

# Spleen, Liver ,Gall bladder Pancreas , Biliary duct

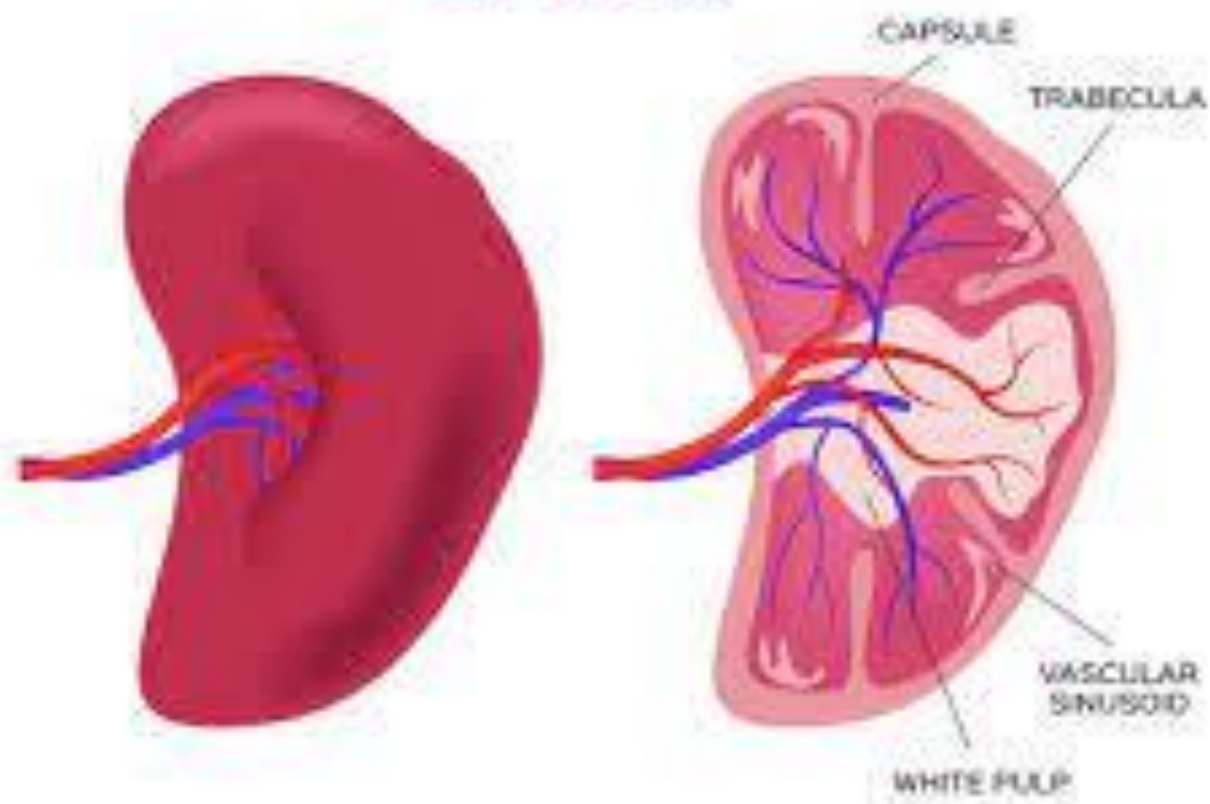
Dr. Priti Acharya

A stylized, dark teal silhouette of a mountain range is positioned in the bottom right corner of the slide, adding a decorative element to the background.

# Topics

- ➡ Spleen
- ➡ Liver
- ➡ Gall Bladder
- ➡ Pancreas
- ➡ Biliary tract

## SPLEEN



# Spleen

Spleen is a lymphatic organ connected to the blood vascular system.

- ➡ The spleen is a wedge-shaped organ lying mainly in the left hypochondrium, and partly in the epigastrium.
- ➡ It lies in between the fundus of the stomach and the diaphragm.
- ➡ The spleen is tetrahedral in shape

- ➡ dark purple in colour.
- ➡ Highly vascular and soft
- ➡ 1 inch or 2.5 cm thick, 3 inches or 7.5 cm broad 5 inches or 12.5 cm long
- ➡ and is related to 9th to 11th ribs

➡ two ends- lateral(expanded) and medial (rounded)

➡ three borders

➡ two surface

# 3 border of Spleen

- The *superior border* is characteristically notched near the lateral end.
- The *inferior border* is rounded.
- The *intermediate border* is also rounded and is directed to the right

## Surfaces

- The *diaphragmatic surface* is convex and smooth. The diaphragmatic surface is related to the diaphragm which separates the spleen from the costodiaphragmatic recess of pleura, lung and 9th, 10th and 11th ribs of the left side
- The *visceral surface* is concave and irregular, is related to the fundus of the stomach, the anterior surface of the left kidney, the splenic flexure of the colon and the tail of the pancreas



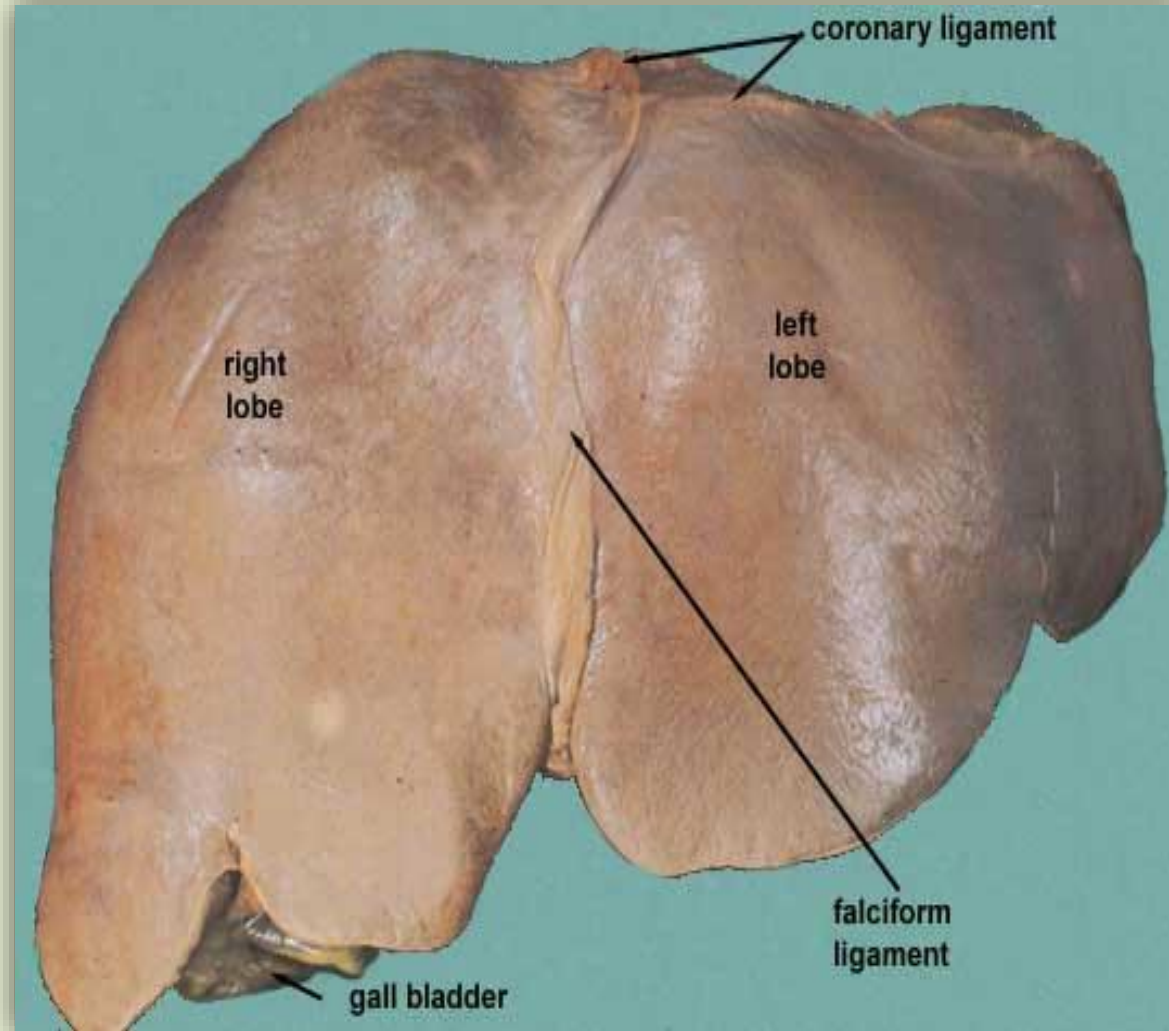
**Artery supply** – supplied by the splenic artery which is the largest branch of the coeliac trunk

