

# Accessory Organ Of G.I.T.

Liver

# Liver:

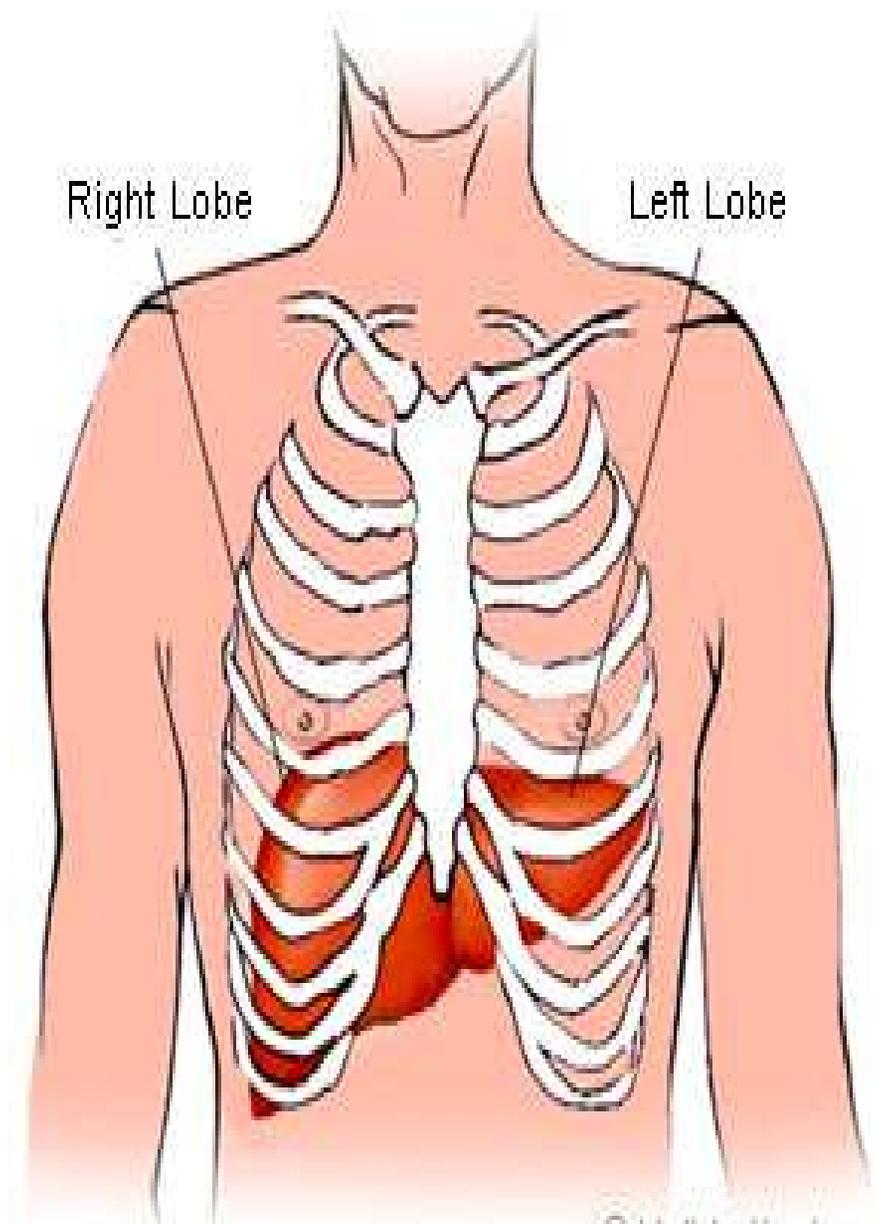
## Description:

It is largest gland in body, soft & pliable .

## Location:

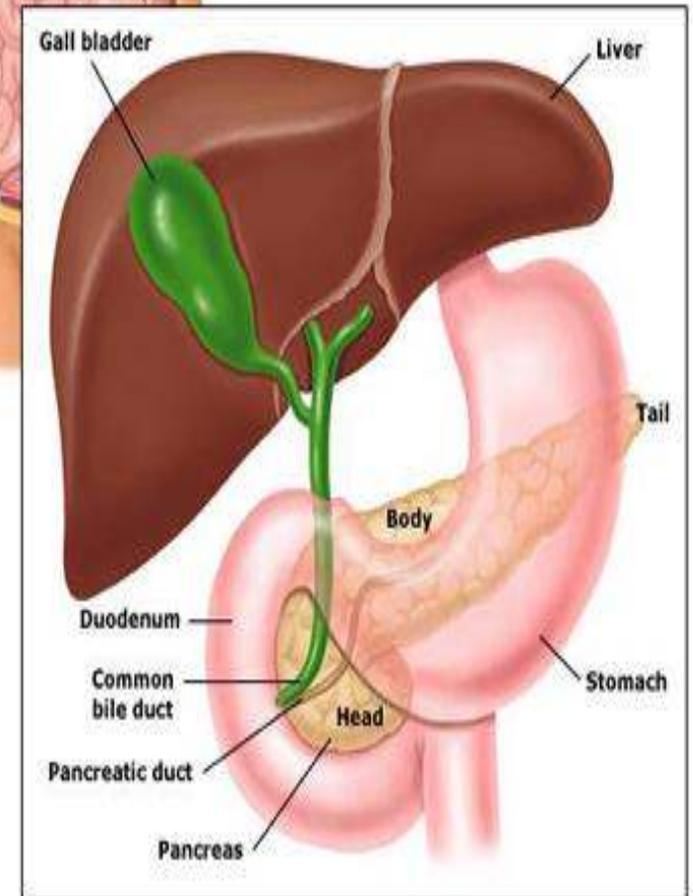
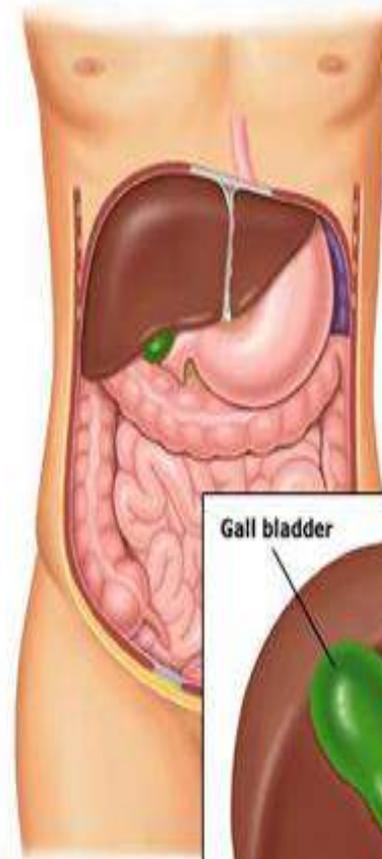
RT hypochondrium just beneath diaphragm which separates from the liver from thoracic cavity.

# The Liver



# Surfaces of liver:

- **Superioanterior surface (diaphragmatic):** its a convex upper surface of liver is molded to dome of diaphragm.
- **Posteroinferior (visceral) :**its irregular in shape molded to adjacent viscera

