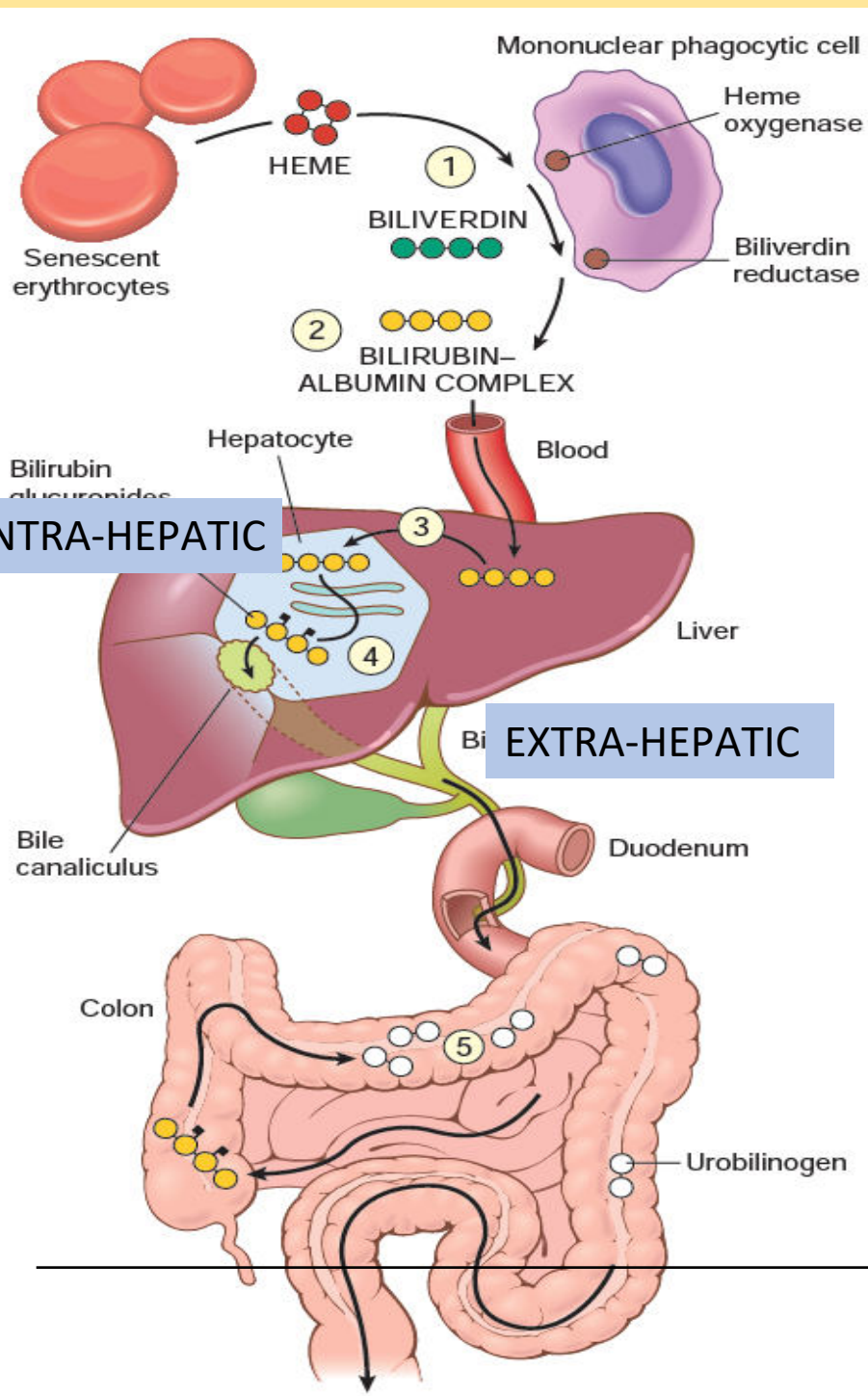
# Pathophysiology: Obstructive jaundice

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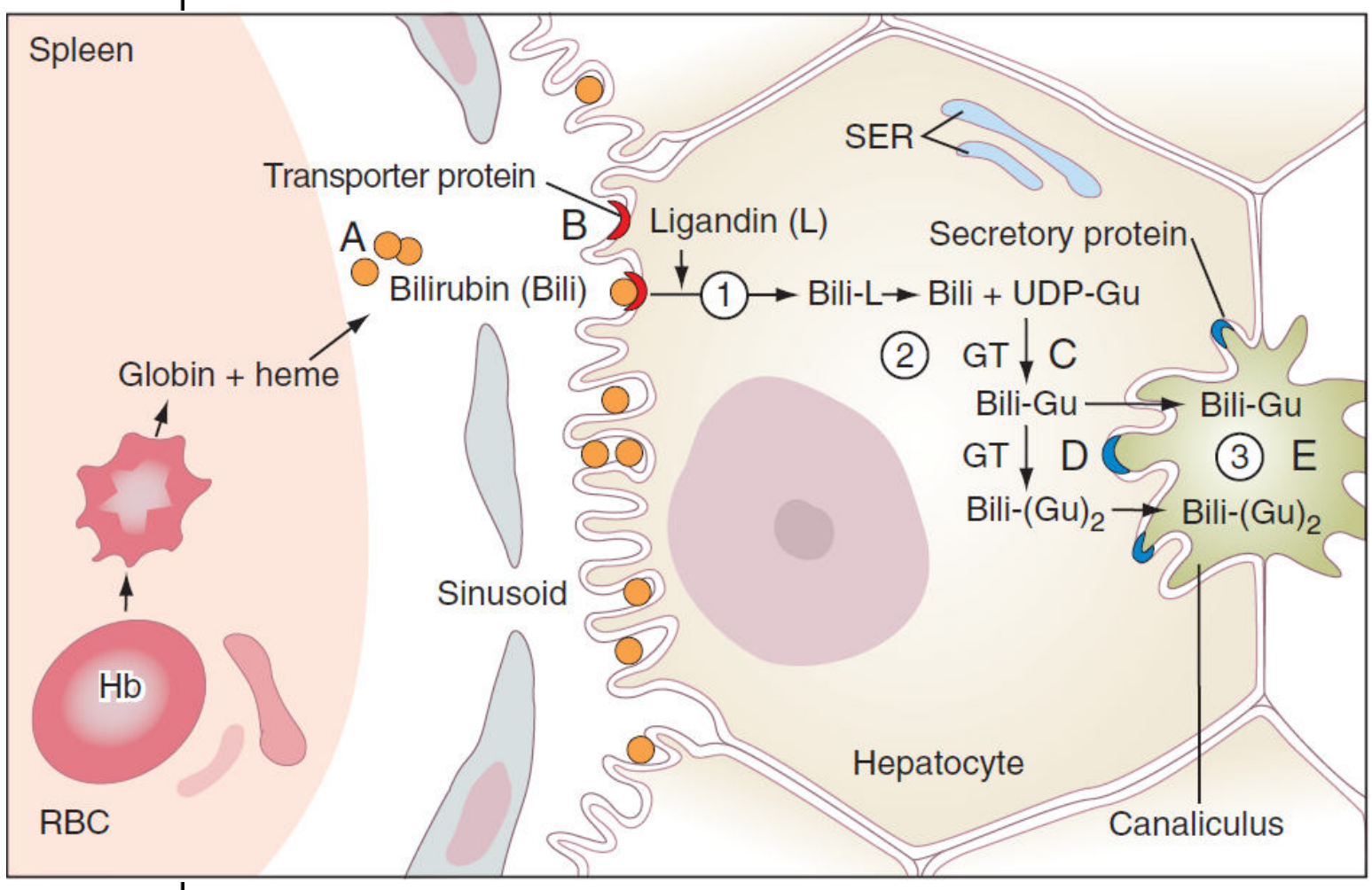
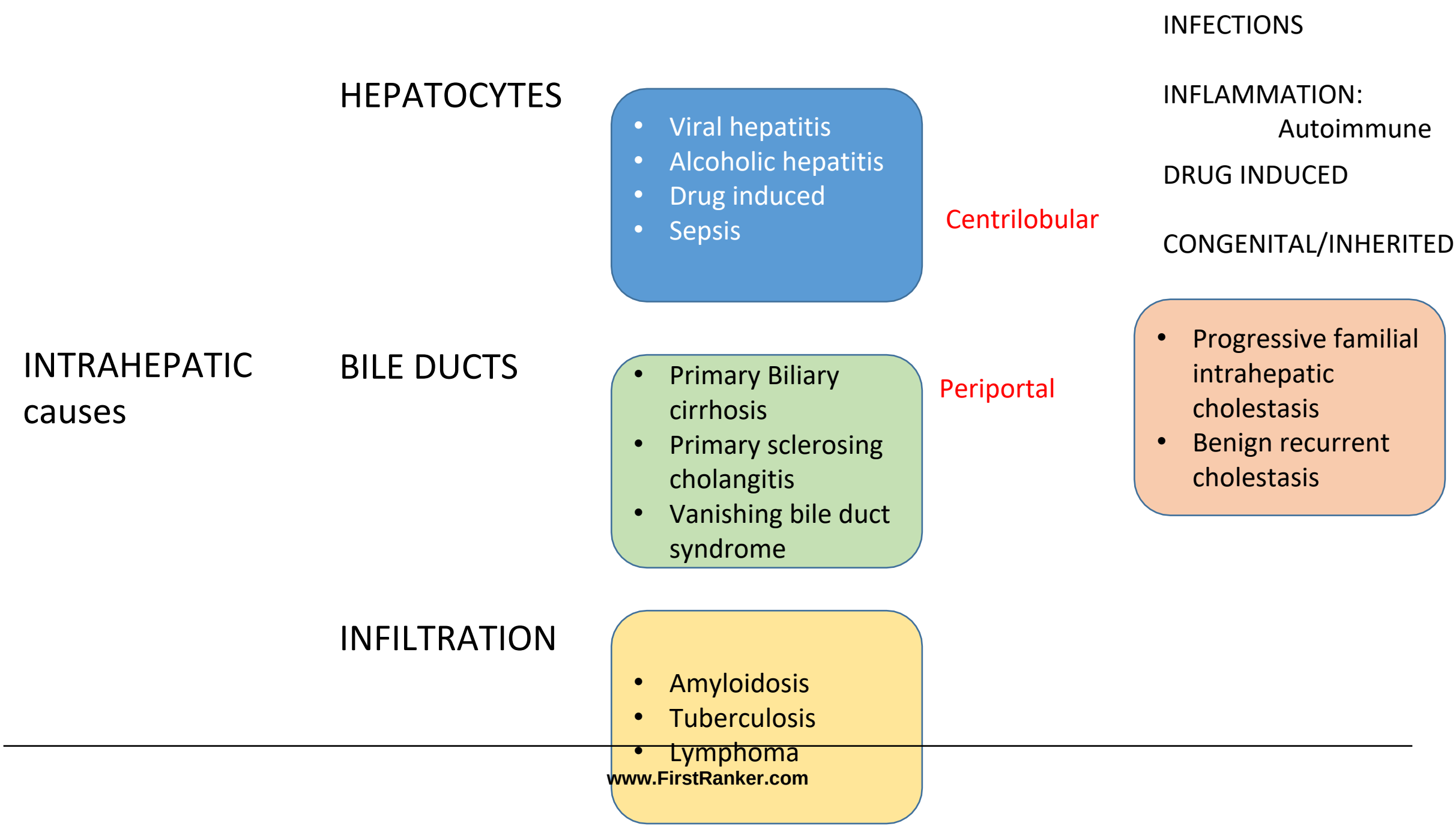