**Nerve supply** -Sympathetic fibers are derived from the coeliac plexus.

# Function of Spleen

- ➡ *Phagocytosis*
- ➡ *Immune response*
- ➡ *Storage of RBC*

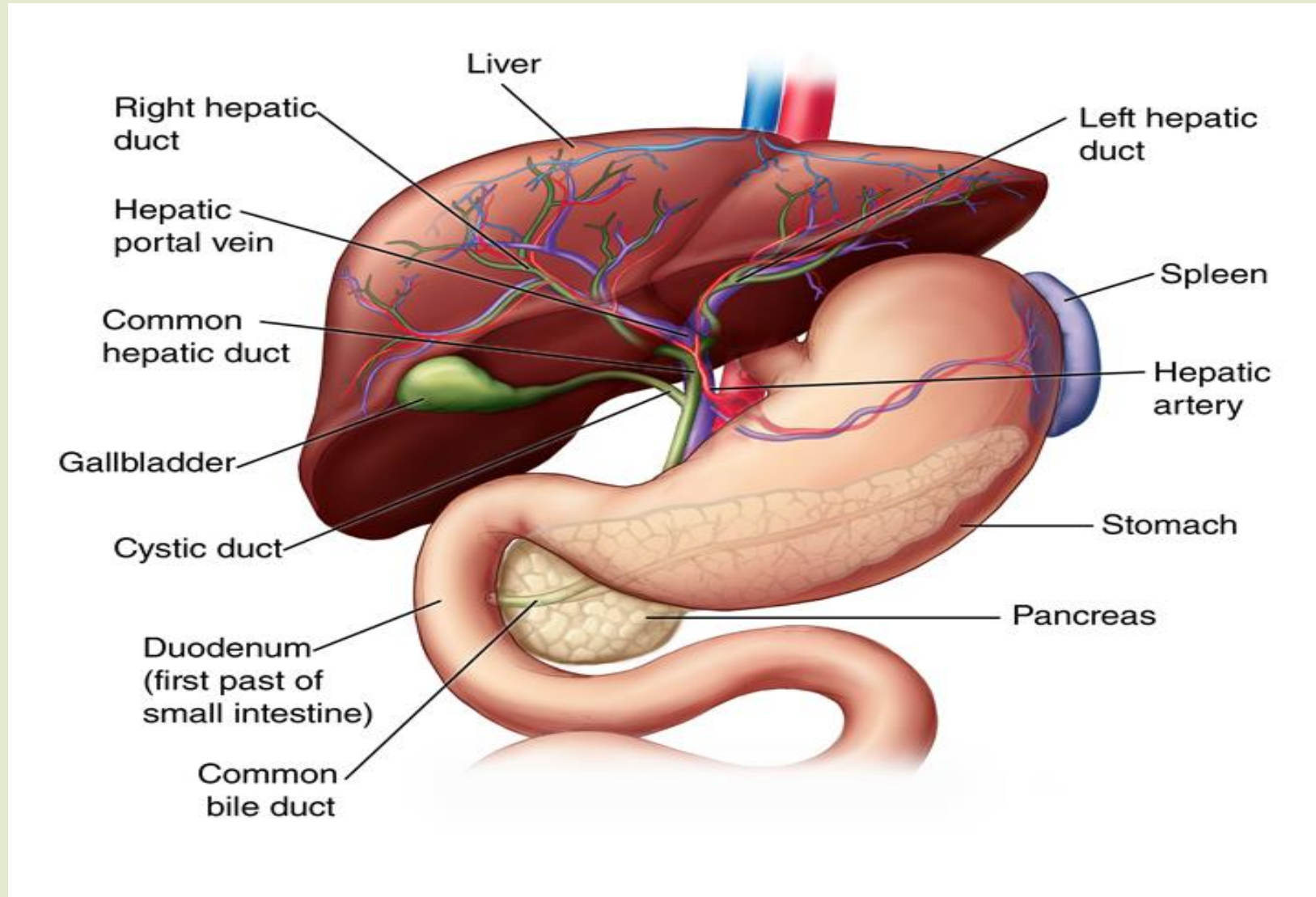
# Liver



# Introduction

- Largest gland ,reddish brown
- Weighs around 1- 2.3 kg
- Located in upper part of abdominal cavity; greater part in the right hypochondrium, relatively less in the epigastrium and left hypochondriac region
- Upper and anterior surface - underneath the diaphragm and posterior surface is irregular

# Anatomical relation with liver



# Organs associated with Liver

- ➡ Superiorly and anteriorly-diaphragm and anterior abdominal wall
- ➡ Inferiorly-Stomach, bile ducts, duodenum, hepatic flexure of colon, right kidney and adrenal
- ➡ Posteriorly- Esophagus, IVC, Aorta, GB
- ➡ Laterally- Lower ribs and diaphragm,

# Lobes of liver

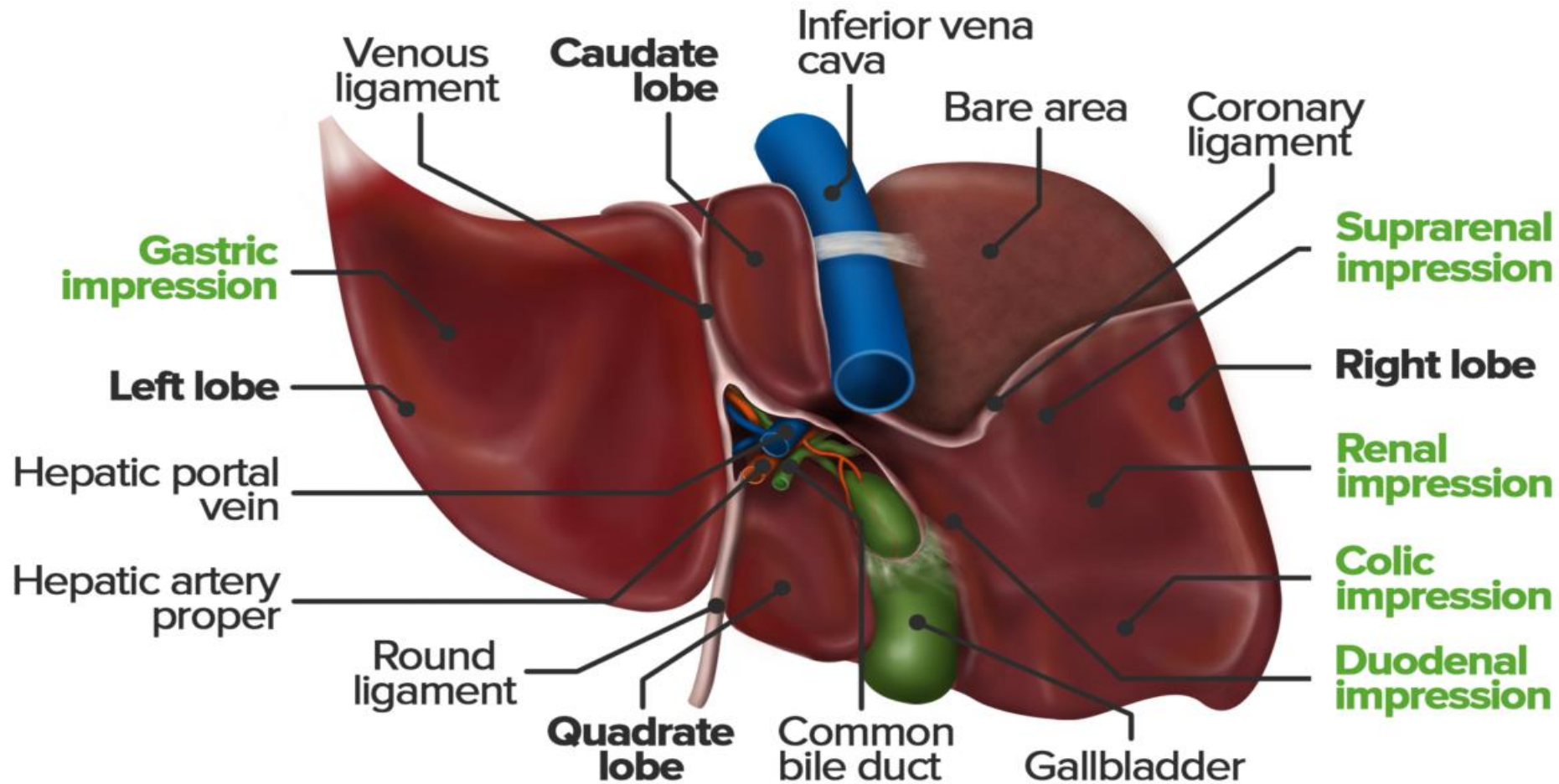
- Superficially divided by fissures and ligaments
- The liver is divided into right and left lobes by the attachment of the *falciform ligament* anteriorly and superiorly; by the *fissure for the ligamentum teres* inferiorly; and by the *fissure for the ligamentum venosum* posteriorly.

