THE BLOOD SUPPLY OF GIT

Coeliac Trunk

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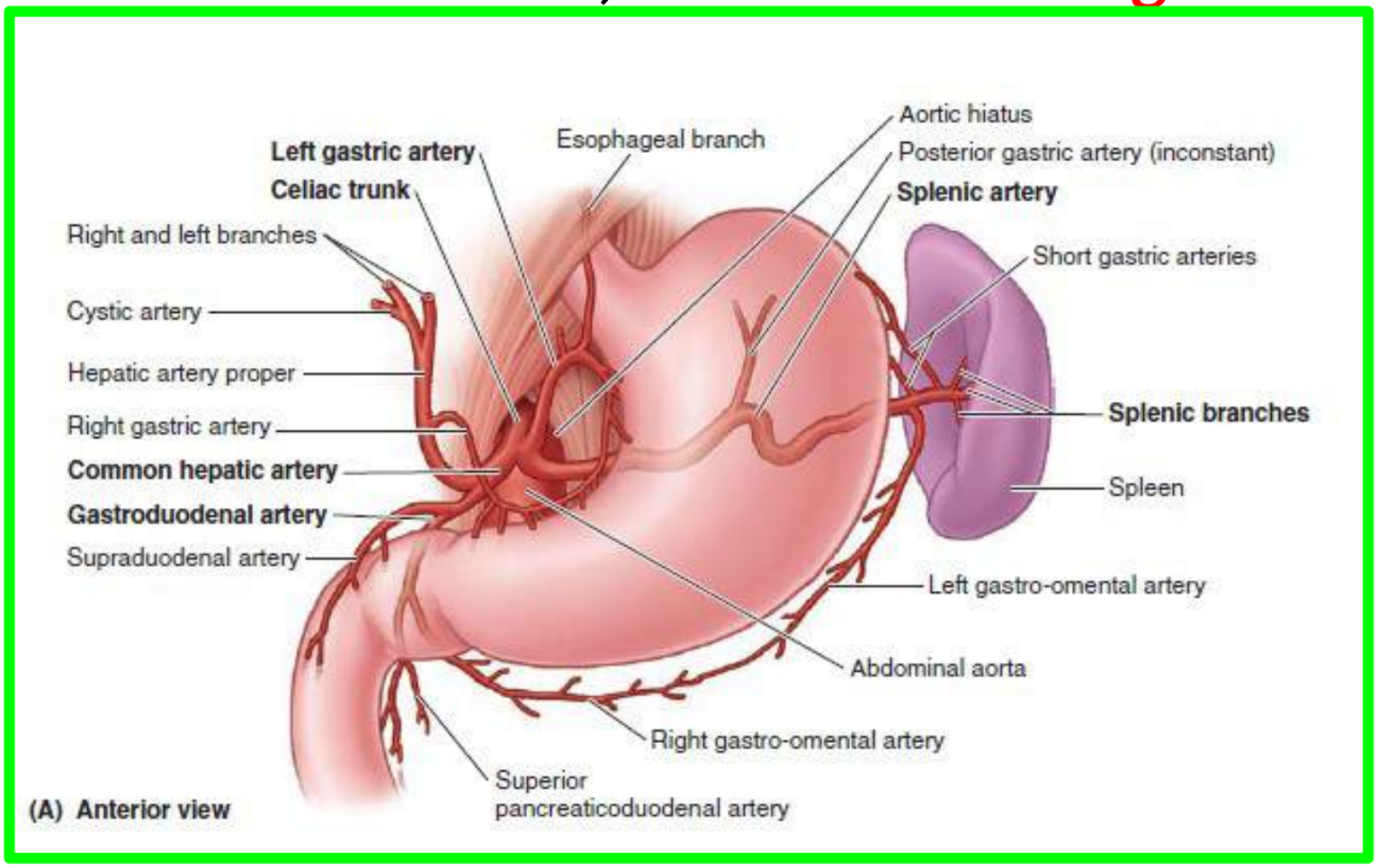
Wednesday 16 April 2025

Coeliac Trunk

- This is the artery of the foregut.