## TABLE 58-3 CHOLESTATIC CONDITIONS THAT MAY PRODUCE JAUNDICE



I. Intrahepatic
   A. Viral hepatitis
      1. Fibrosing cholestatic hepatitis—hepatitis B and C
      2. Hepatitis A, Epstein-Barr virus infection, cytomegalovirus infection
   B. Alcoholic hepatitis
   C. Drug toxicity
      1. Pure cholestasis—anabolic and contraceptive steroids
      2. Cholestatic hepatitis—chlorpromazine, erythromycin estolate
      3. Chronic cholestasis—chlorpromazine and prochlorperazine
   D. Primary biliary cirrhosis
   E. Primary sclerosing cholangitis
   F. Vanishing bile duct syndrome
      1. Chronic rejection of liver transplants
      2. Sarcoidosis
      3. Drugs
   G. Congestive hepatopathy and ischemic hepatitis
   H. Inherited conditions
      1. Progressive familial intrahepatic cholestasis
      2. Benign recurrent cholestasis
   I. Cholestasis of pregnancy
   J. Total parenteral nutrition
   K. Nonhepatobiliary sepsis
   L. Benign postoperative cholestasis
   M. Paraneoplastic syndrome
   N. Veno-occlusive disease
   O. Graft-versus-host disease
   P. Infiltrative disease
      1. Tuberculosis
      2. Lymphoma
      3. Amyloidosis
   Q. Infections
      1. Malaria
      2. Leptospirosis



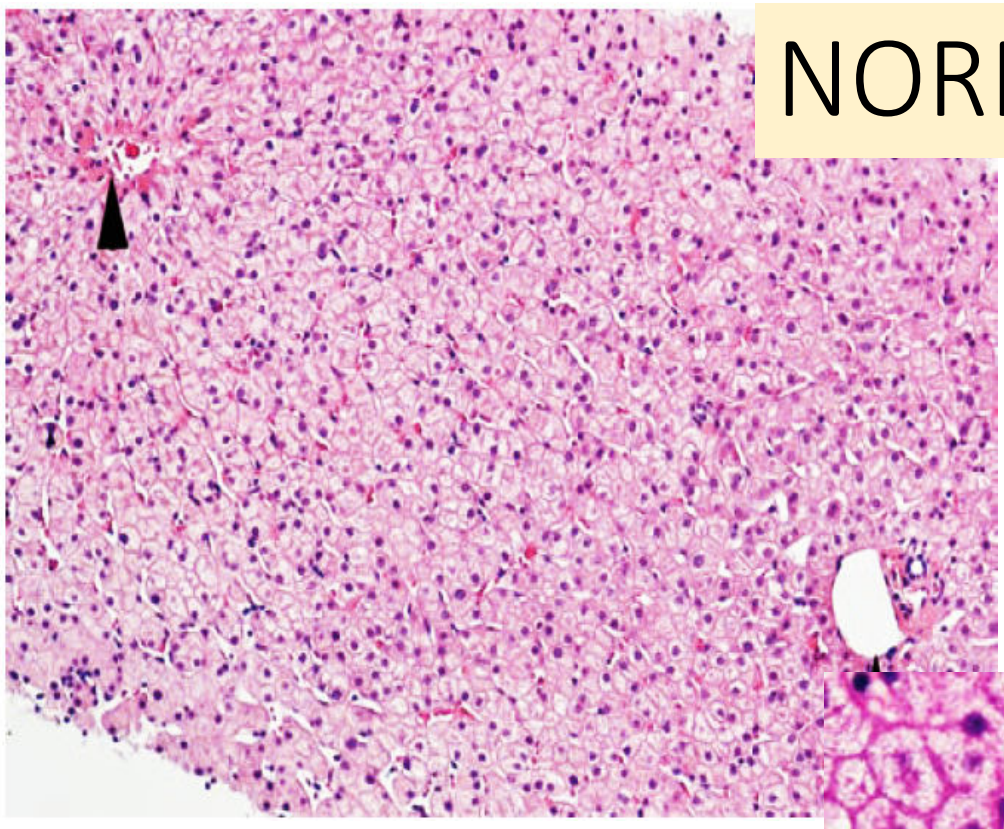
II. Extrahepatic
- A. Malignant
  1. Cholangiocarcinoma
  2. Pancreatic cancer
  3. Gallbladder cancer
  4. Ampullary cancer
  5. Malignant involvement of the porta hepatis lymph nodes
- B. Benign
  1. Choledocholithiasis
  2. Postoperative biliary strictures
  3. Primary sclerosing cholangitis
  4. Chronic pancreatitis
  5. AIDS cholangiopathy
  6. Mirizzi's syndrome
  7. Parasitic disease (ascariasis)