## 1. Right lobe: largest

- a Caudate lobe: between the venous ligament and groove for the inferior vena cava (IVC)
- b. Quadrate lobe: between the round ligament and the gallbladder fossa

## 2. Left lobe: separated from the right by the falciform ligament on the diaphragmatic surface

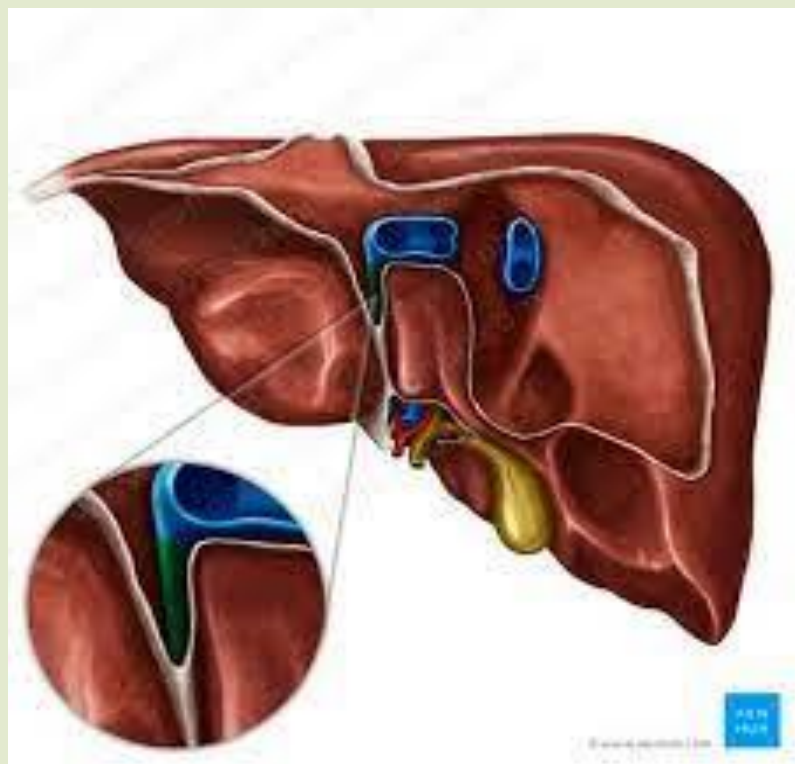
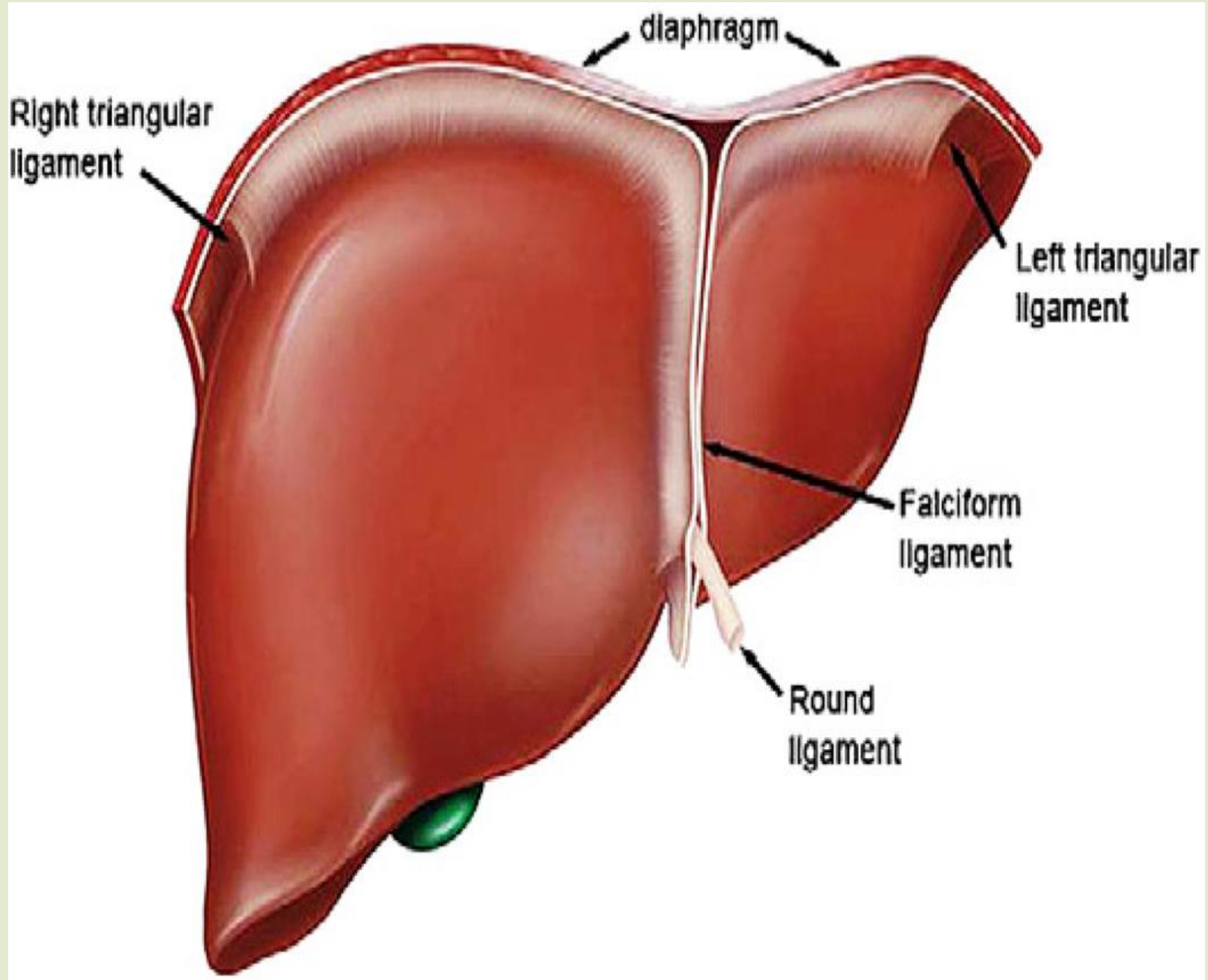
# Lobes of the Liver





