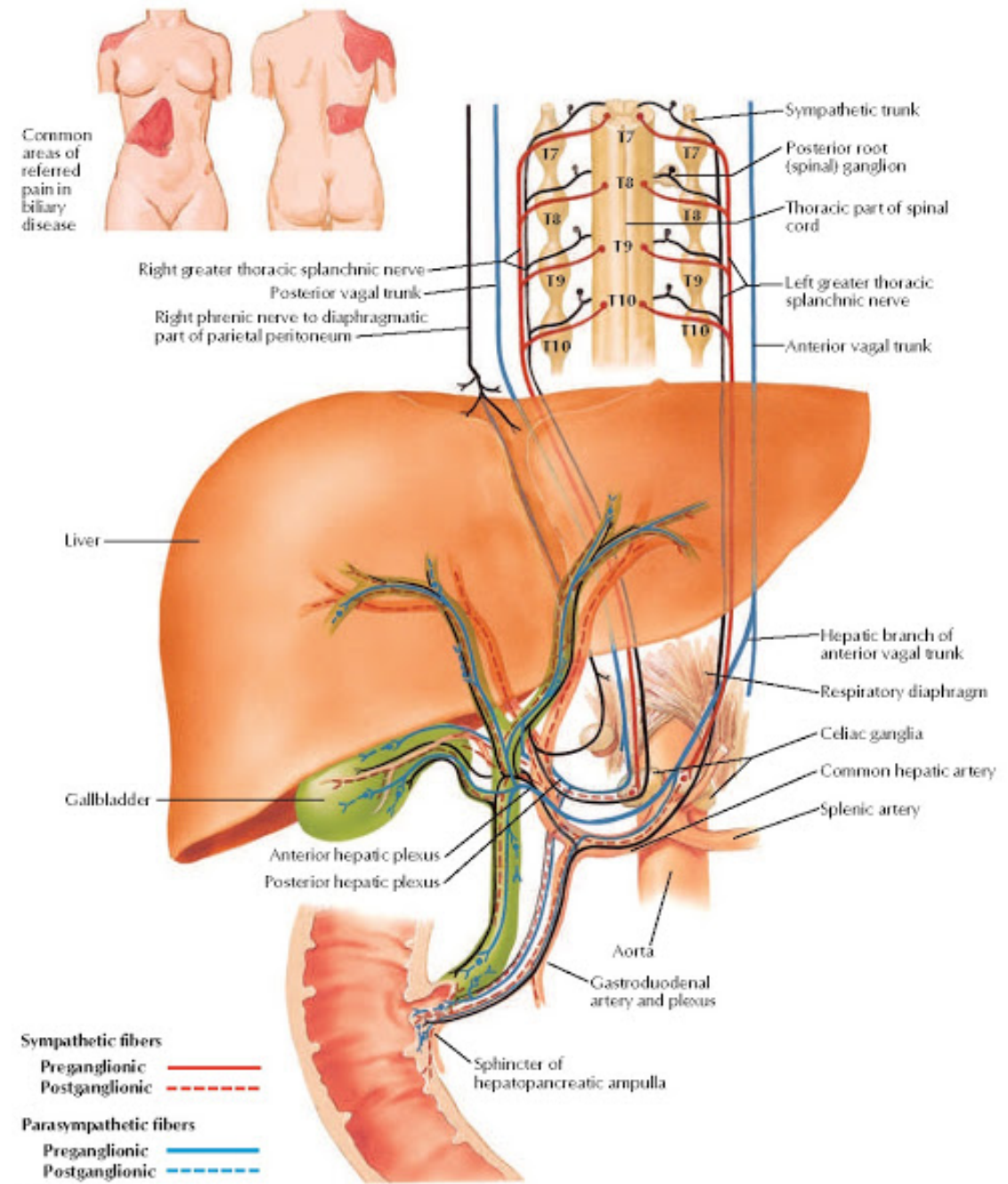
Vasculature

- Arterial supply is via the cystic artery
- Venous drainage is via the cystic veins