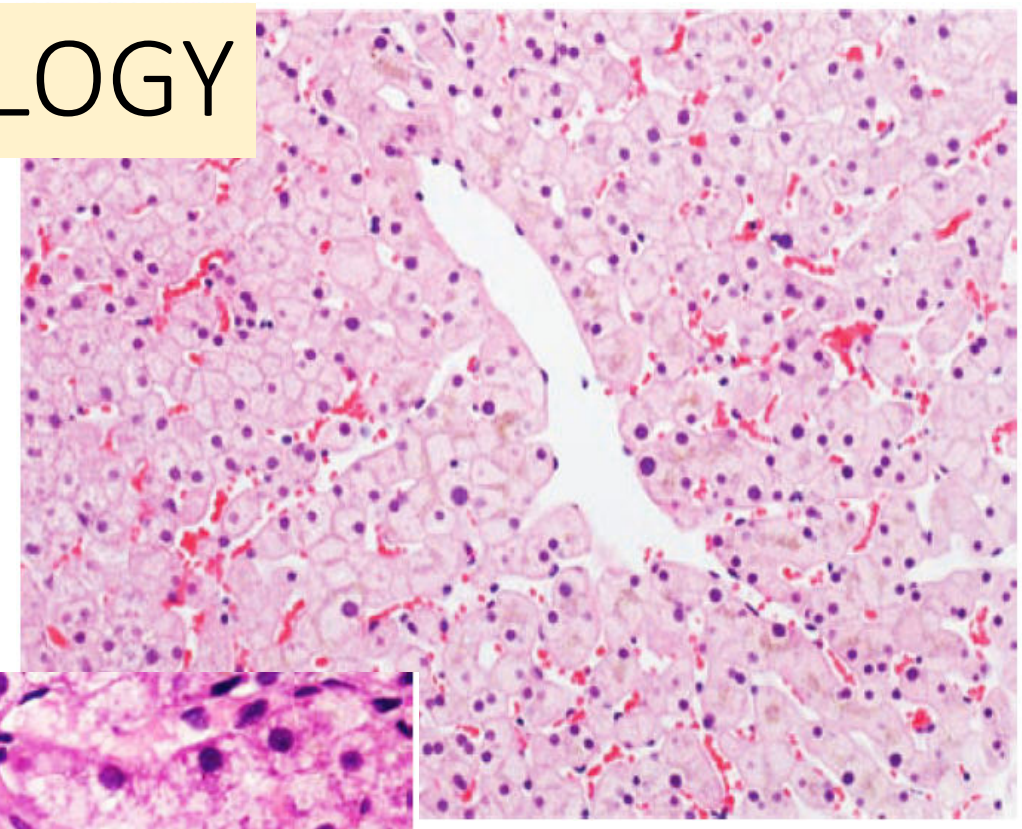
INSIDE THE LUMEN

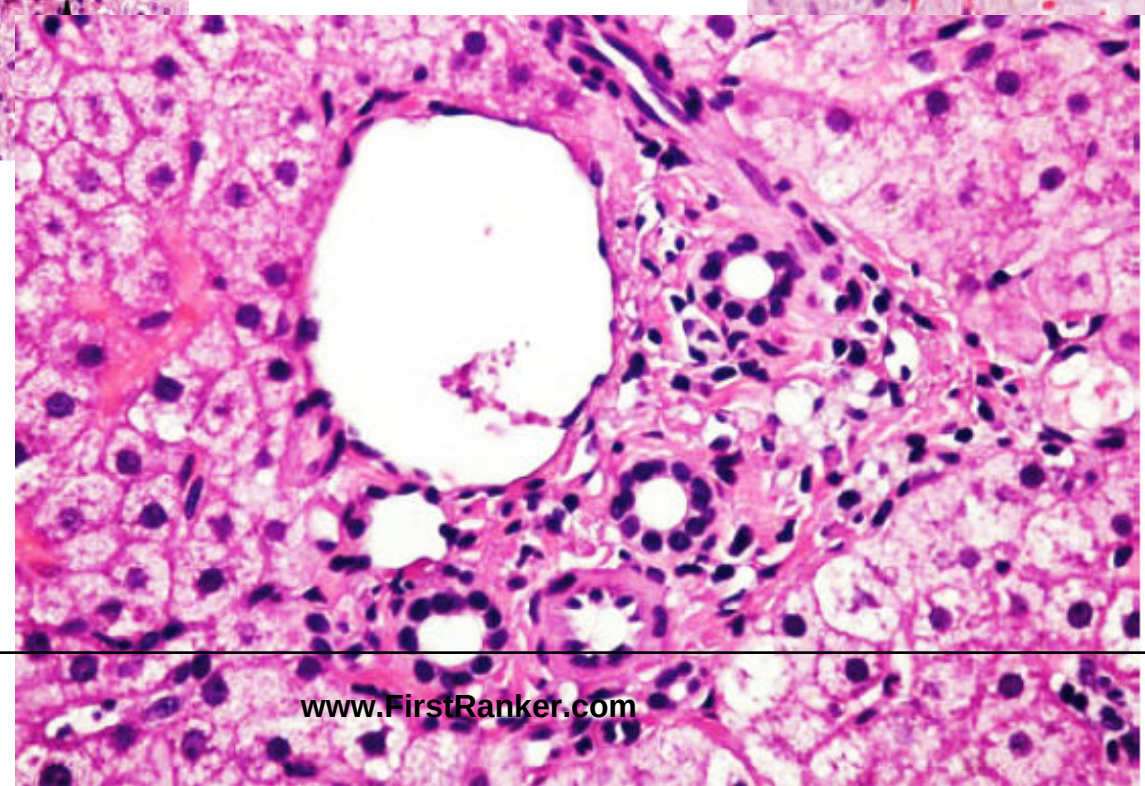
IN THE WALL

PRESSURE FROM OUTSIDE

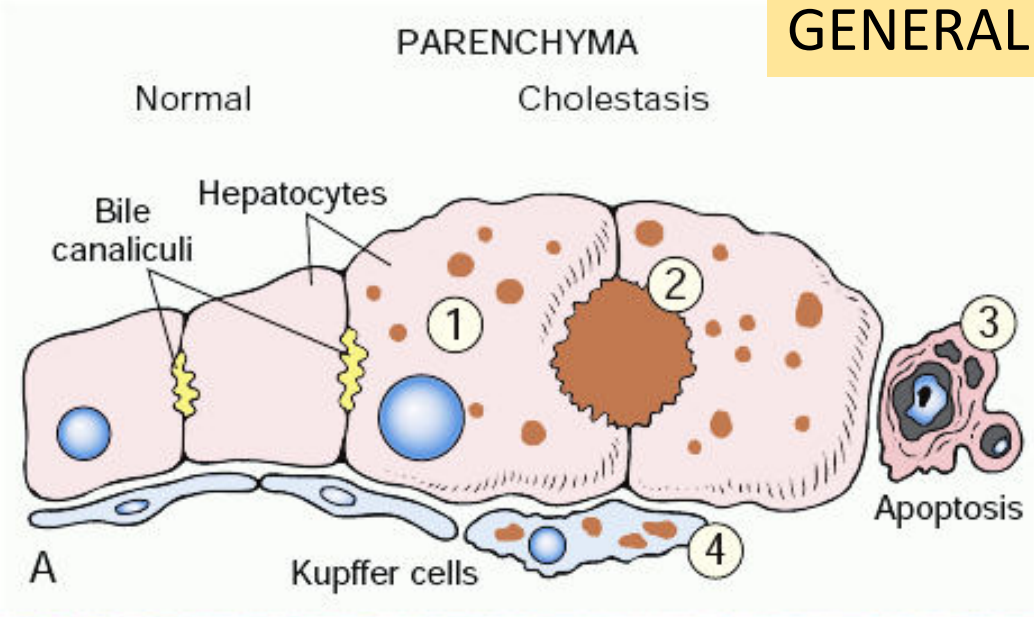
# NORMAL HISTOLOGY

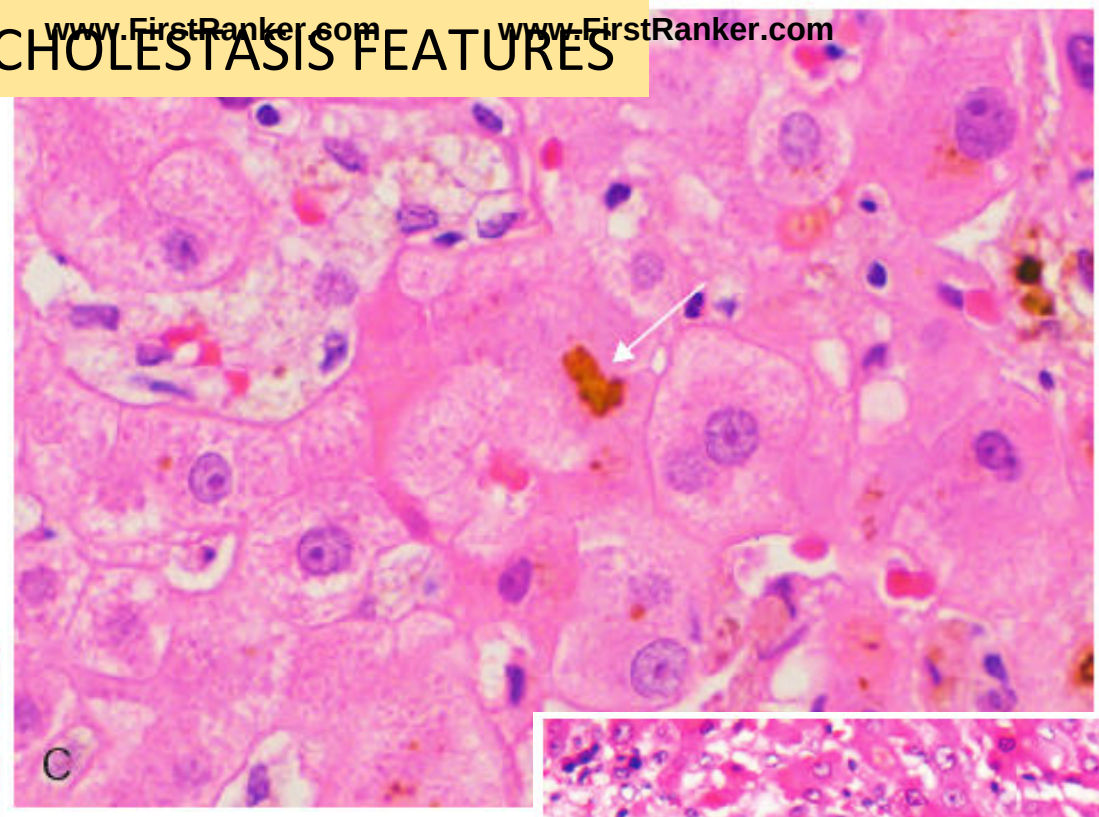


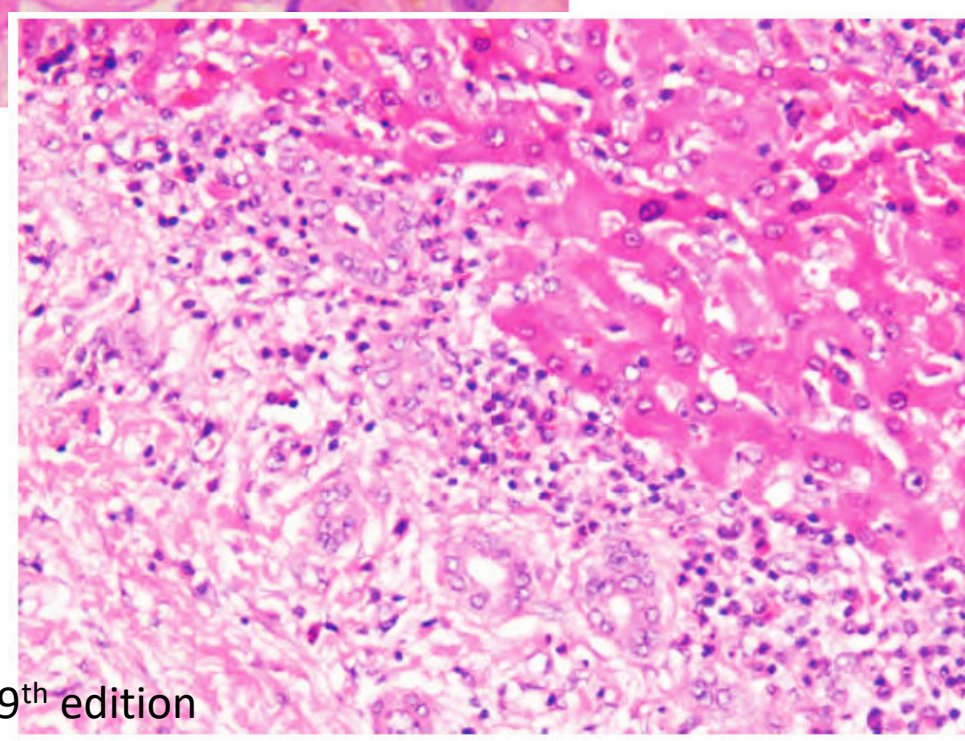




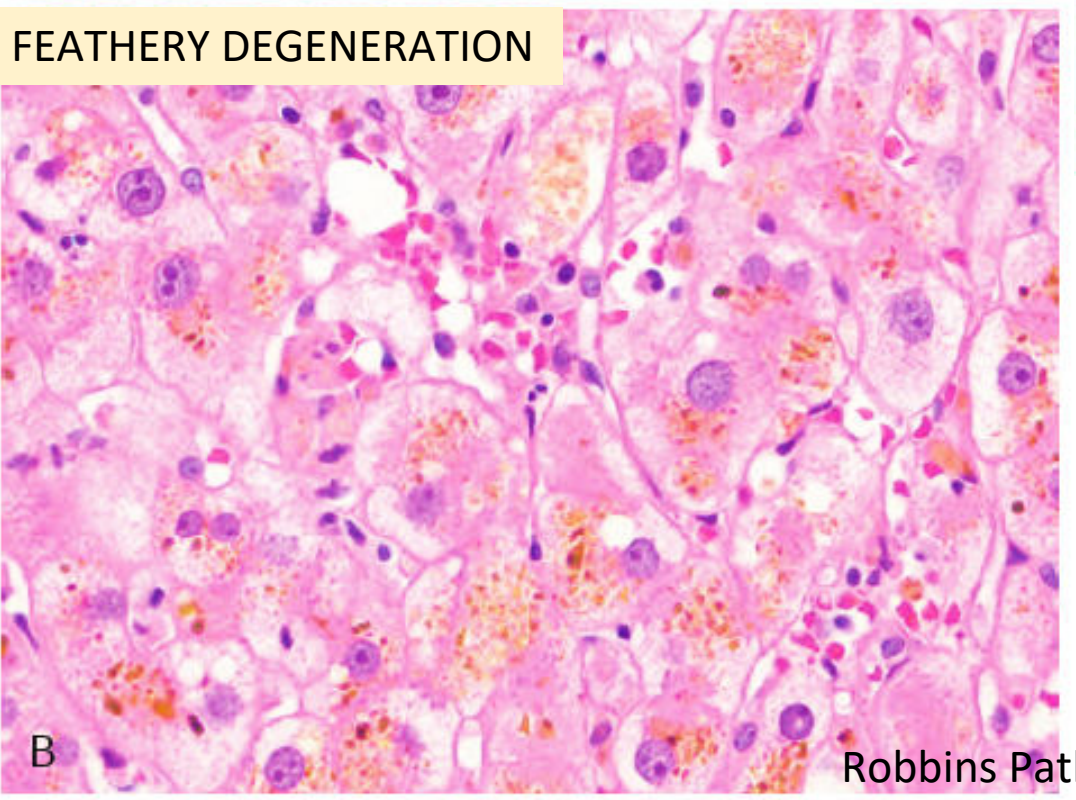
# GENERAL CHOLESTASIS FEATURES



## FEATHERY DEGENERATION

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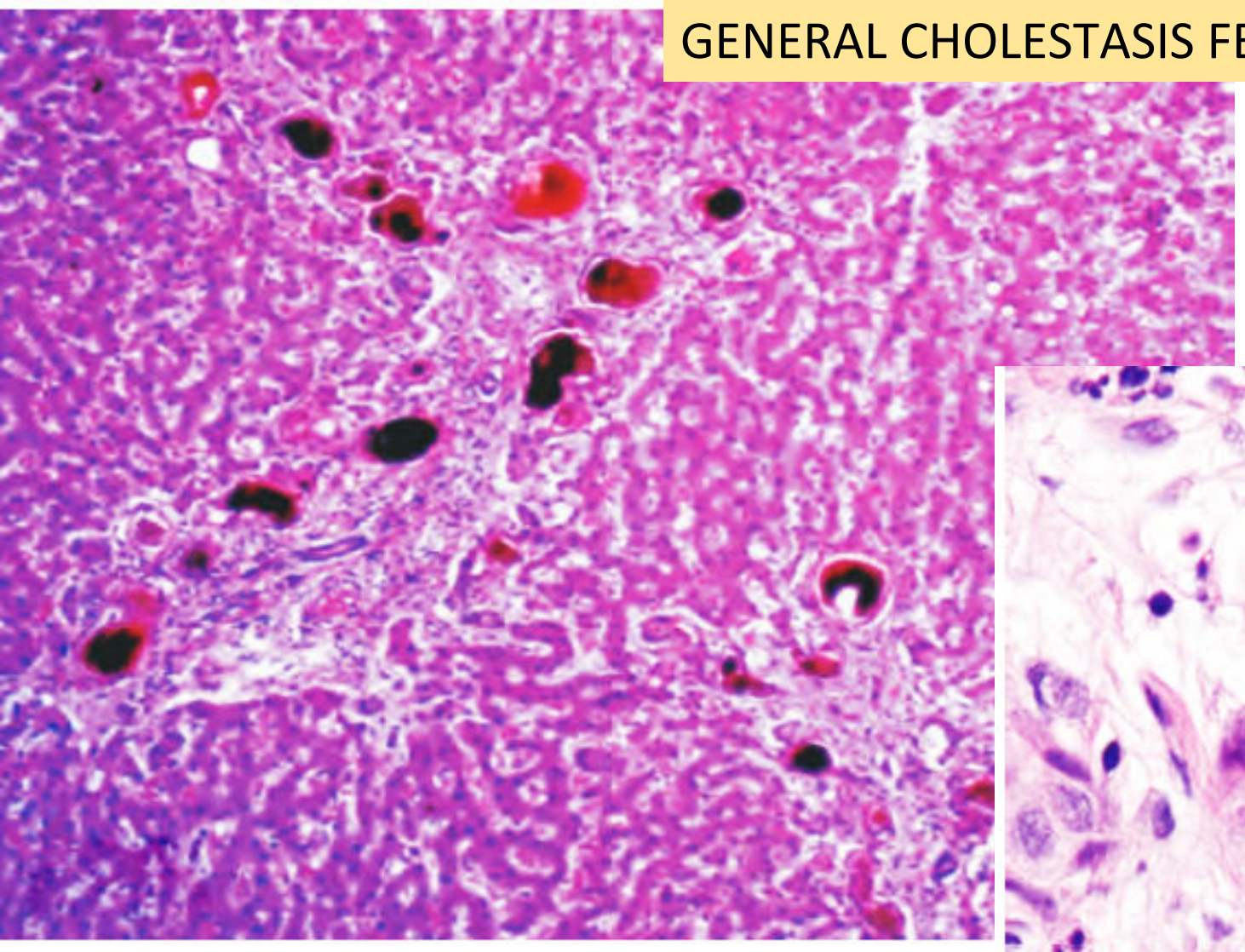
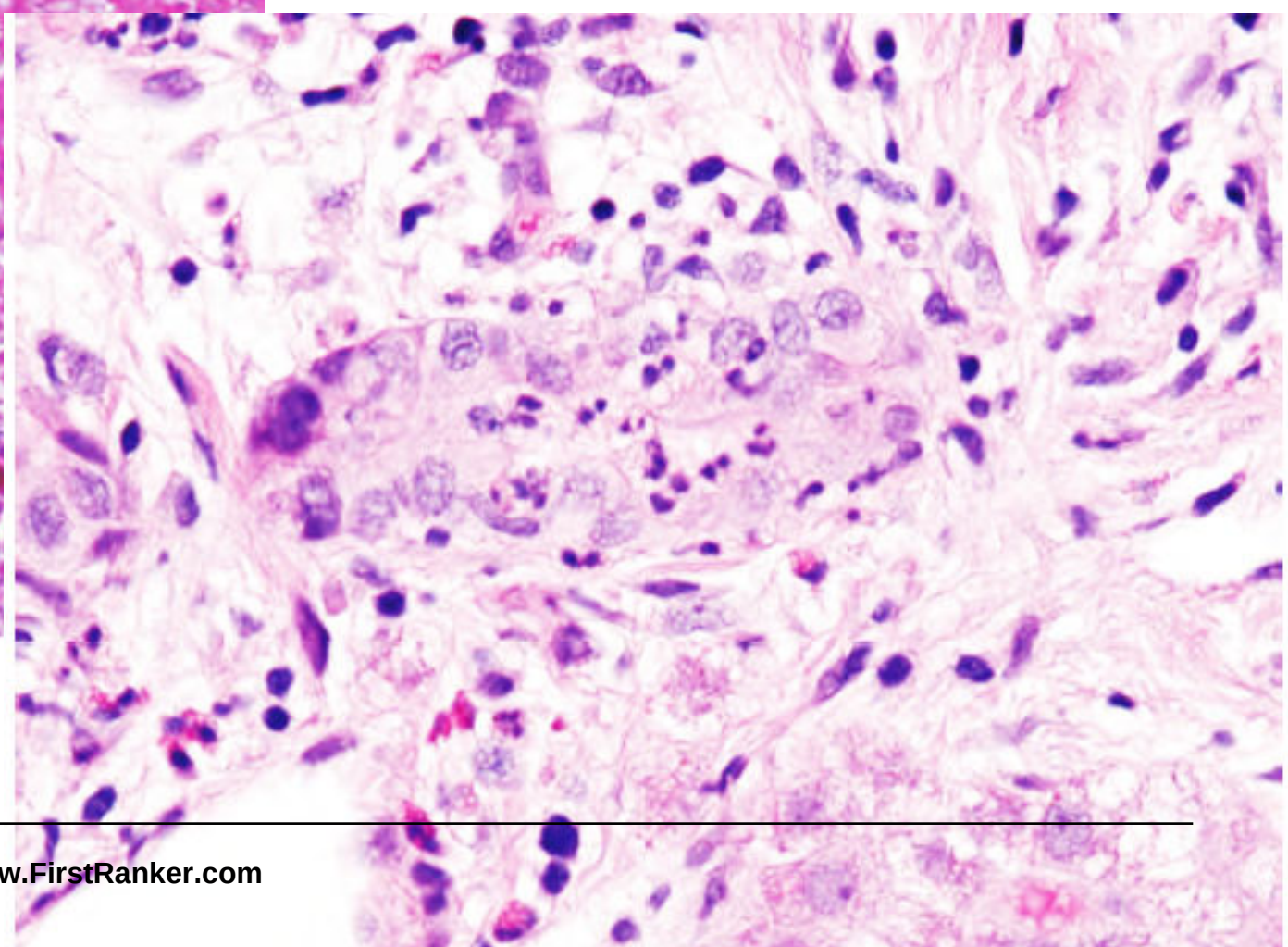
# GENERAL CHOLESTASIS FEATURES