** **Origin:** from the front of the abdominal aorta at the level of the T12.

** **Course:** it is a very short and wide arterial trunk, about one cm long.



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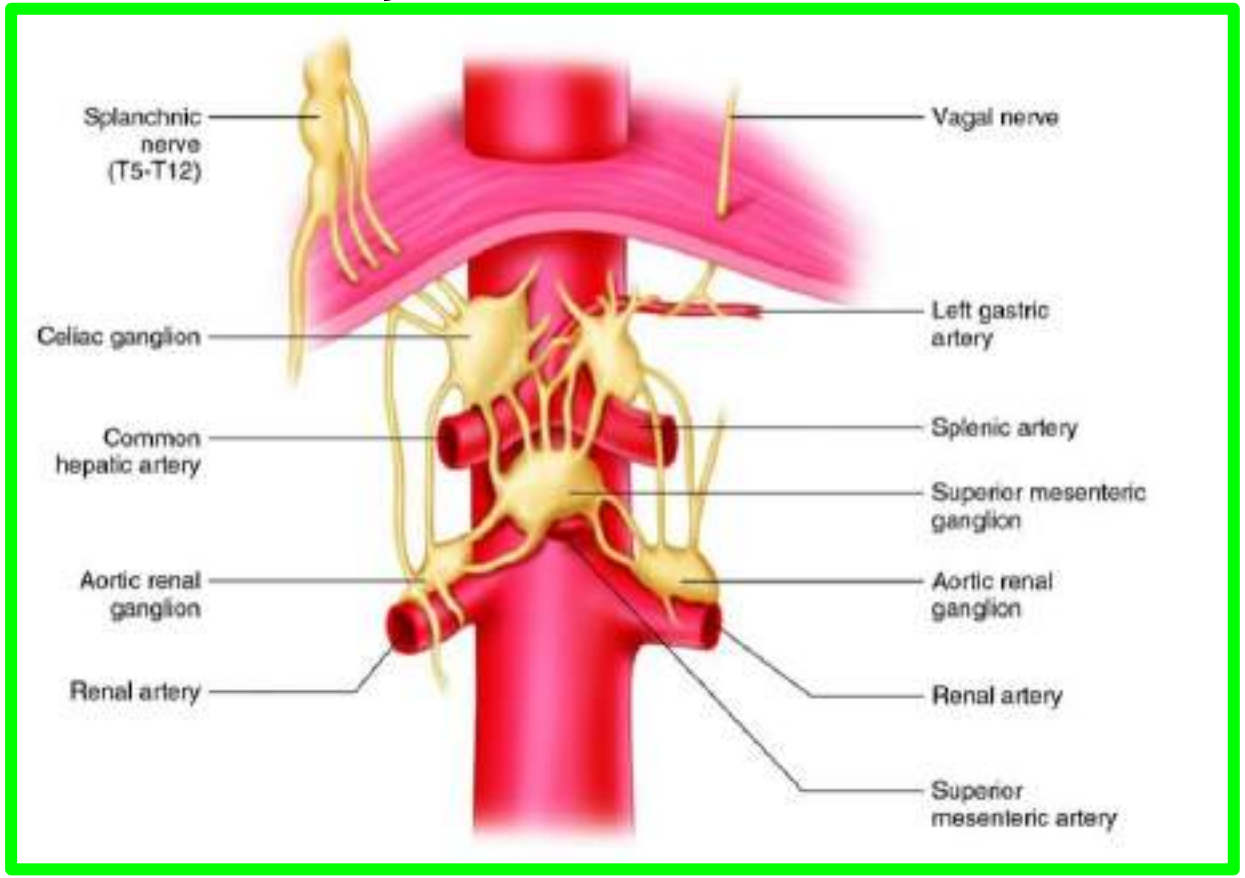
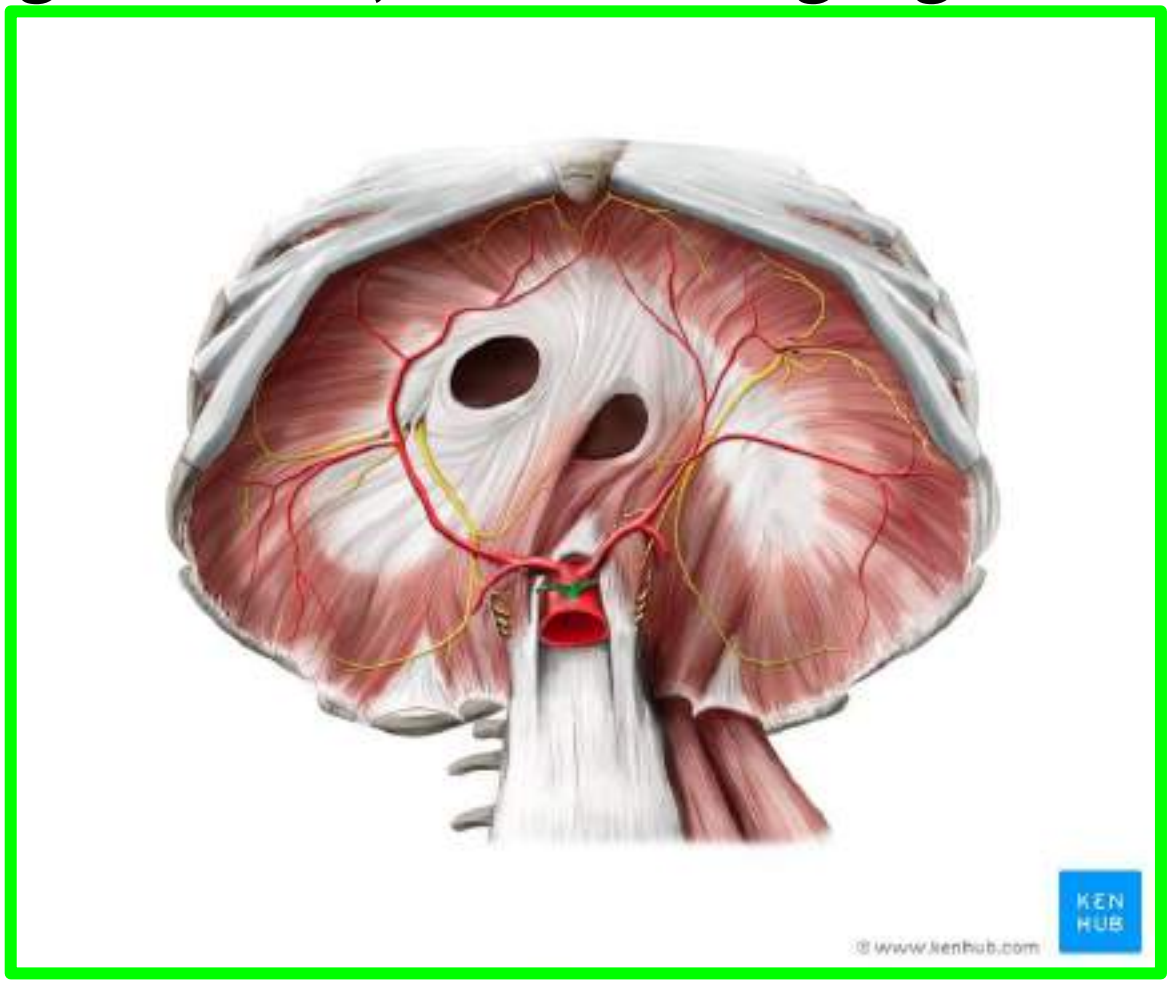
** Relations:

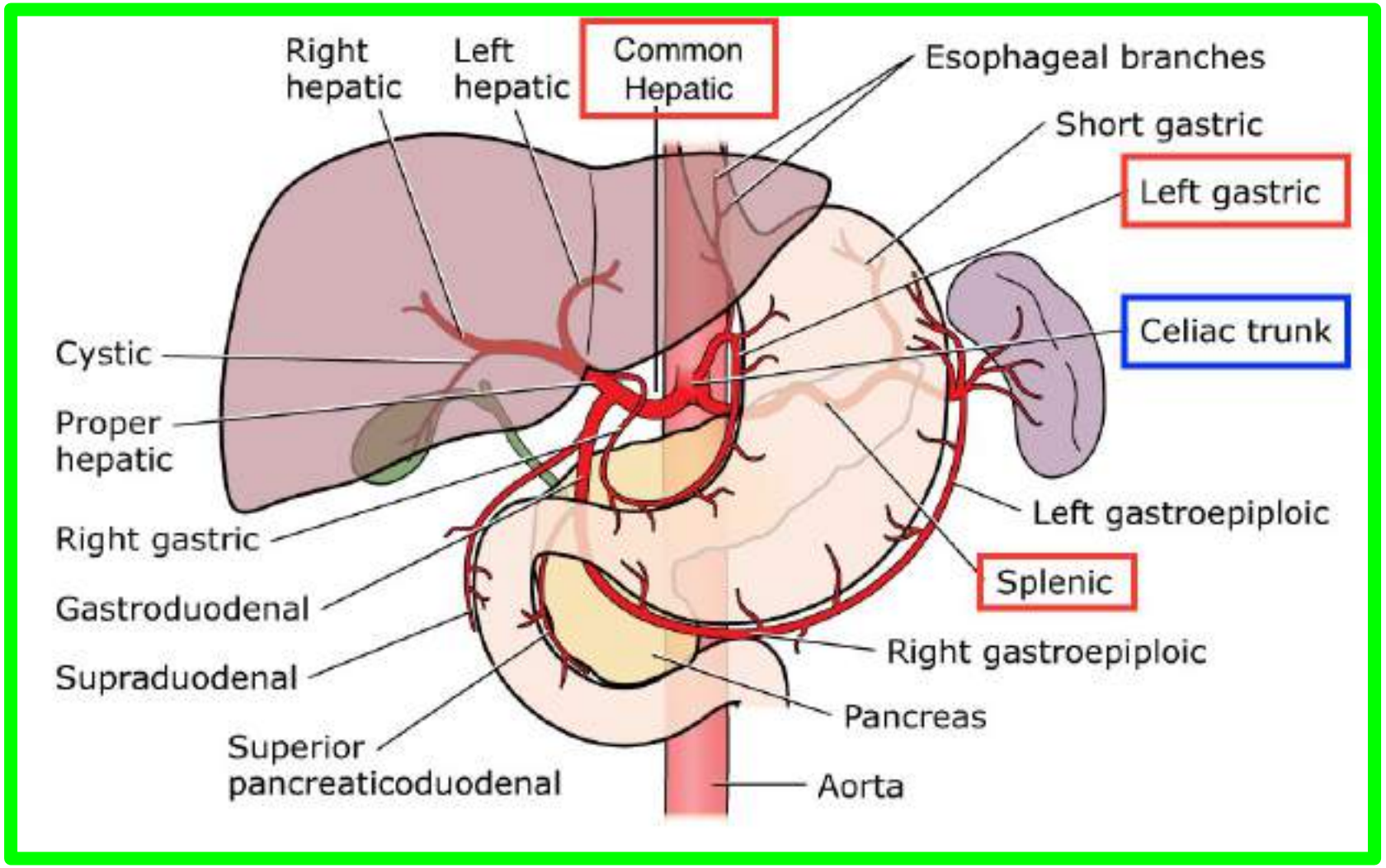
- On the right side: 1) Right crus of diaphragm 2) Right coeliac ganglion.
- On the left side: 1) Left crus of diaphragm. 2) Left coeliac ganglion.
- Anteriorly: lesser sac.





