



Motivational Corner:

"It does not matter how slowly you go as long as you do not stop."



Objectives:

identify & describe the histological features of:

1. Intrahepatic biliary passages.
2. Extrahepatic bile ducts.
3. Gall bladder.
4. Exocrine pancreas.

3- Biliary passages & pancreas

Extra notes: Gray

Important notes: Red

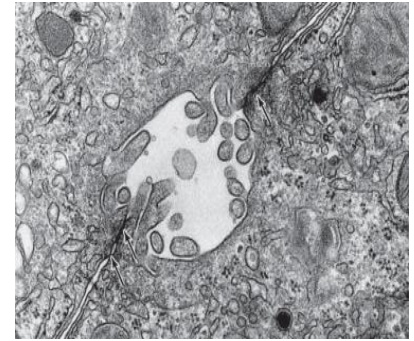
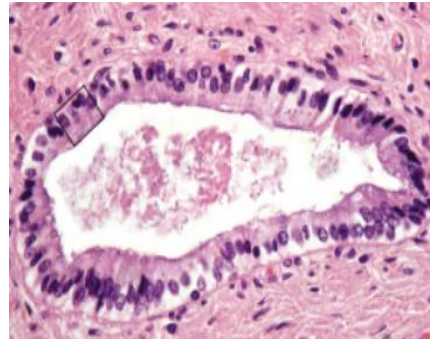
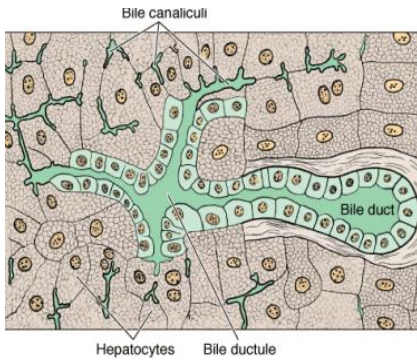
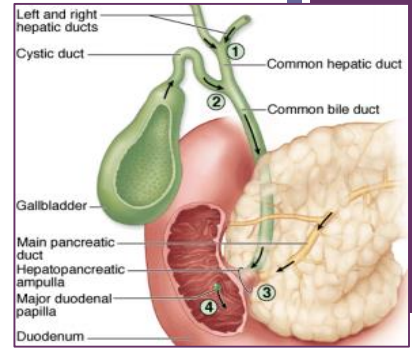
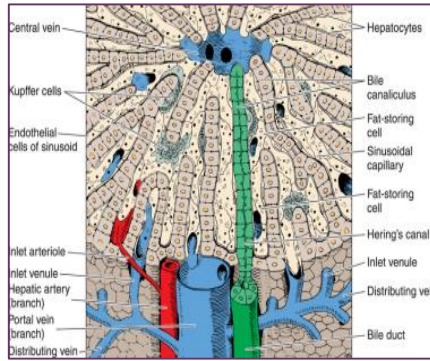
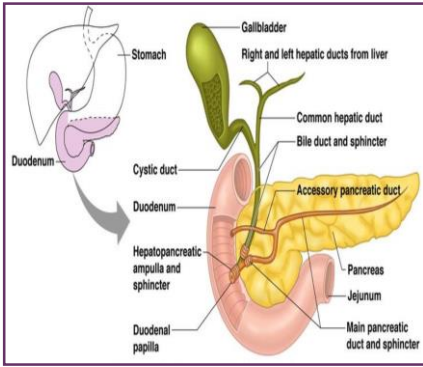
Revised by

خولة العماري & هشام الفيلبي

+ Biliary Passages

Biliary Passages	Intrahepatic passages	1- Bile canaliculi.	Narrow channels located between hepatocytes, limited only by the cell membranes of 2 hepatocytes.
			They are the first portions of the bile duct system.
			Microvilli project from the hepatocyte into the bile canaliculi, thus increasing the surface area.
		Tight junctions between the cell membranes of the 2 hepatocytes prevent leakage of bile.	
		2- Bile ductules (canals of Hering).	Near the peripheral portal areas, bile canaliculi empty into bile ductules composed of cuboidal epithelial cells called cholangiocytes.
			After a short distance, these ductules collect and end in the interlobular bile ducts in the portal areas.
	3-Interlobular bile ducts.	Are in the portal areas.	
		Lined by simple cuboidal epithelium (becomes simple columnar epithelium near the porta hepatis).	
		Interlobular bile ducts merge to form larger ducts, which eventually unite to form the right and left hepatic ducts.	
	Extrahepatic passages	4- Right & left Hepatic ducts.	-
5- Common hepatic duct.		Formed by union of the right & left hepatic ducts. It joins the cystic duct, arising from the gallbladder, forming the common bile duct.	
		Similar in structure to the wall of gall bladder and other extrahepatic bile ducts	
		Mucosa : Epithelium (Simple columnar). & Lamina propria.	
		Muscularis : bundles of smooth muscle fibers in all directions.	
Adventitia			
6- Common bile duct.	-		

+ Biliary Passages cont.