# AUTOIMMUNE CHOLANGIOPATHIES



| Parameter | Primary Biliary Cirrhosis | Primary Sclerosing Cholangitis |
|---|---|---|
| Age | Median age 50 years (30 to 70) | Median age 30 years |
| Gender | 90% female | 70% male |
| Clinical course | Progressive | Unpredictable but progressive |
| Associated conditions | Sjögren syndrome (70%)<br>Scleroderma (5%)<br>Thyroid disease (20%) | Inflammatory bowel disease (70%)<br>Pancreatitis (≤25%)<br>Idiopathic fibrosing diseases (retroperitoneal fibrosis) |
| Serology | 95% AMA-positive<br>50% ANA-positive<br>40% ANCA-positive | 0-5% AMA-positive (low titer)<br>6% ANA-positive<br>65% ANCA-positive |
| Radiology | Normal | Strictures and beading of large bile ducts; pruning of smaller ducts |
| Duct lesion | Florid duct lesions and loss of small ducts only | Inflammatory destruction of extrahepatic and large intrahepatic ducts; fibrotic obliteration of medium and small intrahepatic ducts |

AMA, Antimitochondrial antibody; ANA, antinuclear antibody; ANCA, antineutrophil cytoplasmic antibody.

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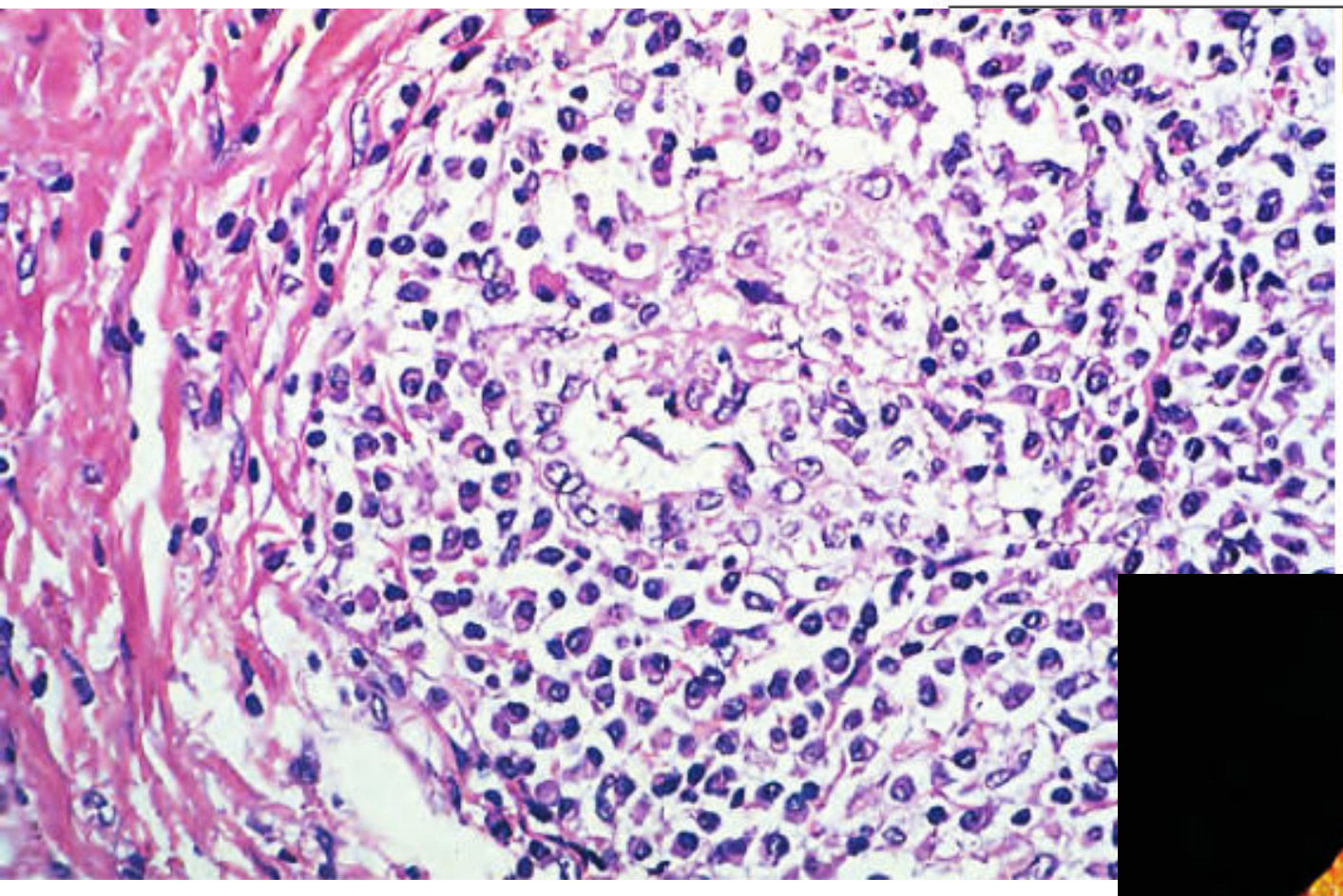
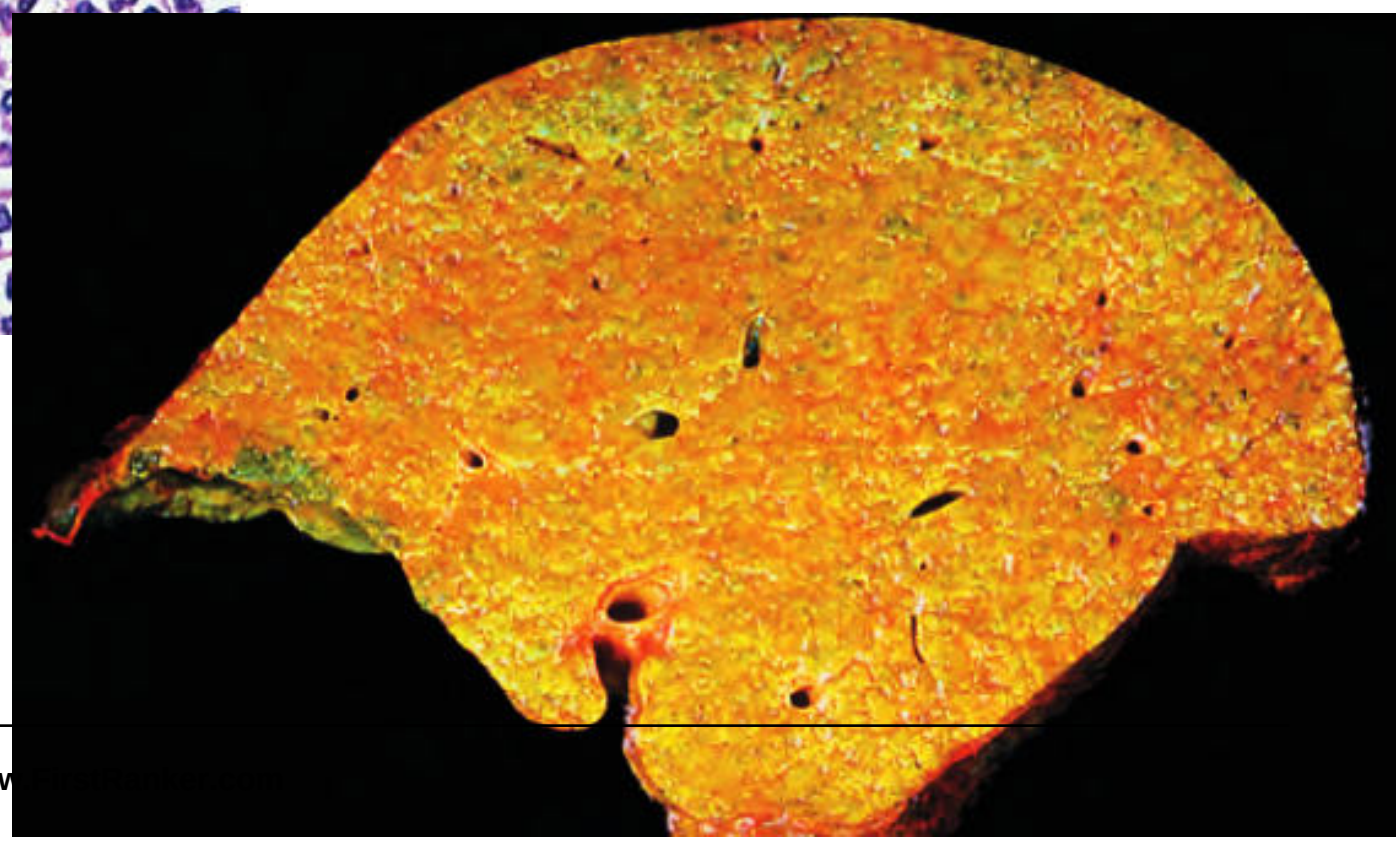