# Bare area of liver

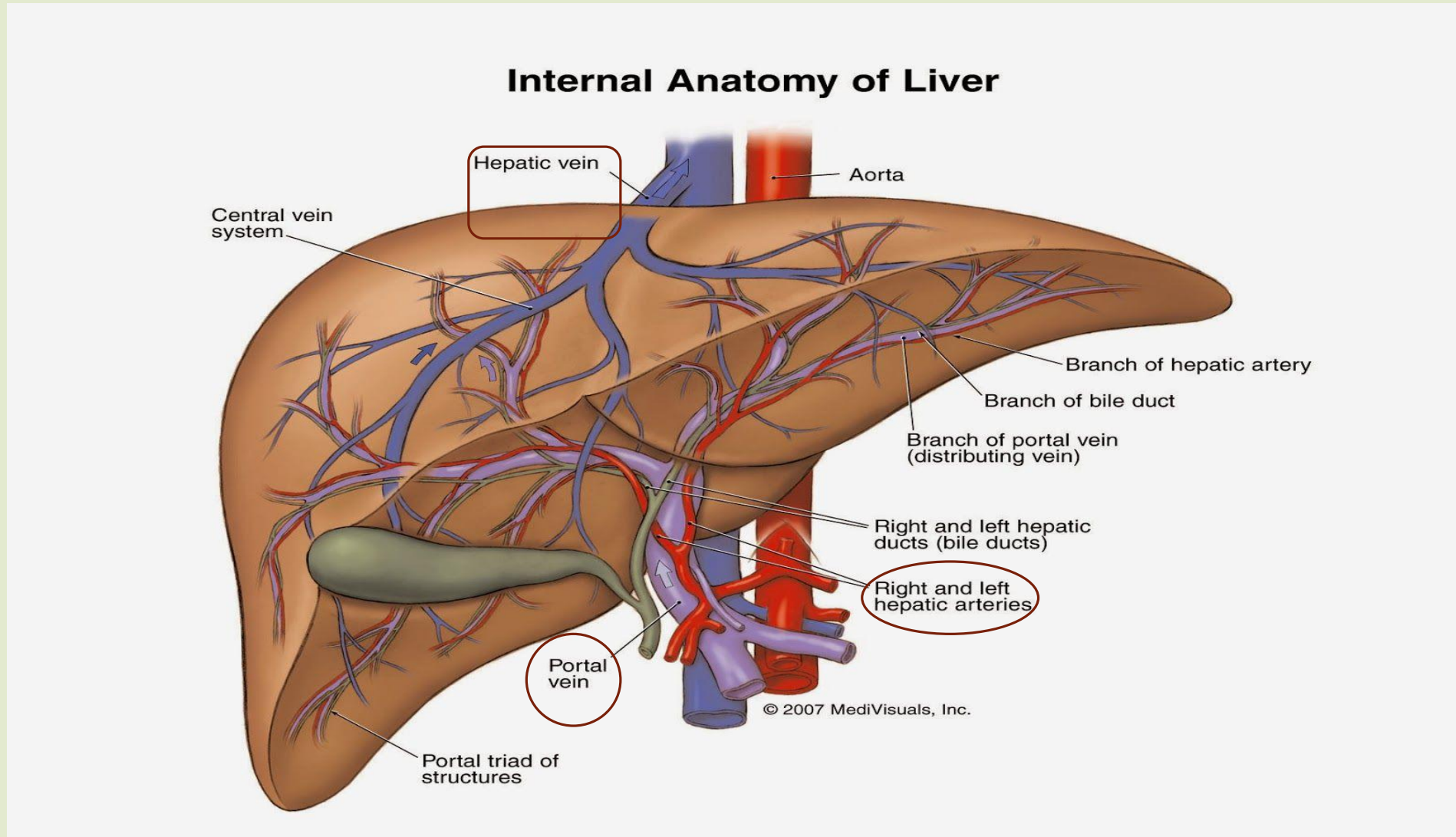
- ➡ The bare area of the liver is found on the poster superior surface of the right lobe of the liver.
- ➡ It is the only part of the liver that has no peritoneal covering.
- ➡ It lies between the two layers of the coronary ligament, as well as the right triangular ligament.



# Blood supply

- ➡ The liver receives 20% of its blood supply through the hepatic artery, and 80% through the portal vein
- ➡ hepatic veins which drain directly into the inferior vena cava

# Blood supply to the liver

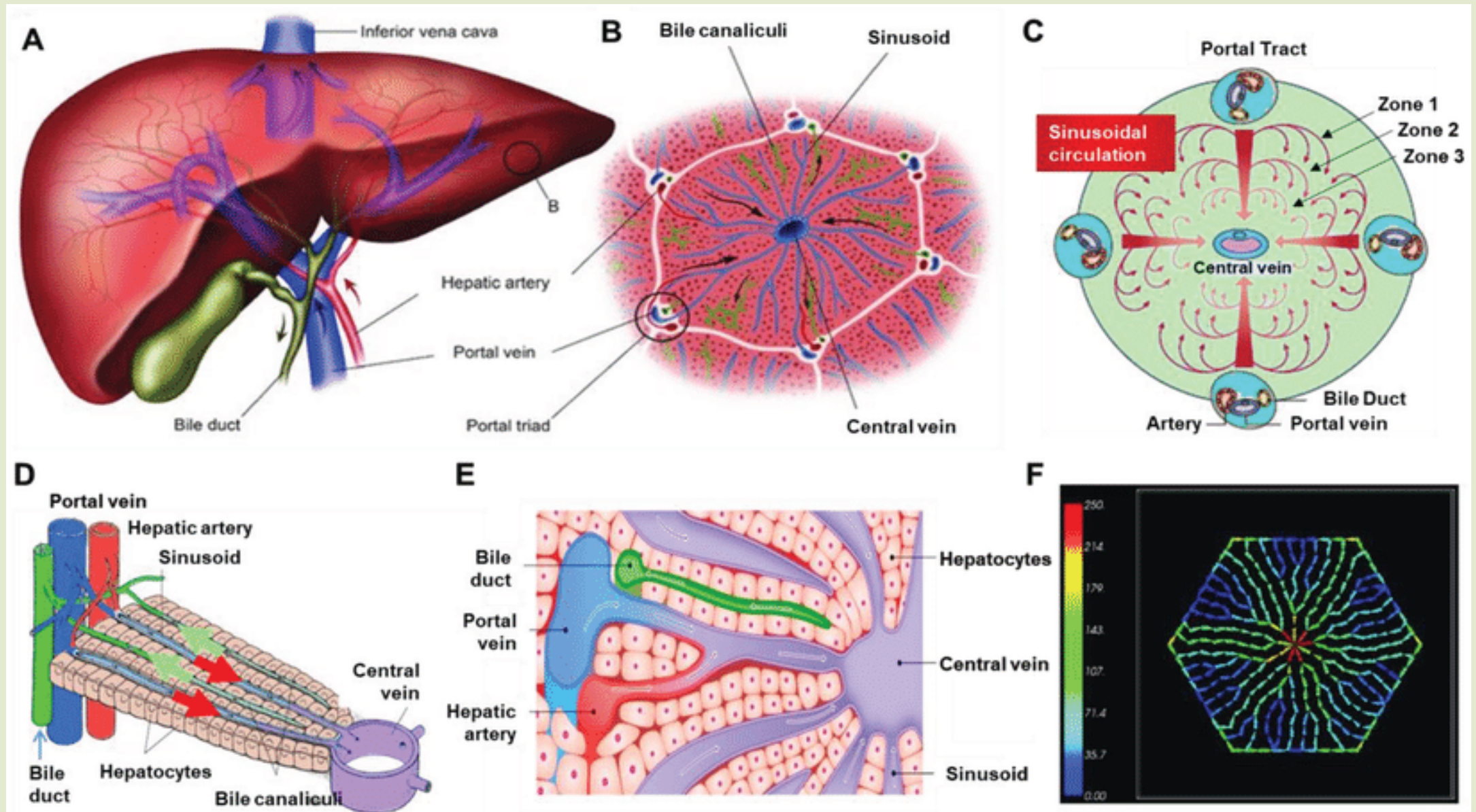


# Nerve supply

➡ The liver receives its nerve supply from the hepatic plexus which contains both sympathetic and parasympathetic or vagal fibres