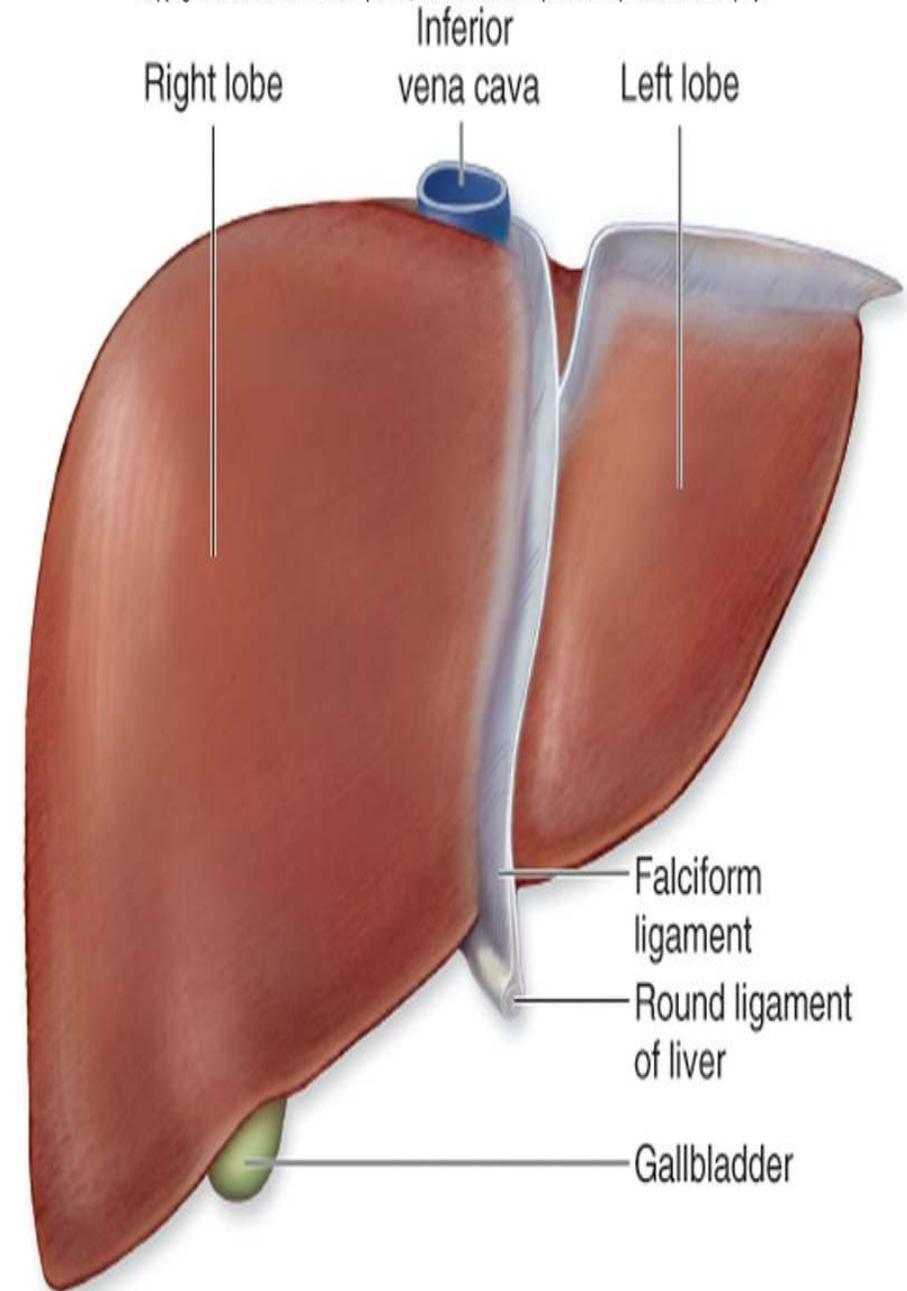


# Liver divisions:

1) Large RT lobe & small LT lobe form by attachment of peritoneum of falciform ligament

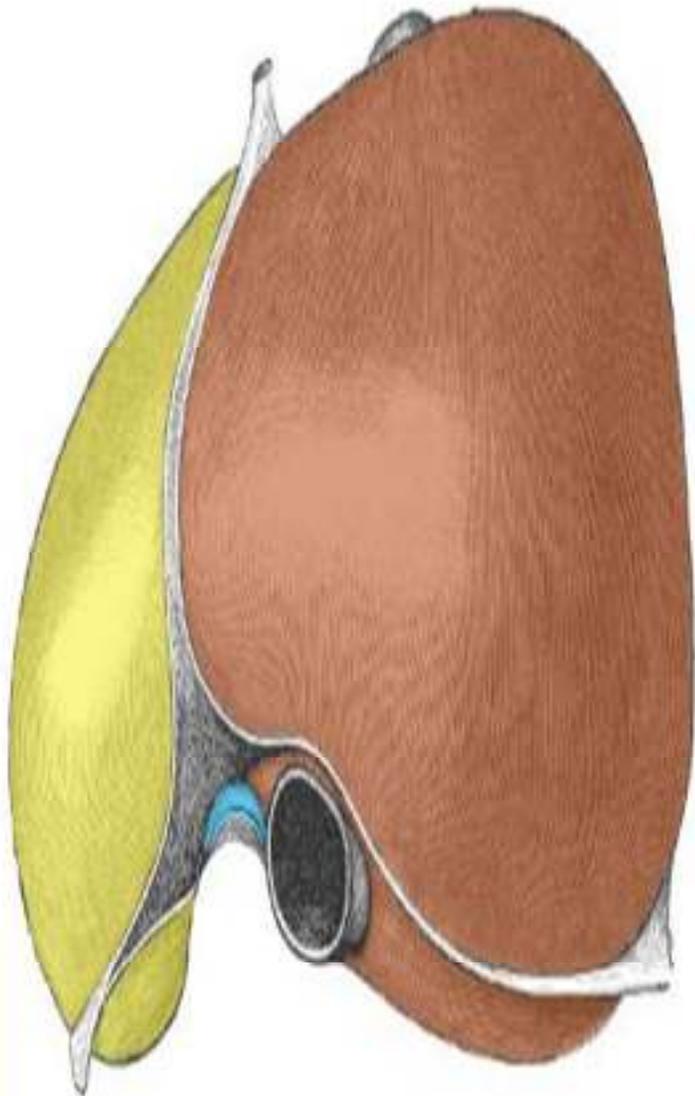
2) RT lobe is further subdivided into a quadrate lobe & caudate lobe by presence of gallbladder, ligamentum teres, inferior vena cava & ligamentum venosum.

Copyright © The McGraw-Hill Companies, Inc. Permission required for reproduction or display.

