

# Duodenum

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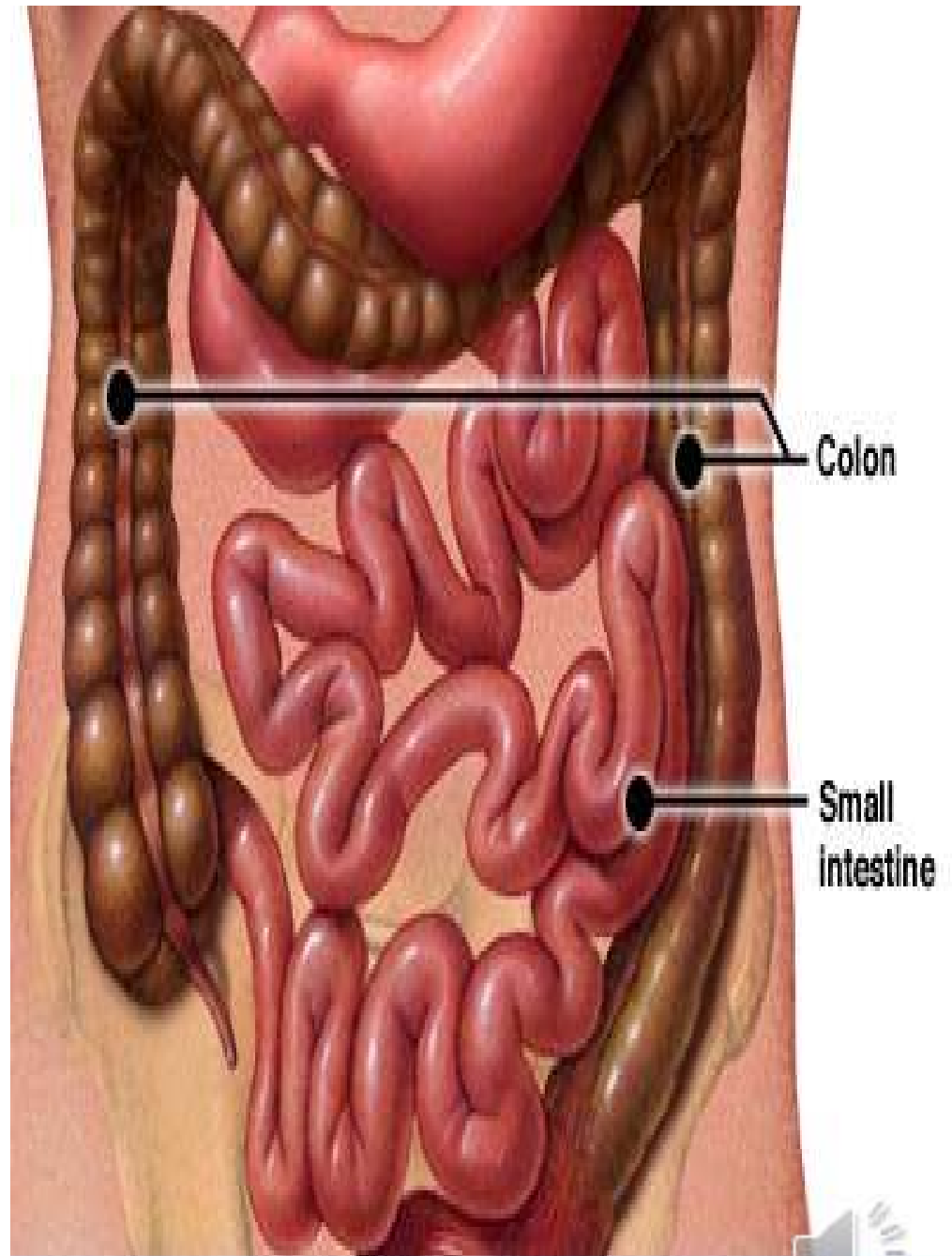


# **Small Intestine:**

**It is longest part of alimentary canal (6 meters) extends from pylorus of stomach to ileocecal junction .**

**The greater part of digestion & food absorption takes place in small intestine.**

- **Duodenum.**
- **jejunum.**
- **ileum.**



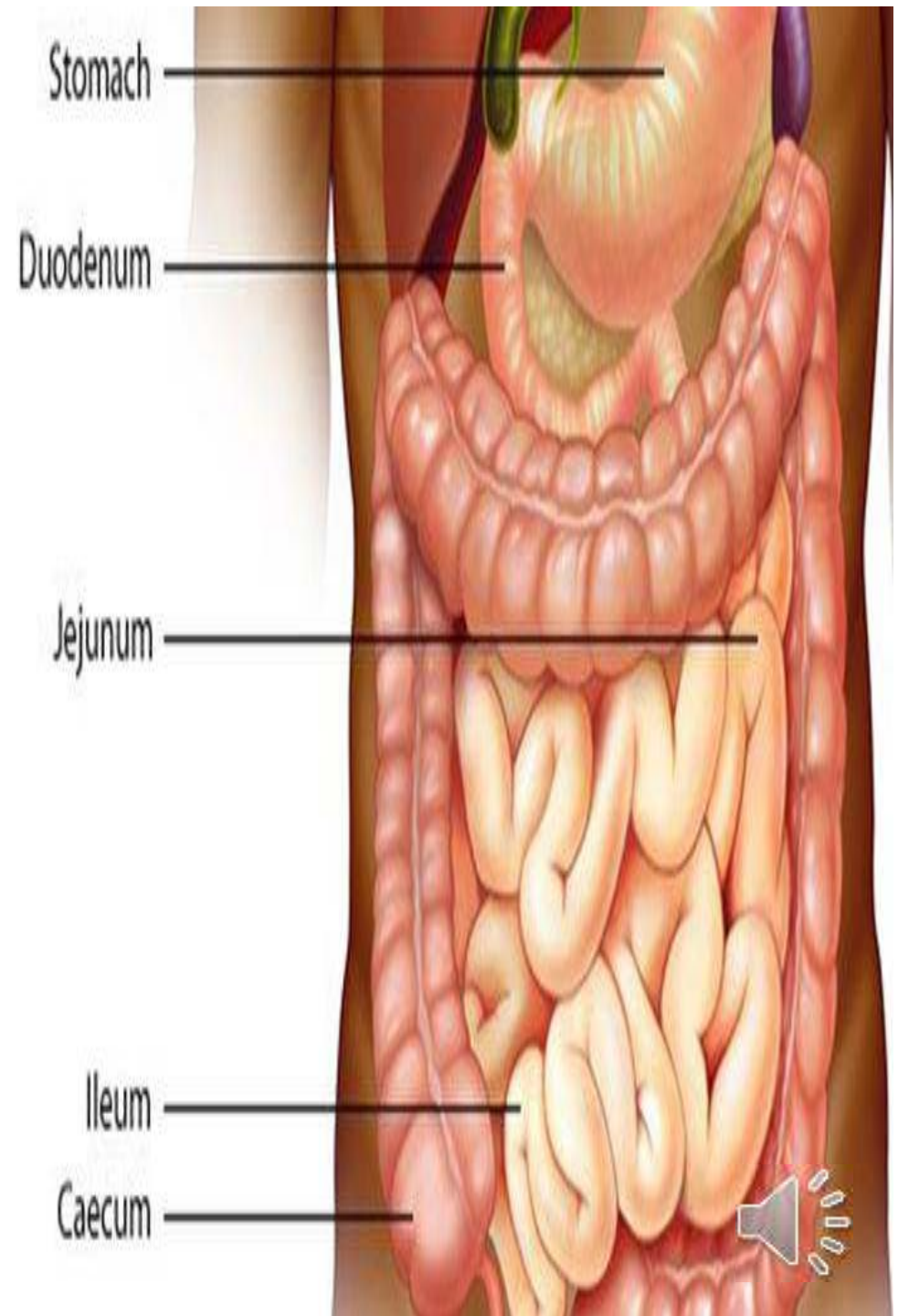
# Duodenum:

## Location :

Epigastric & umbilical region.