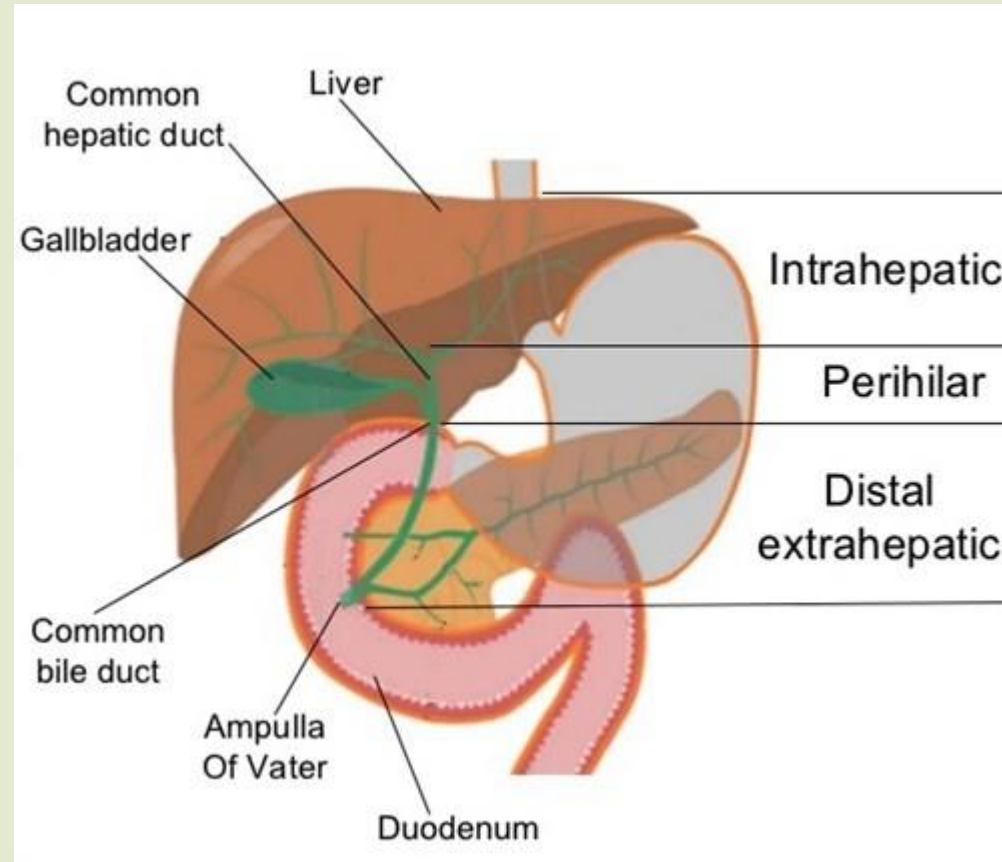


# Structure of Liver



# Structure

- ➡ The lobe of the liver are made up of lobules that contains hepatic cells(liver cells and hepatocytes ), sinusoids , kupffers cells and central vein.
- ➡ Bile is secreted by hepatocytes
- ➡ Bile passes from bile canaliculi to bile duct to right and left hepatic duct which unite to form common hepatic duct



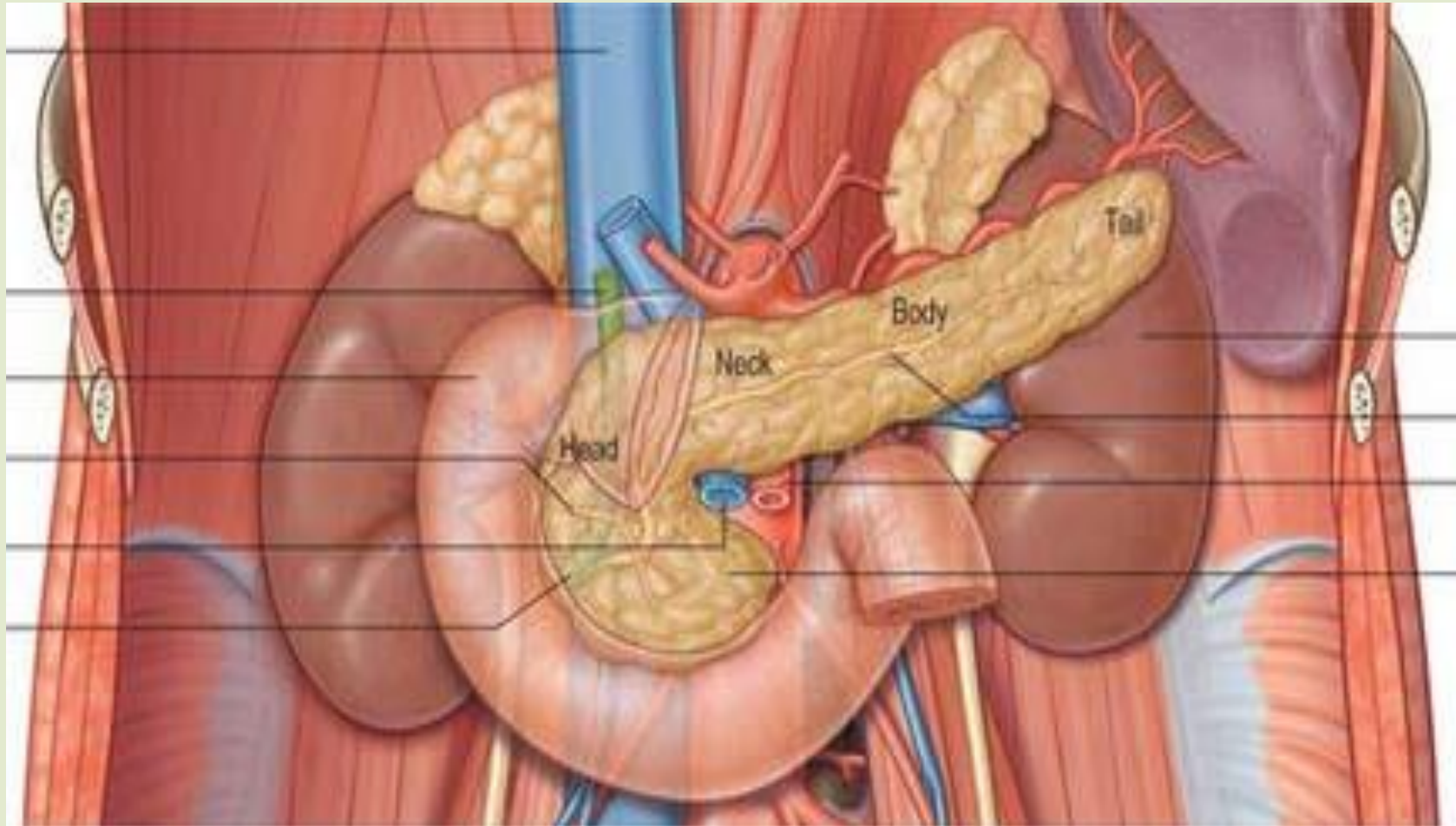


# Pancreas

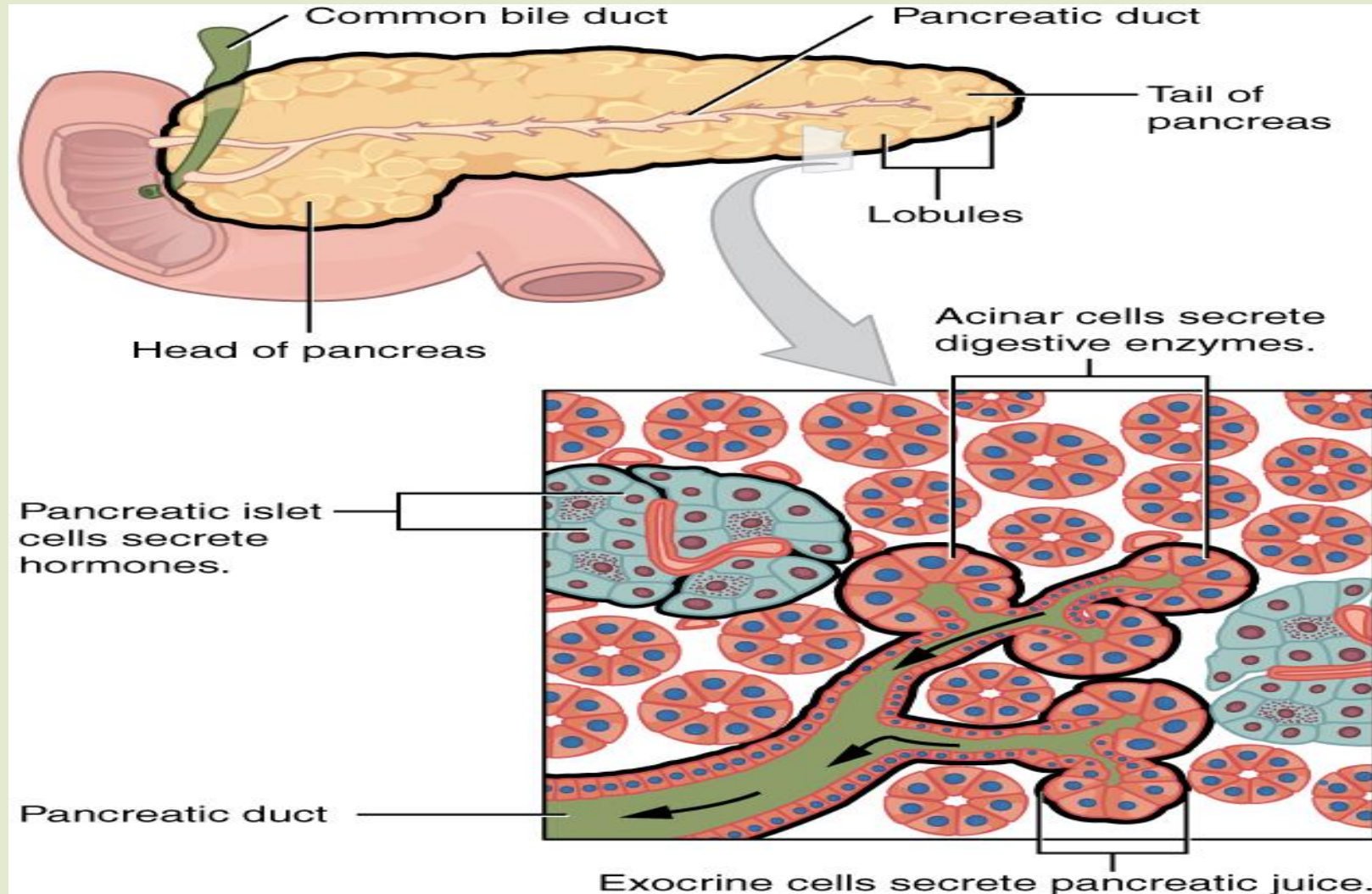
- ➡ Creamy, pink gland
- ➡ Weighs around 60 gm, measures around 12-15 cm long
- ➡ Located in epigastric and left hypochondriac region of abdominal cavity

# Parts of Pancreas

- ➡ Broad head, neck , body and a narrow tail.