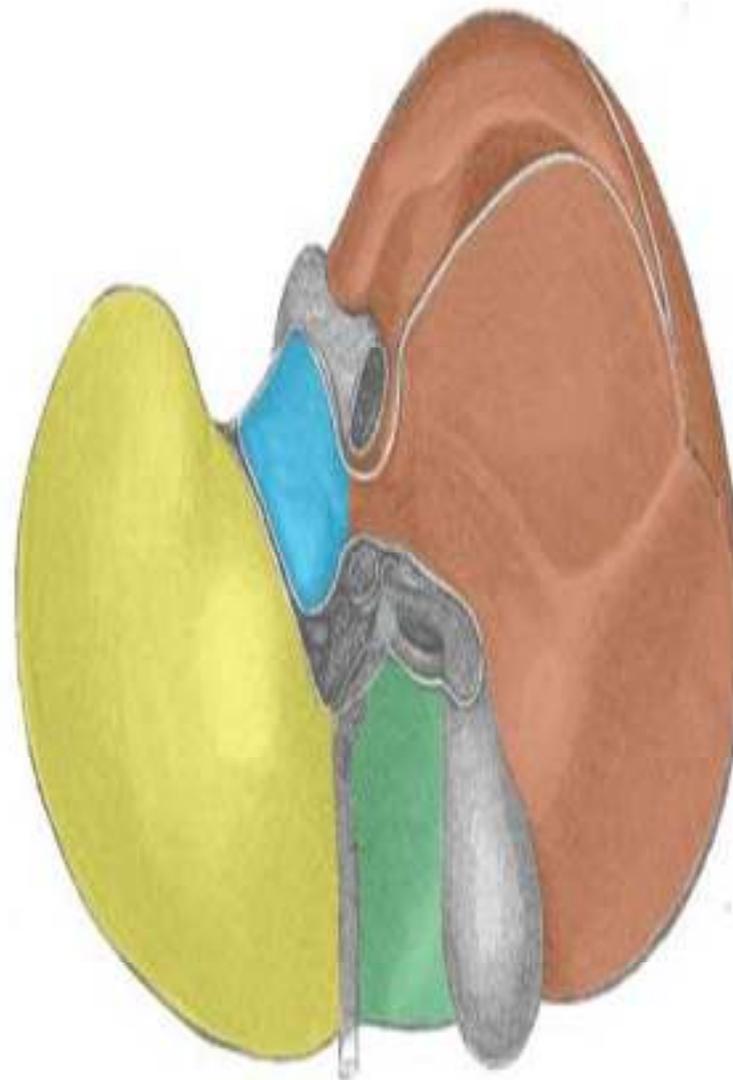


(a) Anterior view

## Superior Surface



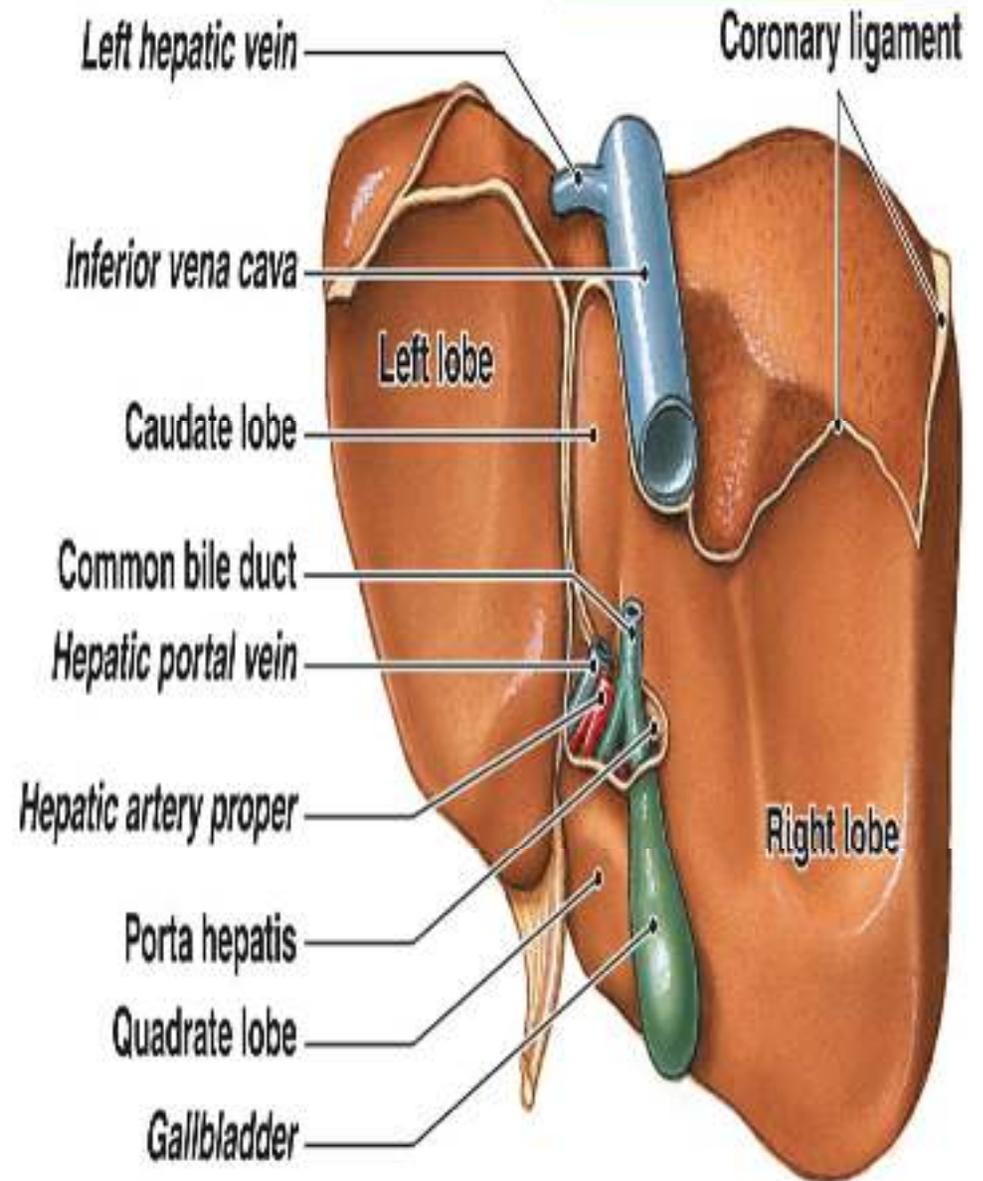
## Inferior Surface



-  Left
-  Right
-  Caudate
-  Quadrate

# Porta hepatis ( hilum of the liver) :

- ▶ It found on visceral surface & lies between caudate & quadrate lobes .
- ▶ It containses :
  - ❑ RT & LT hepatic ducts.
  - ❑ RT& LT branches of hepatic artery.
  - ❑ Portal vein.
  - ❑ Sympathetic & parasympathetic nerve fibers .
  - ❑ Hepatic lymph nodes.

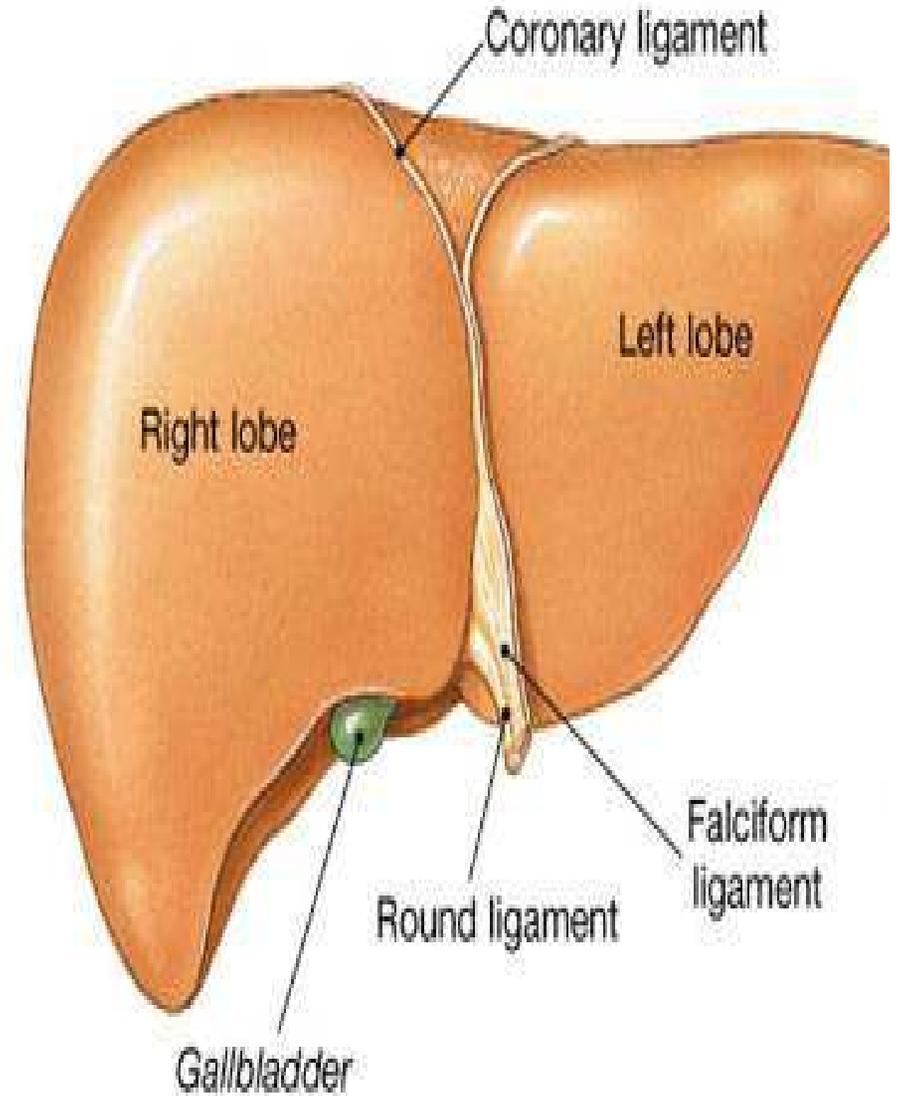


(c) Posterior surface

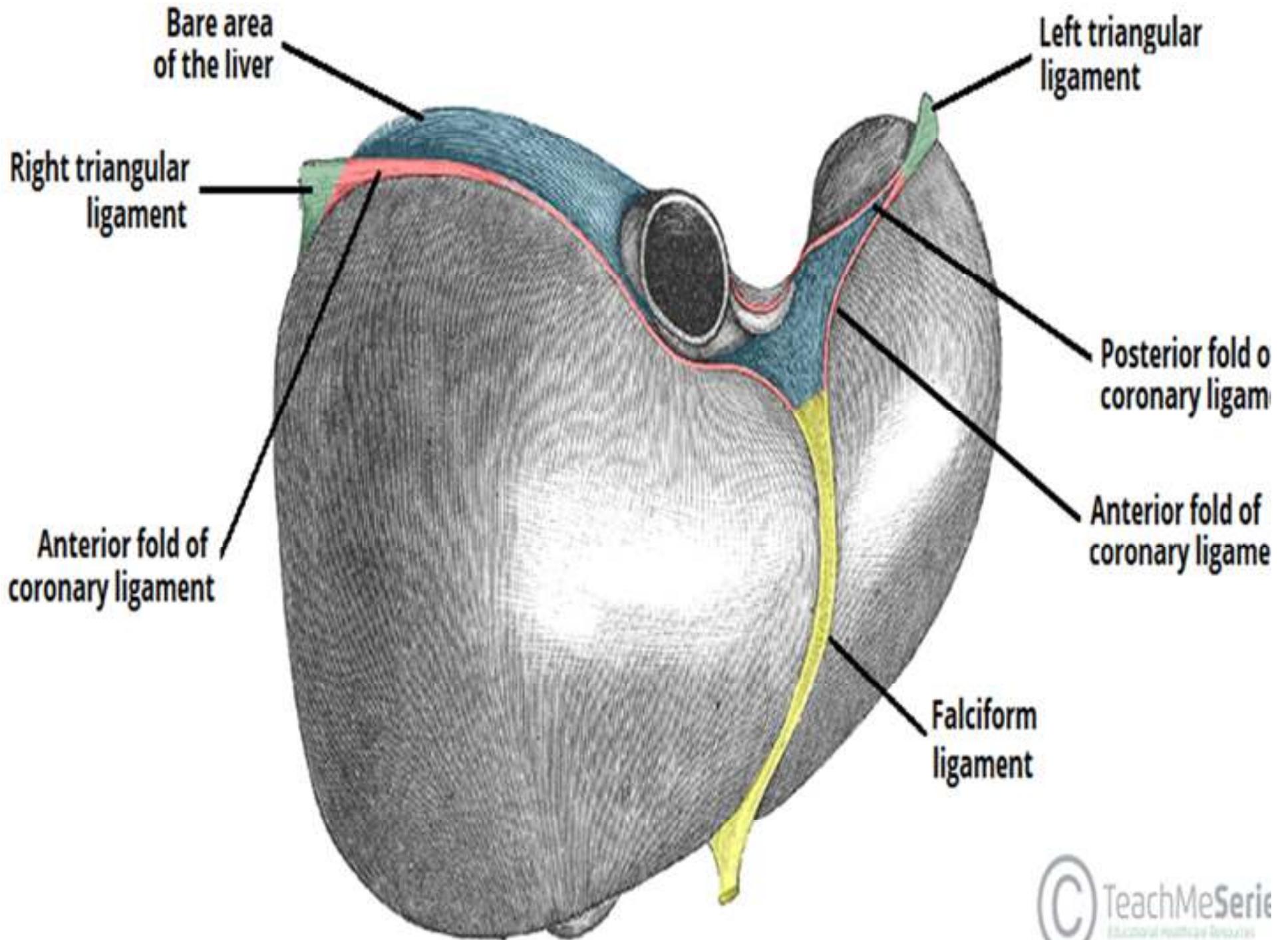
# Peritoneal relation:

❖ **Falciform Ligament:** which is two-layered fold of peritoneum ascends from umbilicus to liver. It contains ligamentum teres (remains of umbilical vein).

Falciform ligament passes on to anterior & then superior surfaces of liver & then splits into two layers.



