


Digestive glands

Liver

- * The largest gland of digestive system
- * Detoxifies the waste products
- * Inactivates the hormones, drugs, biogenic amines
- * Takes part in the defense reactions
- * Synthesizes of glycogen
- * Synthesizes of blood plasma proteins
- * Produces of bile
- * Storages of vitamins
- * Hemopoietic organ in the embryogenesis

Liver

- * Parenchymal organ
- * Surrounded by CT capsule
- * Has interlobular CT
- * Little interlobular space
- * **Hepatic (classic) lobule** is structural and functional unit

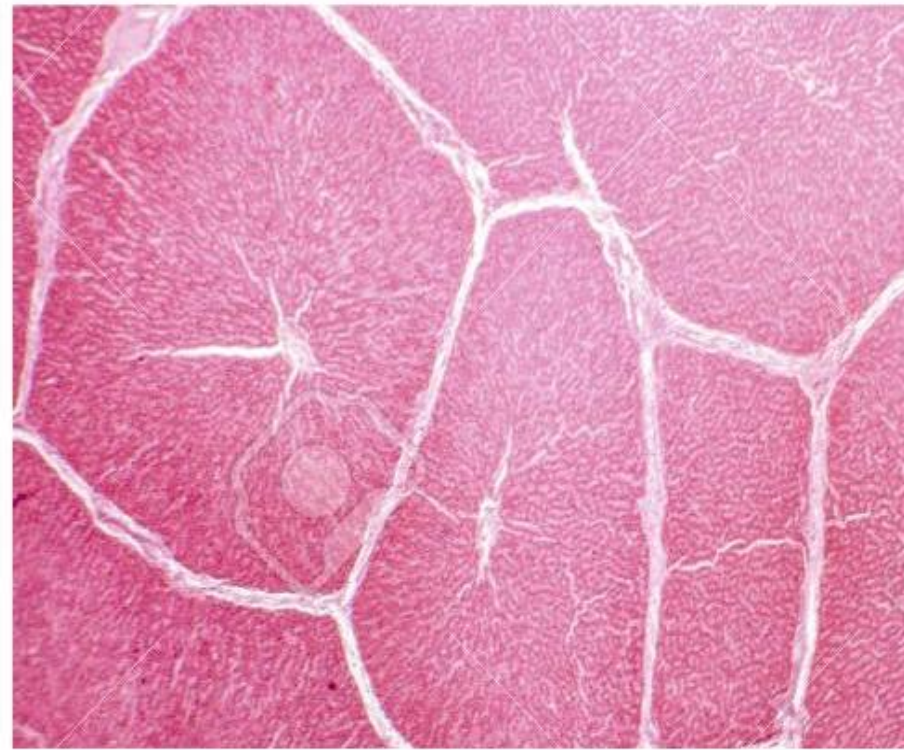
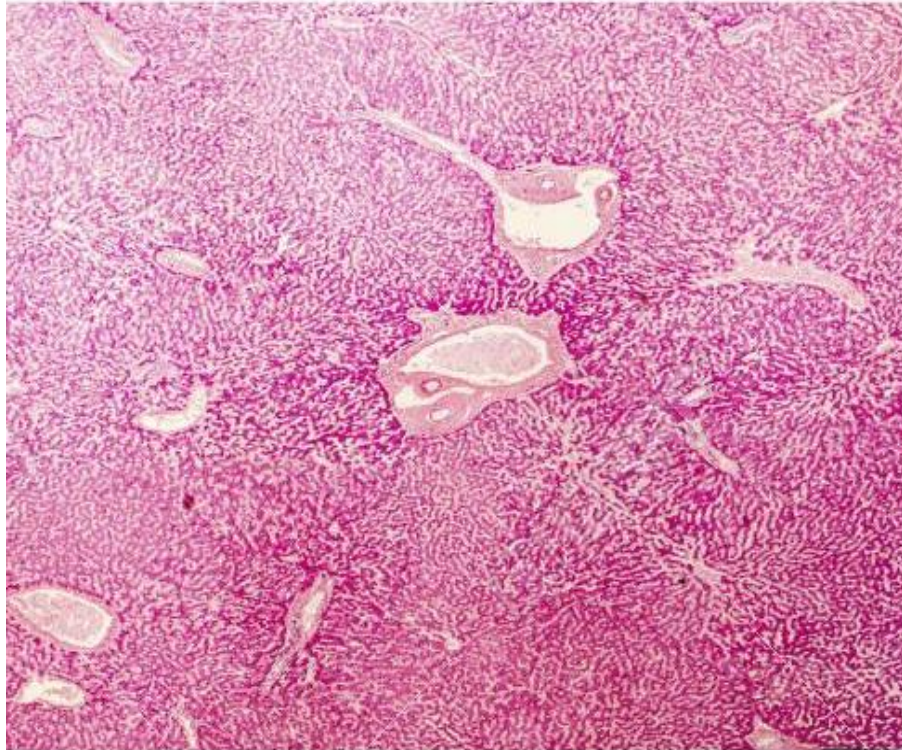