# Exocrine and Endocrine Pancreas



➡ Exocrine Part- It secretes digestive pancreatic juice

➡ Endocrine part- It secretes Alpha cells- Glucagon

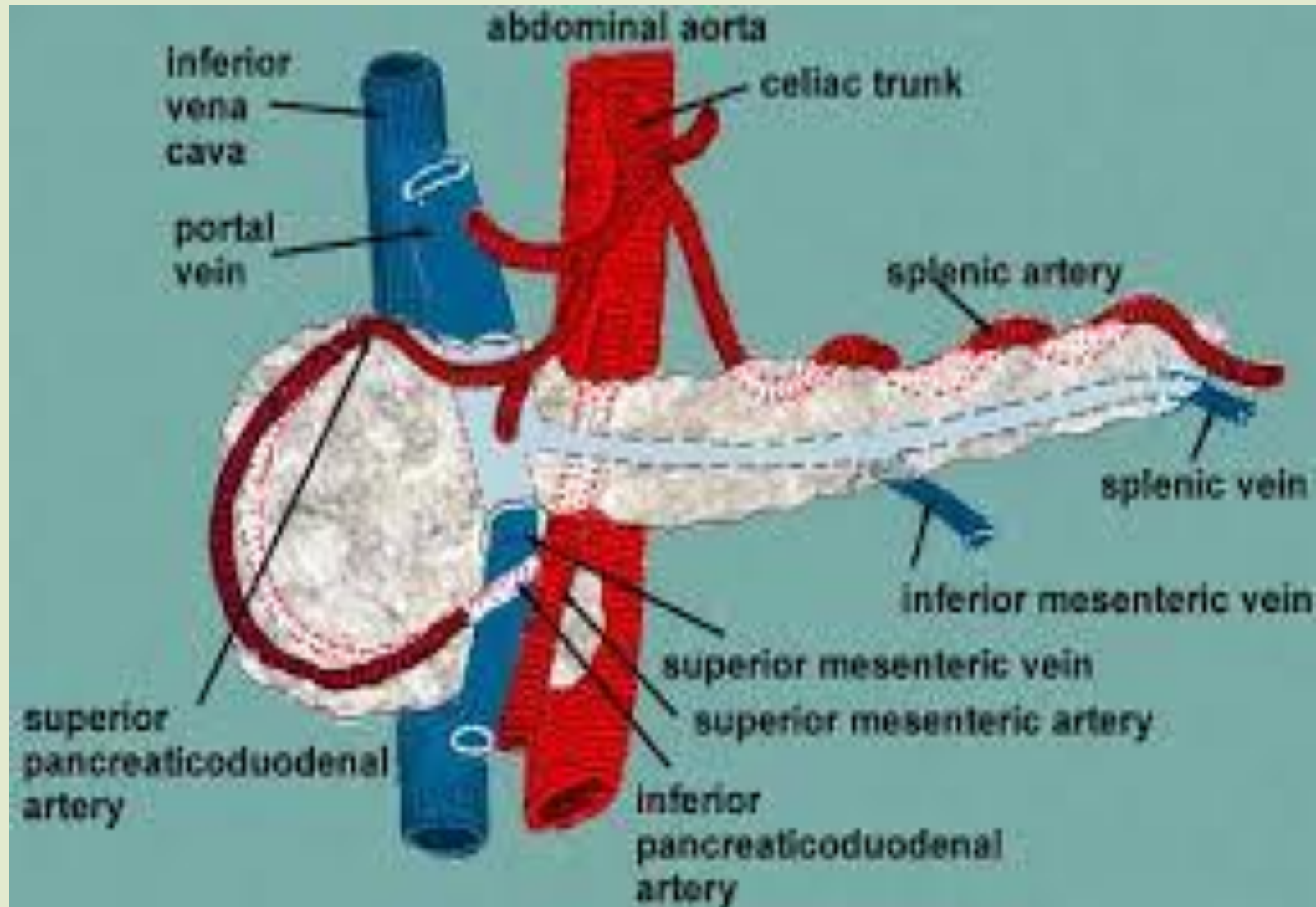
Beta cells- insulin

# Blood supply

- Supplied by the pancreatic branches of splenic artery, superior pancreaticoduodenal artery a branch of gastroduodenal artery, inferior pancreaticoduodenal artery a branch of superior mesenteric artery