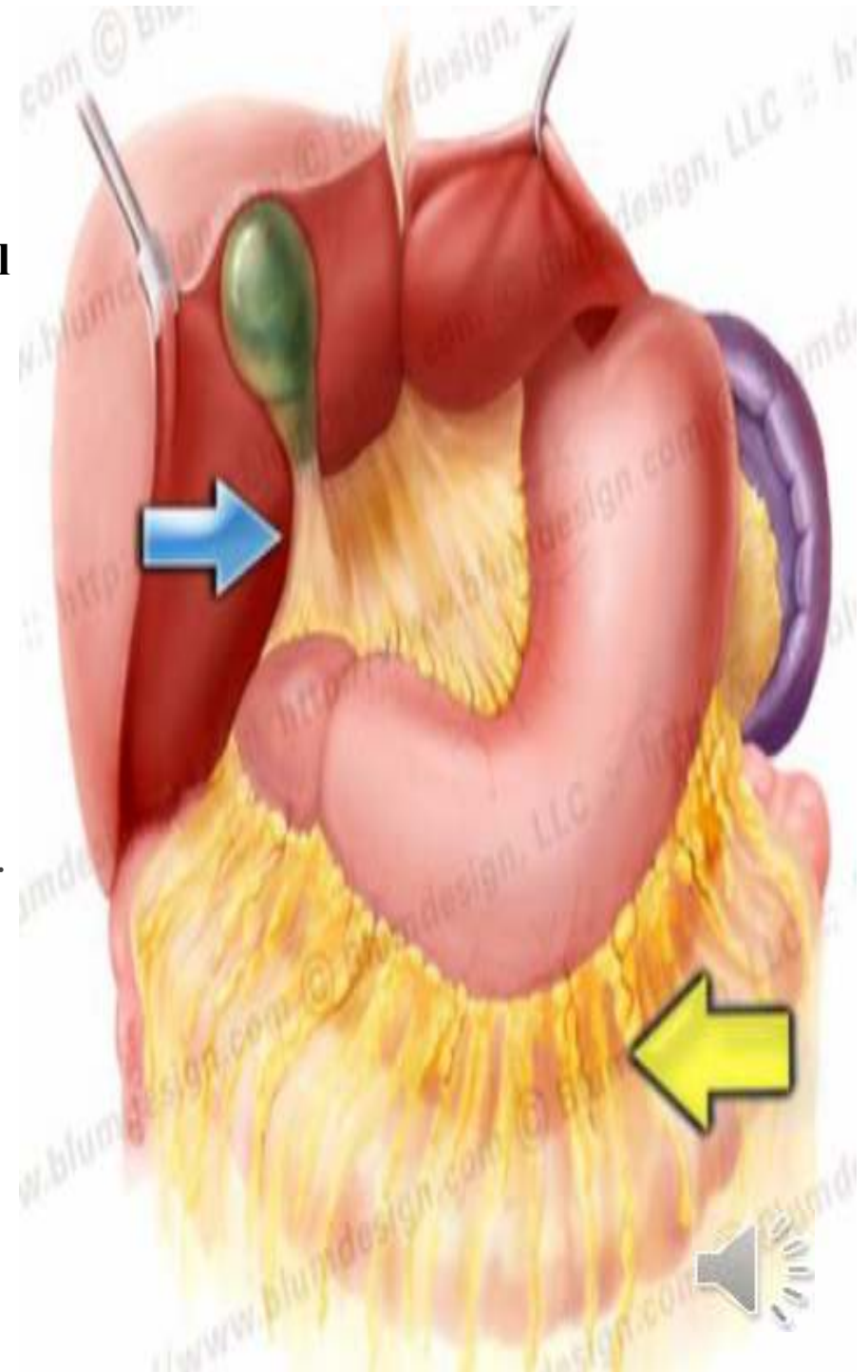
## Description:

- C-shaped tube, 25 cm long.
- Joins the stomach to jejunum.
- It curves around head of pancreas.



# Peritoneal relation:

- **The first 2.5 cm of duodenum is intraperitoneal organ.**
- **Lesser omentum attached to its upper border & greater omentum attached to its lower border.**
- **The remainder of duodenum is retroperitoneal.**





# Parts Of Duodenum:

## ❖ **First part duodenum:**

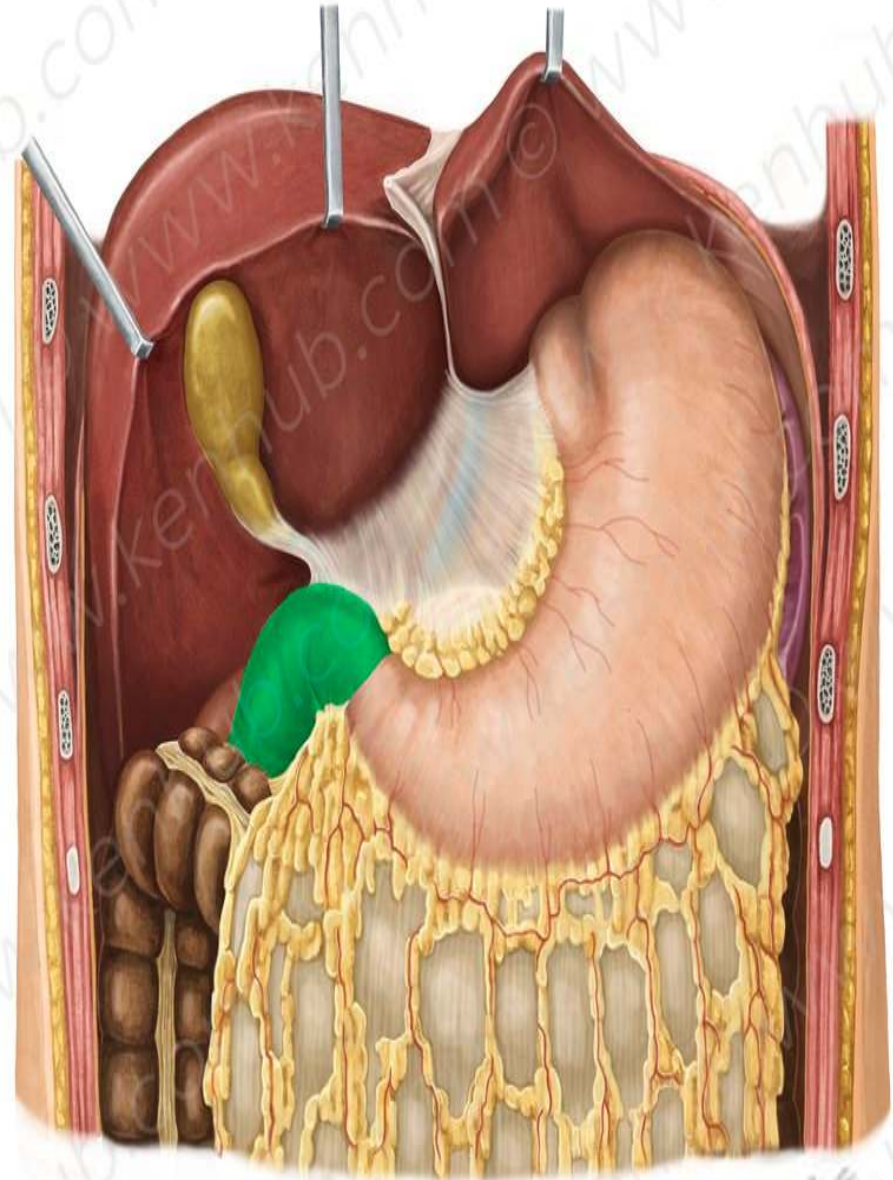
extends from pyloric orifice of stomach to neck of gallbladder.

### **Anteriorly:**

- quadrate lobe of the liver
- gallbladder.

### **Superiorly:**

- epiploic foramen.