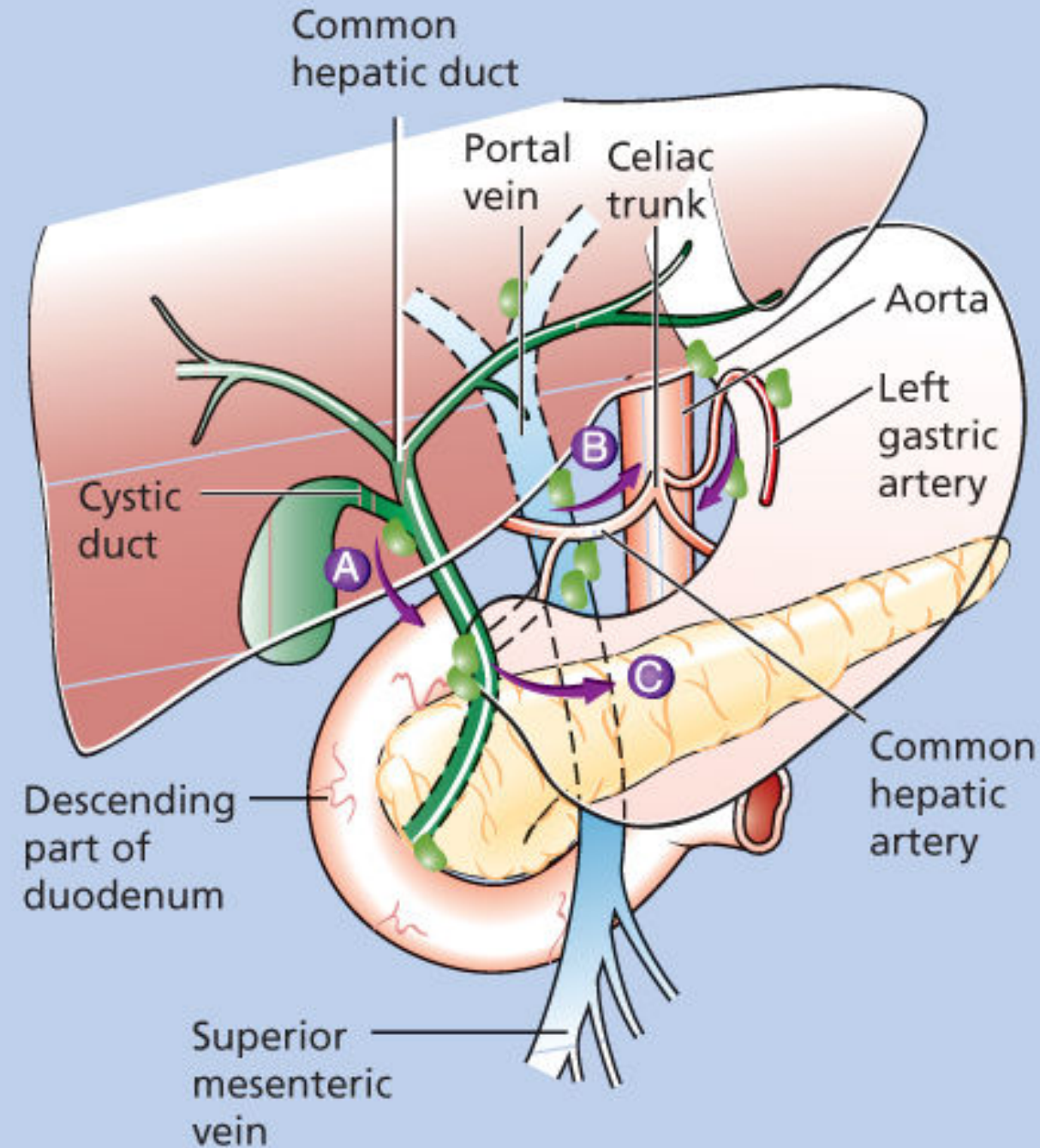
Innervation

- Celiac plexus
 - Sympathetic
 - Sensory
- Hepatic branch of the right vagus nerve
 - Parasympathetic
- Right phrenic nerve
 - Sensory



Lymphatic Drainage

- Cystic lymph nodes at the gallbladder neck.
- Cystic nodes → hepatic lymph nodes → celiac lymph nodes



Congenital Anomalies

- Absent
- Gallbladder duplication
- Aberrant locations
- Folded funds
- Agenesis
- Choledochal cysts