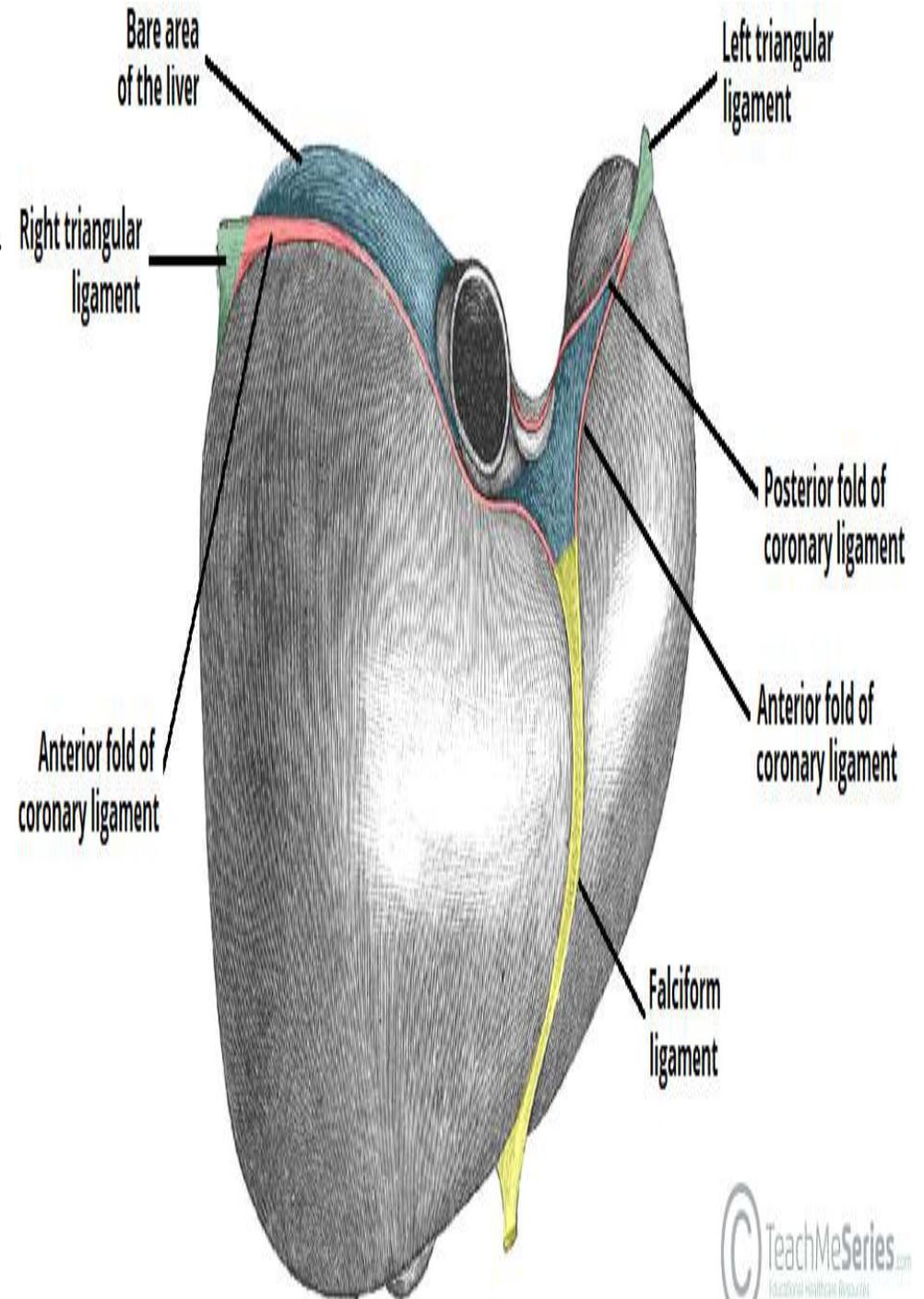
(b) Anterior surface



❖ The right upper layer forms **coronary ligament**.

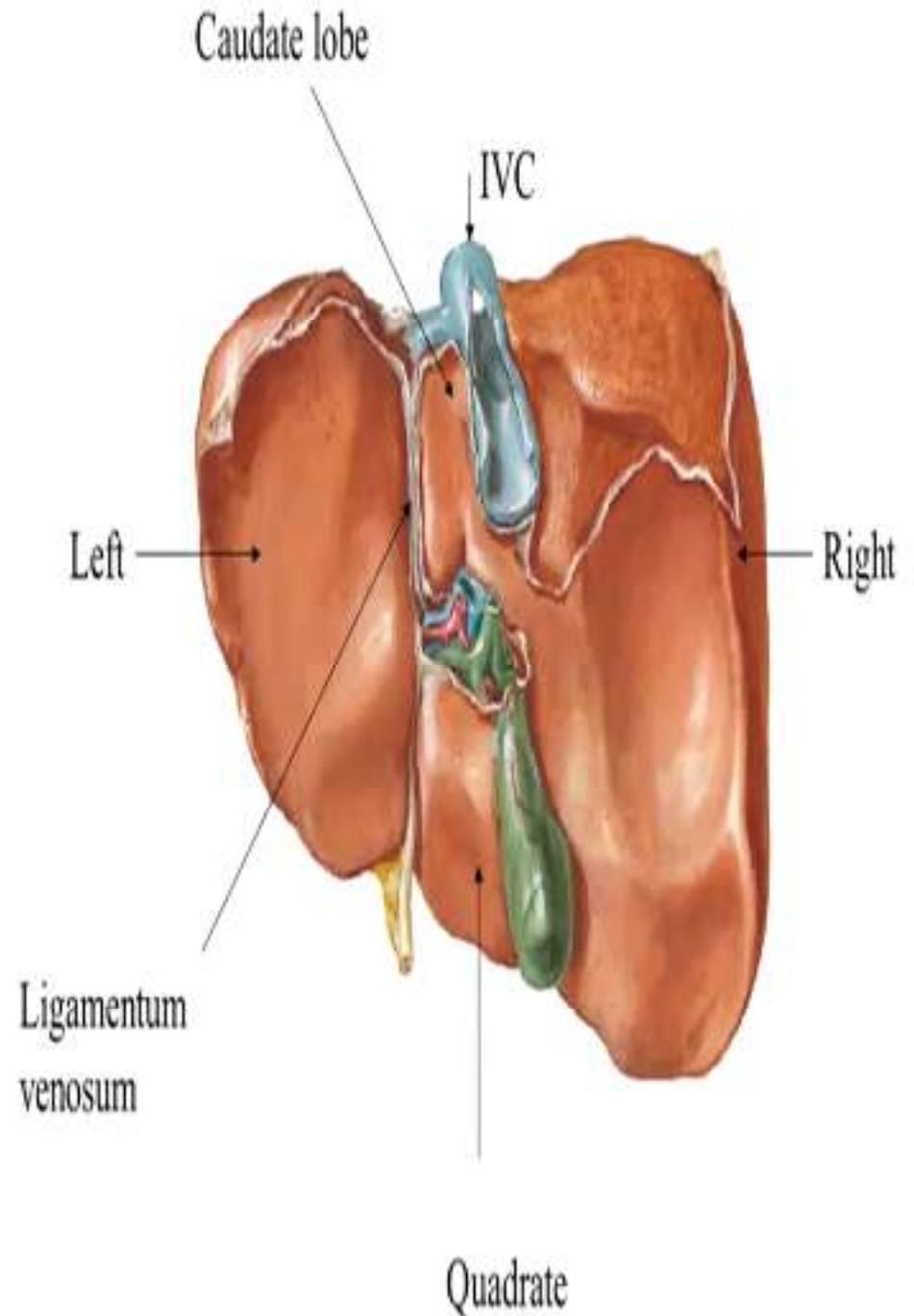
❖ left upper layer of falciform ligament forms **left triangular ligament**.

❖ The right extremity of coronary ligament is known as **right triangular ligament**.



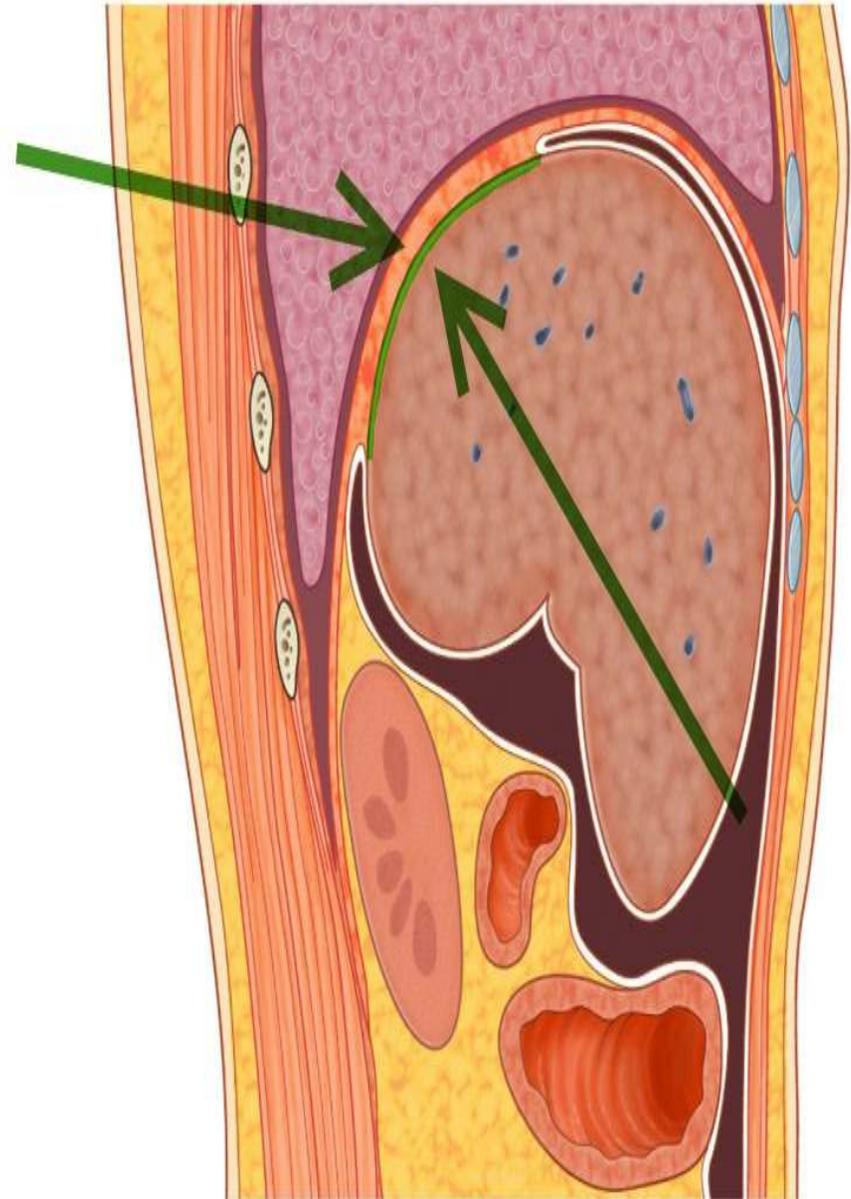
❖ **ligamentum venosum** ( remains of the ductus venosus) a fibrous band is attached to left branch of portal vein and inferior vena cava.