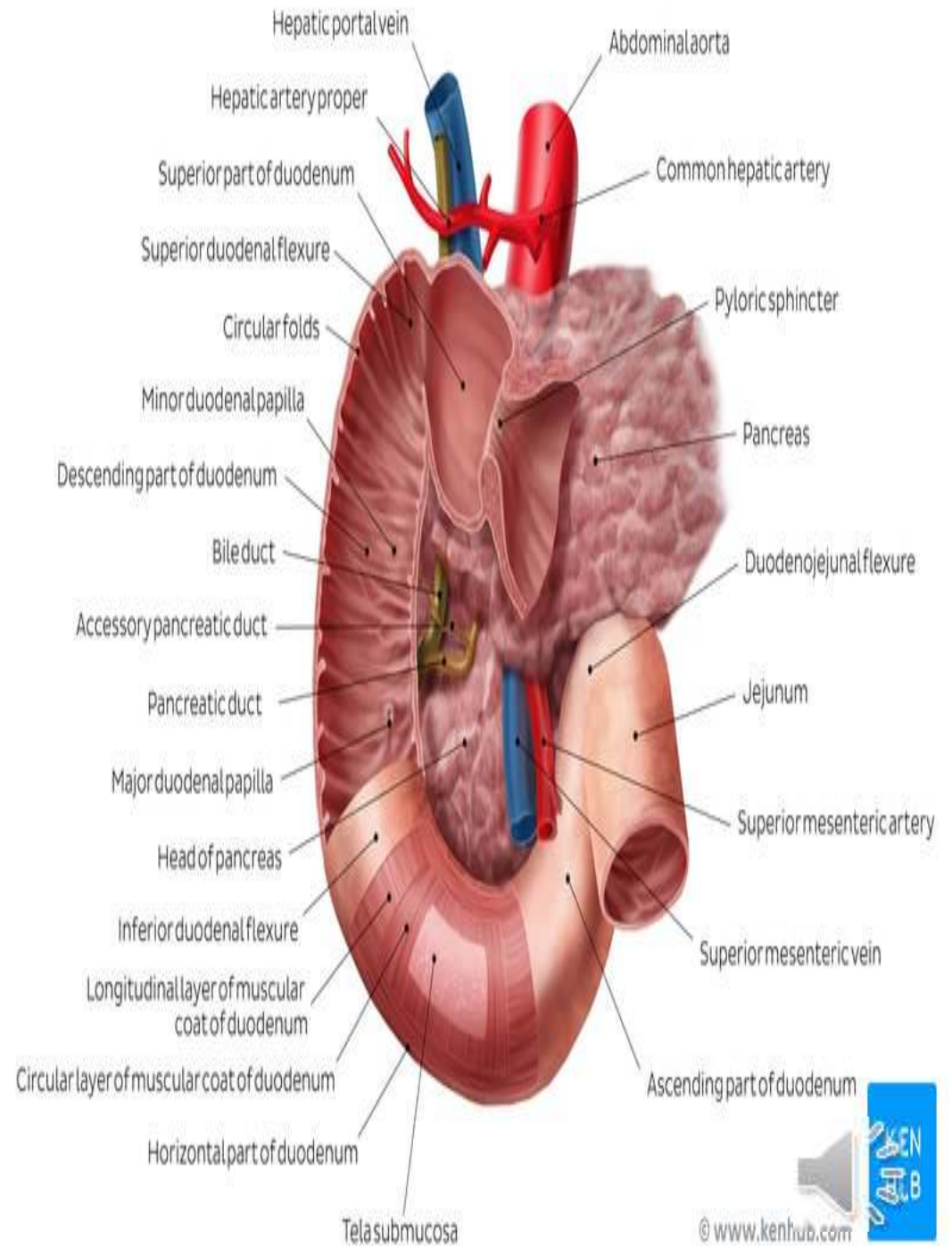


## Inferiorly:

- head of the pancreas.

## Posteriorly:

- The lesser sac (first inch only).
- gastroduodenal artery.
- bile duct ,portal vein and inferior vena cava

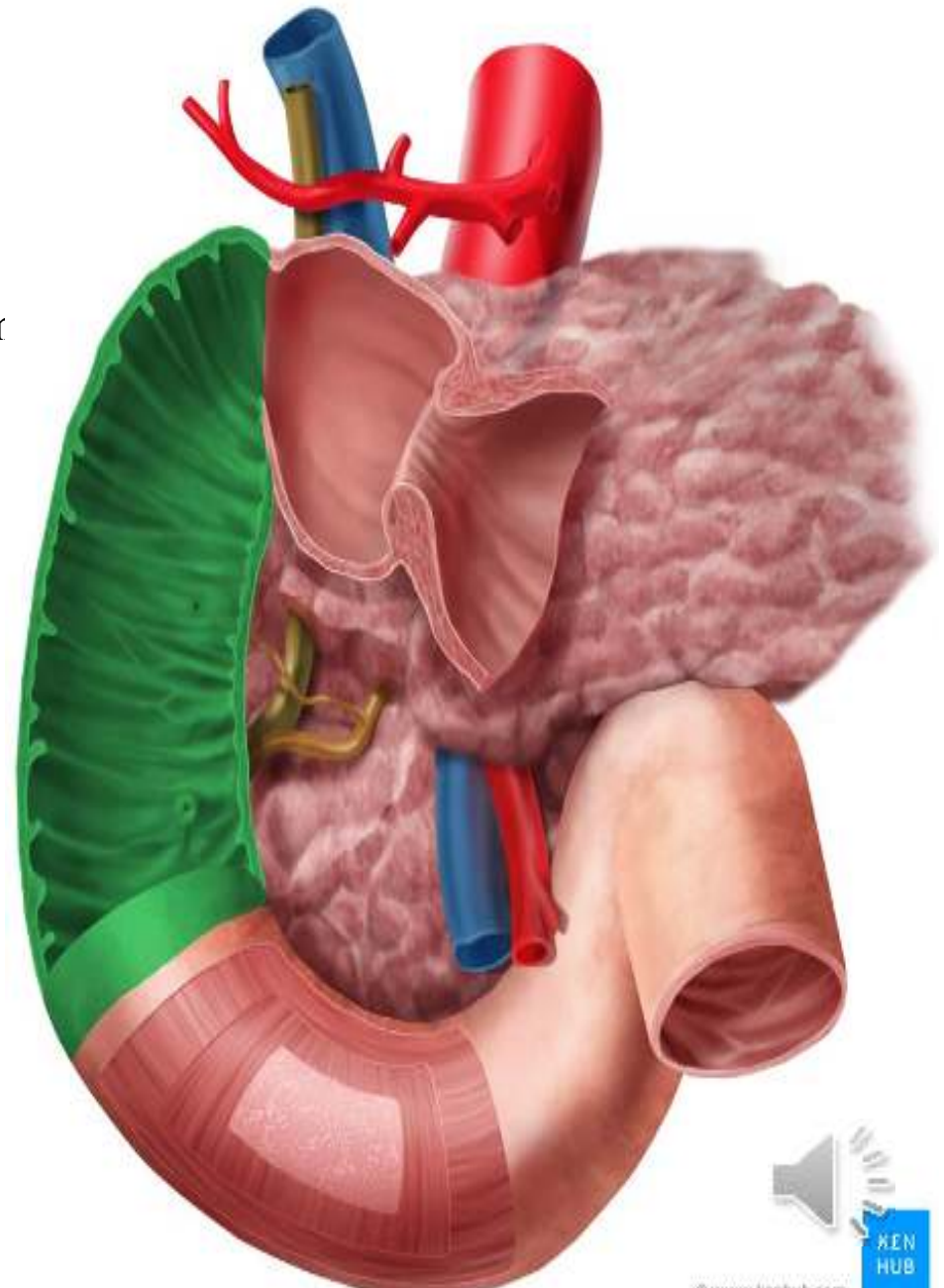


## ❖ **Second Part of the Duodenum:**

**It runs vertically downward in front of hilum of right kidney.