## PRIMARY BILIARY CIRRHOSIS

- SMALL & MEDIUM SIZE DUCTS
- NON-SUPPURATIVE
- EXTRA HEPATIC BILIARY TREE NOT INVOLVED
- PATCHY INVOLVEMENT

**“ FLORID DUCT LESION”**





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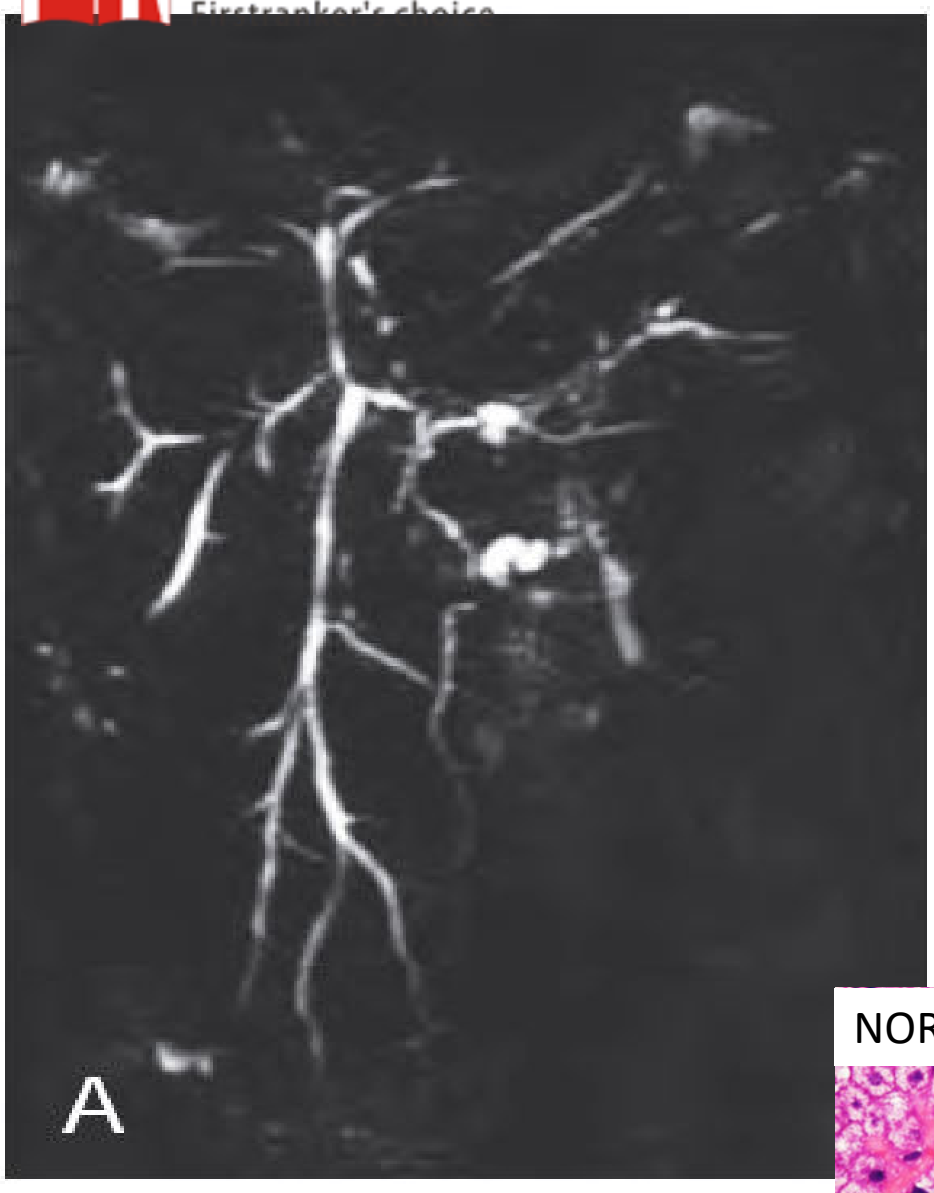
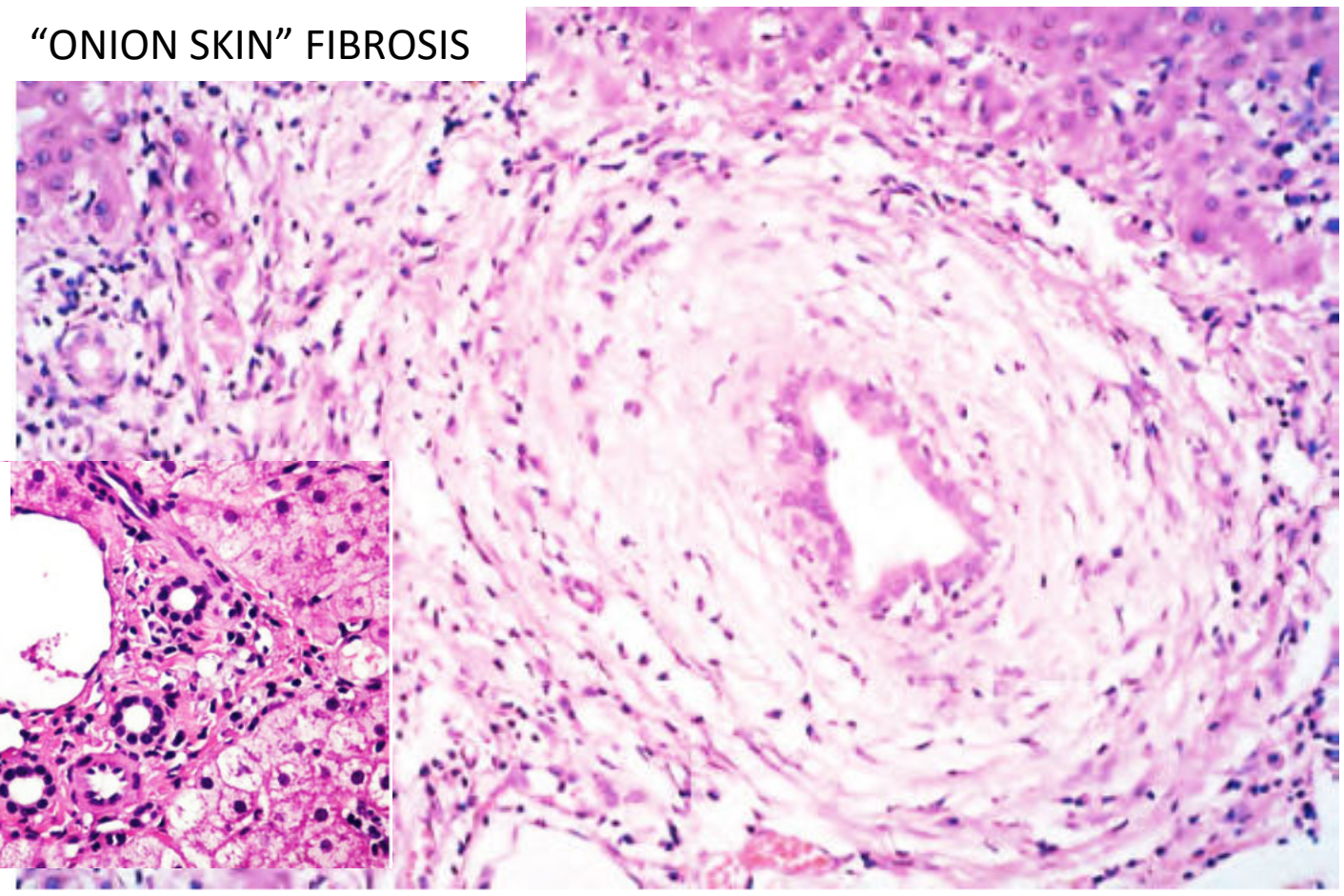
# PRIMARY SCLEROSING CHOLANGITIS

- BOTH INTRA & EXTRA HEPATIC DUCTS
- INFLAMMTION & SCLEROSIS
- INTERMITTENT SEGMENTS DILATED
- ULCERATIVE COLITIS




MR CHOLANGIOGRAM: "BEADING"