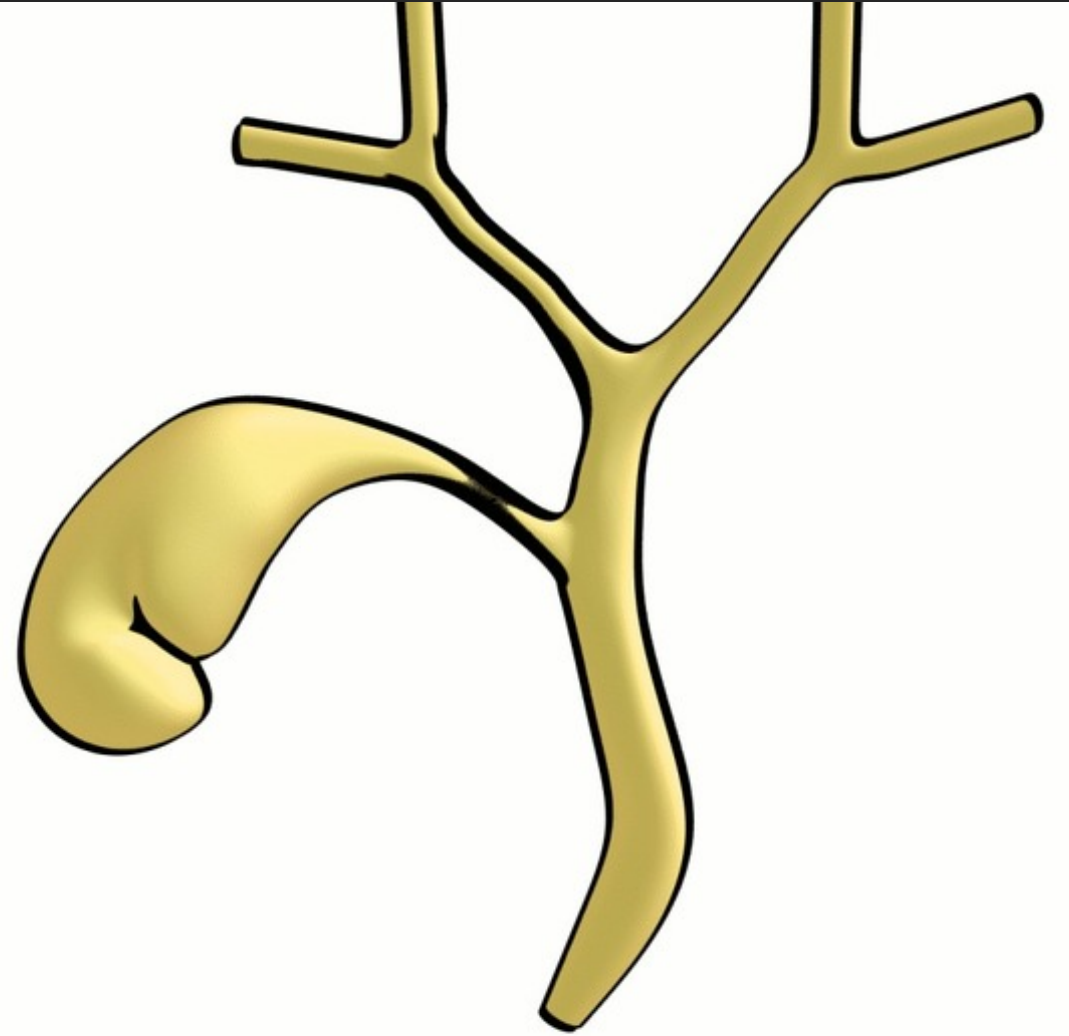
Duplication of the Gallbladder



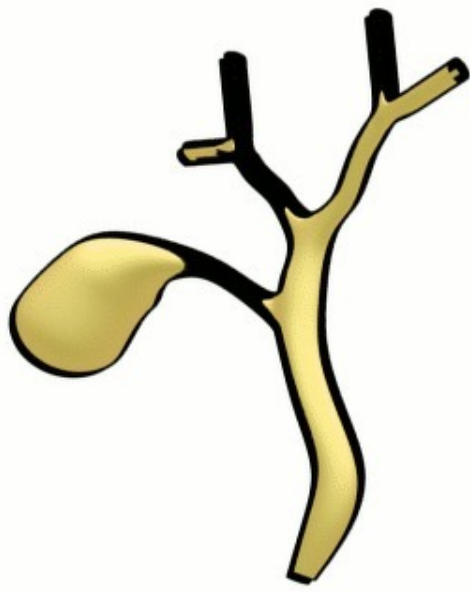
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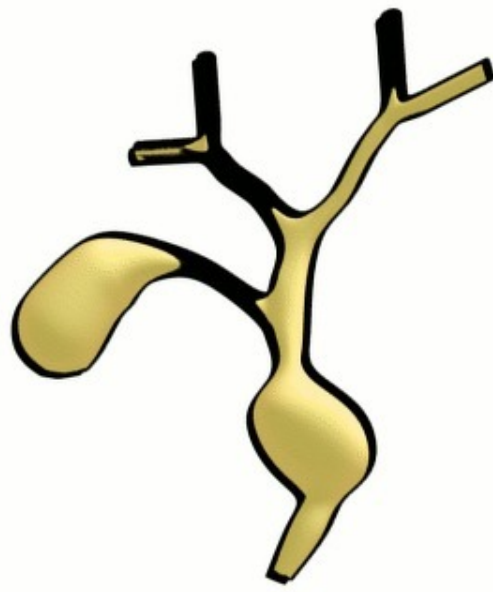
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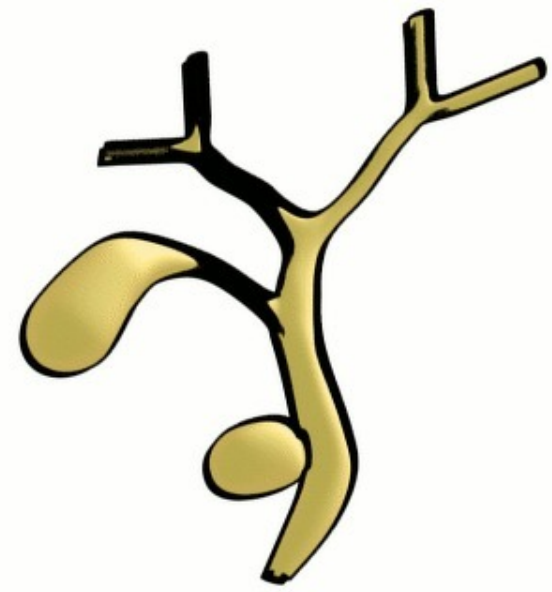
Phrygian cap



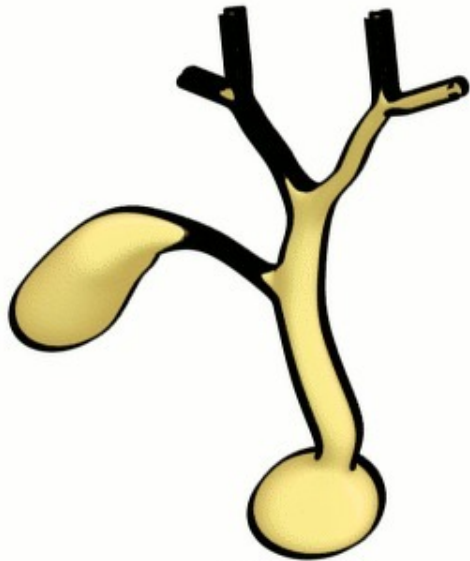
Normal



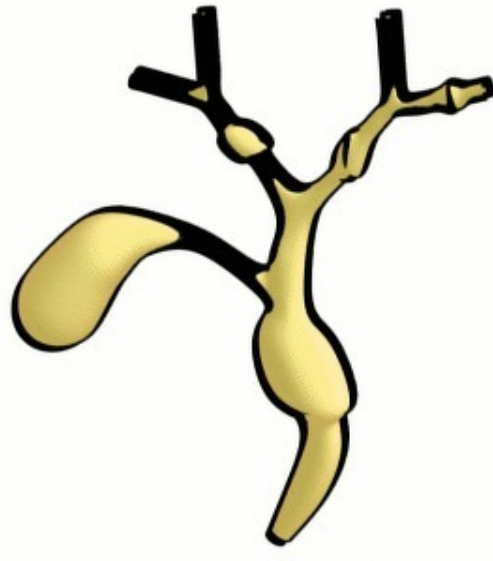
Type I



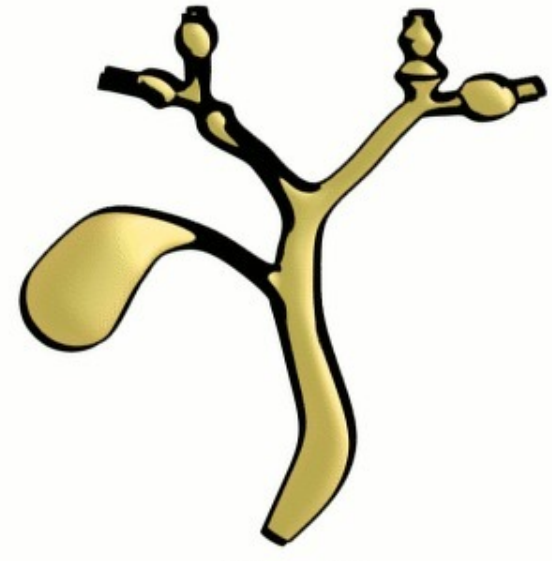
Type II



Type III



Type IV



Type V

Choledochal cysts

Cholelithiasis (Gallstones)

- 95% of biliary tract disease
- Two general classes
 - Cholesterol stones
 - Pigment stones
- Risk factors
 - Age/sex
 - Environment
 - Acquired disorders
 - Hereditary factors



Types of Stones

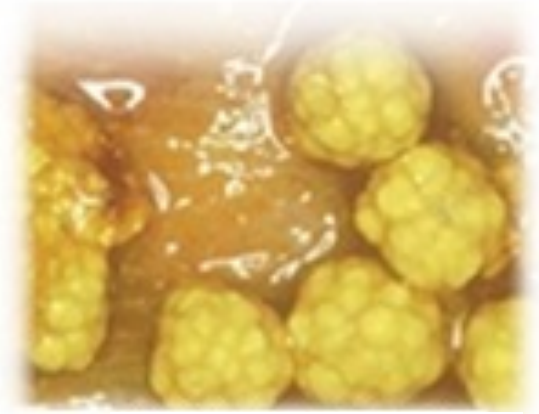
Cholesterol Stones



(Pure cholesterol stone)



(Combination cholesterol stone)



(mixed cholesterol stone)