❖ **lesser omentum** arises from lesser curvature of stomach till edges of porta hepatis.



# Bare Area Of The Liver:

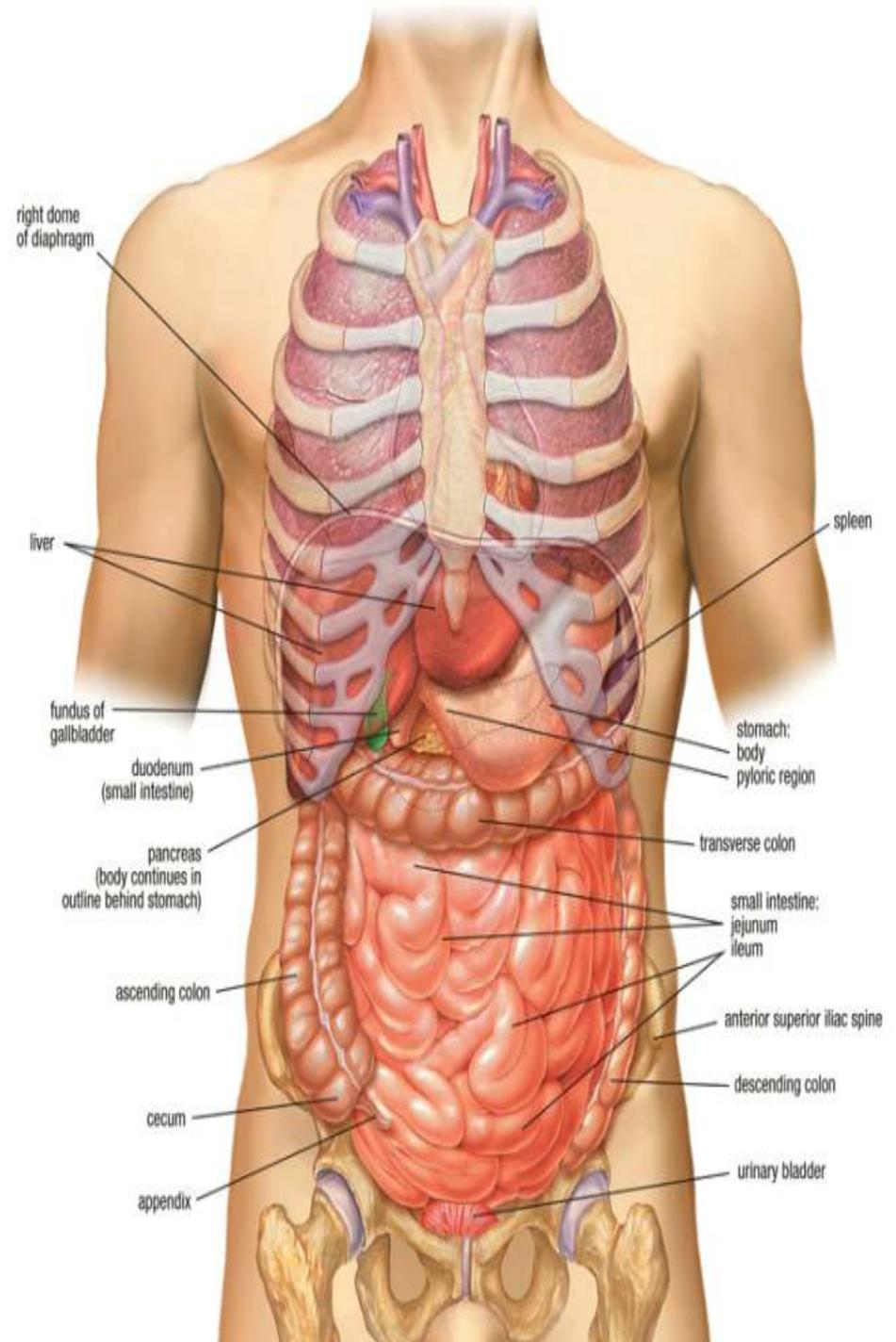
It be noted that the peritoneal layers forming the coronary ligament are widely separated leaving an area of liver devoid of peritoneum.



# Relations:

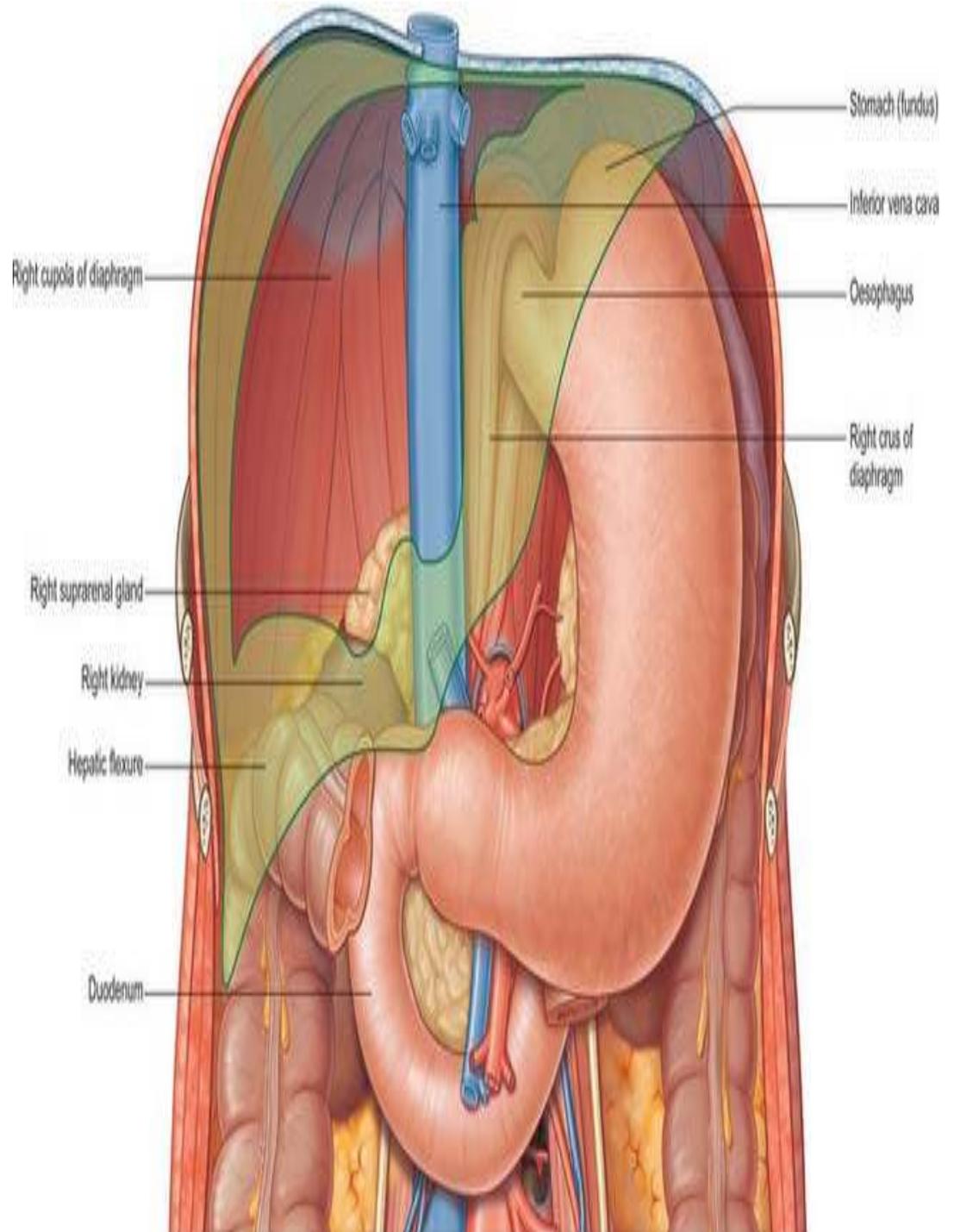
## Anteriorly:

- ❑ Diaphragm.
- ❑ RT & LT costal margins.
- ❑ RT & LT pleura .
- ❑ Lower margins of both lungs.
- ❑ Xiphoid process.
- ❑ Anterior abdominal wall.