"ONION SKIN" FIBROSIS



NORMAL



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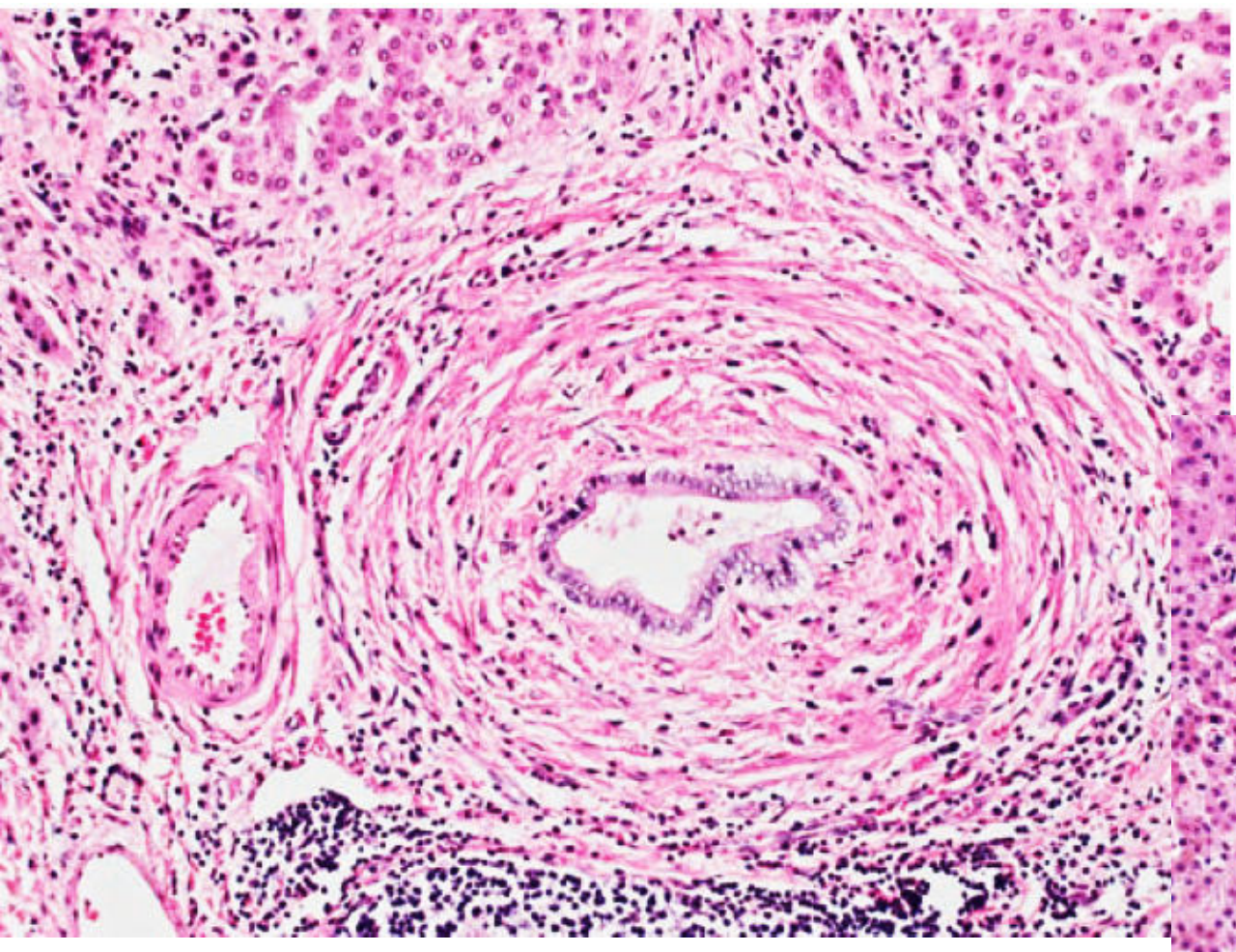
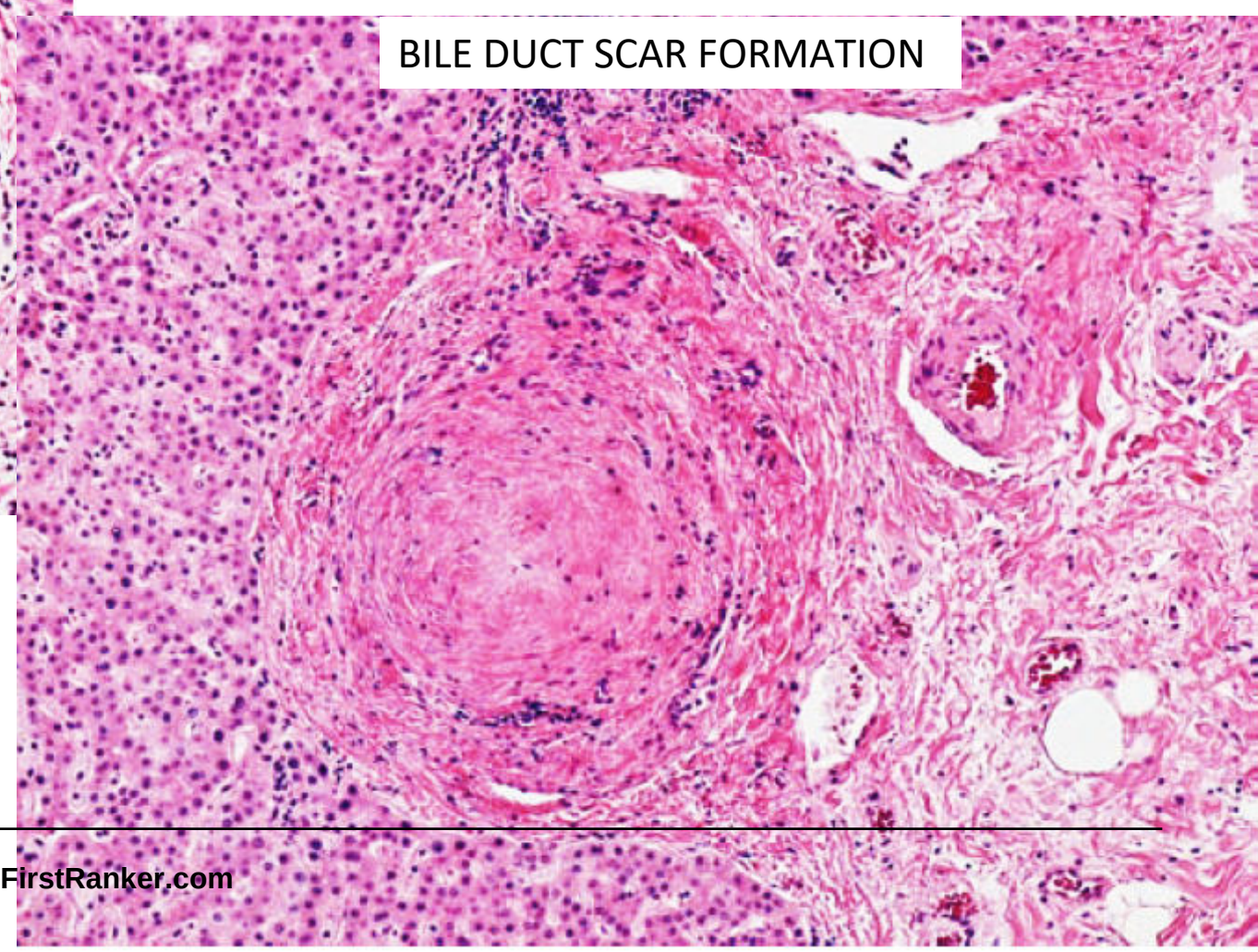
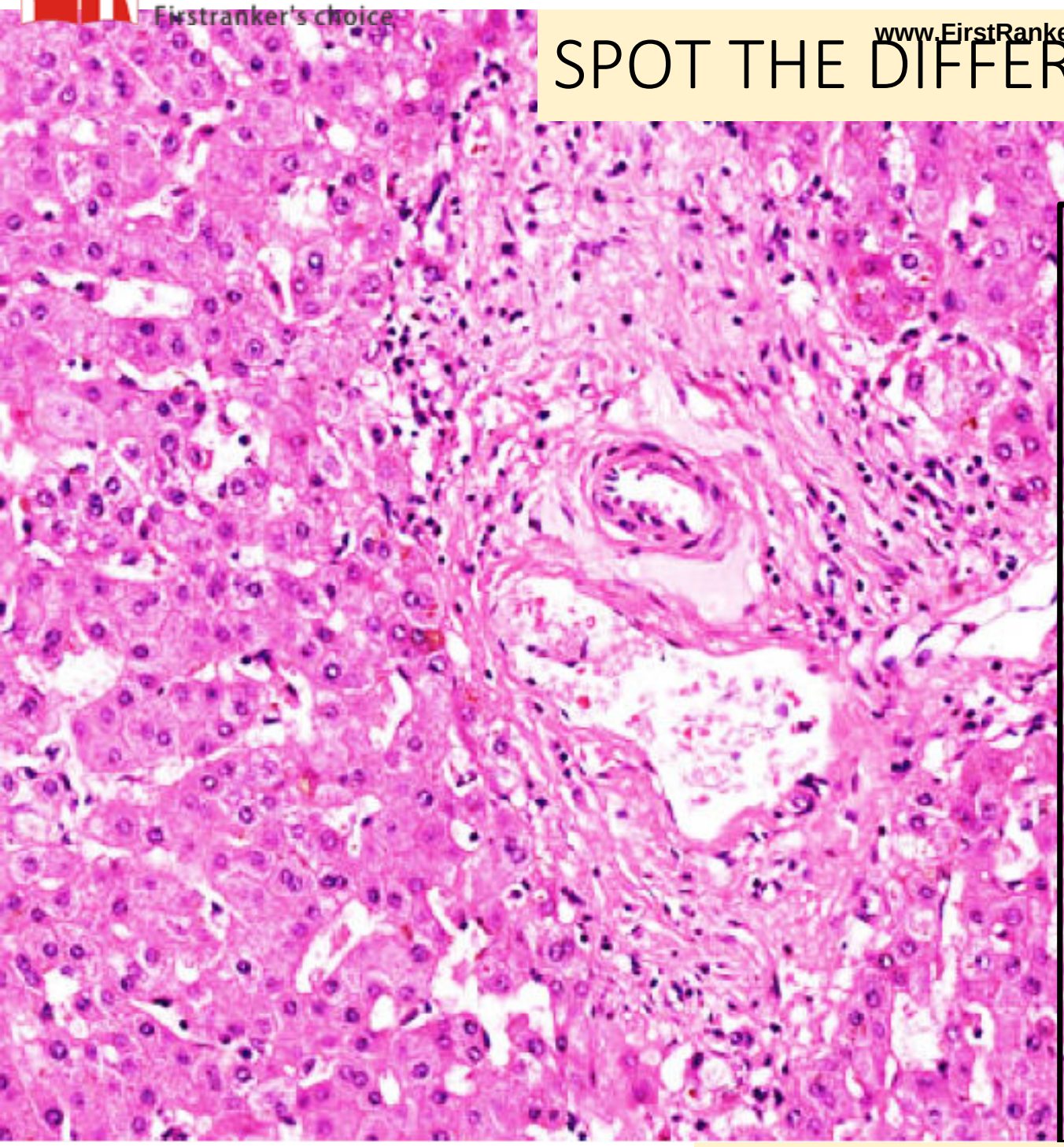


