Liver Pathology 4:

- Biliary diseases
- Vascular diseases
- Tumors

Portal tract changes in acute large bile duct obstruction: edema—ductular reaction—PMN's

Large bile duct obstruction (LBDO)
Acute Cholangitis (ascending cholangitis)
Causes of Large Bile Duct Obstruction
Primary Sclerosing Cholangitis (PSC)

**Idiopathic fibrosing, stricturing and inflammatory disorder affecting extrahepatic bile ducts + intrahepatic bile ducts**

**Associations**
- Ulcerative colitis (75%)
- Positive serum pANCA
- Retroperitoneal fibrosis
- Riedel’s struma of thyroid
- Mediastinal fibrosis
- Retroorbital tumor & fibrosis

ERCP: endoscopic retrograde cholangiopancreatography

Primary Biliary Cirrhosis (PBC)

Guys’ Hospital Report
London, 1851
Addison & Gull

Mrs. Elizabeth Peacock

Primary Biliary Cirrhosis (PBC)

**Chronic nonsuppurative destructive cholangitis**

- middle-aged women
- + AMA (anti-mitochondrial antibodies); M2 subtype
- ↑ Alkaline Phosphatase
- ↑ IgM
- *AMA directed against inner mitochondrial membrane PDC-E2 (pyruvate dehydrogenase complex-E2)

Molecular Mimicry?

Gram – bacteria

PDC-E2

florid bile duct lesion

florid bile duct lesion

florid bile duct lesion

florid bile duct lesion

AMA
Vascular Disease & the Liver

- Veins: central/hepatic
- Sinusoids
- Arteries

Effects of heart failure

4 Stages of PBC

Stage 1: florid bile duct lesion
Stage 2: bile ductular proliferation
Stage 3: scarring
Stage 4: cirrhosis
Budd-Chiari Syndrome
(Hepatic venous outflow obstruction)
- Thrombosis of hepatic vein/IVC
- Tumor invasion of " "
- Oral contraceptives
- Coagulopathy (prot. S, C, factor V Leiden def., anti-cardiolipin Ab’s)
- Tumor invasion:
  - Renal cell CA + HCC
- Small vein disease: VOD
  ("bush tea")

Peliosis hepatis: blood lakes of the liver
- HIV, C17-alkylated steroids, (OC’s, anabolic steroids); systemic inflamm.

Infarct: Arterial disease (PAN, ligation, chemoRx installation)
Portal vein: Zahn infarct

Pylephlebitis:
- Perforated ulcer
- Ruptured appendix, etc.
Schistosomiasis: Pre-sinusoidal, intrahepatic portal hypertension (Symmers’ “clay pipestem fibrosis”)

Liver Tumors

**BENIGN**
- hemangioma
- liver cell adenoma
- focal nodular hyperplasia (FNH)

**MALIGNANT**
- metastasis is most common tumor in the liver
- hepatocellular carcinoma (HCC)
- bile duct carcinoma

Hemangioma
- most common benign tumor of liver
- tumor of blood vessels
- incidental at autopsy/surgery
- large: pain—rarely rupture

Liver-cell adenoma (LCA)
- benign tumor of hepatocytes
- no bile ducts present
- risks: oral contraceptives, hepatocyte nuclear factor-1α mutations, glycogen storage disease type 1
HCC

- 75% of pts have cirrhosis
- 75% are serum AFP +
- Risks: Cirrhosis due to HBV, HCV, alcohol, hemochromatosis
- Invades veins: portal vein/hepatic vein/IVC→to lungs

Cholangiocarcinoma
associated with:
- Liver flukes:
  - Clonorchis sinensis
  - Opisthorchis viverrini
- PSC
- Gallstone disease, hepatolithiasis

Dame Sheila Sherlock
The Royal Free Hospital
London, U.K.
“Diseases of the Liver & Biliary System”
Peter J. Scheuer, M.D.
Nov. 15, 1928 – Mar. 1, 2006
Royal Free Hospital
Prof. of Histopathology
“Liver Biopsy Interpretation”
-1st Edition: 1968
-7th Edition: 2005