Coeliac Trunk

** Branches: 1. Left gastric artery. 2. Common Hepatic artery. 3. Splenic artery.



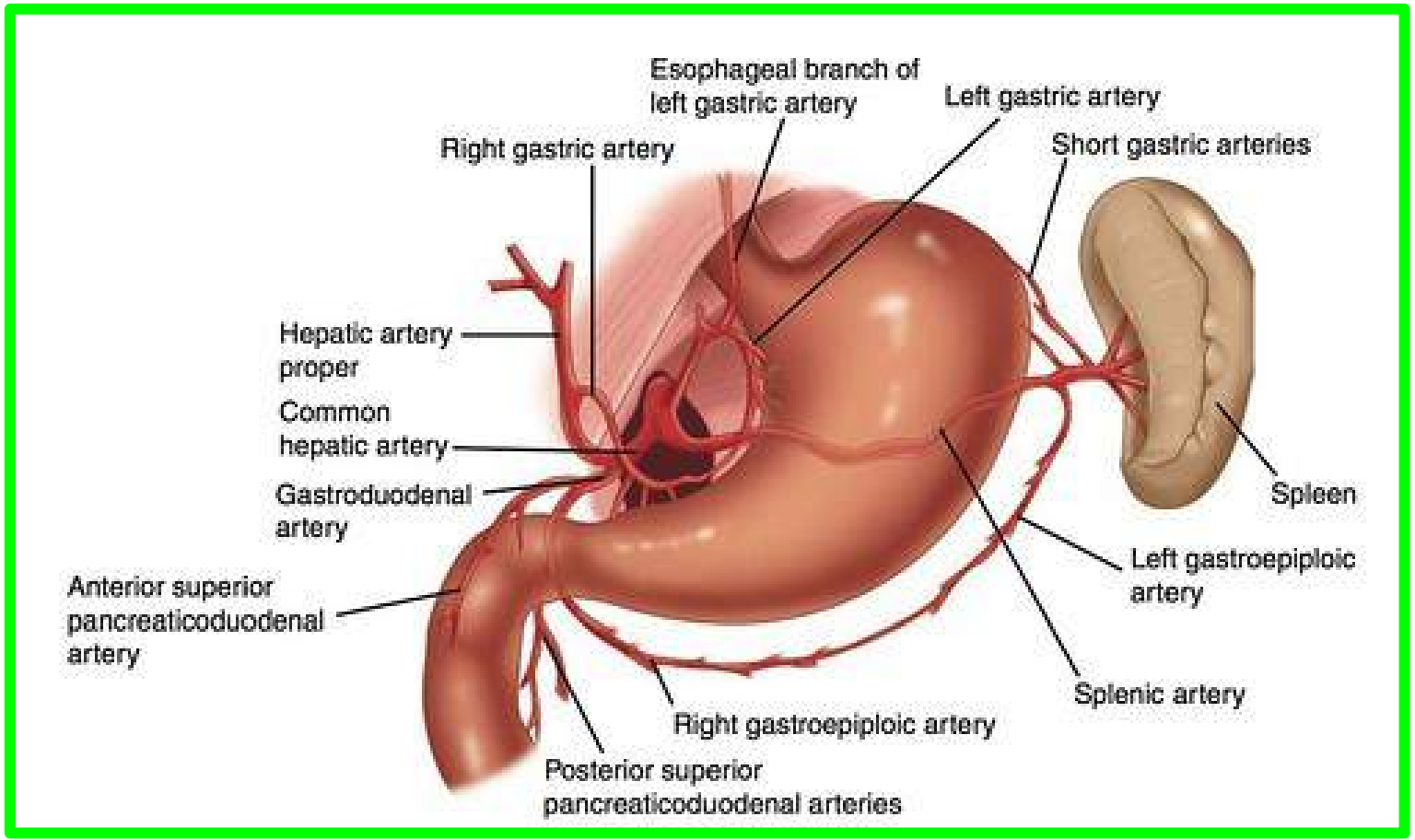
Coeliac Trunk

1. Left Gastric Artery

** **Origin:** this is the smallest branch of the coeliac trunk.

** **Course:** it ascends upwards and to the left behind the lesser sac to reach the lower end of the esophagus.

- ✓ Then, it descends along the lesser curvature of the stomach between the two layers of the lesser omentum.



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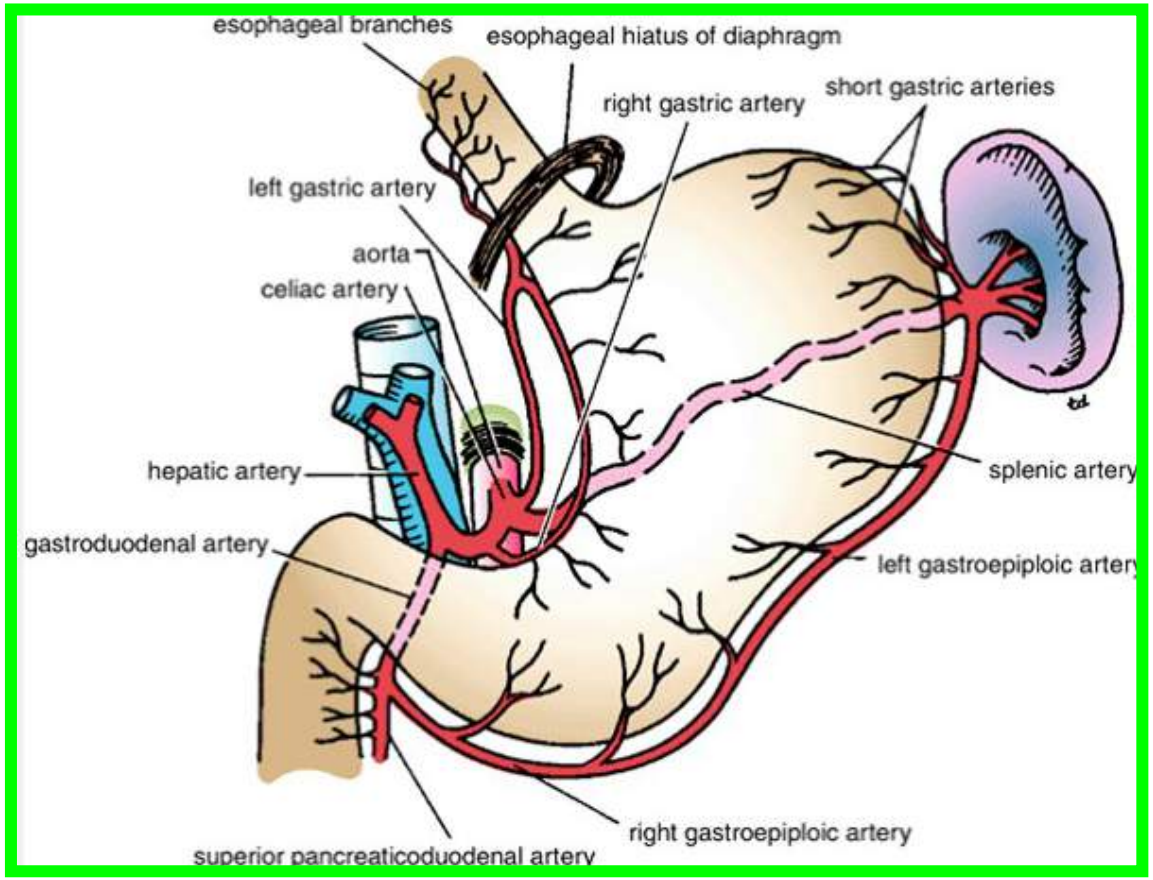
Coeliac Trunk