**

**At halfway on its medial border both bile duct & main pancreatic duct they unite to form ampulla that opens as major duodenal papilla**

**The accessory pancreatic duct, if present, opens a little higher up on minor duodenal papilla .**





**Anteriorly:**

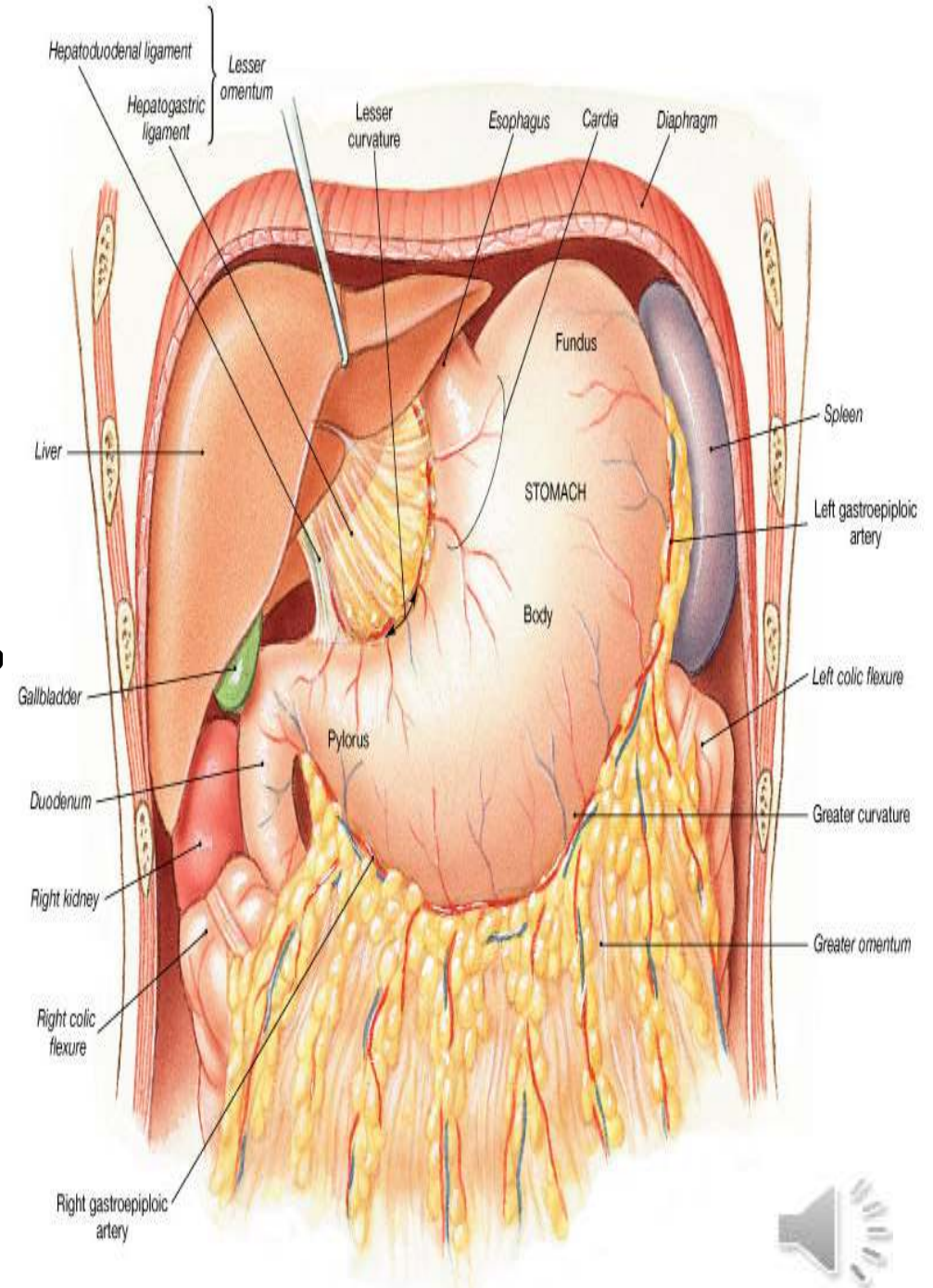
**Fundus of gallbladder & RT lobe of liver,  
transverse colon & coils of small intestine .**