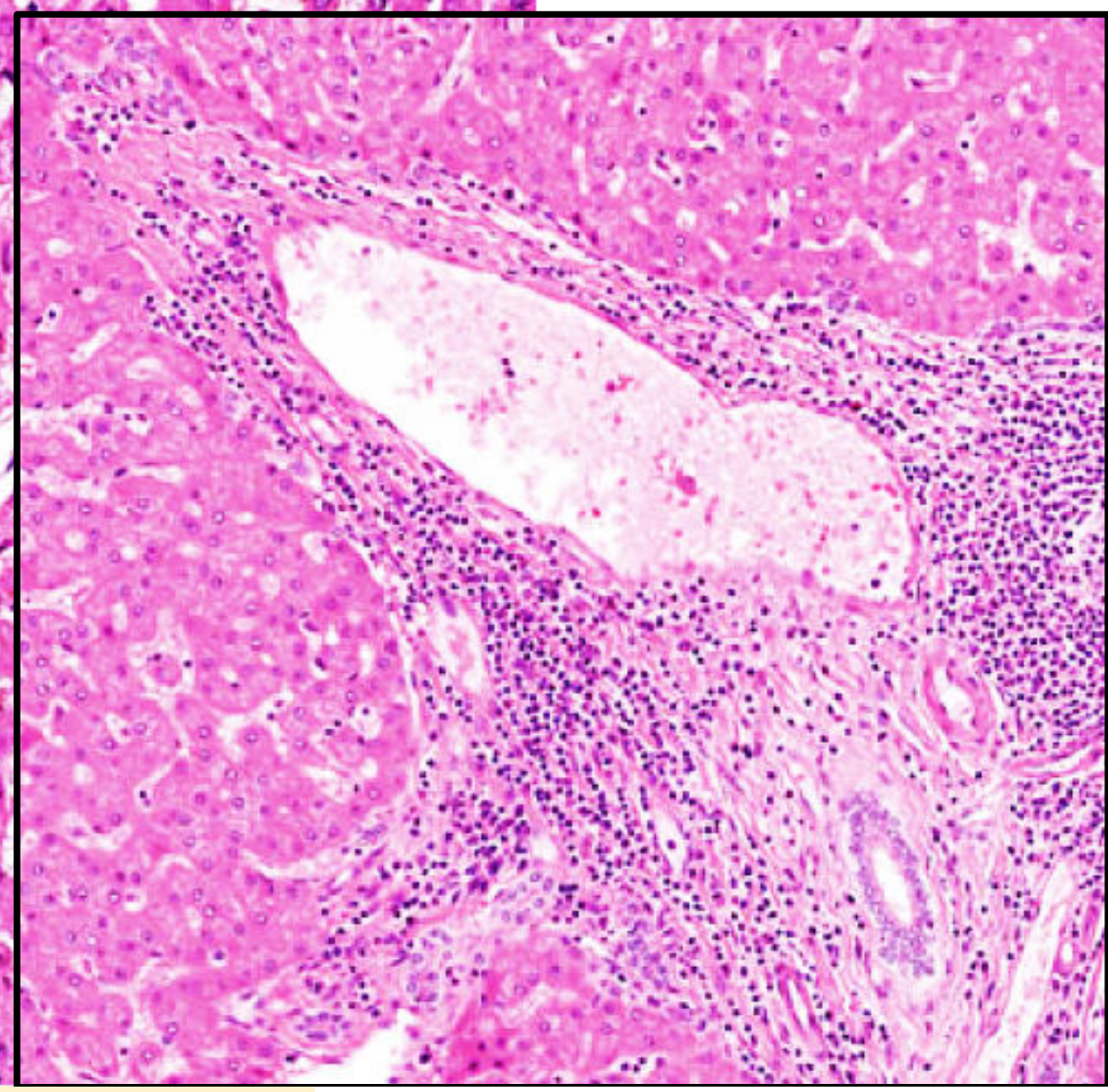
"ONION SKIN" FIBROSIS

BILE DUCT SCAR FORMATION

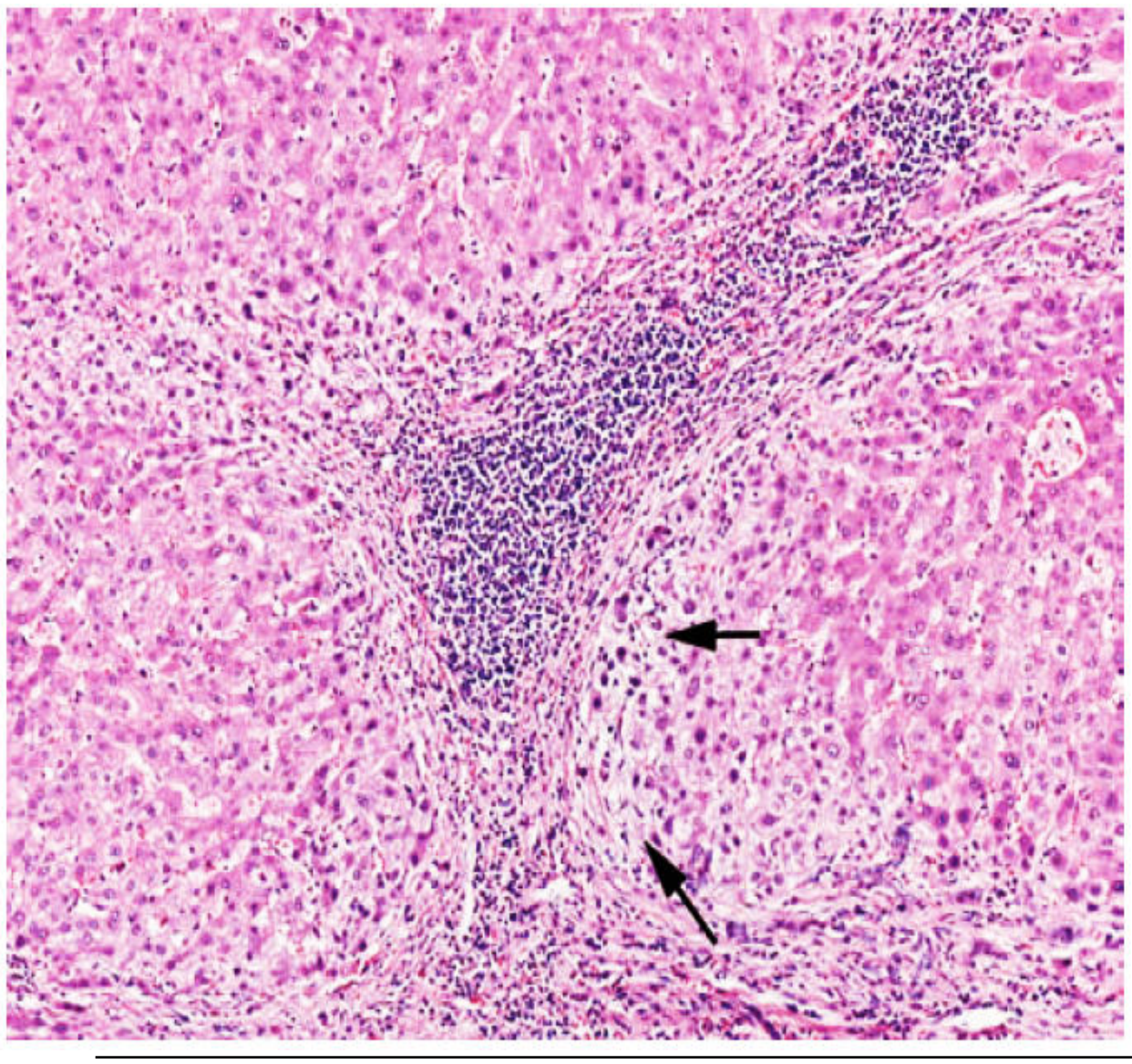


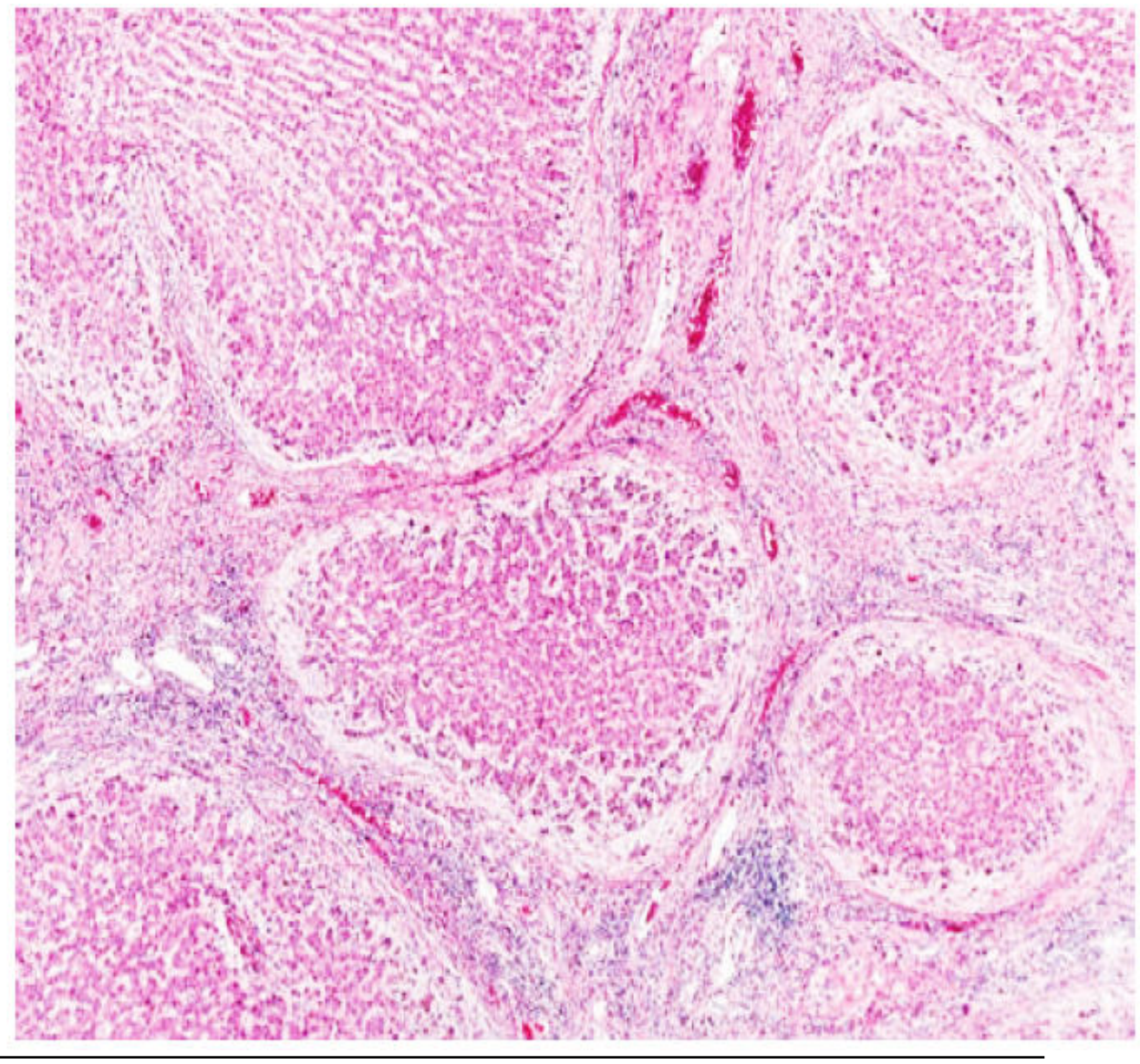
# SPOT THE DIFFERENCES





# BILIARY CIRRHOSIS





# SPECIAL CASE IN NEONATES

## NEONATAL HEPATITIS

NOT A SINGLE DISEASE

NOT NECESSARILY INFLAMMATORY

TOXIC, METABOLIC, INFECTIOUS, IDIOPATHIC

NON- OBSTRUCTIVE

## EXTRA HEPATIC BILIARY ATRESIA

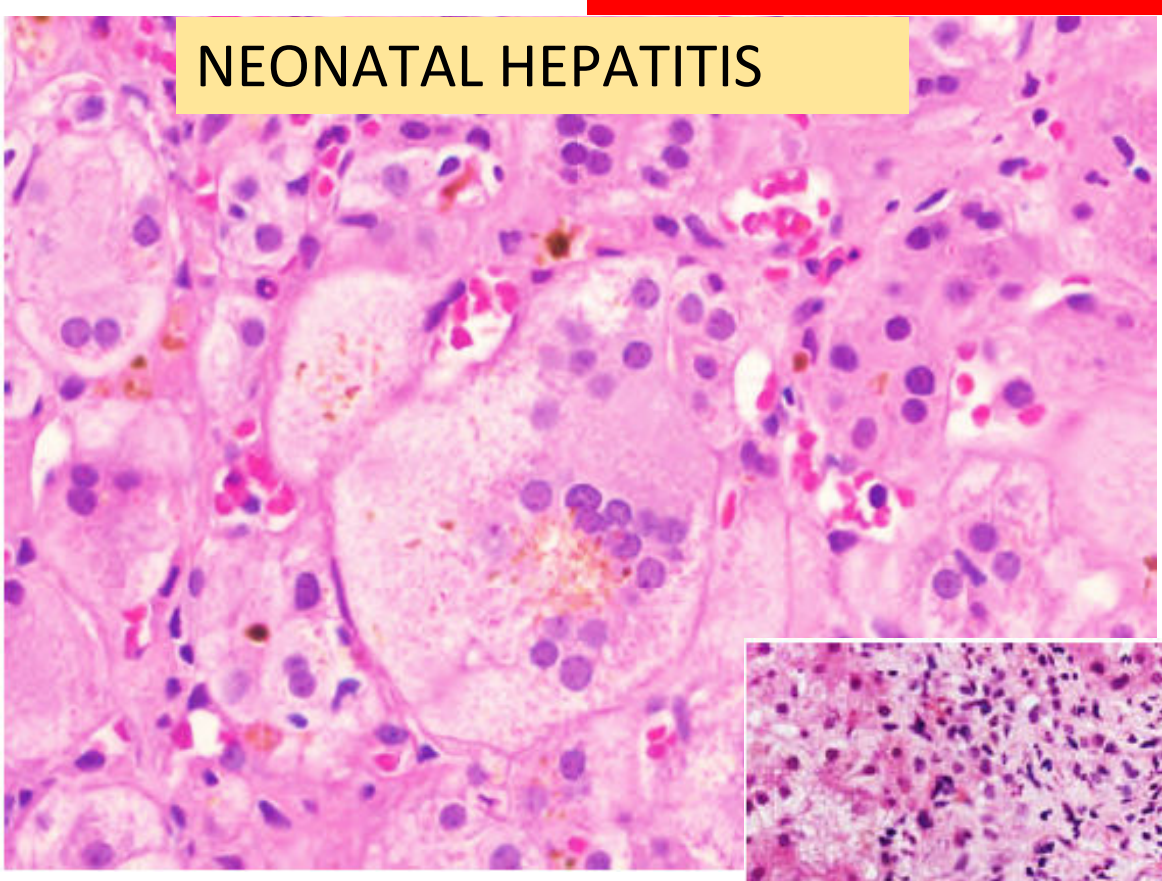
OBSTRUCTIVE CAUSE

INFLAMMATION & FIBROSIS

SURGICAL TREATMENT: KASAI

**VERY IMPORTANT TO DIFFERENTIATE THE**

NEONATAL HEPATITIS



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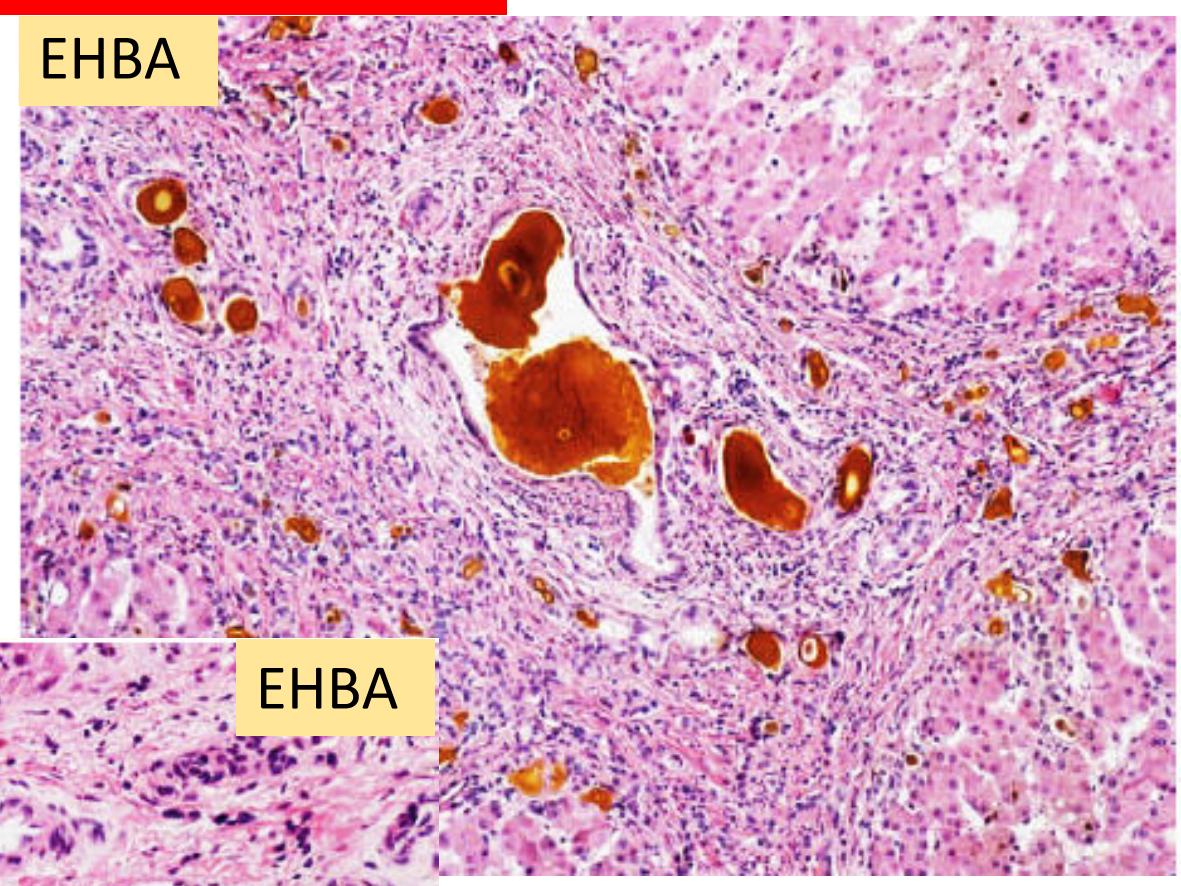