1. Left Gastric Artery

** **Ends:** by anastomosing with the right gastric artery.

** **Branches:**

1. **Esophageal branches** to the lower end of the esophagus.
2. **Gastric branches** to both surfaces of the stomach.



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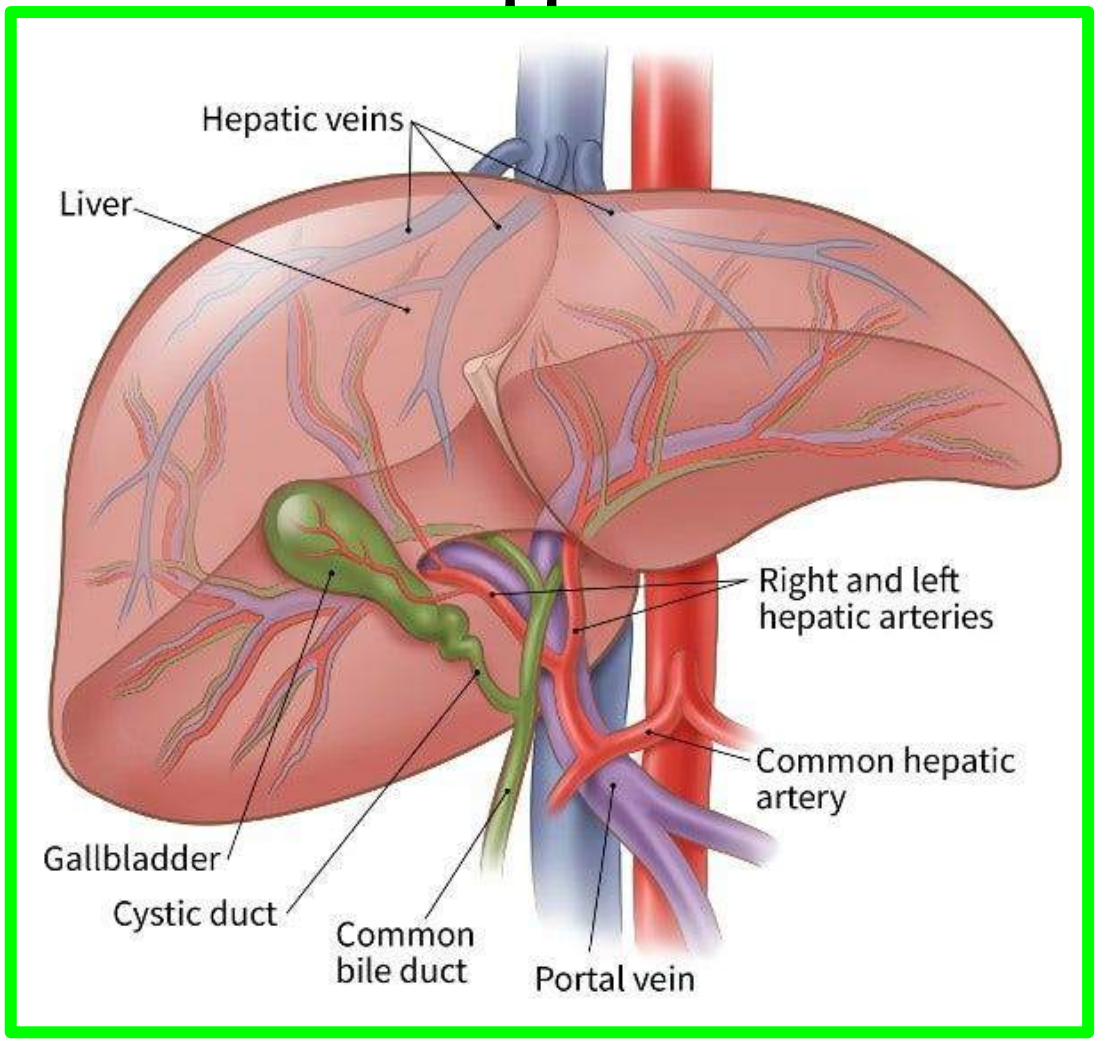
Coeliac Trunk

2. Common Hepatic Artery

** **Origin:** this is the medium branch of the coeliac trunk.

** **Course:** it passes forwards and to the right to reach the upper surface of the first part of the duodenum.

- ✓ It ascends in the right free margin of the lesser omentum to the porta hepatis (anterior to the portal vein and to the left of the common bile duct).