Stroma of the organ

HUMAN VS PIG LIVER

HUMAN LIVER

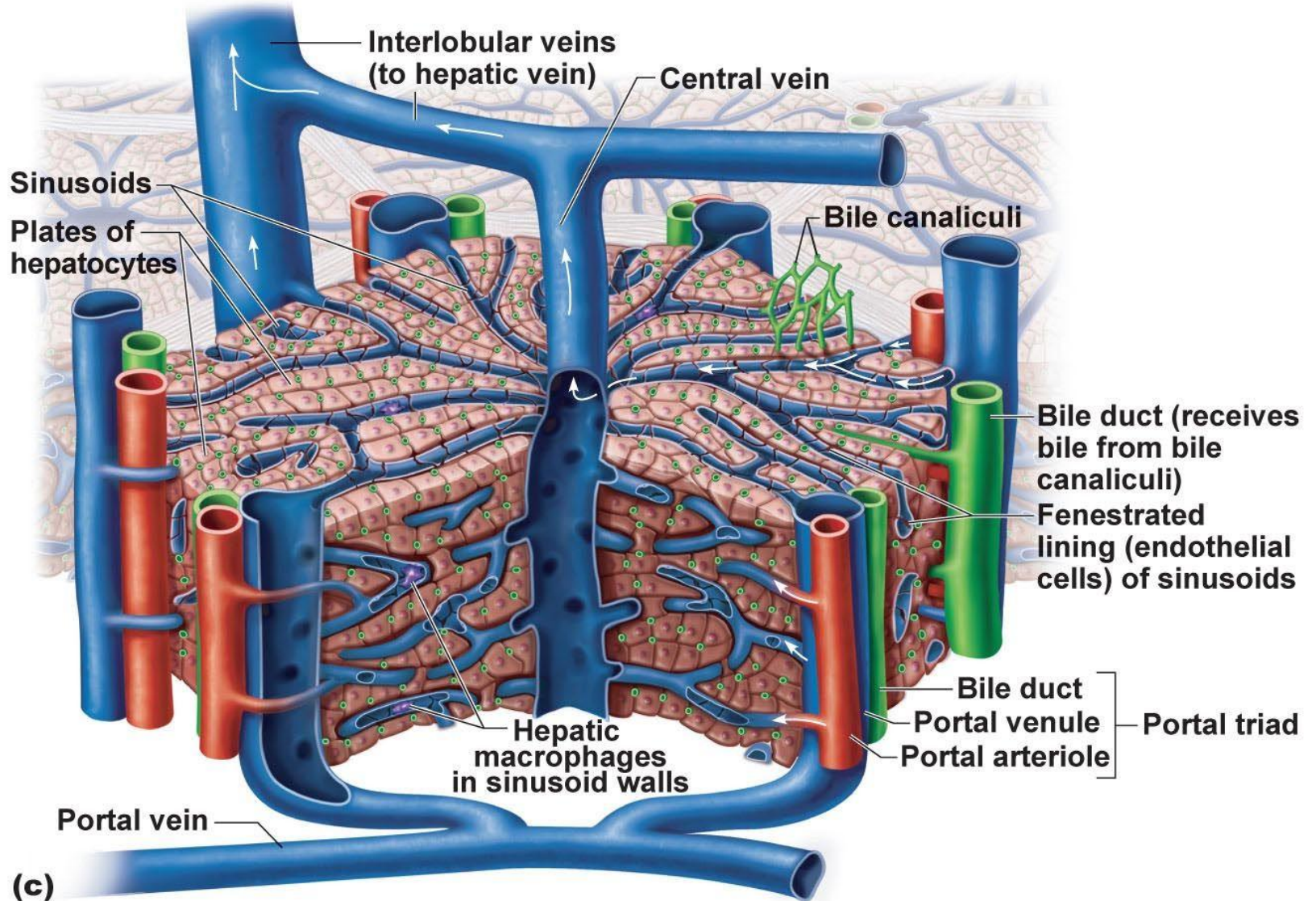
PIG LIVER



Hepatic lobule

- * Structural and functional unit
- * Hexagonal in shape
- * At the angles are portal triads