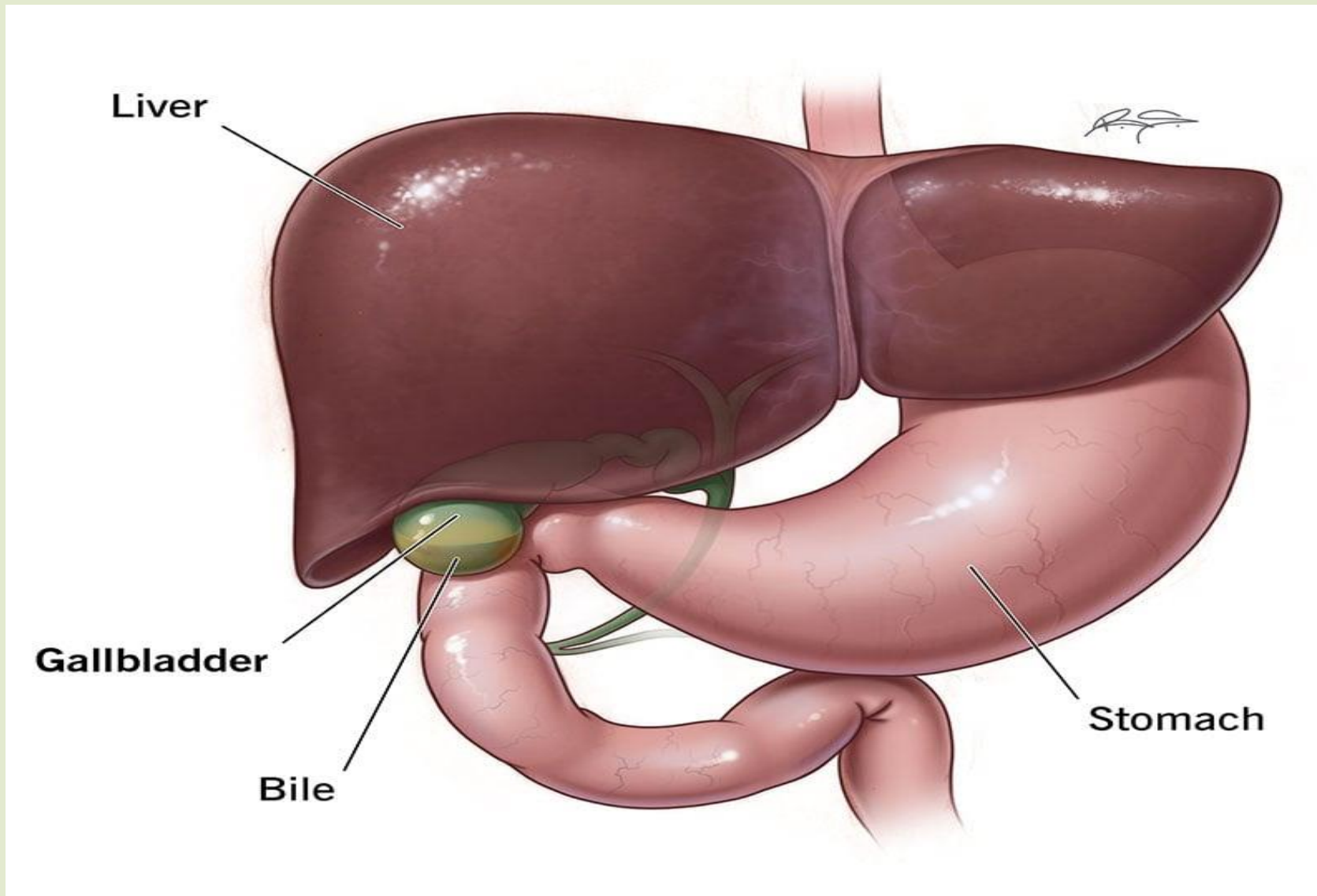
# Blood supply of the pancreas



# Nerve supply

- ➡ Parasympathetic – Vagus
- ➡ Sympathetic – Splanchnic nerve

# Gall bladder



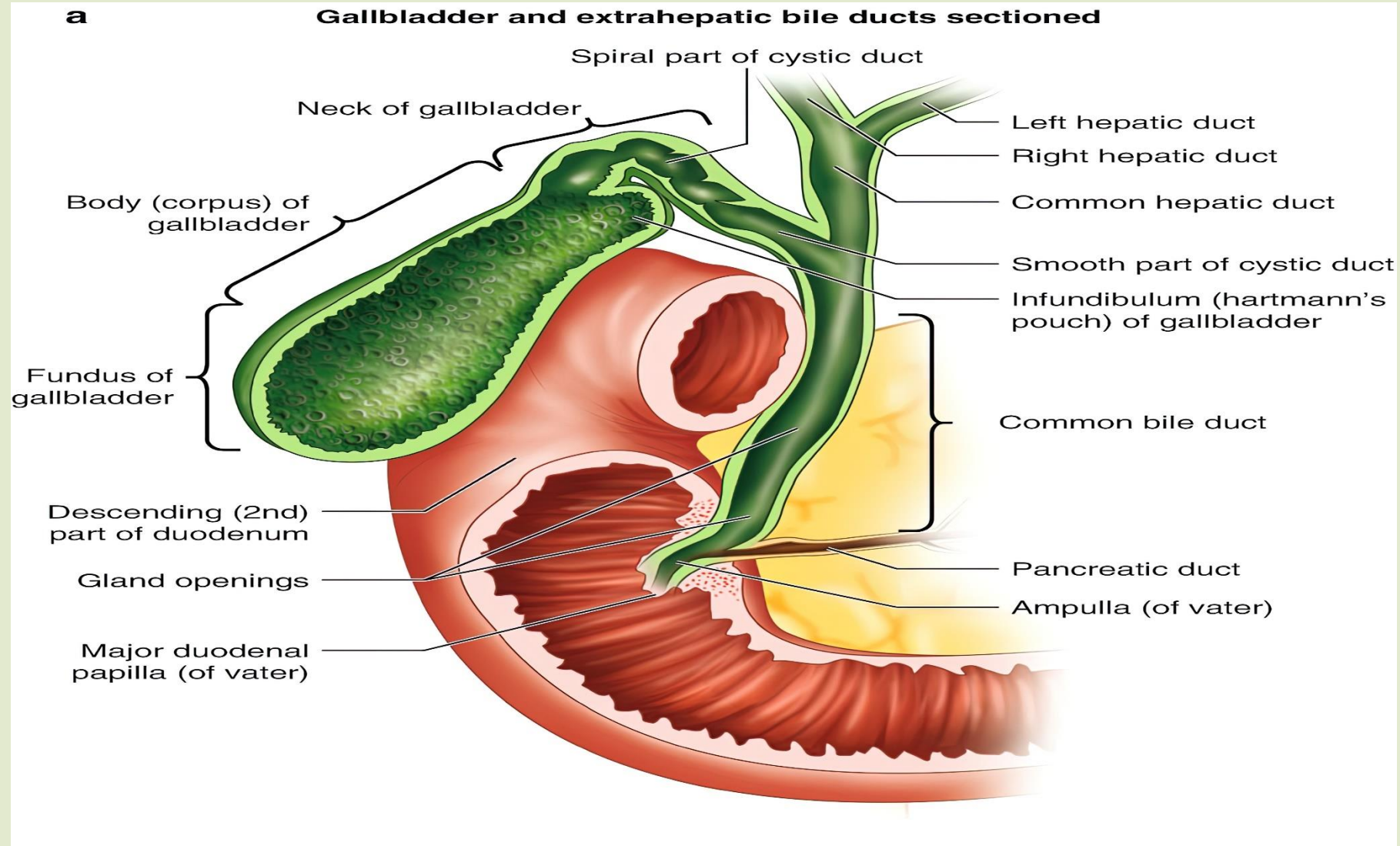


# Parts

➡ Divided into 3 parts

1. Fundus- Project beyond the inferior border of liver
2. Body – lies in the gall bladder fossa of liver
3. Neck- narrowest part-situated near the right end of portal hepatic

# Parts of gall bladder



# blood supply

- ➡ Blood supply; **Cystic artery**- branch of hepatic artery, and  
Cystic vein- portal vein

# Function of Gall bladder

- ➡ Storage of bile
- ➡ Absorption of water and concentration of bile 10 times.
- ➡ Bile pH regulation
- ➡ **Absorption of certain vitamins in our body:** The gallbladder also helps absorb fat-soluble vitamins such as Vitamin K and Vitamin A