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2. Common Hepatic Artery

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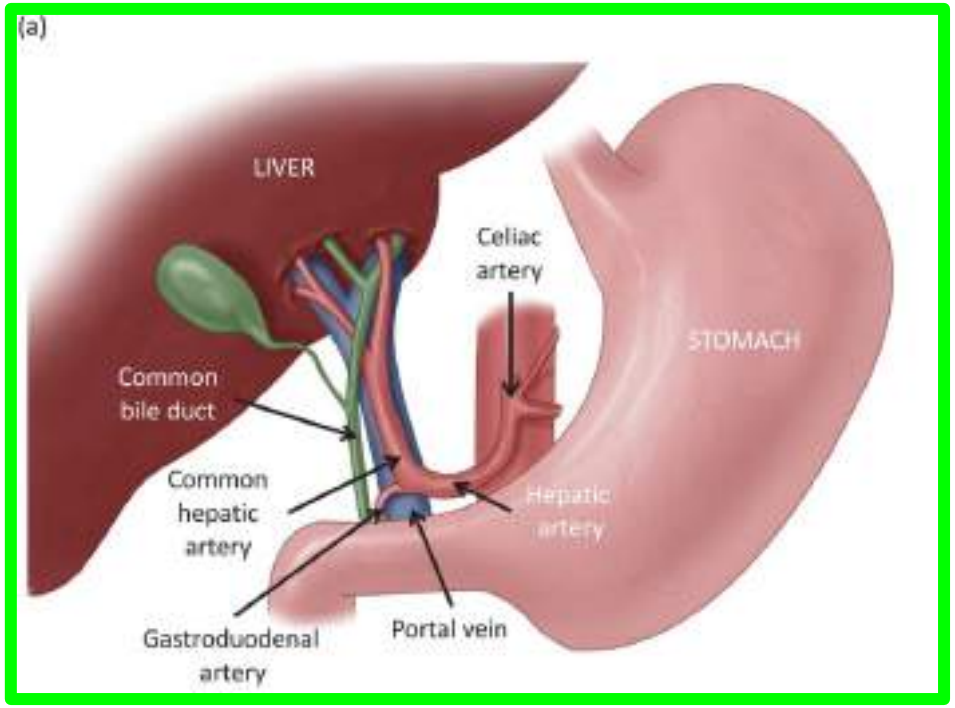
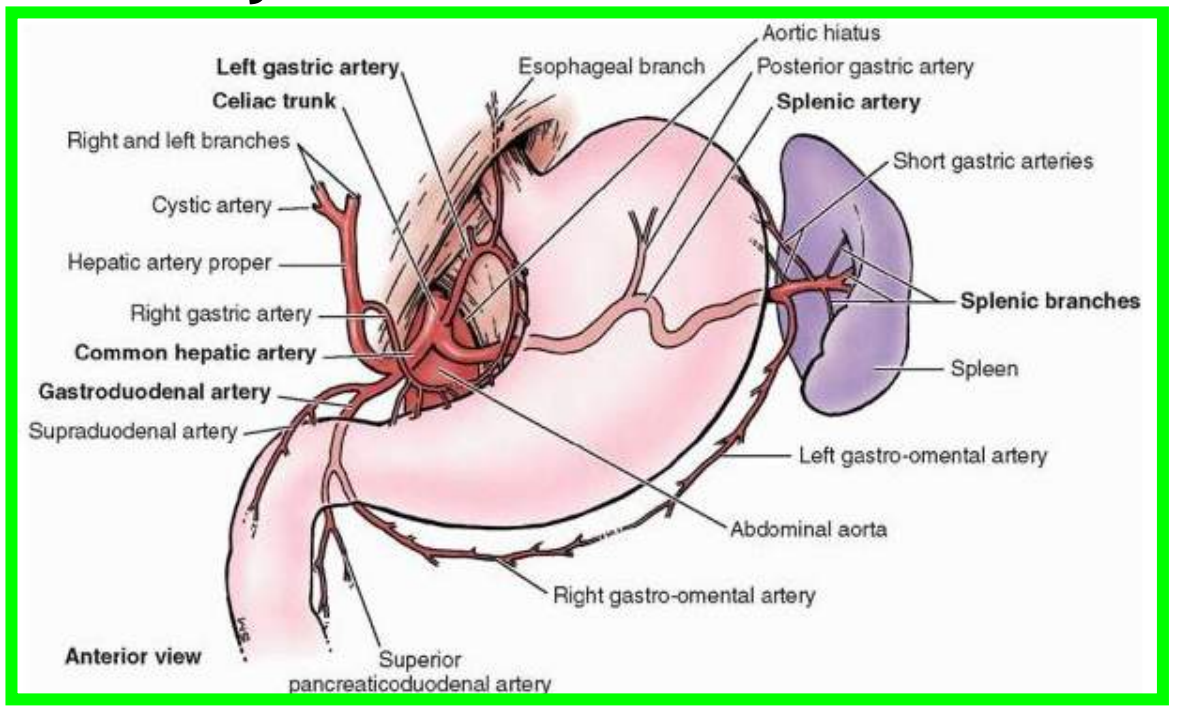
** **Termination:** by dividing into **right** and **left hepatic branches**.

** **Branches:**

1- Right gastric artery:

- ✓ runs on the lesser curvature of the stomach.
- ✓ It supplies the duodenum and stomach.
- ✓ It ends by anastomosing with left gastric artery.





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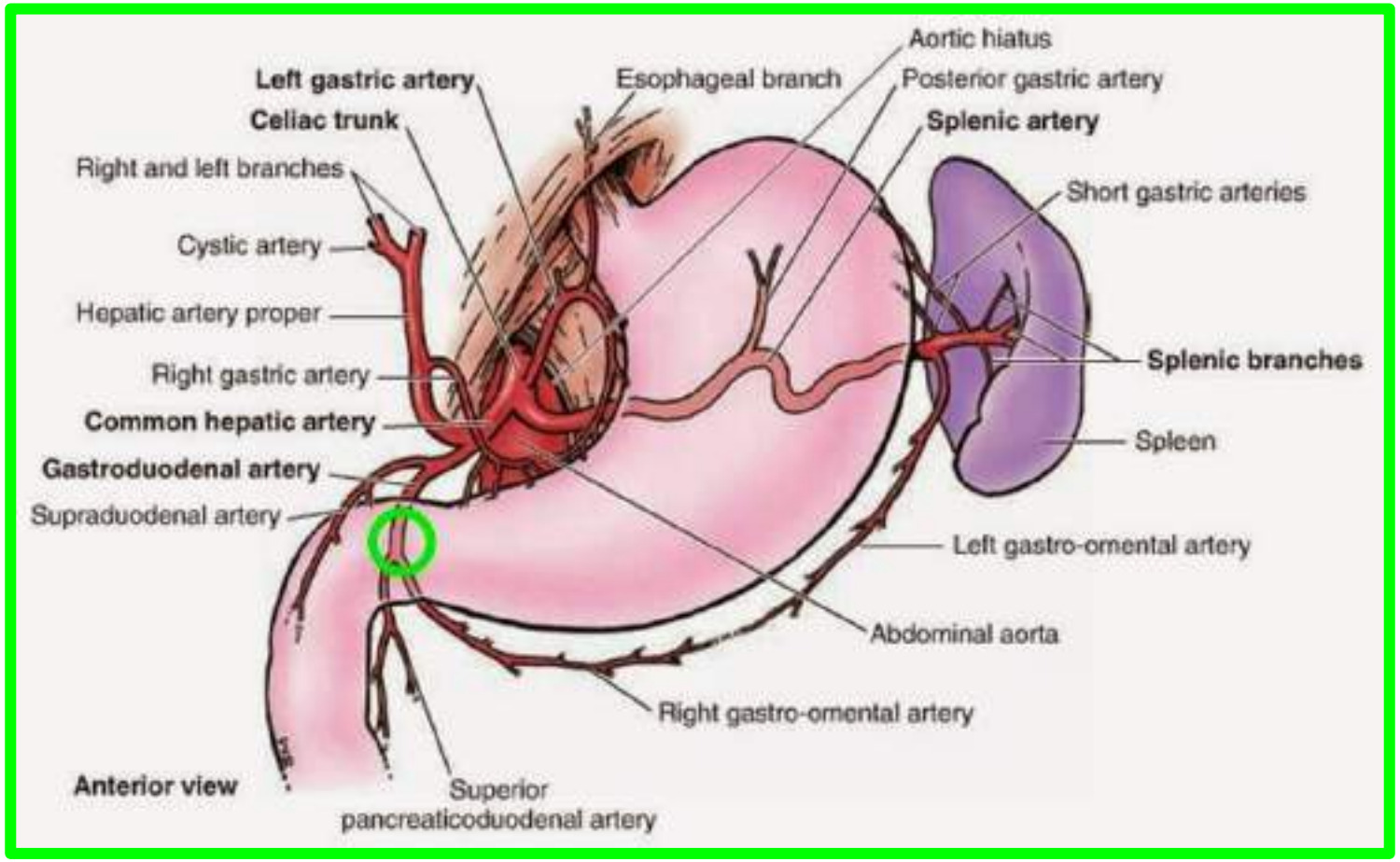
2. Common Hepatic Artery

2- Gastroduodenal artery: descends behind the first part of the duodenum (on the left side of the common bile duct and in front of portal vein).