# Posteriorly:

- ❑ Diaphragm .
- ❑ RT kidney.
- ❑ Hepatic flexure of colon.
- ❑ Duodenum.
- ❑ Gallbladder.
- ❑ Inferior vena cava,
- ❑ Esophagus & fundus of stomach.

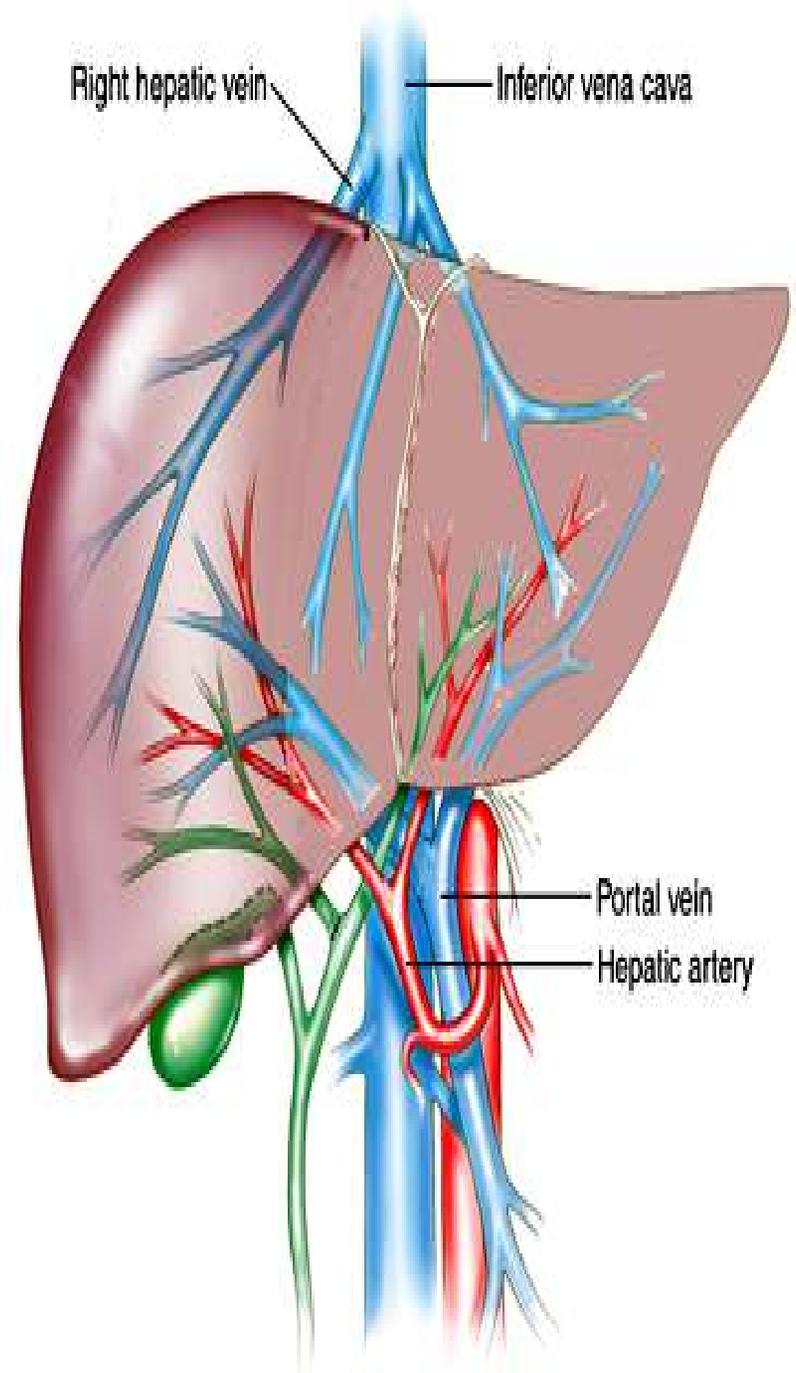


# Blood Supply

## Arteries:

Hepatic artery divides  
into:

RT & LT branches that  
enter porta hepatis.



# Veins:

1) **Portal Vein** divides into RT & LT branches

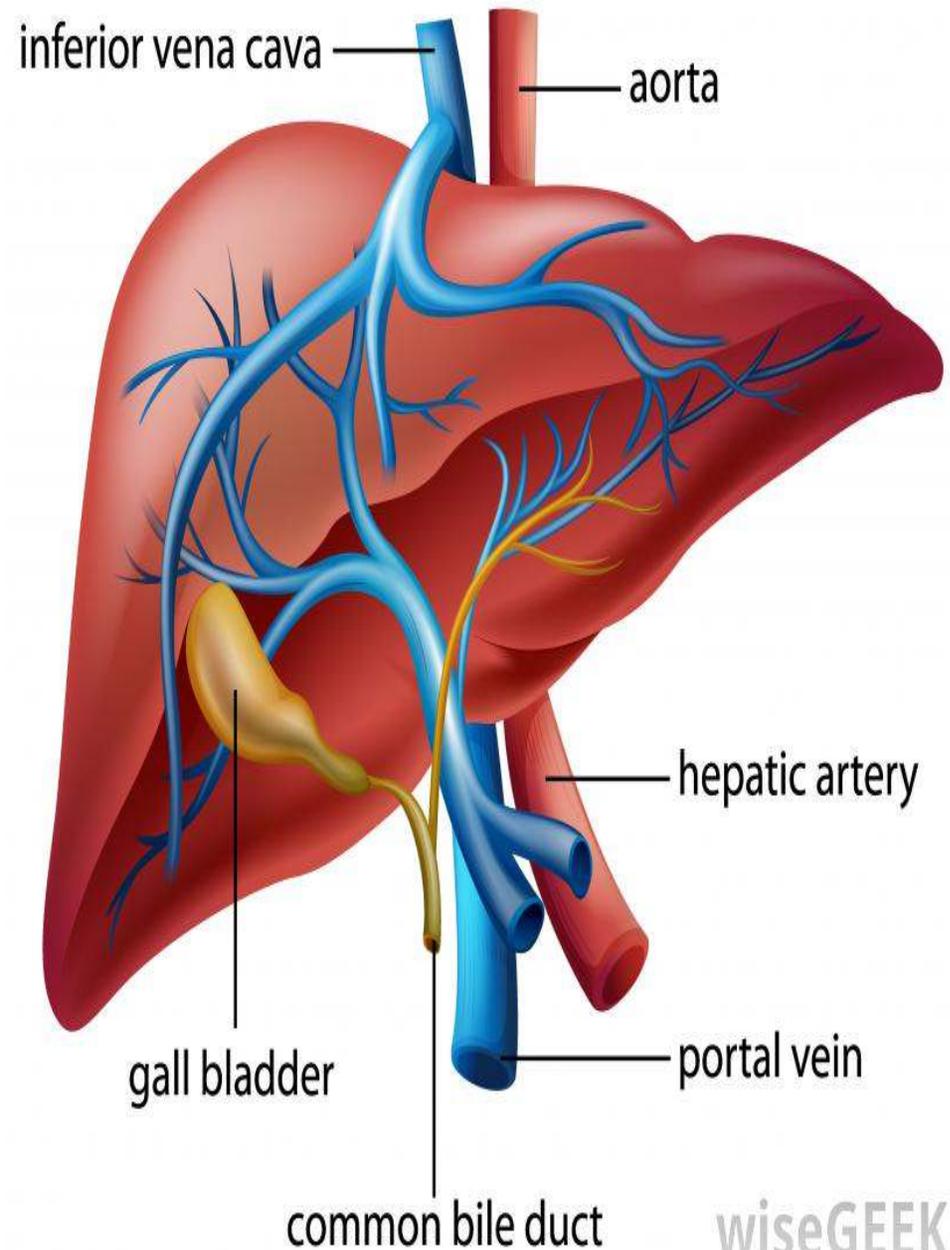
that enter porta hepatis behind arteries.

2) **Hepatic Veins** (3 or more) emerge from

posterior surface of liver and drain into inferior

vena cava.