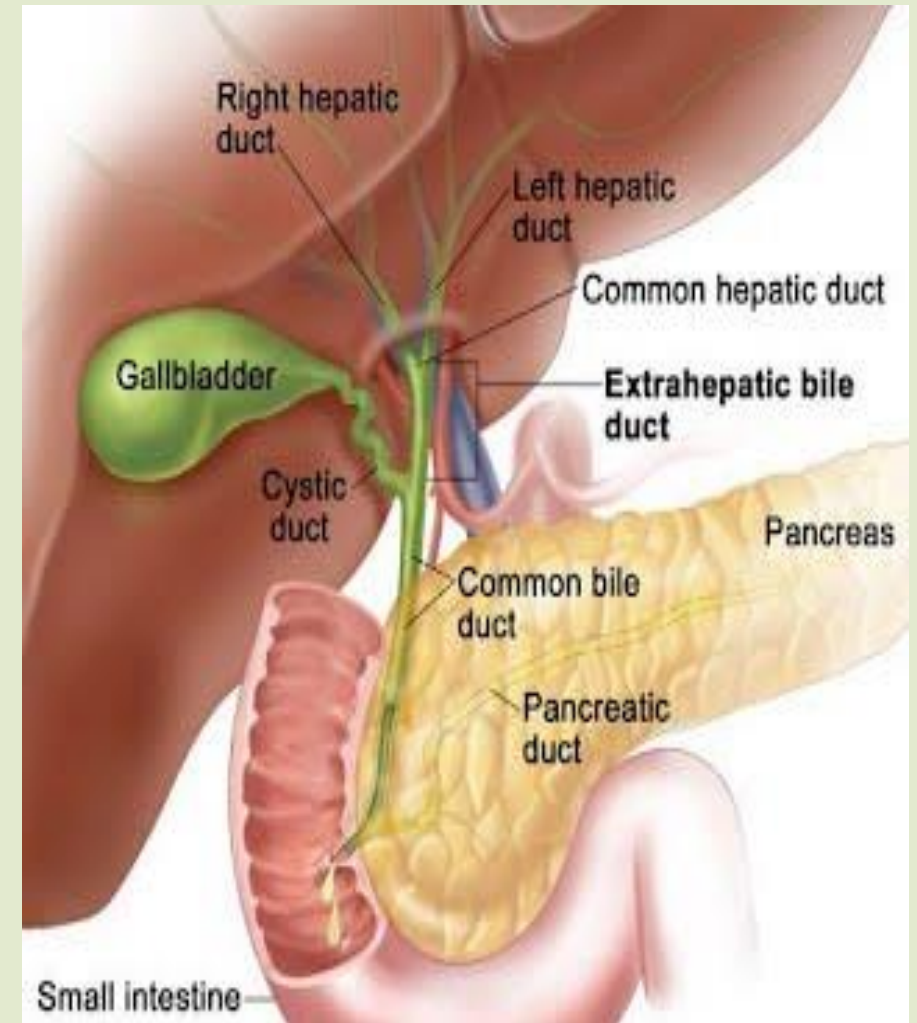
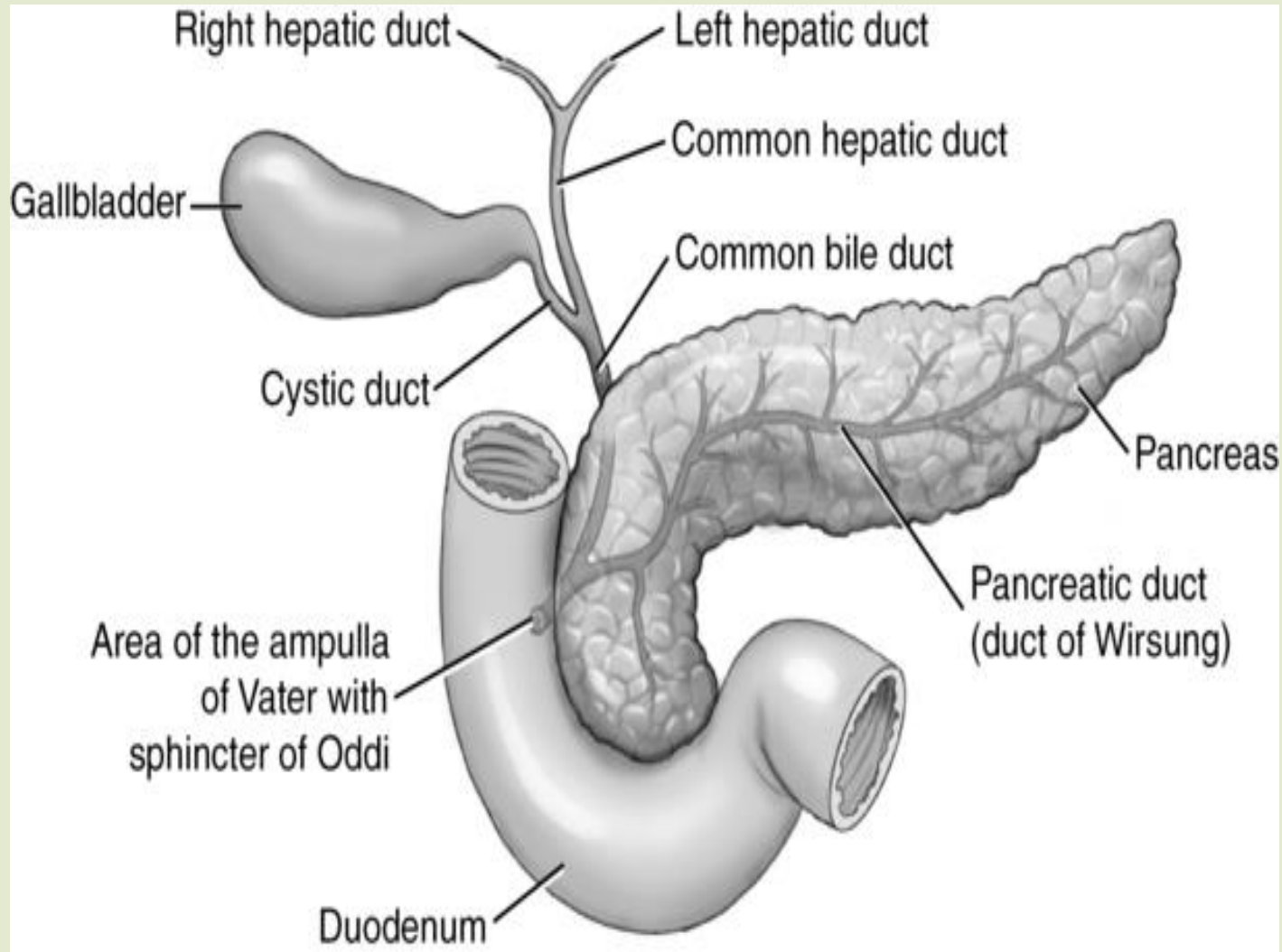
# Bile duct

- ➡ Formed by union of cystic and common hepatic duct near the portal hepatic
- ➡ 3 inches long
- ➡ 6mm diameter

# Course

- ➡ The bile duct runs downwards and backwards,
- ➡ First it runs in the free margin of the lesser omentum and behind the first part of the duodenum then it unites with the main pancreatic duct to form the Ampulla of Vater. It then drains in the middle part of the second part of the duodenum.

# Biliary duct



# Function

- ➡ To drain waste products from the liver into the duodenum.

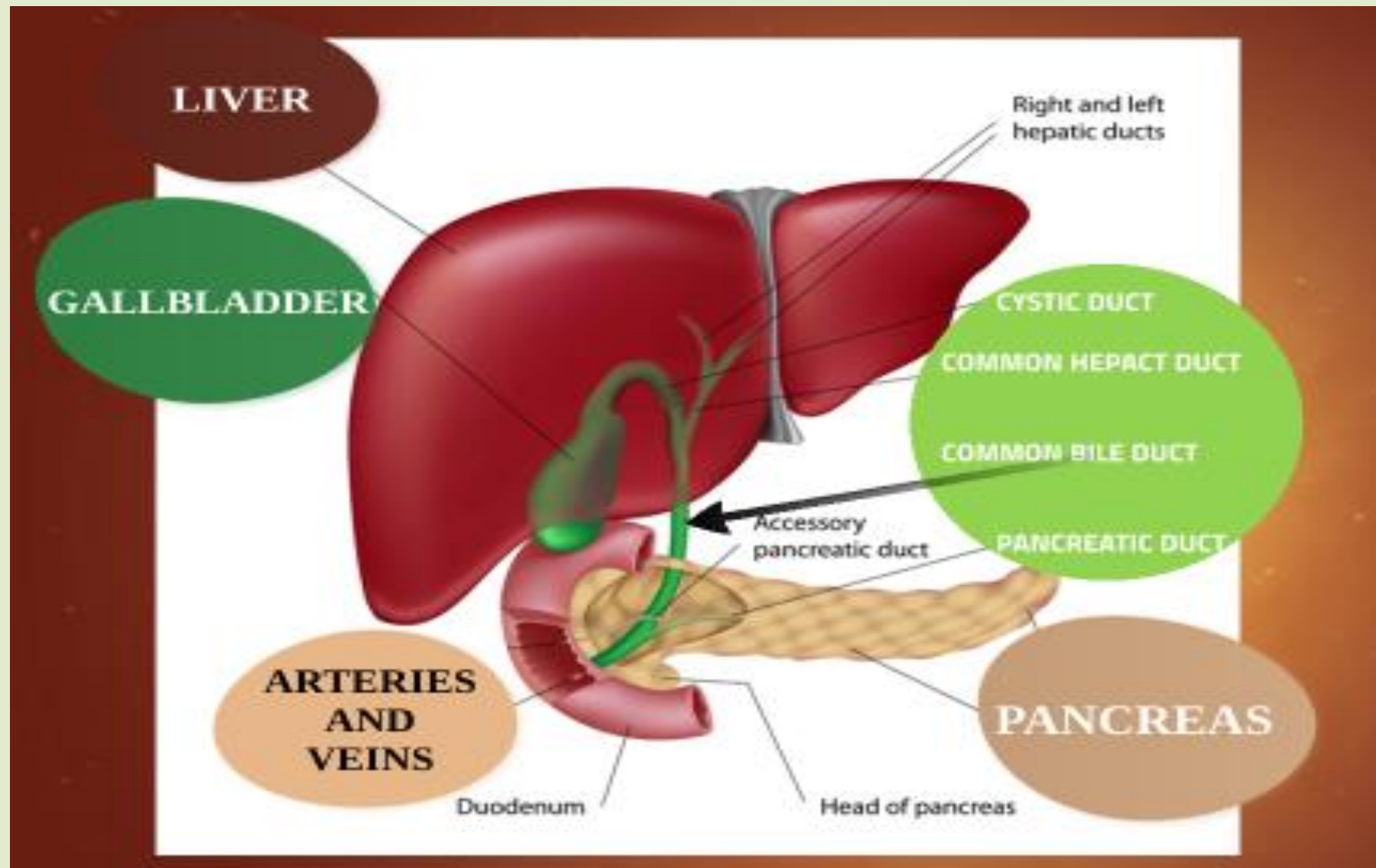


# Point to be remember

**Spleen** is a lymphatic organ connected to the blood vascular system. It acts as a filter for blood and plays an important role in the immune responses of the body.

**Pancreas** is a organ associated with diabetes.

**Liver** maintains blood glucose level



A photograph of a golf course featuring a vibrant green fairway, a sand trap, and several trees. The scene is set against a clear blue sky. In the foreground, there are some trees and a grassy area. The text "Thank You" is overlaid on the bottom right of the image.

**Thank You**