- ✓ It divides into two terminal branches



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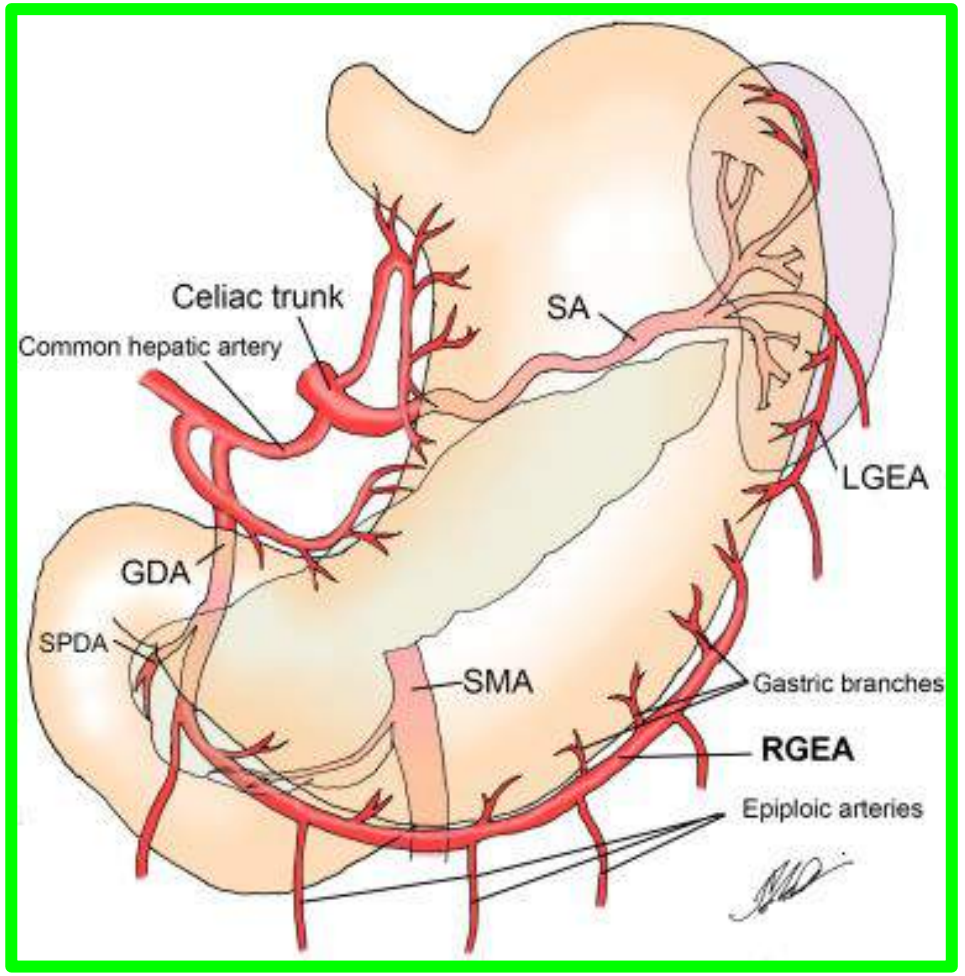
2. Common Hepatic Artery

2- Gastroduodenal artery:

A. Right gastroepiploic artery runs along the greater curvature of the stomach. It ends by anastomosing with the left gastro-epiploic artery.



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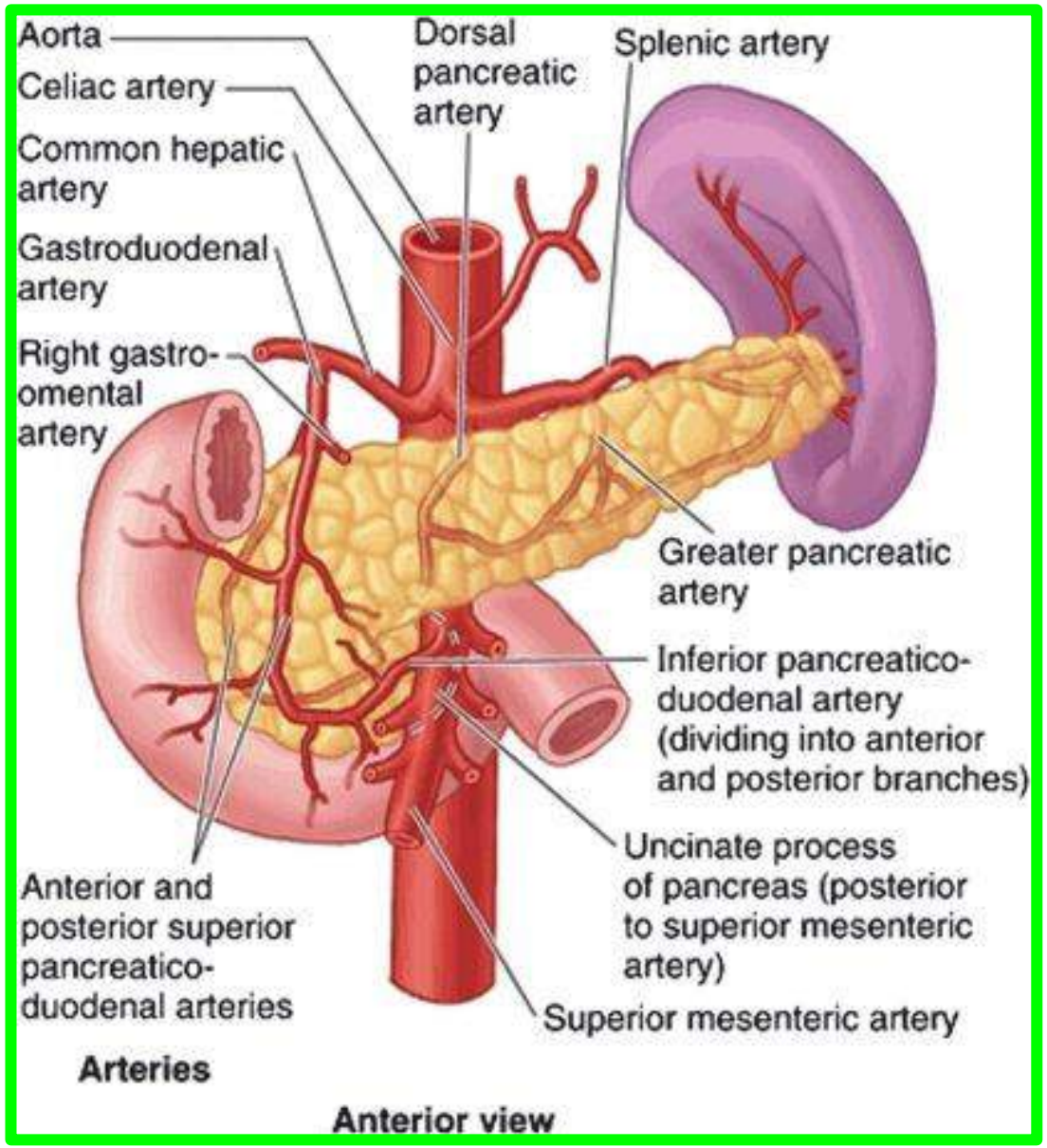
2. Hepatic Artery