- * In the center is central vein where the system of outflow starts

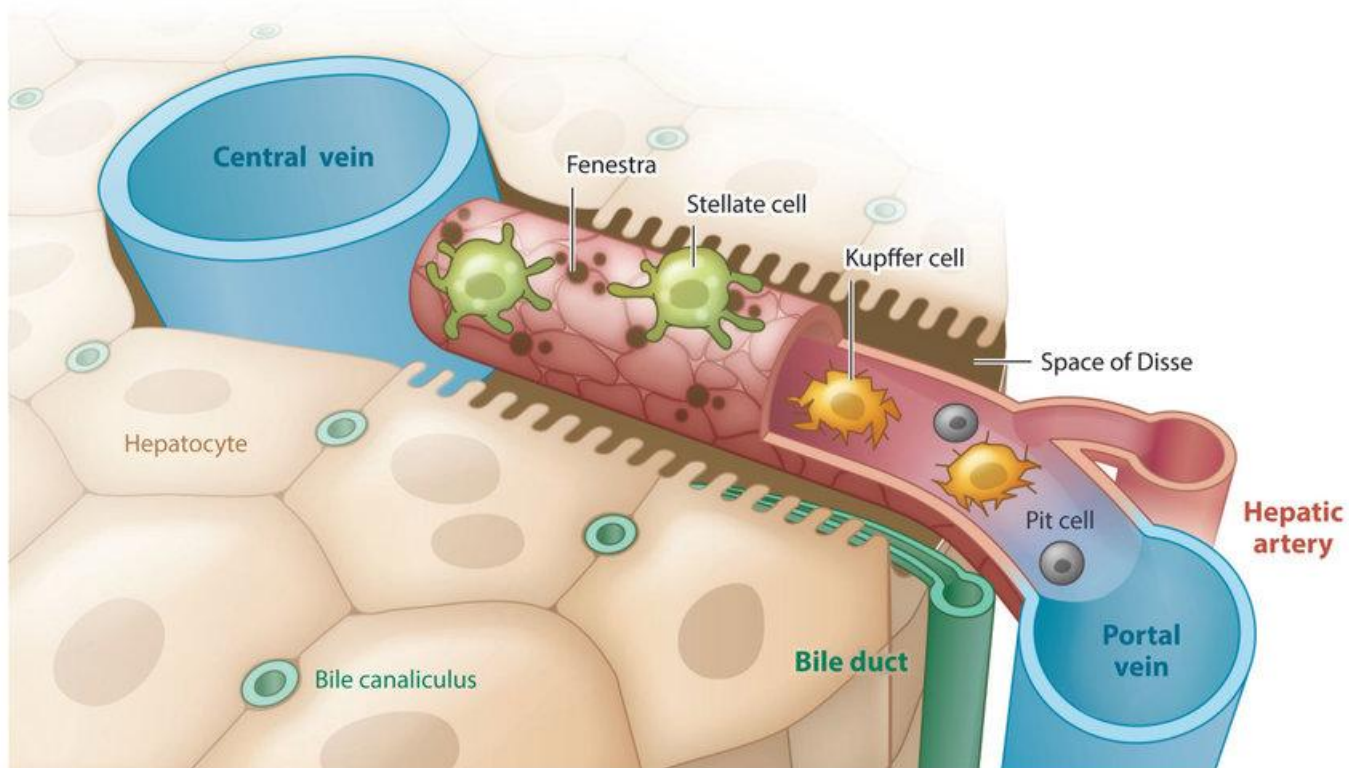
- * Consists of hepatic laminae and sinusoidal capillaries between plates
- * Surfaces of hepatocytes: biliary, vascular