Pigment Stones



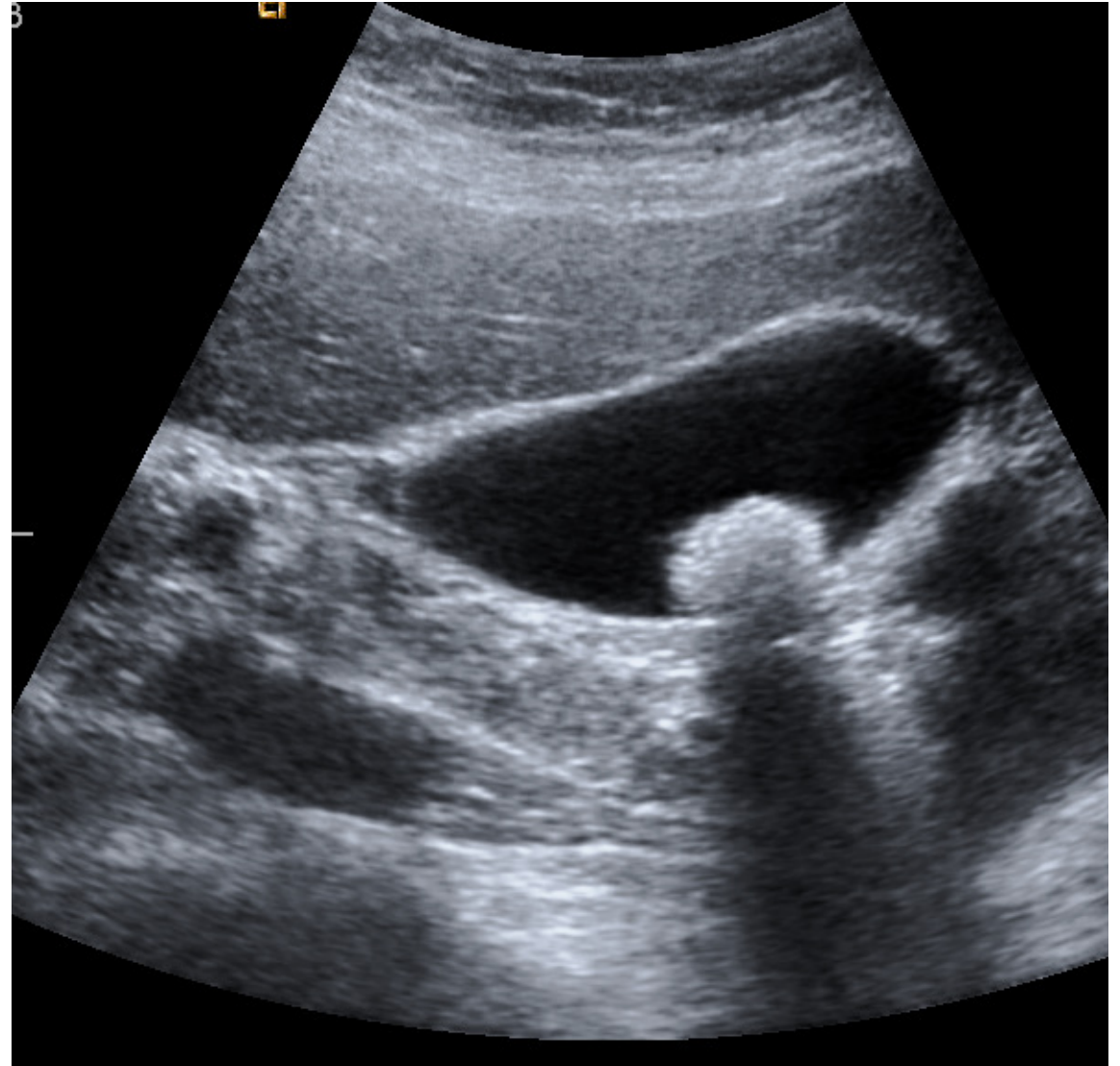
(Brown pigment stone)



(Black pigment stone)

Clinical Presentations of Gallstones

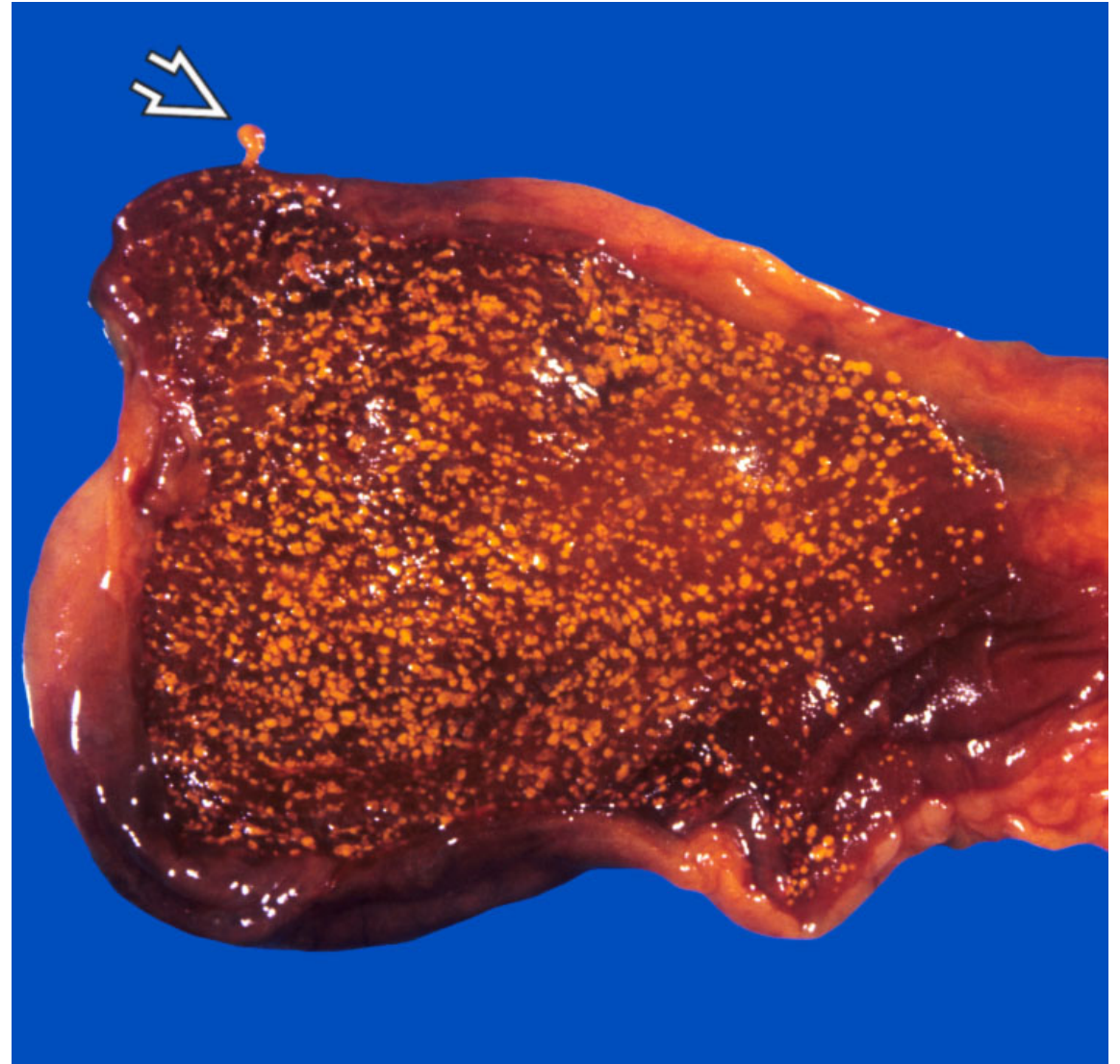
- May be asymptomatic
- Right upper quadrant or epigastrium pain that radiates to the back