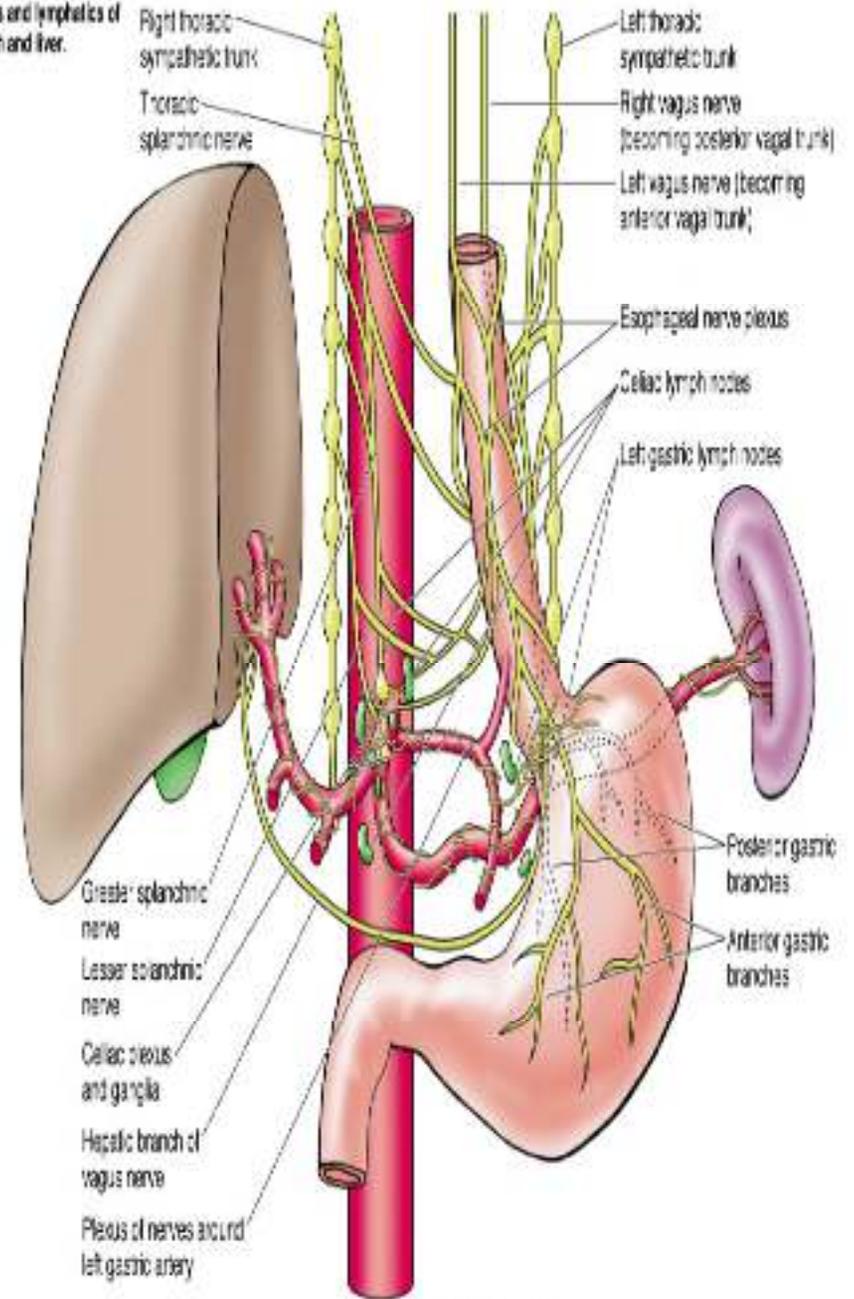
# Human Liver Anatomy



# Nerve Supply:

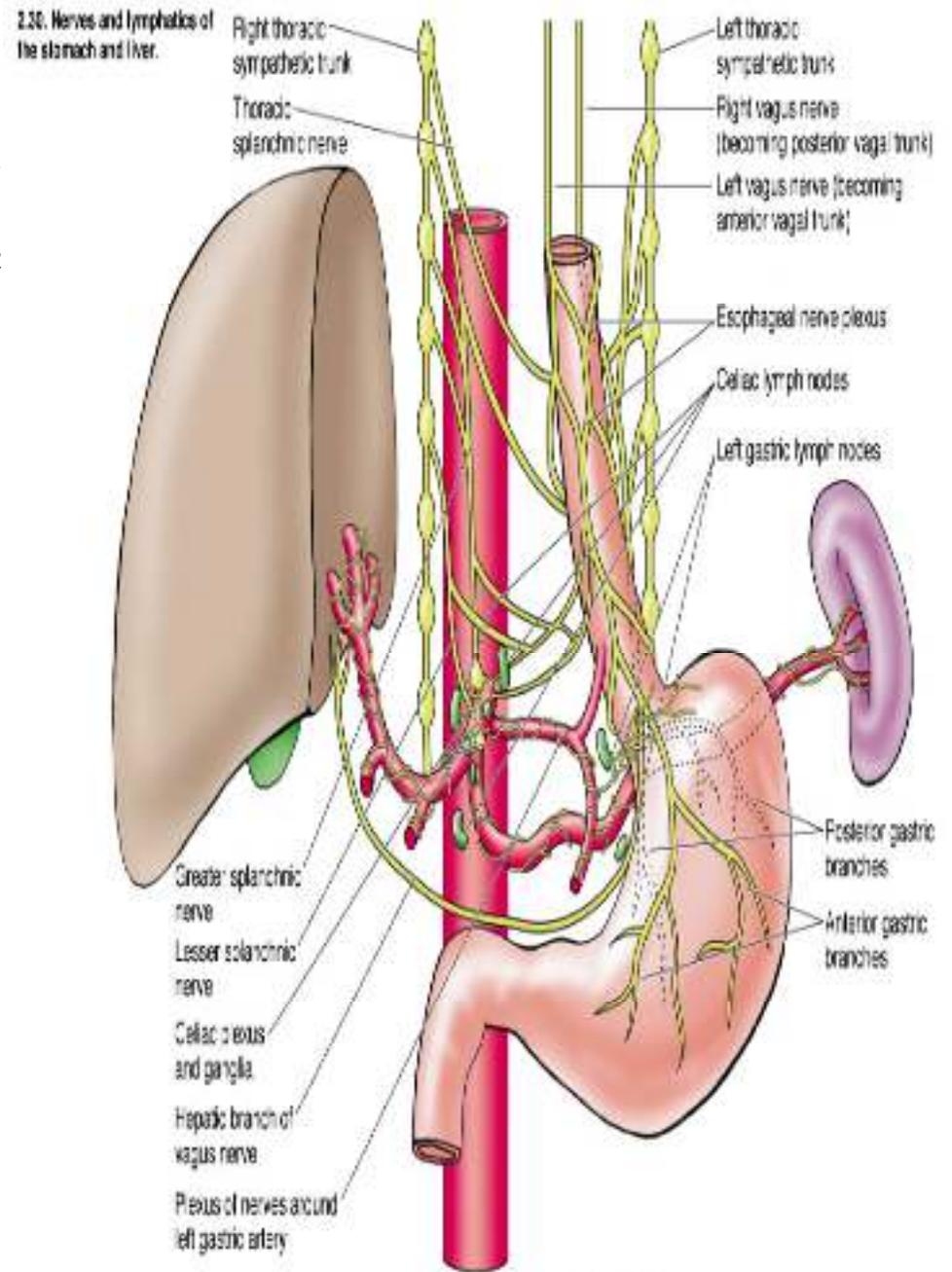
- **Sympathetic.**
- **Parasympathetic nerves** form celiac plexus.
- The **anterior vagal trunk** gives rise to a large hepatic branch which passes directly to liver.

2.30. Nerves and lymphatics of the stomach and liver.



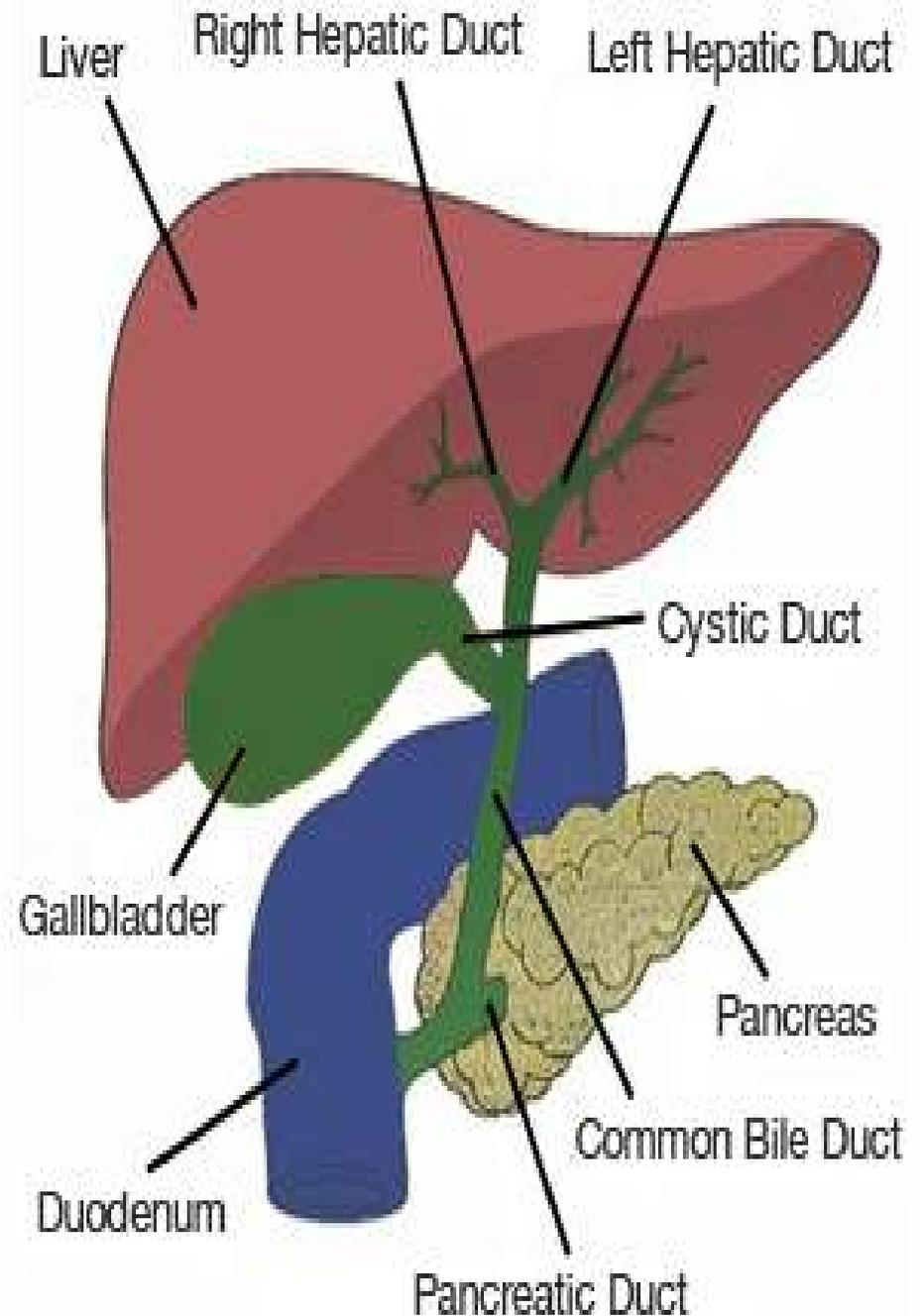
# Lymph Drainage:

- ❖ Liver produces about 1/3 to 1/2 of all body lymph. The lymph vessels leave liver to celiac nodes.
- ❖ A few vessels pass from bare area of liver through diaphragm to posterior mediastinal lymph nodes.