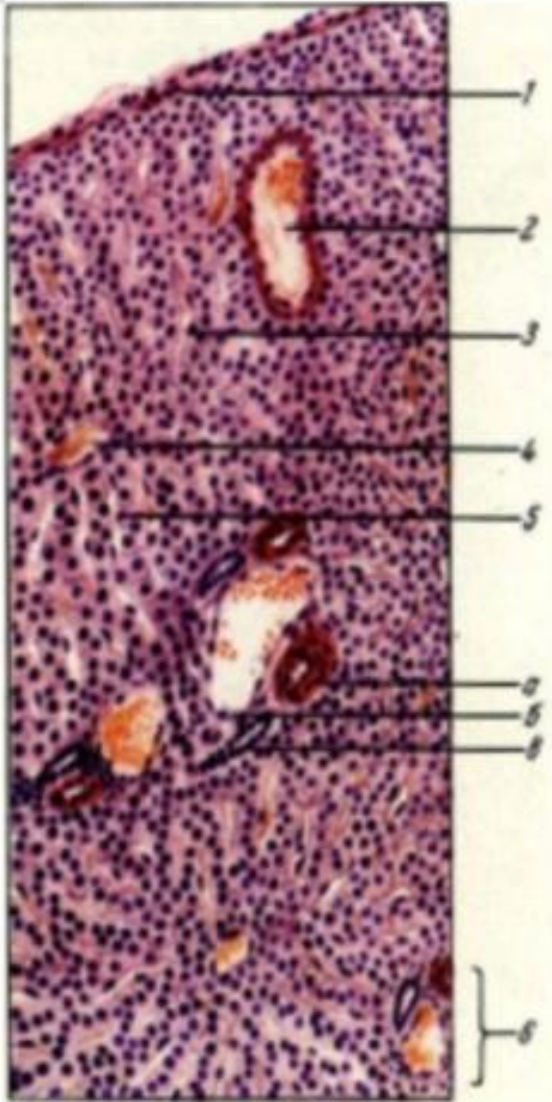


(c)

Space of Disse (perisinusoidal space)

Localization: between hepatic laminae and sinusoidal capillary
Components: microvilli of hepatocyte, Ito cells, Kupffer's cells





Печень человека. Liver. Окраска гематоксилин-эозином. Увеличение: объектив 8, окуляр 7.

1-капсула, capsule

2-поддольковая (собирательная) вена, sublobular vein

3-внутридольковый синусоидный капилляр, intralobular sinusoidal capillar

4-центральная вена, central vein

5-печеночная балка, hepatic lamella

6-триада, triads:

а) артерия, artery

б) вена, vein

в) желчный проток, bile tract

Тот же препарат. Увеличение: объектив 40, окуляр 10.

1-печеночная балка, hepatic lamella

2-центральная вена, central vein

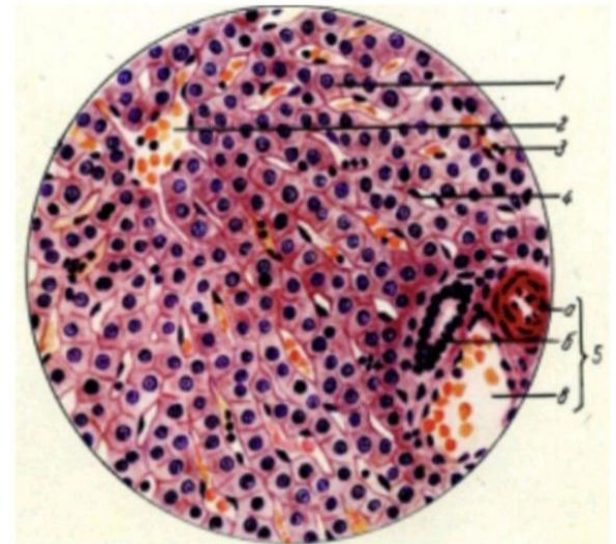
3-внутридольковый синусоидный капилляр, intralobular sinusoidal capillar