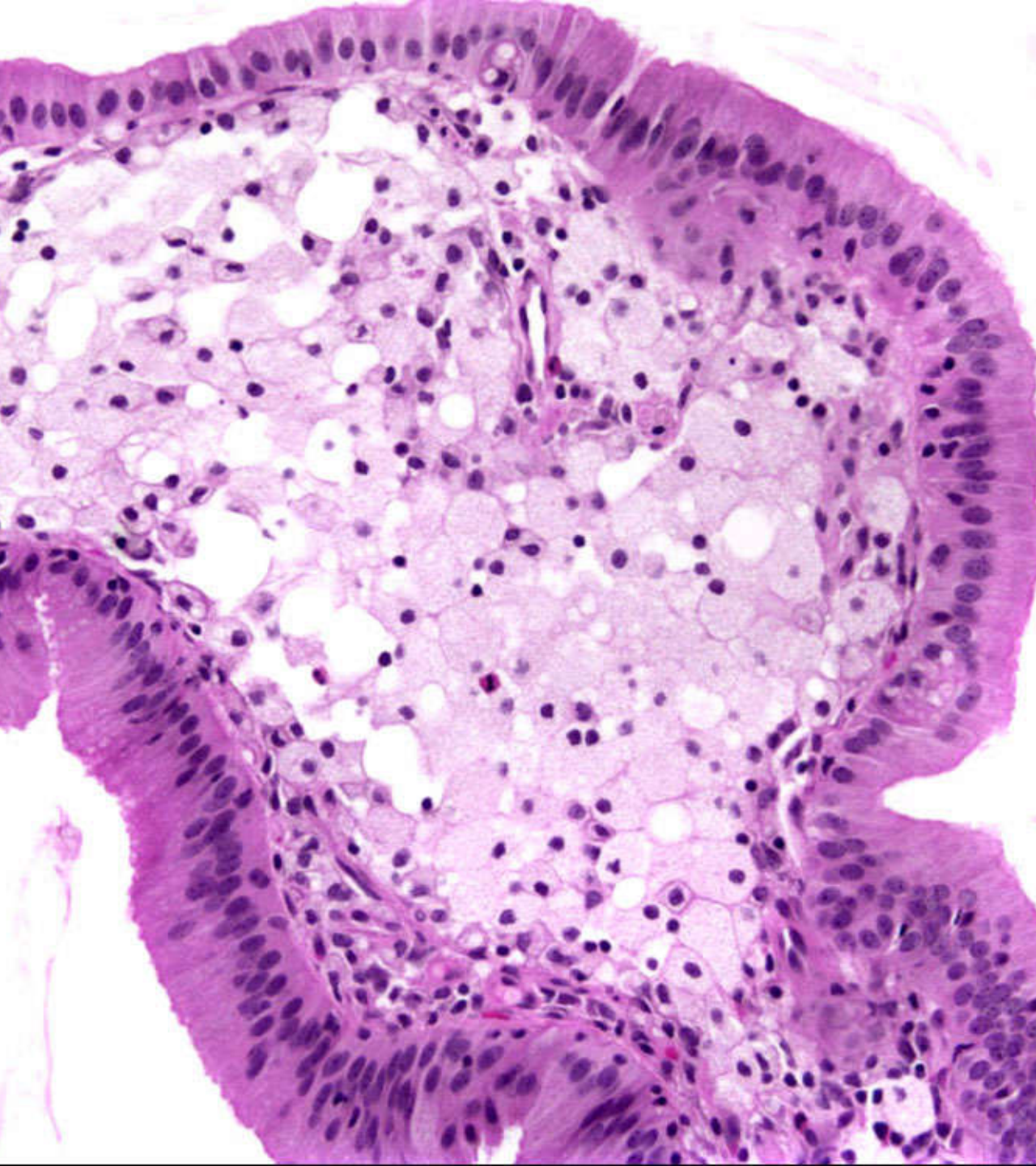
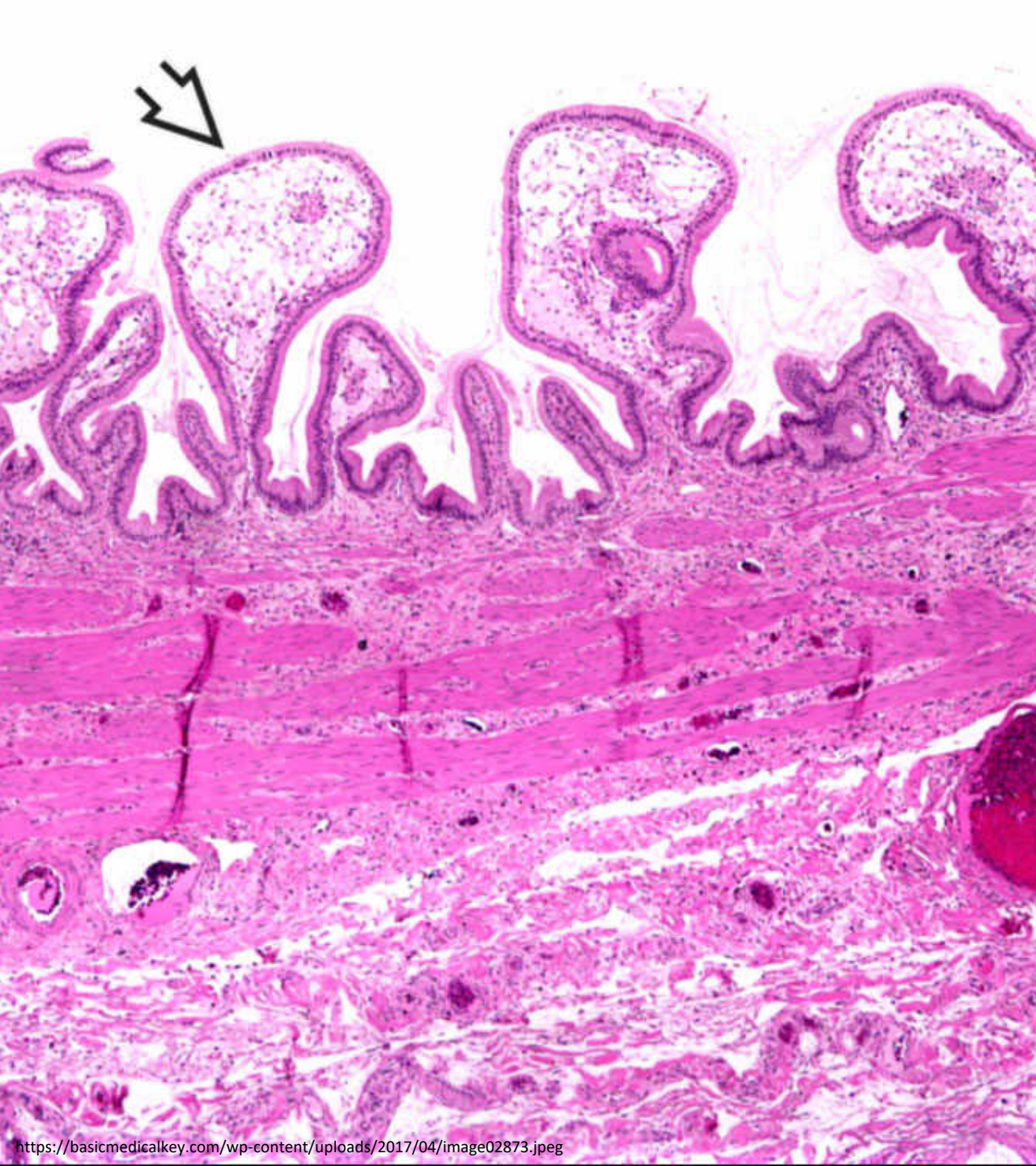