2- Gastroduodenal artery:

B. Superior pancreaticoduodenal artery:

- ✓ runs between the duodenum and head of pancreas.
- ✓ It supplies the duodenum and head of pancreas.
- ✓ It ends by anastomosing with the inferior pancreaticoduodenal artery



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2. Common Hepatic Artery

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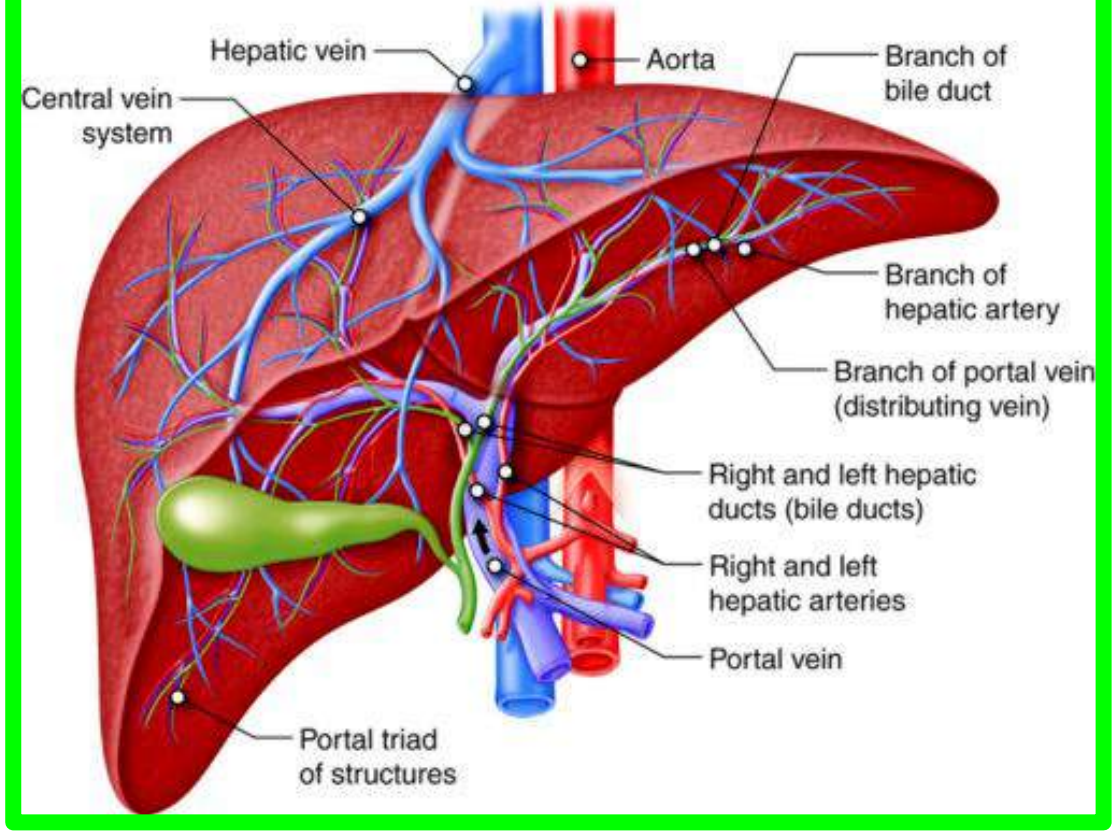
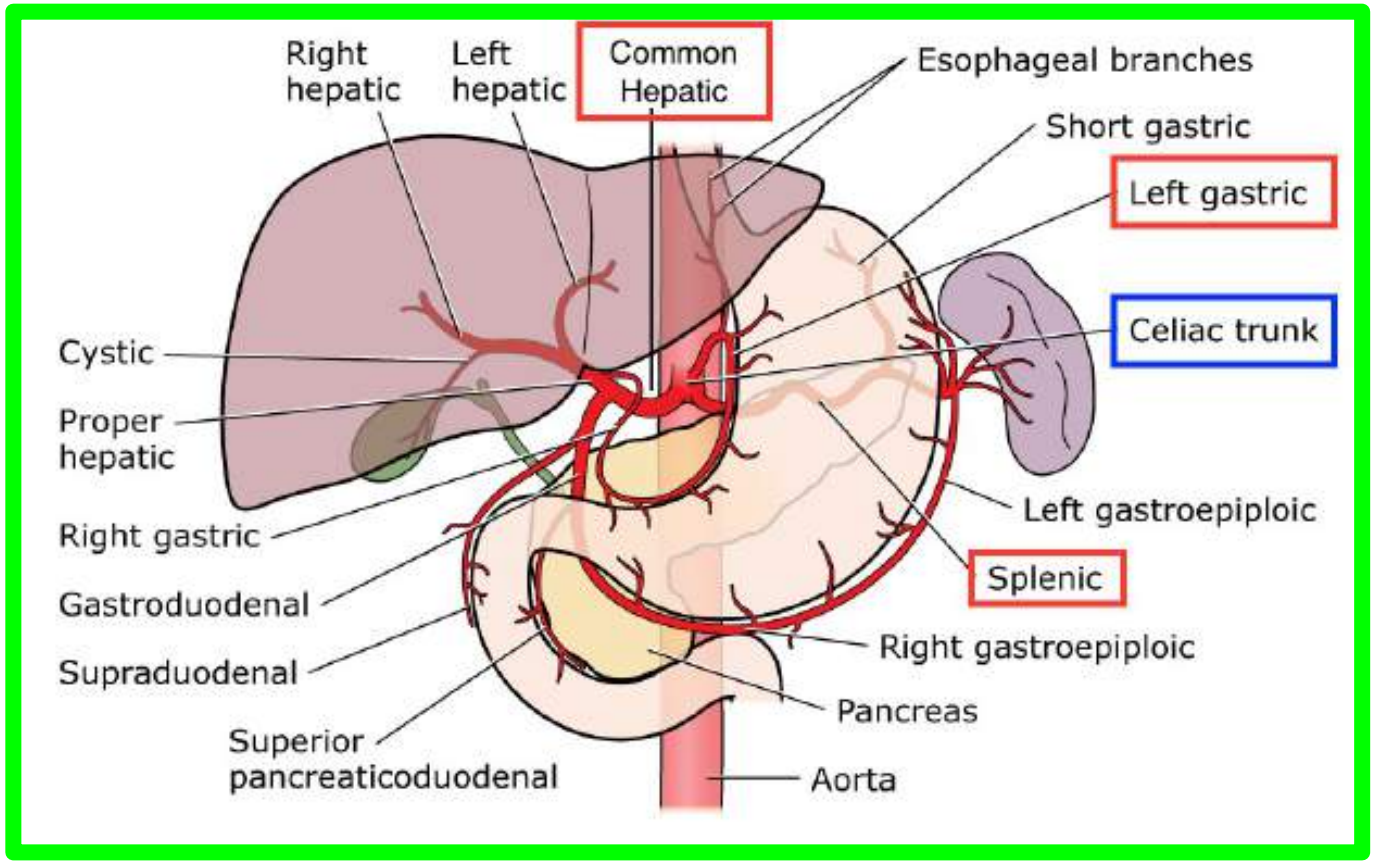
3. **Supraduodenal artery** to the first part of the duodenum.
4. **Left terminal hepatic branch** to the left lobe of the liver,
5. **Right terminal hepatic branch** to the right lobe of the liver.
6. **Cystic artery** to the gall bladder from the right hepatic branch