4-купферовская клетка, Kupffer cell

5а- артерия, artery

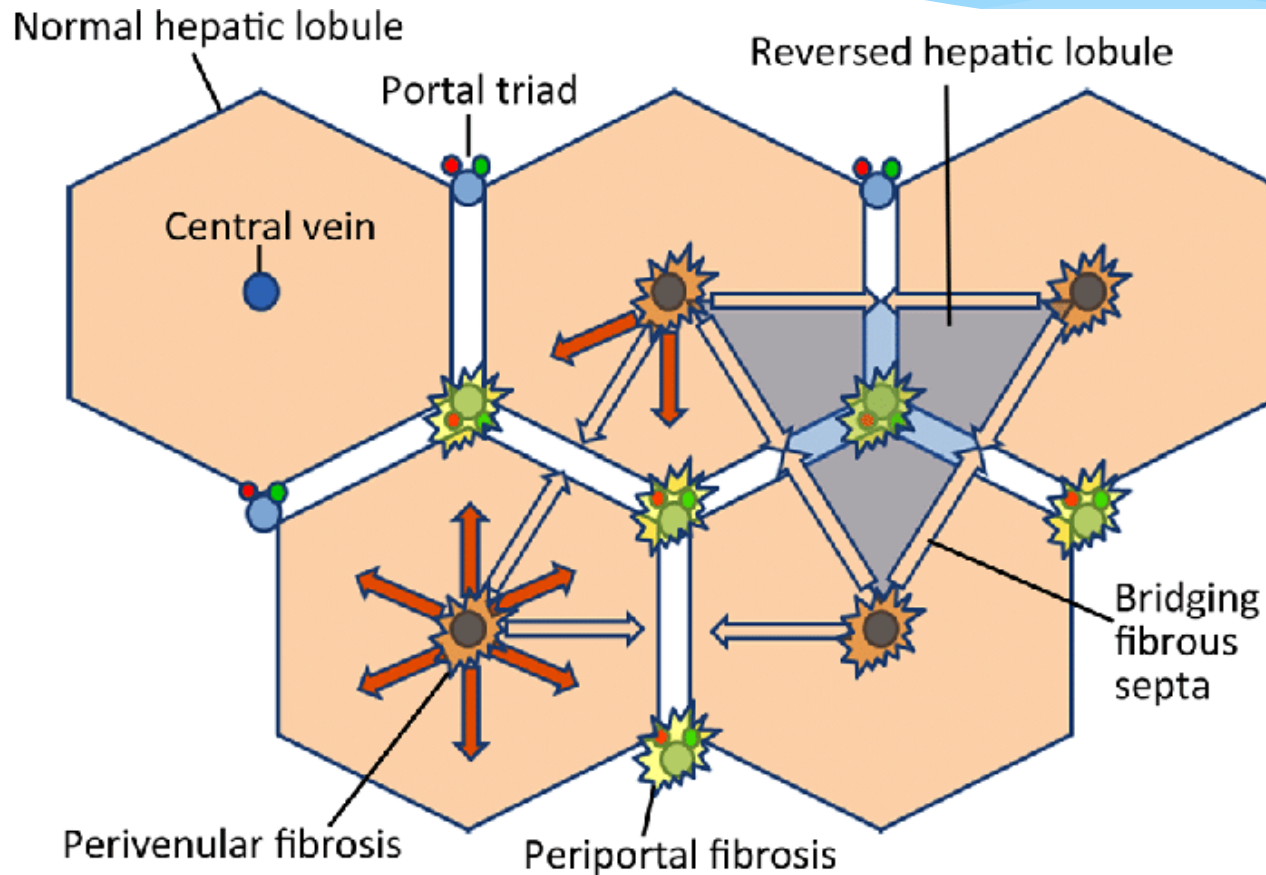
5б- желчный проток триады, bile tract

5в- вена триады, interlobular vein



Portal lobule