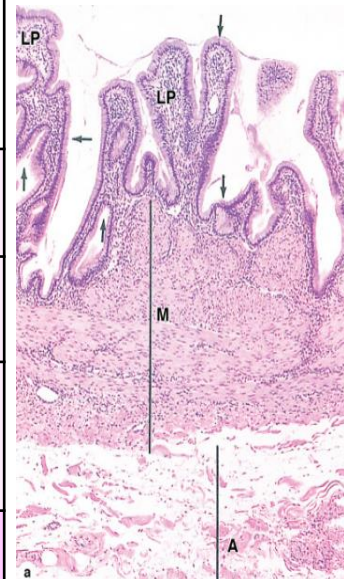


Gall Bladder

A **saclike** structure that stores, concentrates and releases **bile**.

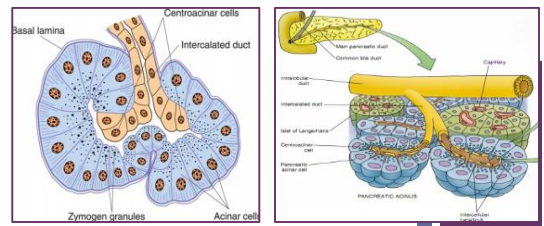
Its wall is formed of :

Mucosa	highly folded.
	Simple columnar epithelium.
	Lamina propria: contains mucous glands in the neck of gall bladder.
Muscularis	bundles of smooth muscle fibers oriented in all directions.
Serosa or adventitia	-





Pancreas



Stroma:

Capsule

Septa

Reticular fibers

Parenchyma:

Pancreas is a **mixed** gland:

Exocrine part

Endocrine part

(acini & ducts):
produces **digestive pancreatic enzymes**.

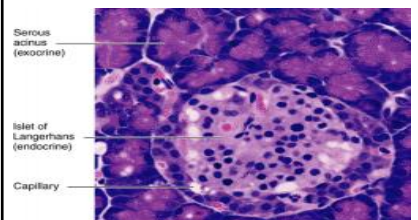
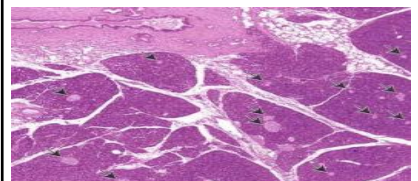
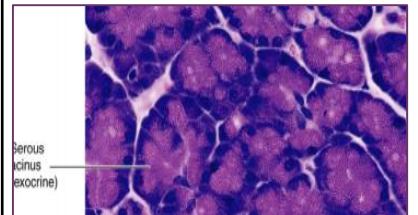
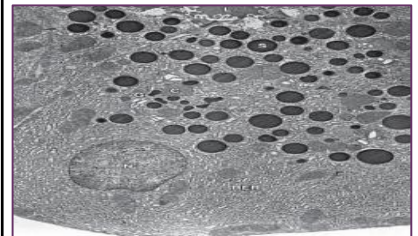
(islets of Langerhans):
produces **hormones**.

Pancreatic Acini:

Duct System:

- **They are serous acini:** secreting a thin fluid rich in digestive pancreatic enzymes.
- **Centroacinar cells:** Their nuclei appear in the center of the acini. They represent the beginning of the ducts.
- **No myoepithelial cells** around the acini.
- **Pancreatic Acinar Cells:**
 - **Pyramidal** in shape.
 - **Nuclei** are **basal**.
 - **Cytoplasm:**
 - **Basal** part **basophilic** (due to abundant rER).
 - **Apical** part **acidophilic** (due to secretory granules).

- **Centroacinar cells.**
- **Intercalated ducts (low cuboidal).**
- **Intra**lobular ducts (**NOT prominent**).
- **Inter**lobular ducts.
- **Main pancreatic duct.**





For the Summary
Please [click here.](#)

1
2
3
4
5

MCQs

1. Which of the following is the exocrine portion of the pancreas?

- a. Islets of Langerhans
- b. Alpha cells
- c. Beta cells
- d. Delta cells
- e. Acini

2. What is the classification of the pancreas?

- a. Mixed
- b. Endocrine
- c. Exocrine
- d. Both endocrine and exocrine
- e. None of the above

3. What is the name of the cellular mass for the endocrine portion of the pancreas?

- a. Islets of Langerhans
- b. Alpha cells
- c. Beta cells
- d. Delta cells
- e. Acini

4. What cell type makes up the mucosa of the gallbladder?

- a. Simple squamous epithelium
- b. Simple cuboidal epithelium
- c. Simple columnar epithelium.
- d. Stratified squamous epithelium
- e. Transitional epithelium

5. What layer is NOT found in the gallbladder?

- a. Mucosa
- b. Muscularis mucosa.
- c. Muscularis
- d. Adventita
- e. Serosa

Thanks you for checking
our work, Good luck.

-Team histology.



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HISTOLOGY
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