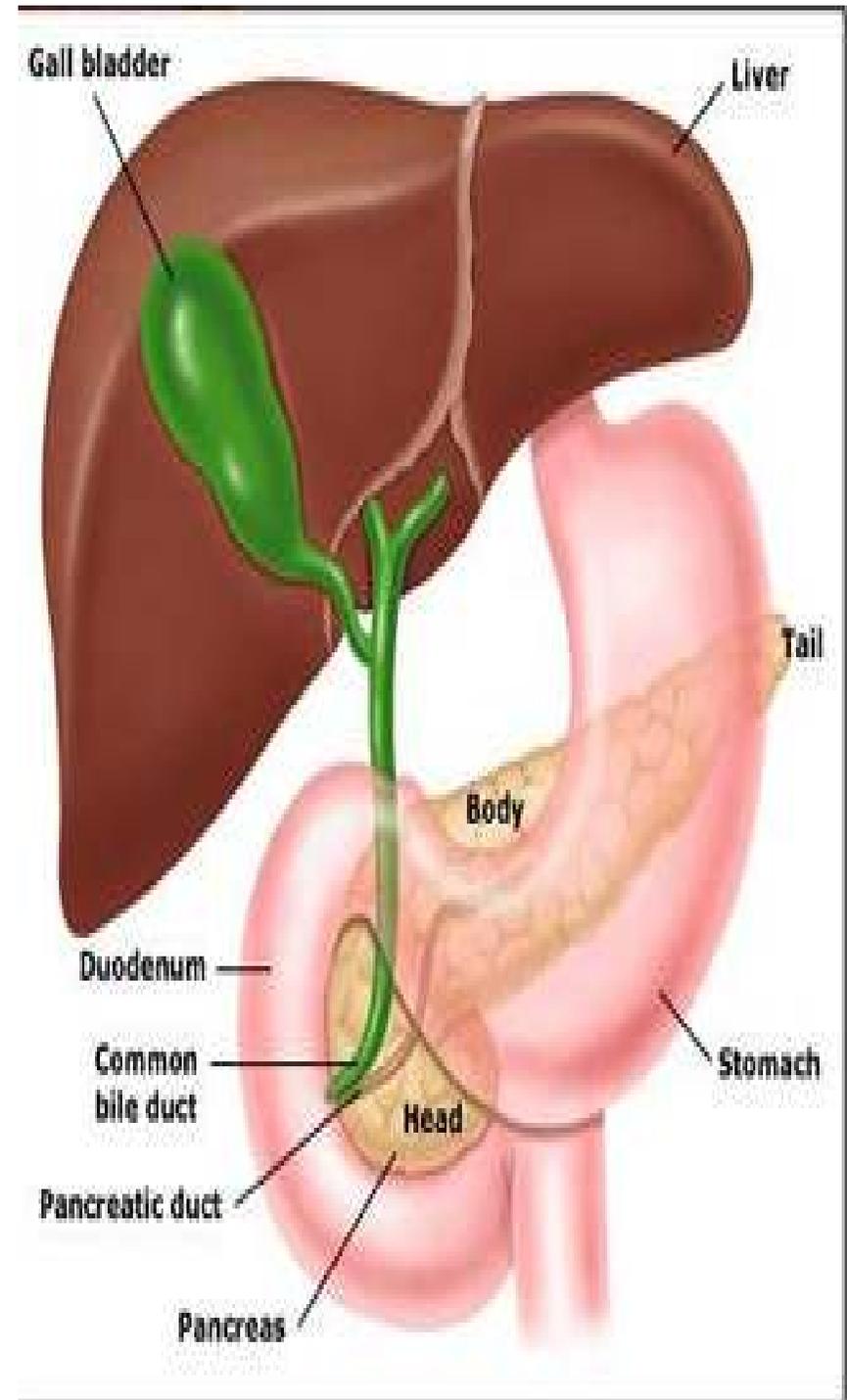
# Bile Ducts of the Liver

- Bile is secreted by liver cells at a constant rate of about 40 mL /hour.
- When digestion is not taking place bile is stored & concentrated in gallbladder.
- The biliary system of the liver consist of:  
RT & LT hepatic ducts, common hepatic duct, common bile duct, gallbladder & cystic duct .



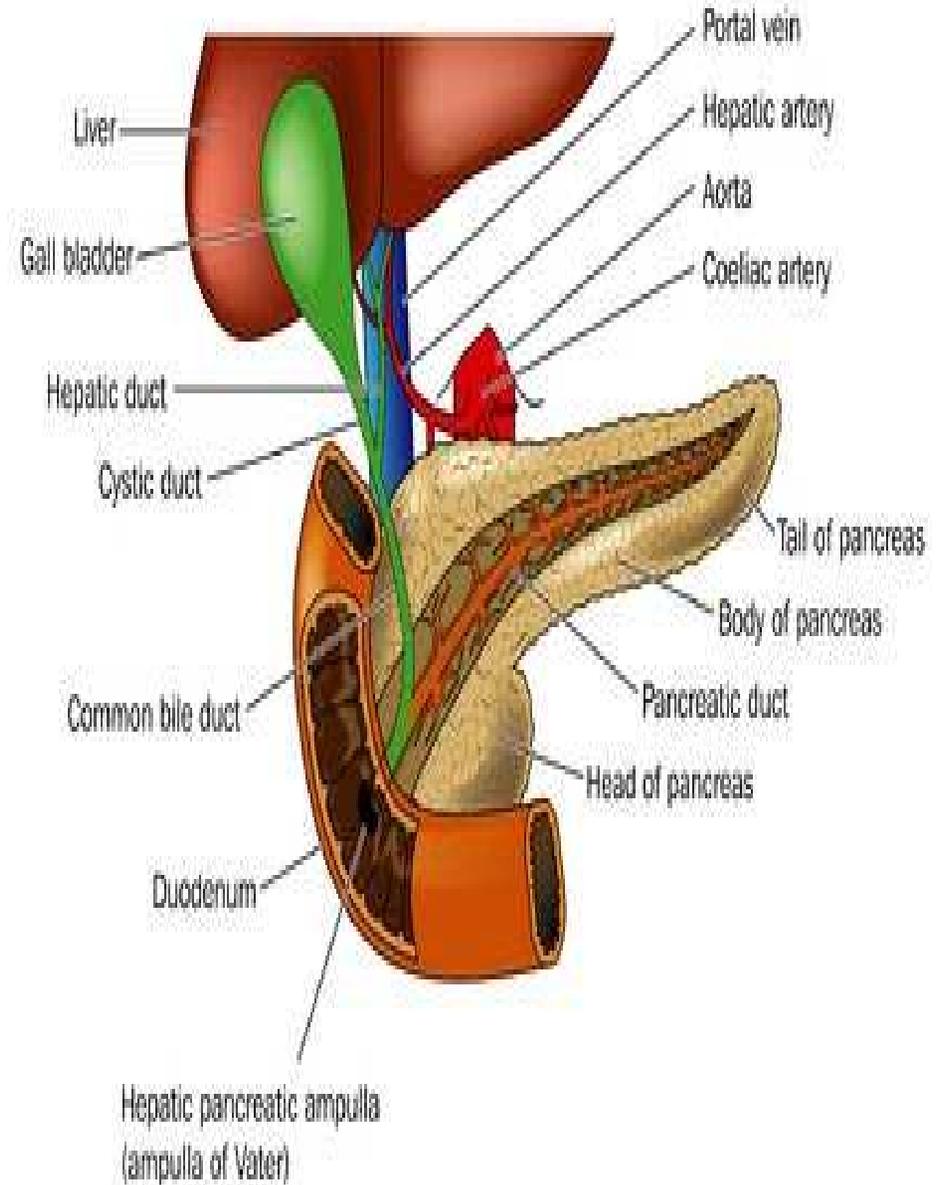
# Hepatic Ducts:

- RT & LT hepatic ducts emerge from RT & LT lobes of liver in porta hepatis .
- Common hepatic duct is about 4 cm long & descends and joined with cystic duct to form common bile duct.



# Common Bile Duct:

- It is 8 cm long.
- In 1<sup>st</sup> part of its course lies in front of portal vein & on right of hepatic artery .
- In 2<sup>nd</sup> part of its course, it is situated behind 1<sup>st</sup> part of duodenum .



➤ In 3<sup>rd</sup> part of its course, it lies on posterior surface of head of pancreas . Here , bile duct comes into contact with main pancreatic duct.

➤ They open into a small ampula in 2<sup>nd</sup> part of duodenal wall named as Ampula Of Vater which surrounded by circular muscle, known as Sphincter Of Oddi.