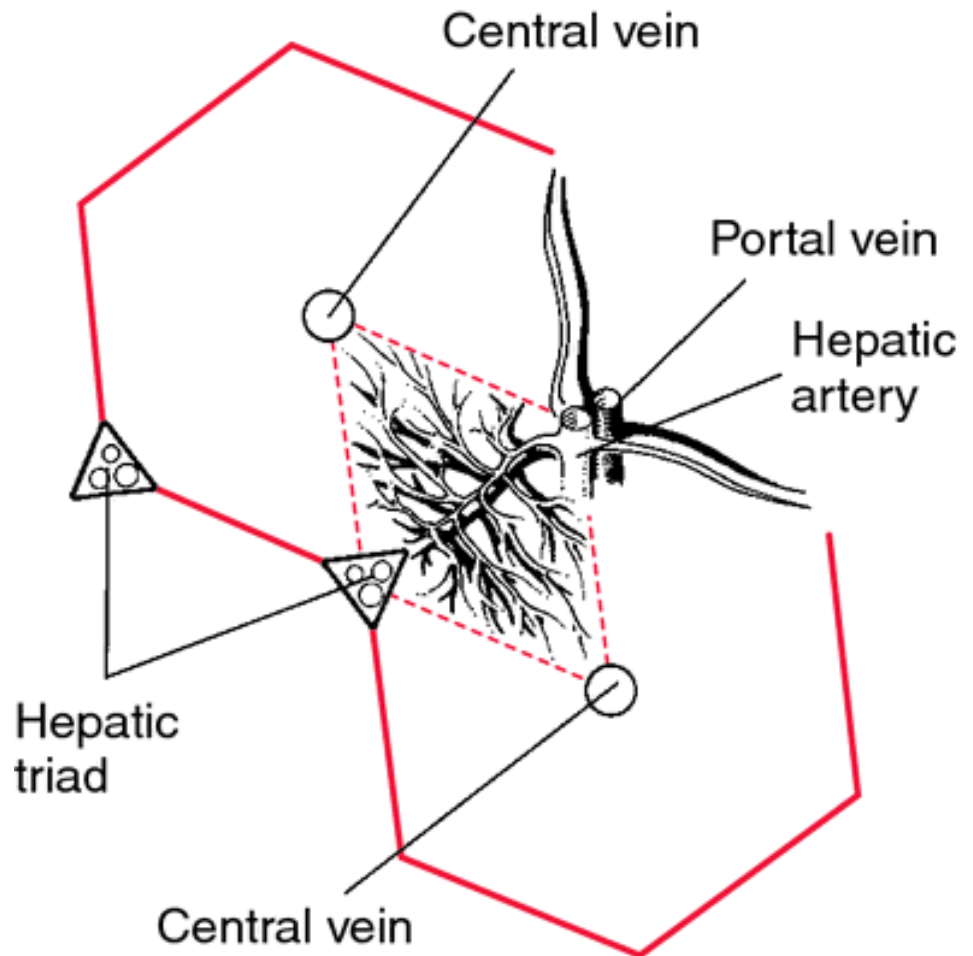
- * Triangle in shape
- * Help to describe parenchymal structure



The liver acinus

-Shows the correlation between blood perfusion, metabolic activity, liver pathology.