**Posteriorly:**

**Hilum of RT kidney & RT ureter.**

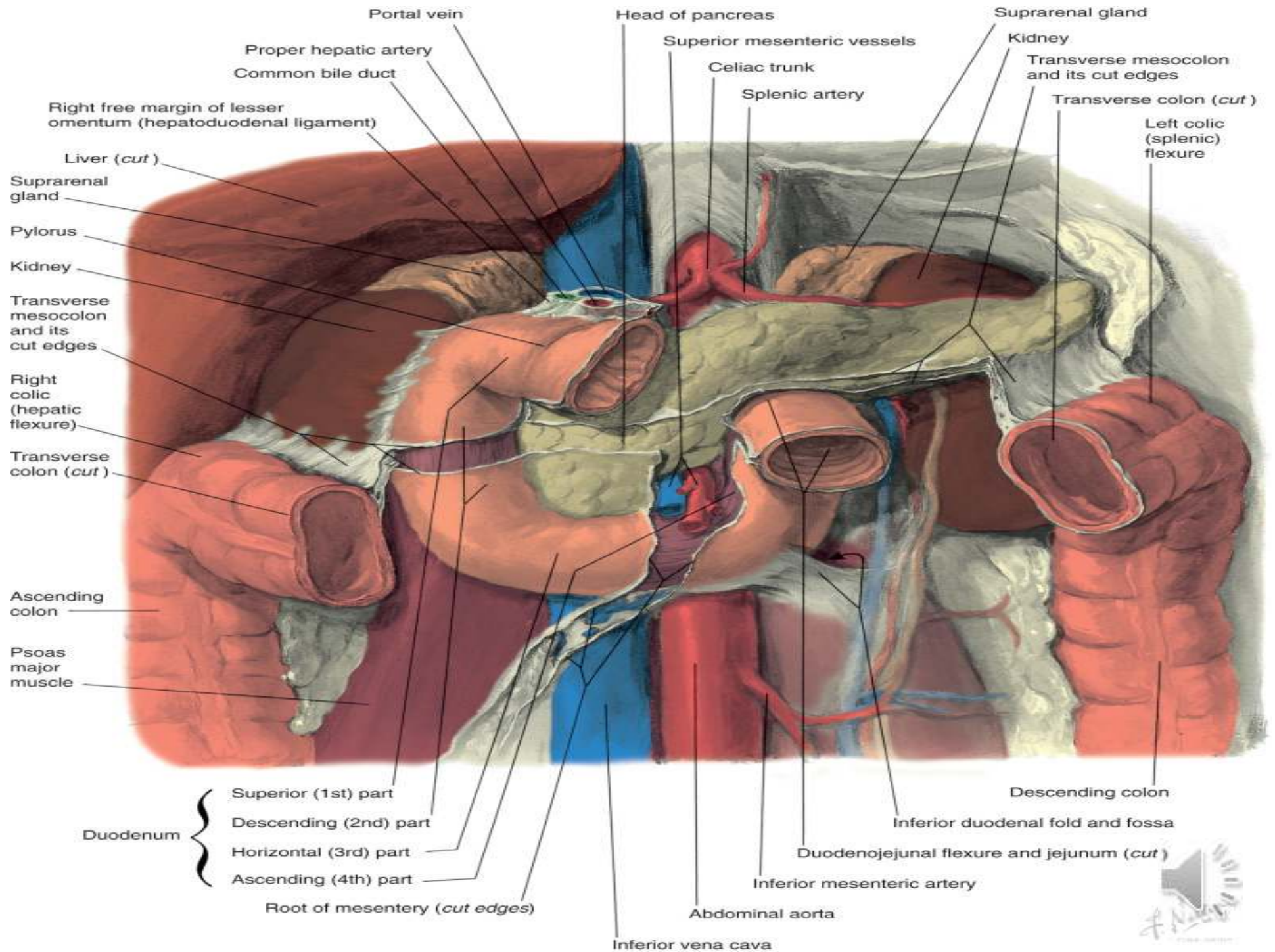
**Laterally:**

**Ascending colon, RT colic flexure & RT lobe  
of liver.**



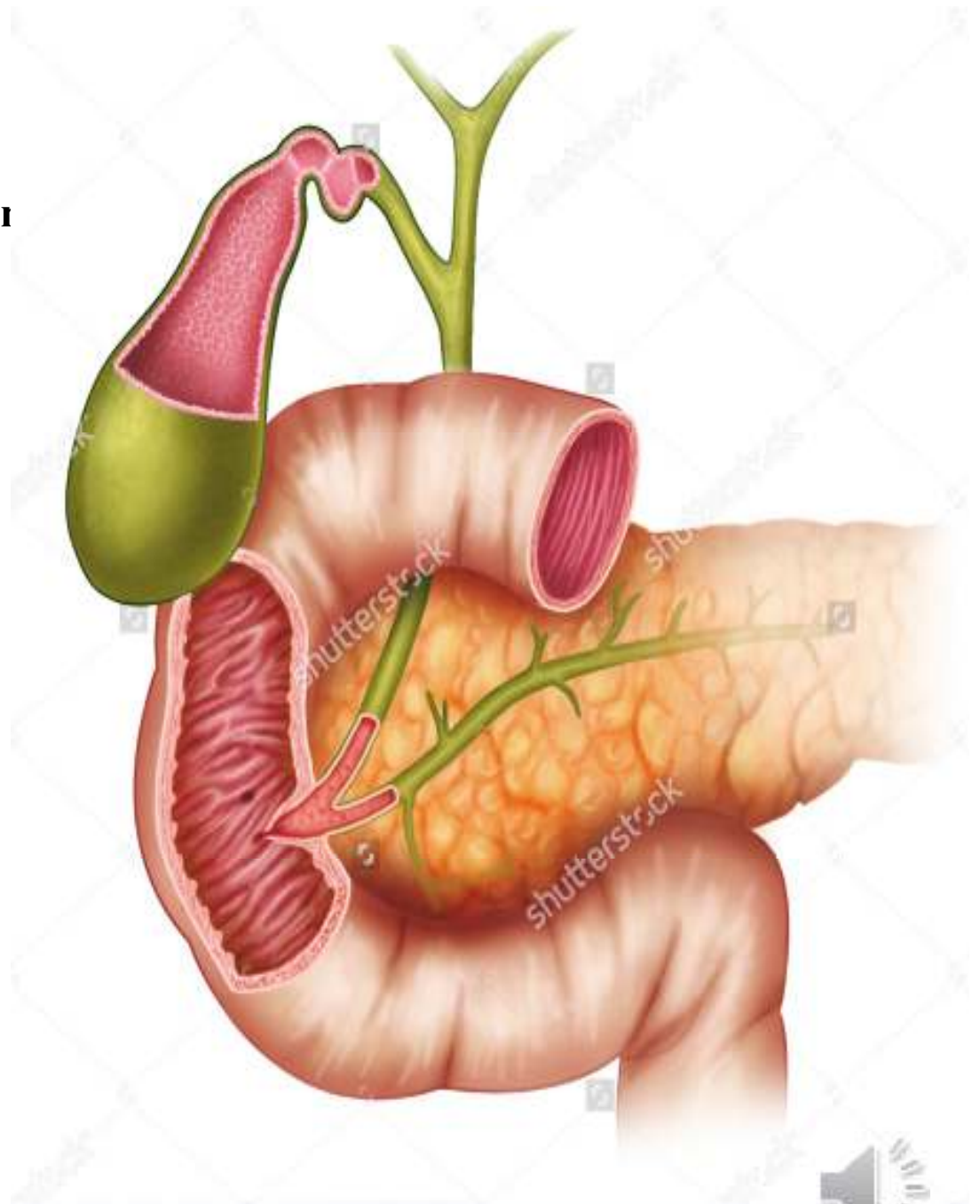
(a) Stomach, anterior view





**Medially:**

**Head of pancreas, bile duct & main pancreatic duct**



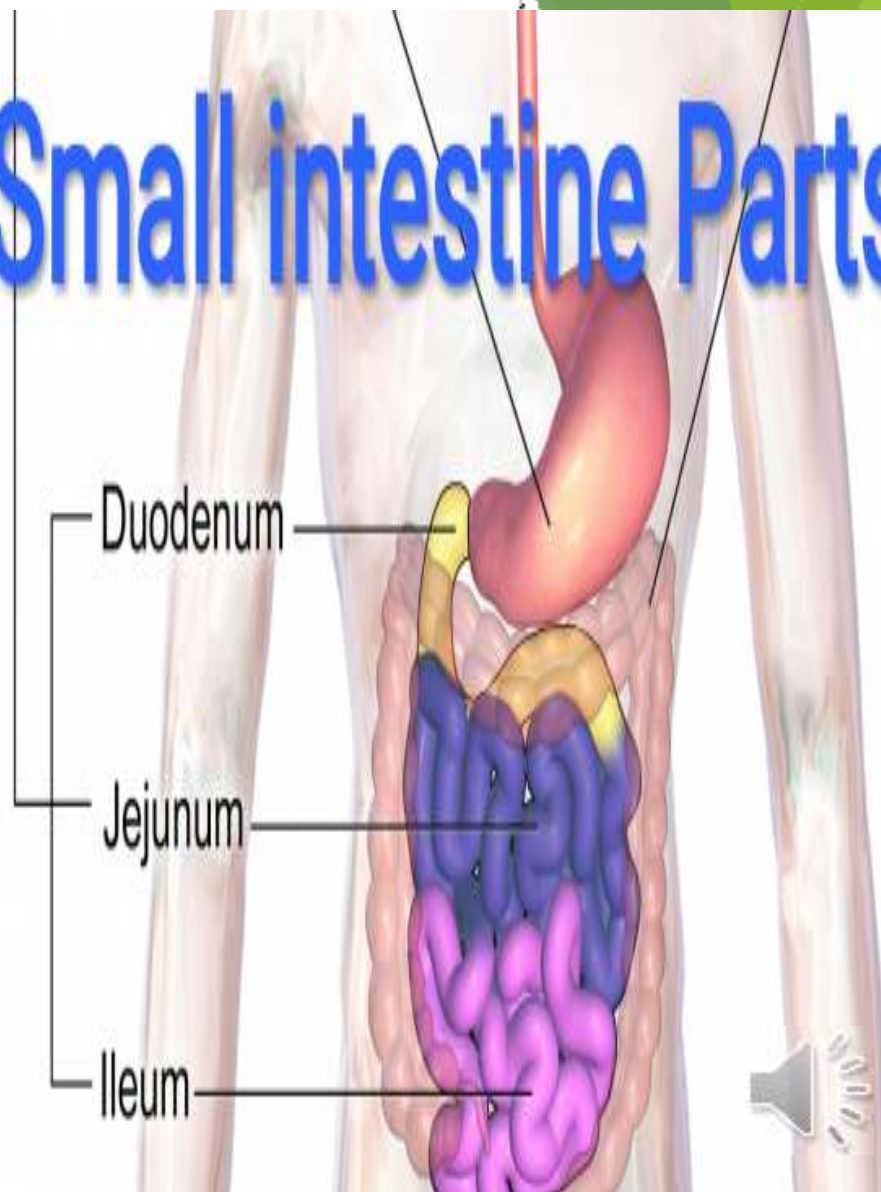
## ❖ Third Part of the Duodenum:

It runs horizontally to left & passing in front of vertebral column.

### Anteriorly:

- The root of mesentery of small intestine.
- superior mesenteric vessels.
- coils of jejunum.