https://commons.wikimedia.org/wiki/File:Ultrasound_image_of_gallbladder_stone_Gallstone_091937515.jpg

Cholesterolosis

- Amassing of cholesterol esters and triglycerides in the macrophages at the level of the gallbladder wall.
- Diffuse or polypoid
- Strawberry Gallbladder



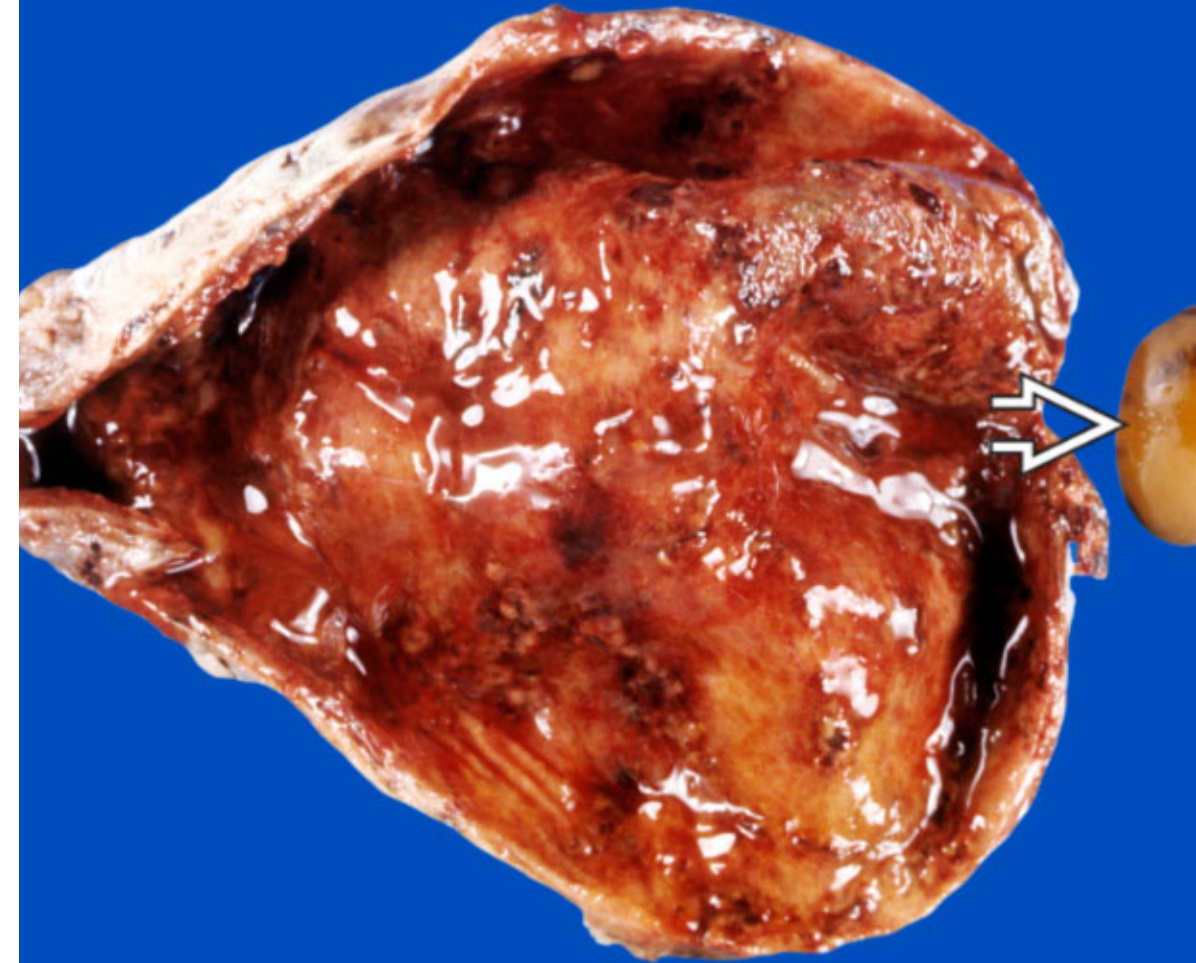
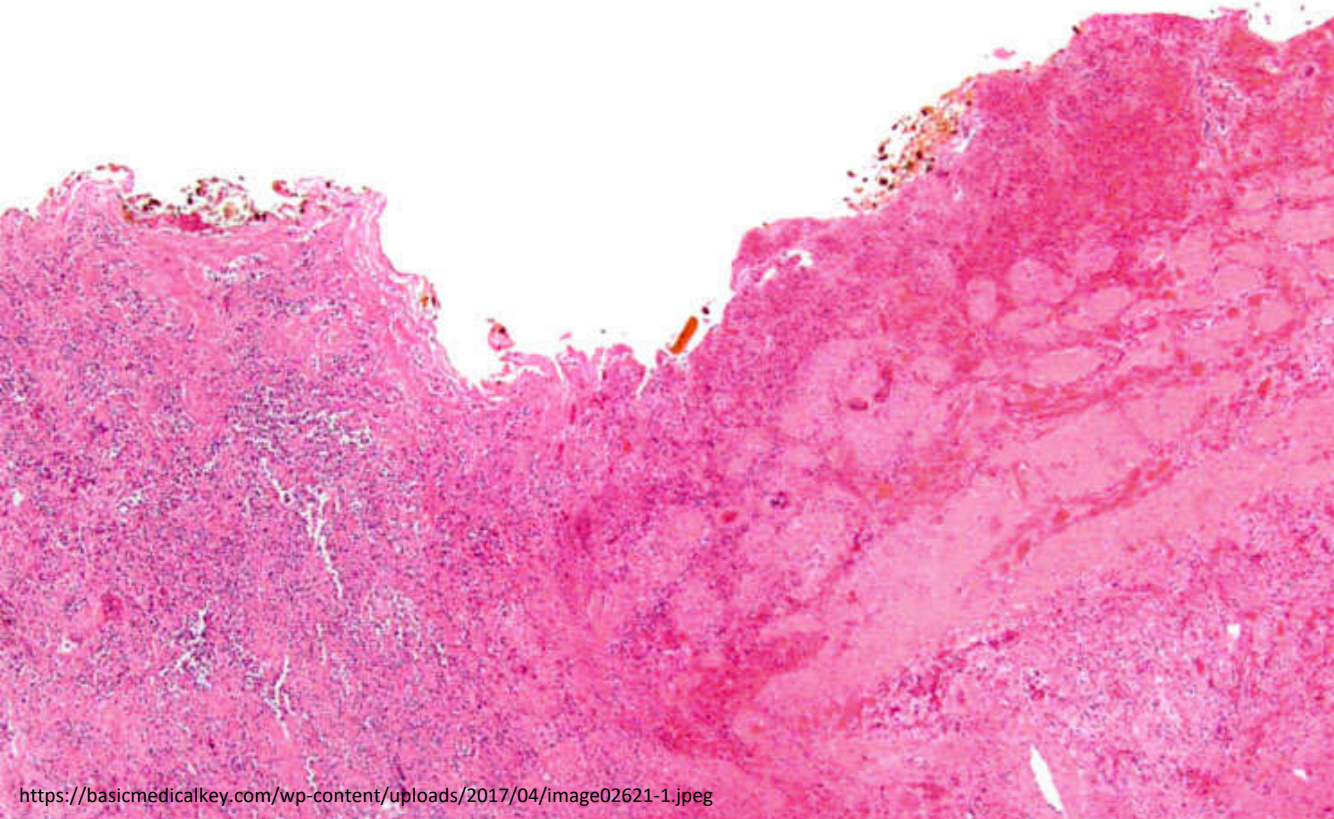