-Lozenge in shape



Gallbladder

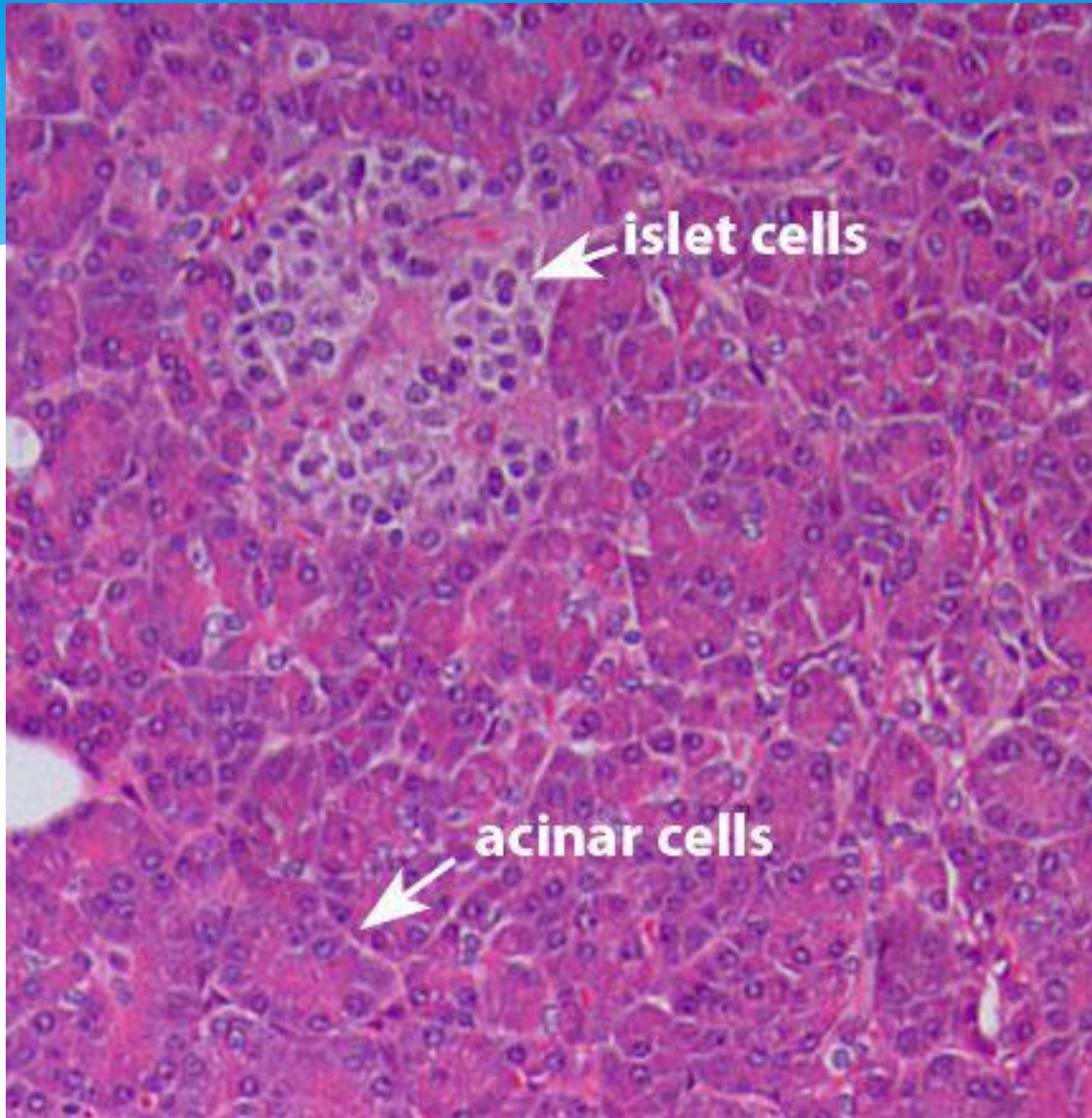
- * Mucosa
 - Simple columnar epithelium with striated border
 - Lamina propria – LCT+ mucous-secreting tubulo-alveolar glands
- * Muscularis externa- smooth muscle cell mainly with circular orientatin
- * Adventitia-DCT

Gallbladder



Pancreas

- * Gland that provide endocrine and exocrine functions
- * Parenchymal organ
- * The exocrine part is represented by pancreatic acini (structural and functional unit) and excretory ducts (intercalated, interlobular, common pancreatic duct)



Acinocyte

- * Conical - shaped cell
- * Neighboring cells attached to each other by desmosome and zonulae occludens.
- * Nuclei contains 1-2 nucleolus
- * Organelles: RER, rybosomes, Golgi apparatus, mitochondria
- * Zones of cells: homozenous, zymogen one

Endocrine pancreas

- * Islets of Langerhans that consist from insulocyte
- * The most numerous in the caudal part of the gland
- * B-cells (basophilic) -70-75% -insulin
- * A-cells (acidophilic)- 20-25%-glucagon
- * D cells (dendritic)-5%-somatostatin
- * D1 cells (argiophilic)- VIP
- * PP_cells-5%- pancreatic polypeptide