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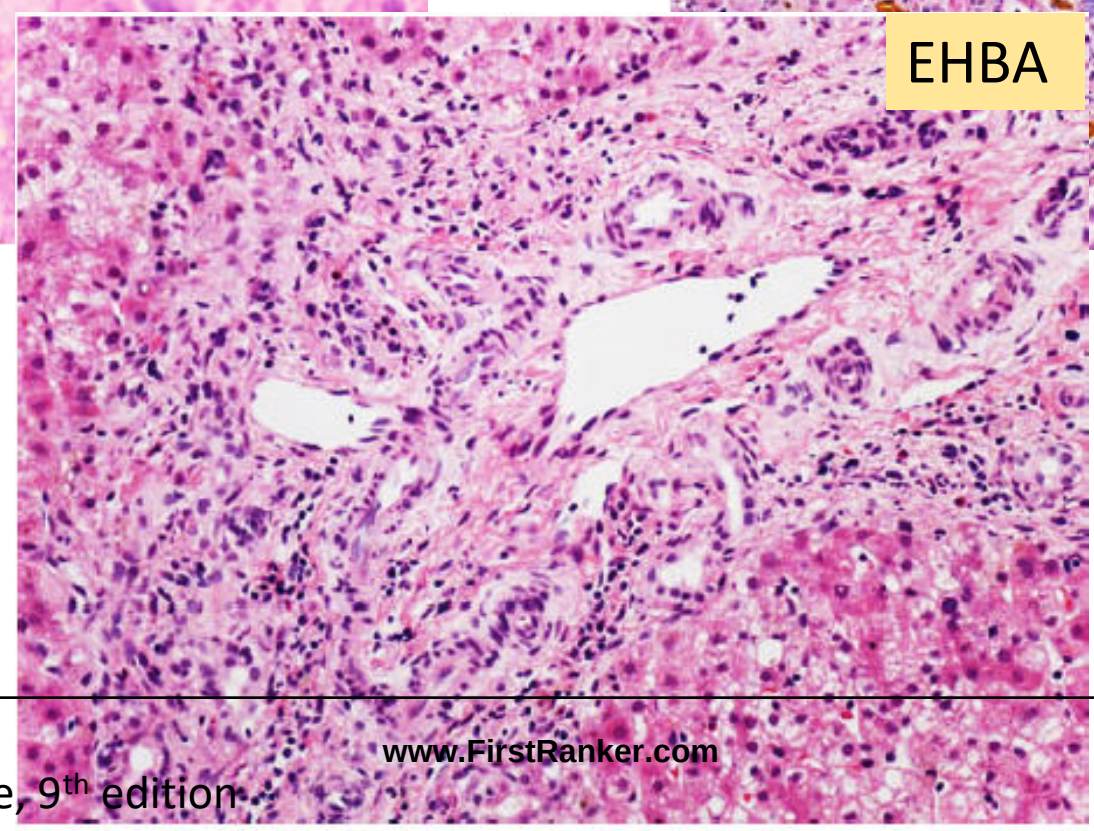



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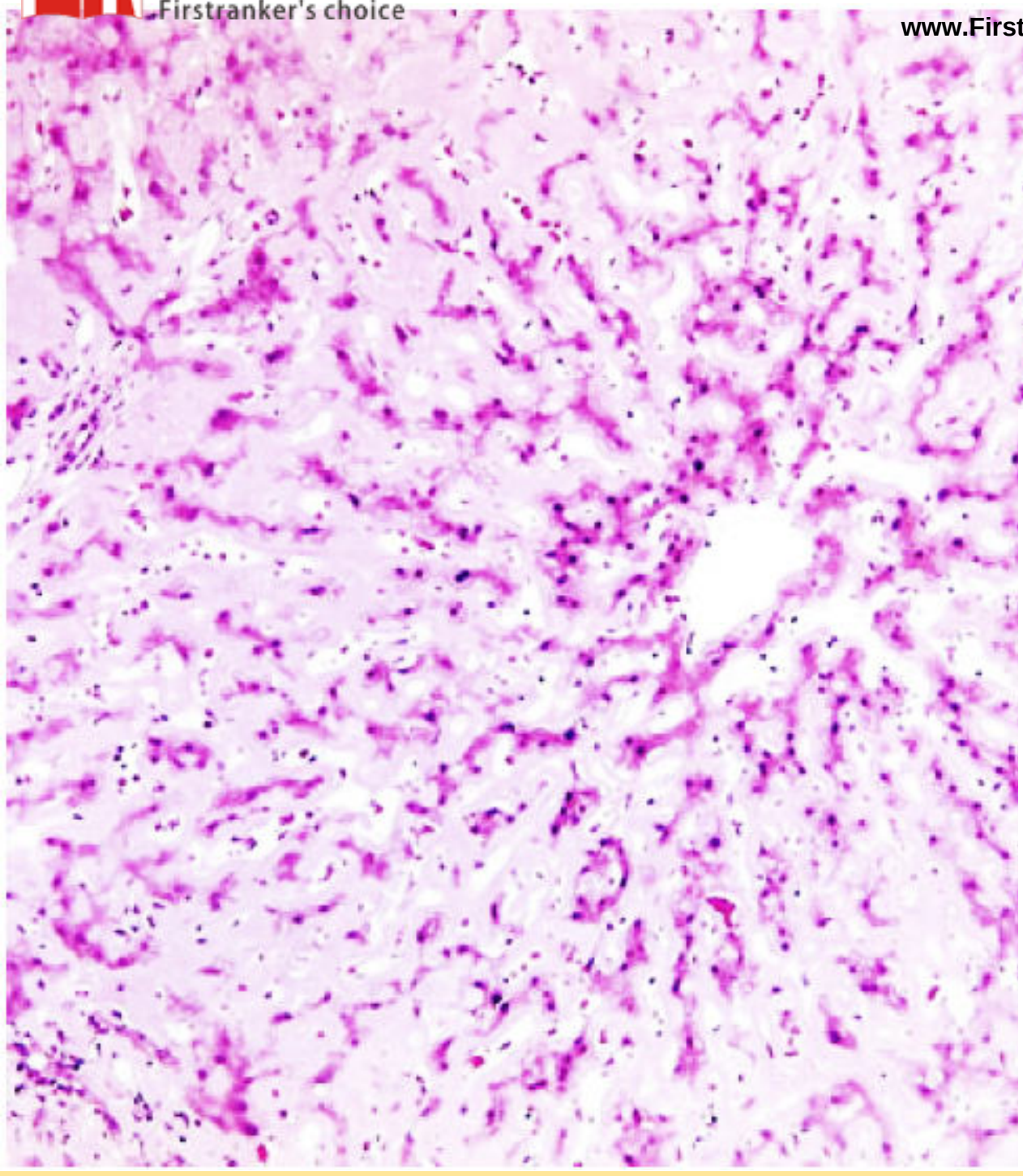
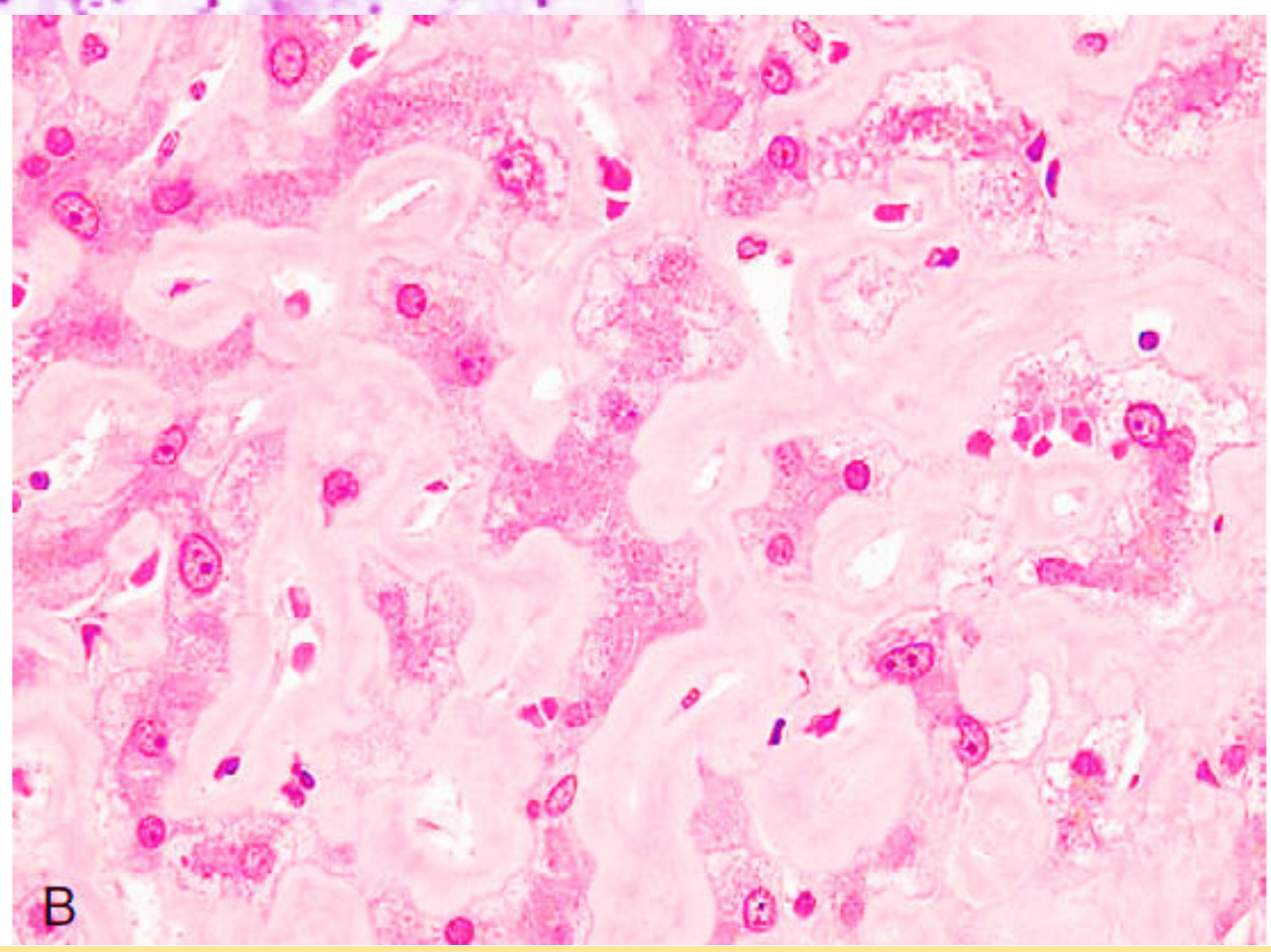
# AMYLOIDOSIS






# Summary

- Causes
  - Intra: Hepatocytes, Bile ducts, Portal tract
  - Extra: Benign, Malignant
- NEONATES
  - Neonatal Hepatitis
  - EHBA
- Early phases: Reversible
- Late stages: Biliary cirrhosis → Irreversible