## Small intestine Parts





**Posteriorly:**

**The right ureter.**

**The right psoas muscle.**

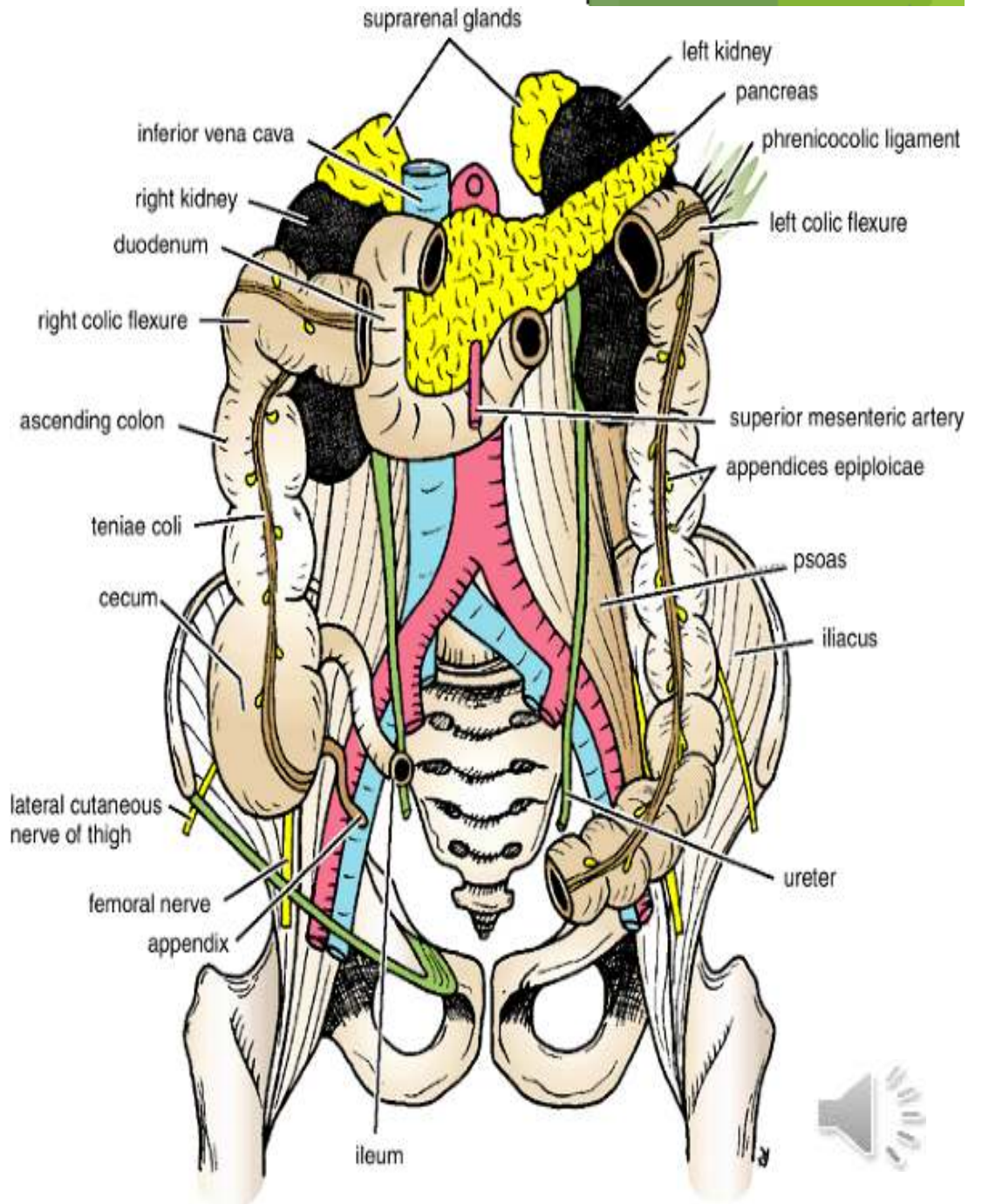
**Inferior vena cava & aorta .**

**Superiorly:**

**The head of the pancreas**

**Inferiorly:**

**Coils of jejunum**





## ❖ Fourth Part of the Duodenum:

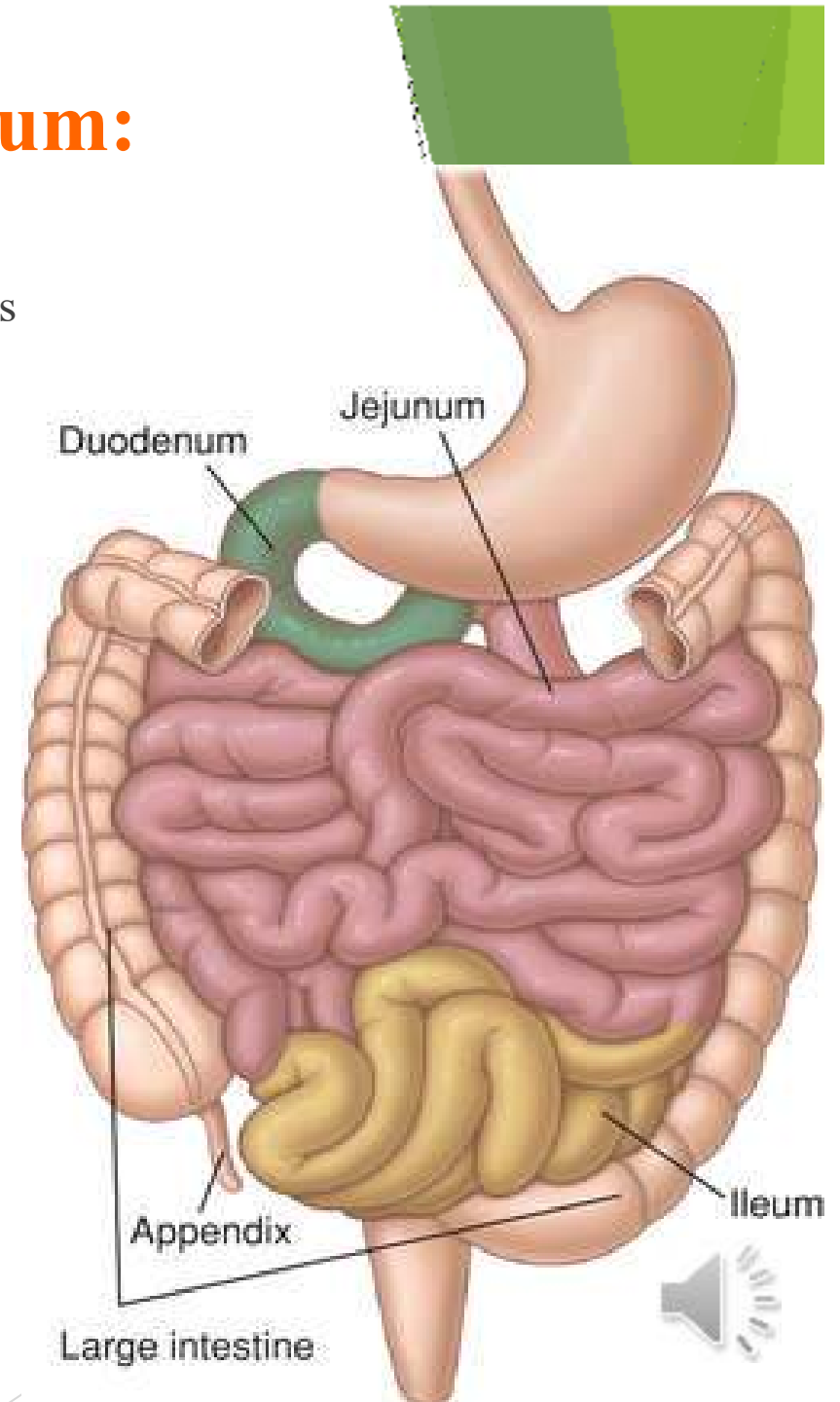
It runs upward & to left. The flexure is held in position by a peritoneal fold ligament of Treitz which is attached to right crus of diaphragm.

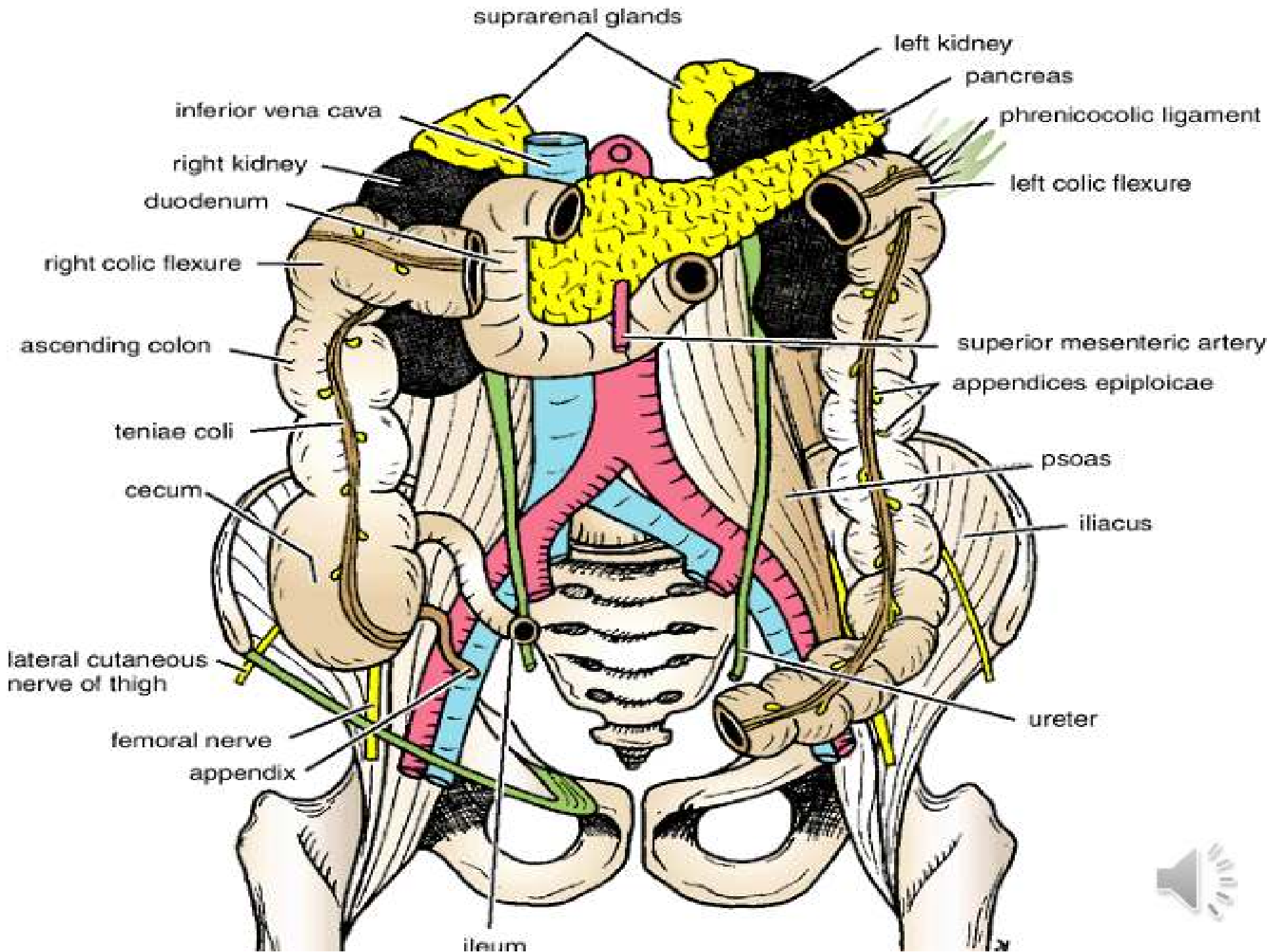
### Anteriorly:

Root of mesentery & coils of jejunum

### Posteriorly:

- aorta.
- left psoas muscle





# Blood Supply:

## Arteries:

1) Upper half :superior

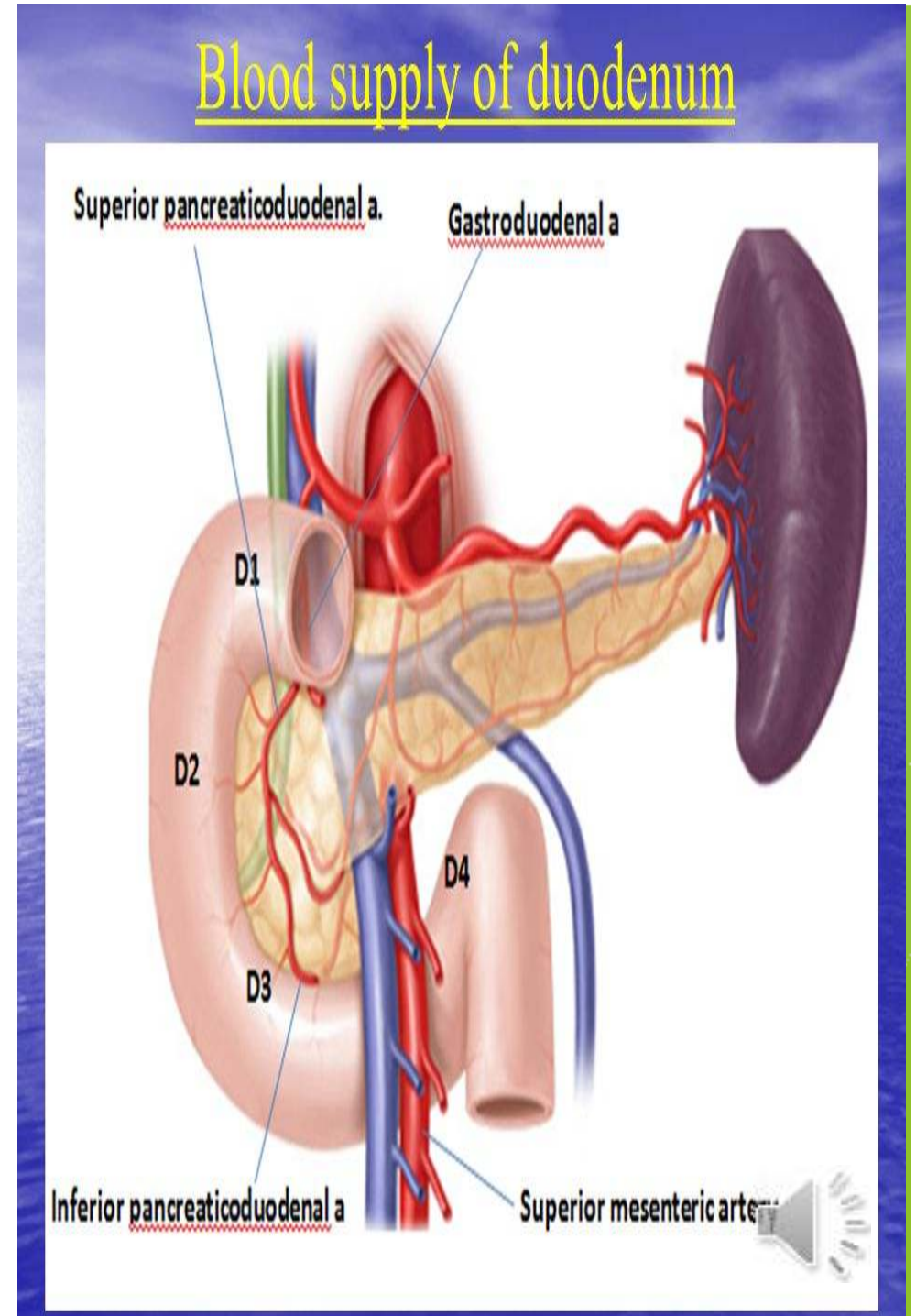
pancreaticoduodenal artery

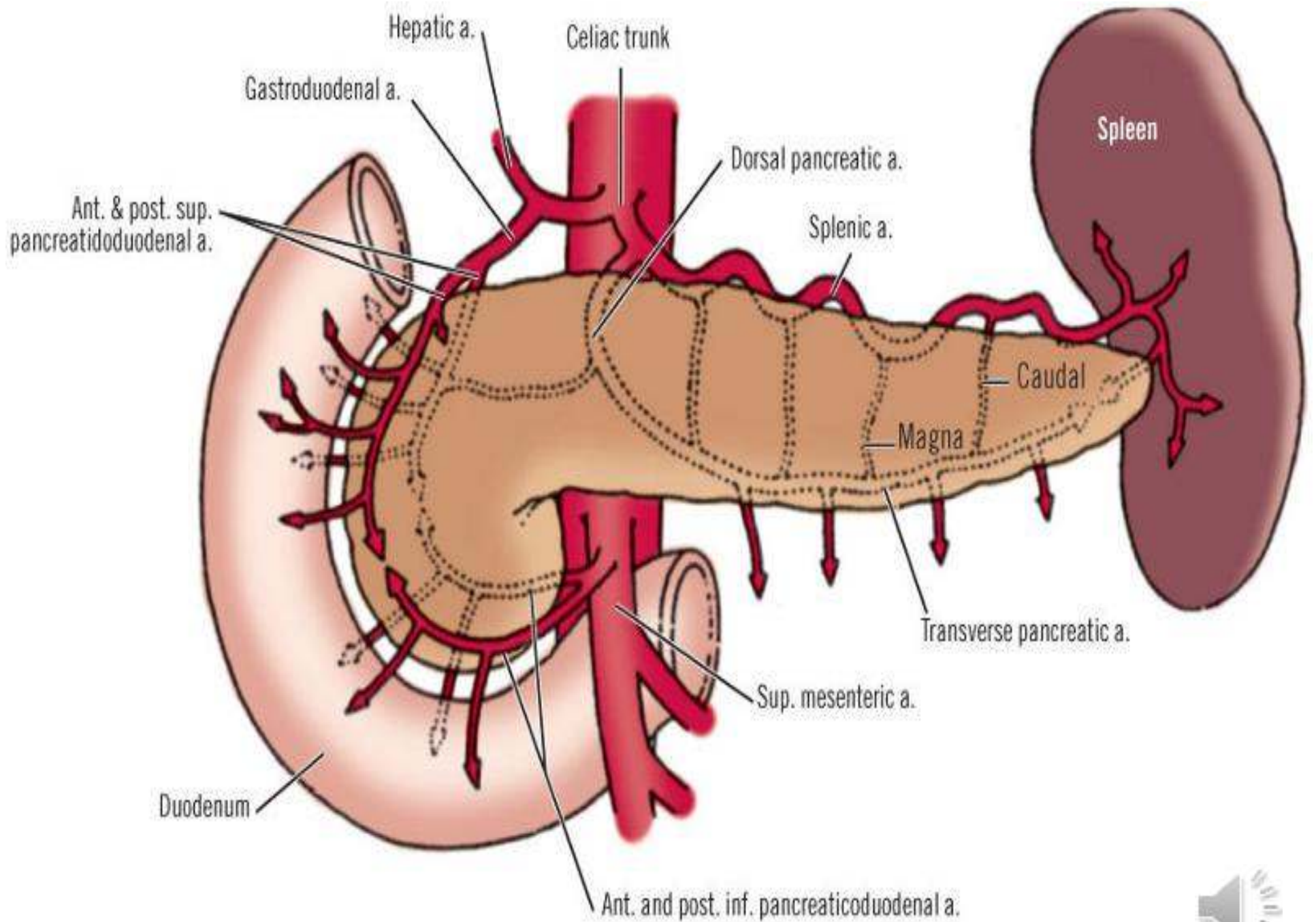
(branch of the gastroduodenal artery )

2) Lower half :inferior pancreaticoduodenal

artery (branch of superior mesenteric

artery).







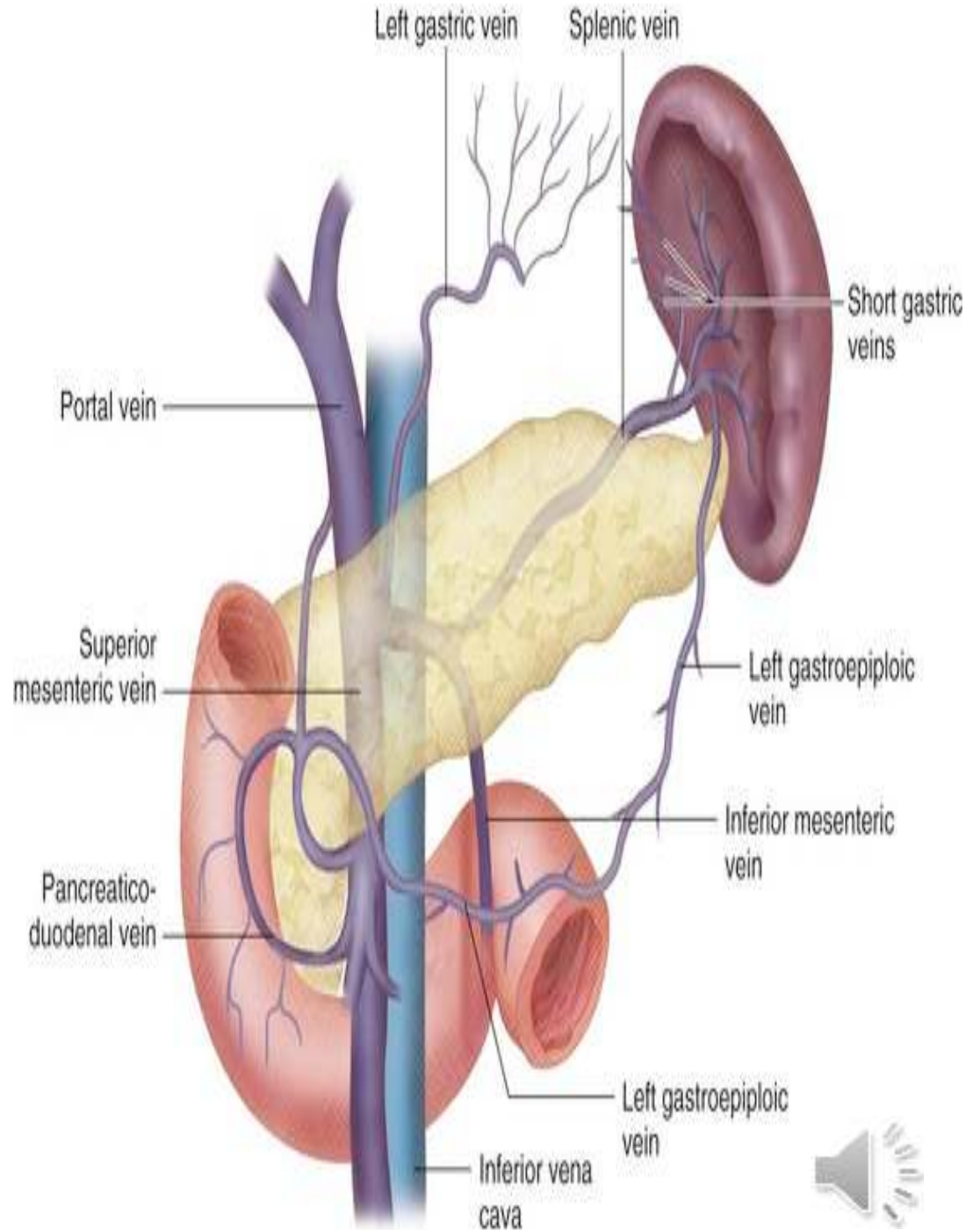
# Veins:

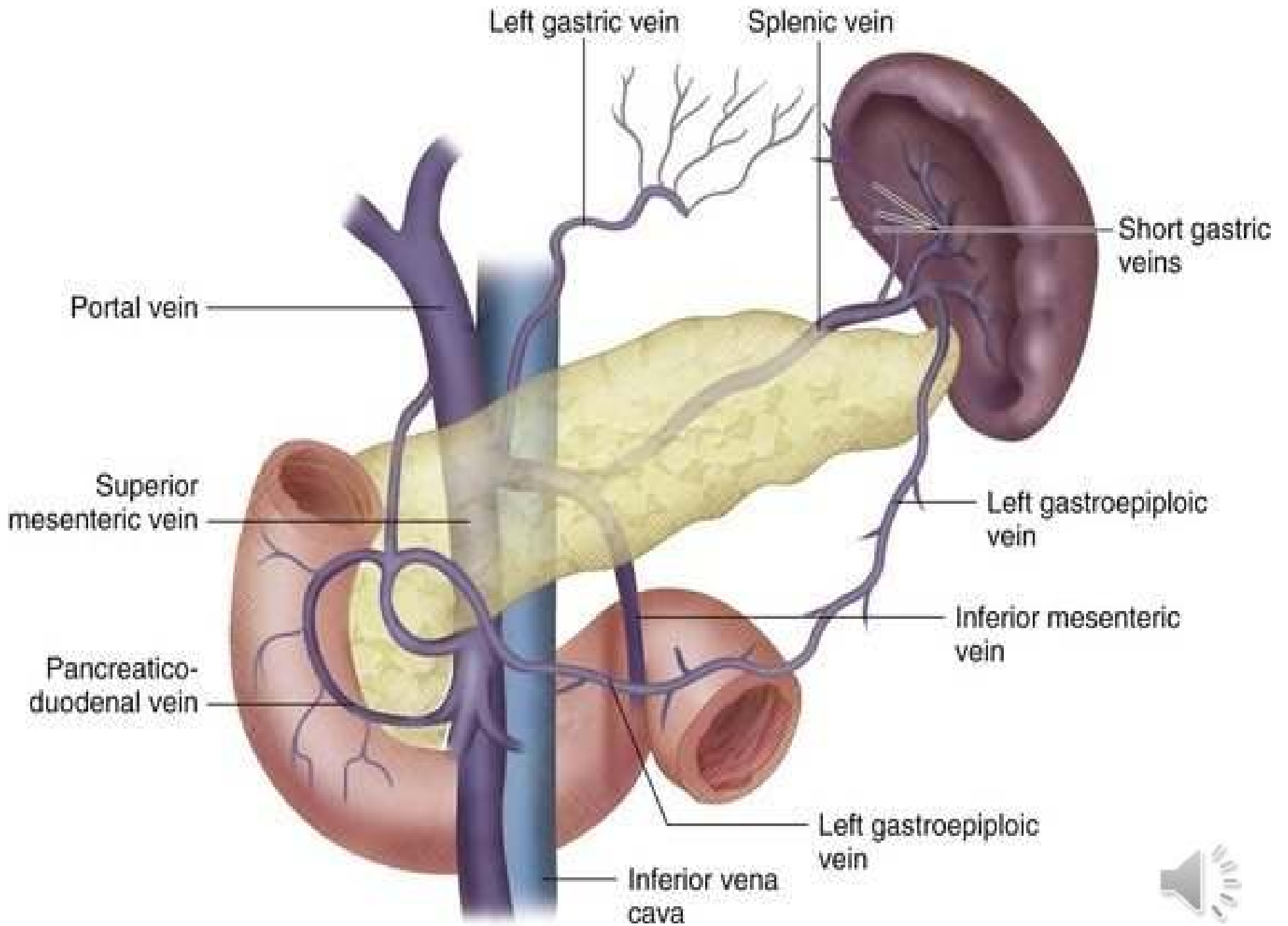
1) Superior pancreaticoduodenal vein

drains into portal vein.

2) Inferior pancreaticoduodenal vein :

joins superior mesenteric vein.



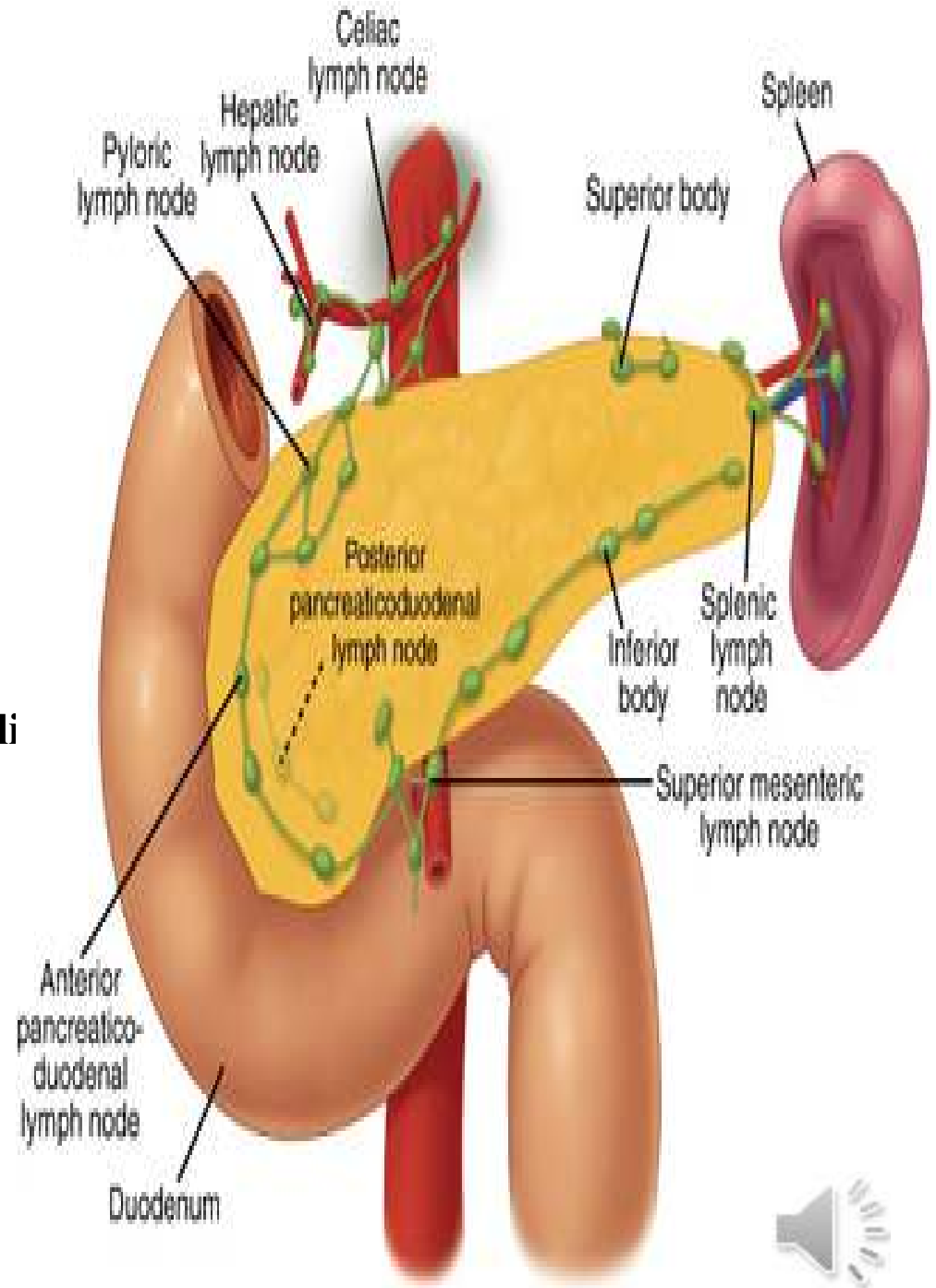


# Lymph Drainage

- Upward : celiac nodes.
- Downward : superior mesenteric nodes.

## Nerve Supply:

- 1) sympathetic.
- 2) Parasympathetic: (vagus) nerves from celi & superior mesenteric plexuses.



# Mucous Membrane and Duodenal Papillae:

- ❖ The mucous membrane of the duodenum is **thick.**
- ❖ In 1<sup>ST</sup> part of duodenum it is smooth. In the remainder of duodenum it is thrown into numerous circular folds called **plicae circulares.**
- ❖ The accessory pancreatic duct, if present, opens into duodenum on a smaller papilla about 1.9 cm above major duodenal papilla