Cholecystitis

- Gallbladder inflammation
- Acute or Chronic
- Almost always occurs with gallstones
- One of the most common indications for abdominal surgery in the US

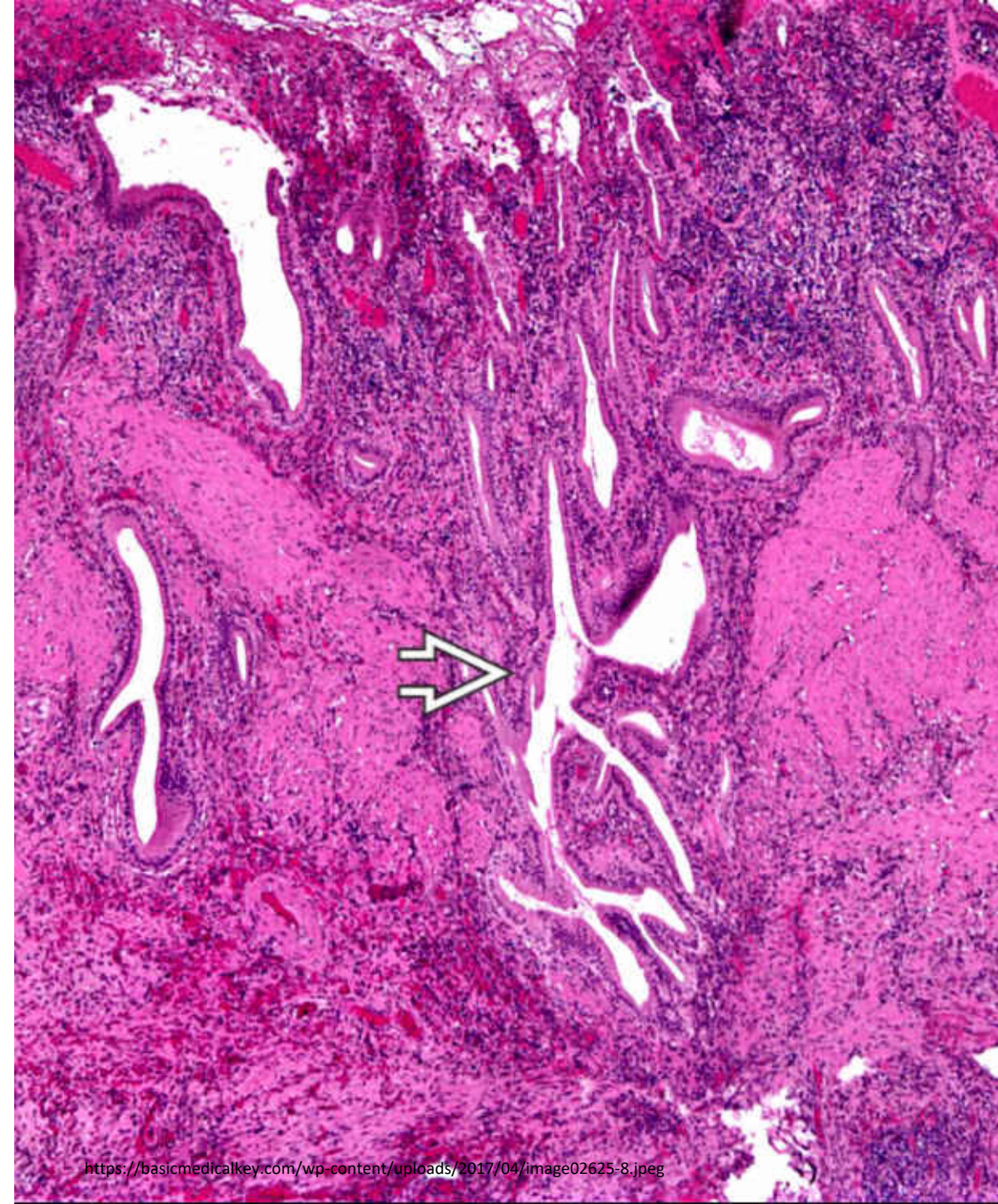
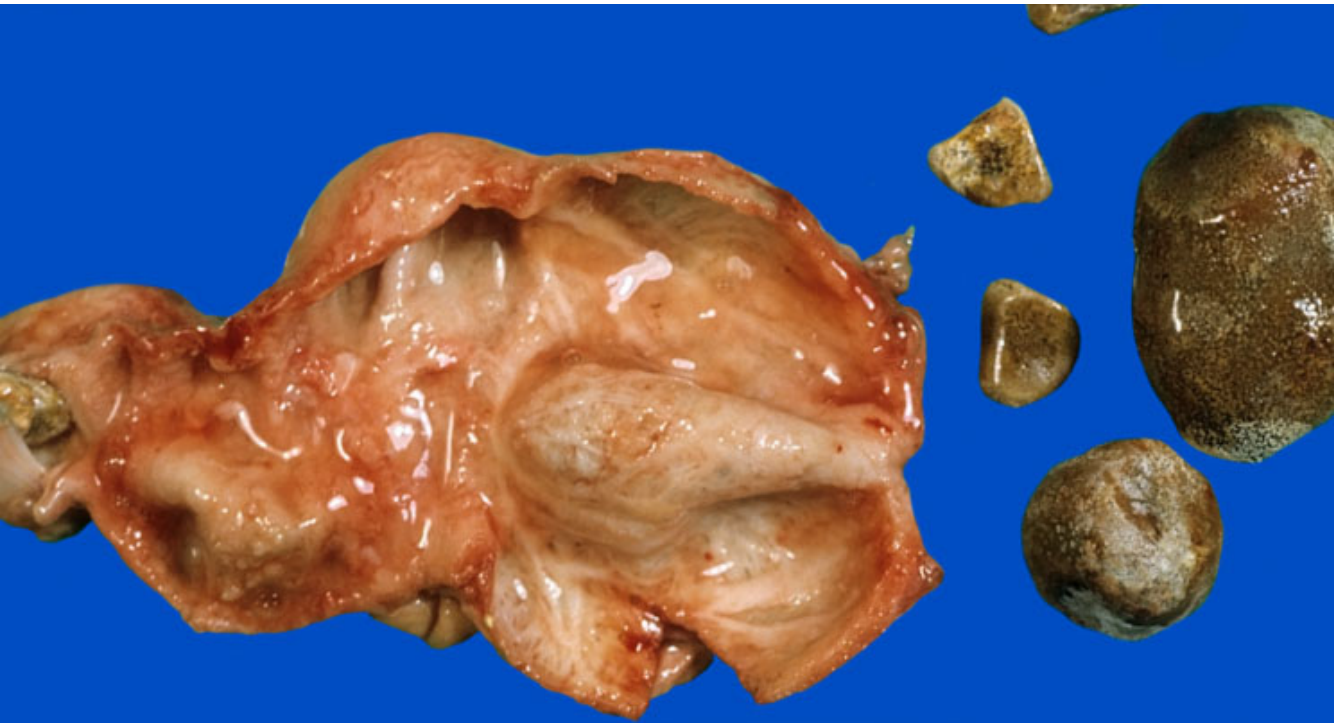
Acute Cholecystitis

- 90% of cases are caused by an obstruction to the neck or cystic duct by a stone
- 10% of cases arise without a stone in the severely ill
- Chemical irritation and inflammation
- Ischemia



Chronic Cholecystitis

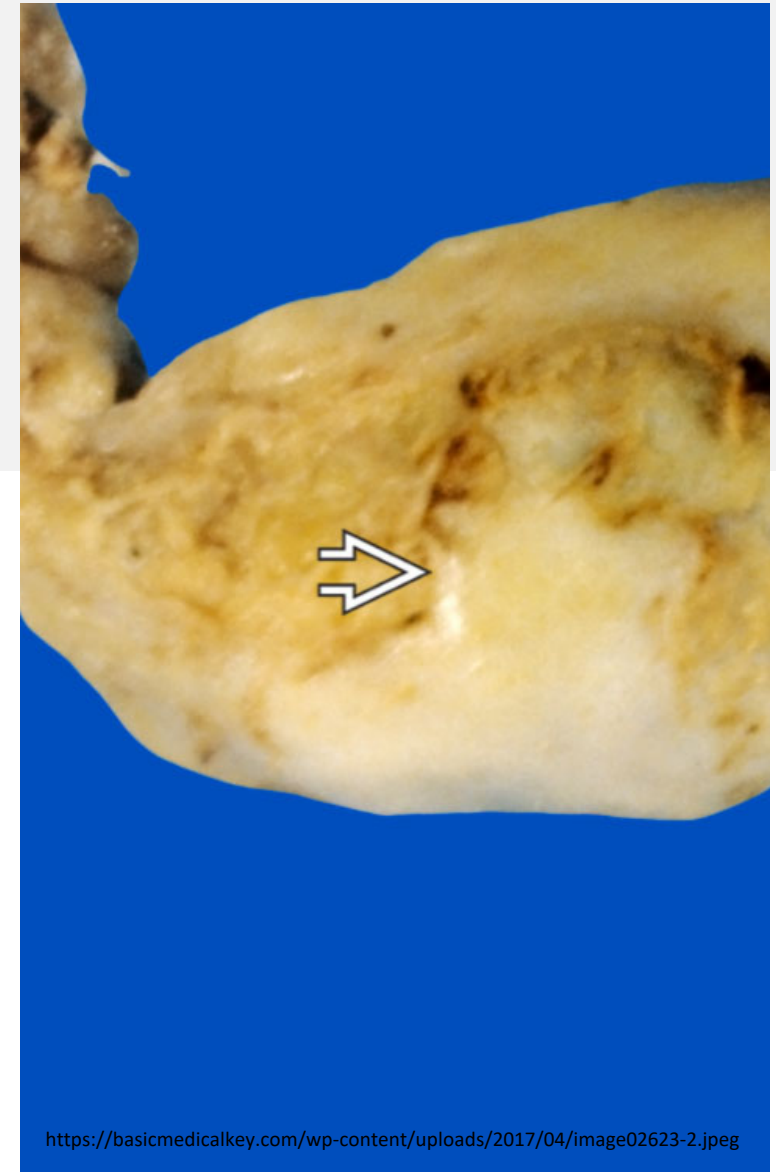
- May be caused by previous occurrences of acute cholecystitis
- Associated with cholelithiasis
- Microorganisms cultured in bile
- Obstruction of gallbladder outflow not a requisite





Porcelain Gallbladder

- Gallbladder calcification
- Selective mucosal calcification and diffuse intramural calcification
- Increased risk of developing gallbladder carcinoma



Gallbladder Carcinoma

- The most common malignancy of the extrahepatic biliary tract
- Most are adenocarcinomas
- Twice as common in women than men
- Five-year survival is less than 10%
- Cholelithiasis is a risk factor
- Symptoms are like those associated with cholecystitis