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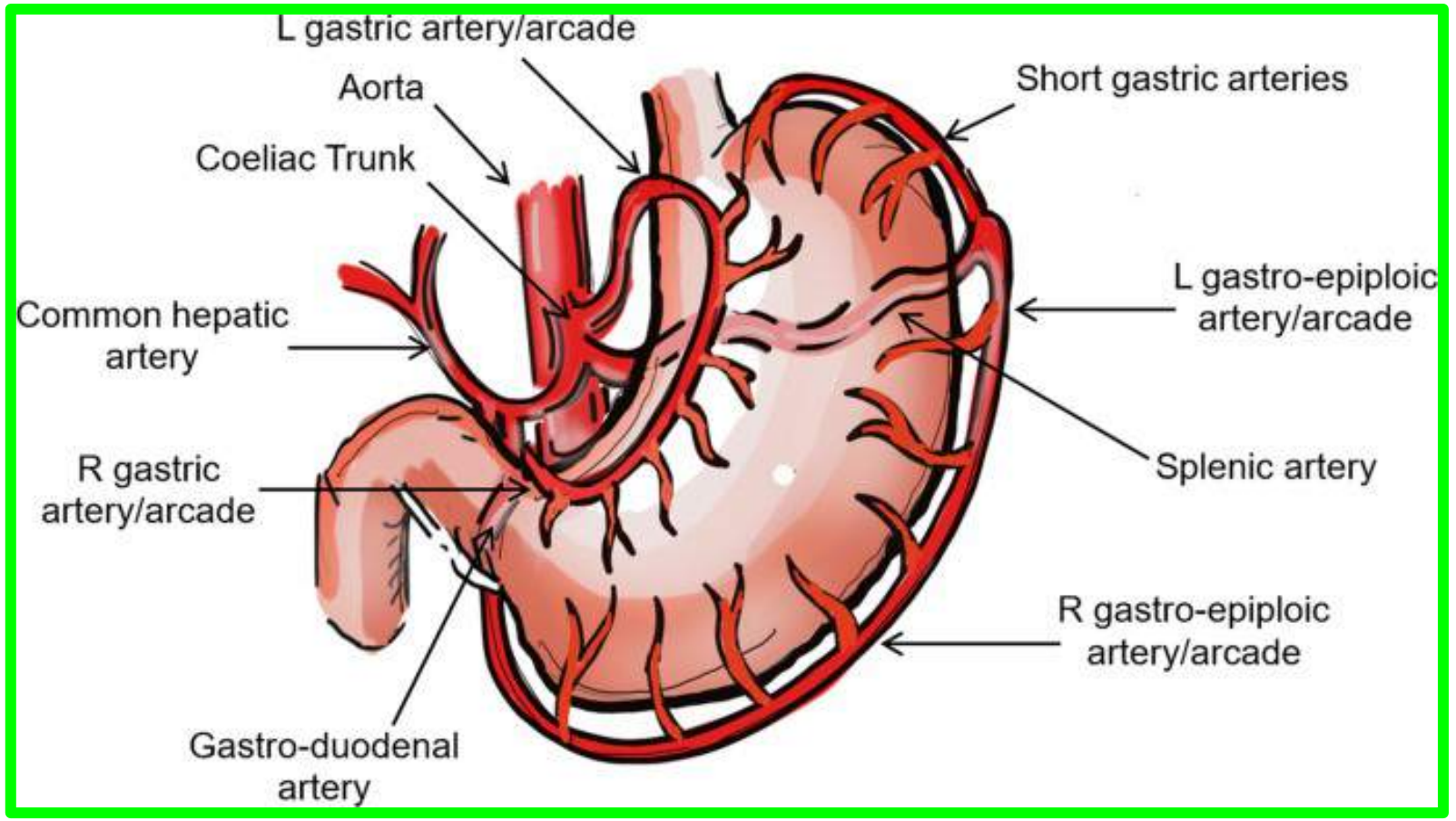
2. Common Hepatic Artery

** Applied anatomy;

1. If the hepatic artery is ligated proximal to the origin of its right gastric branch,

- A collateral circulation to the liver through Left gastric, splenic and superior mesenteric arteries.



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2. Common Hepatic Artery

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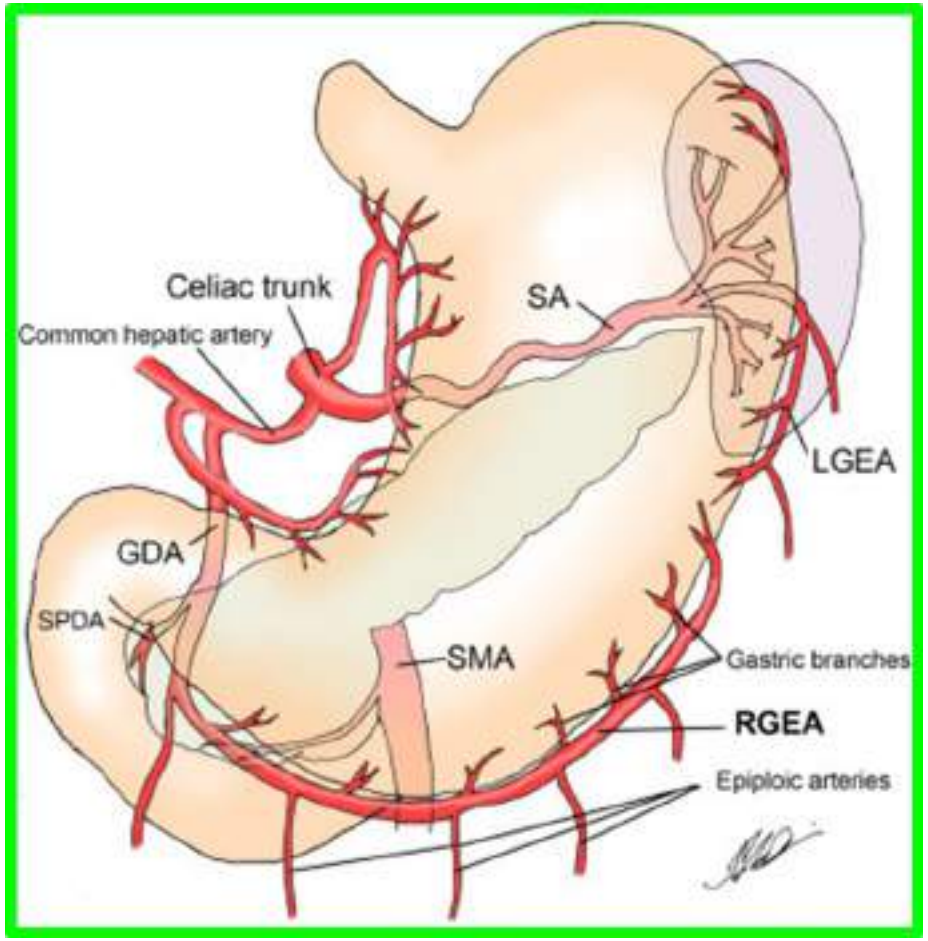
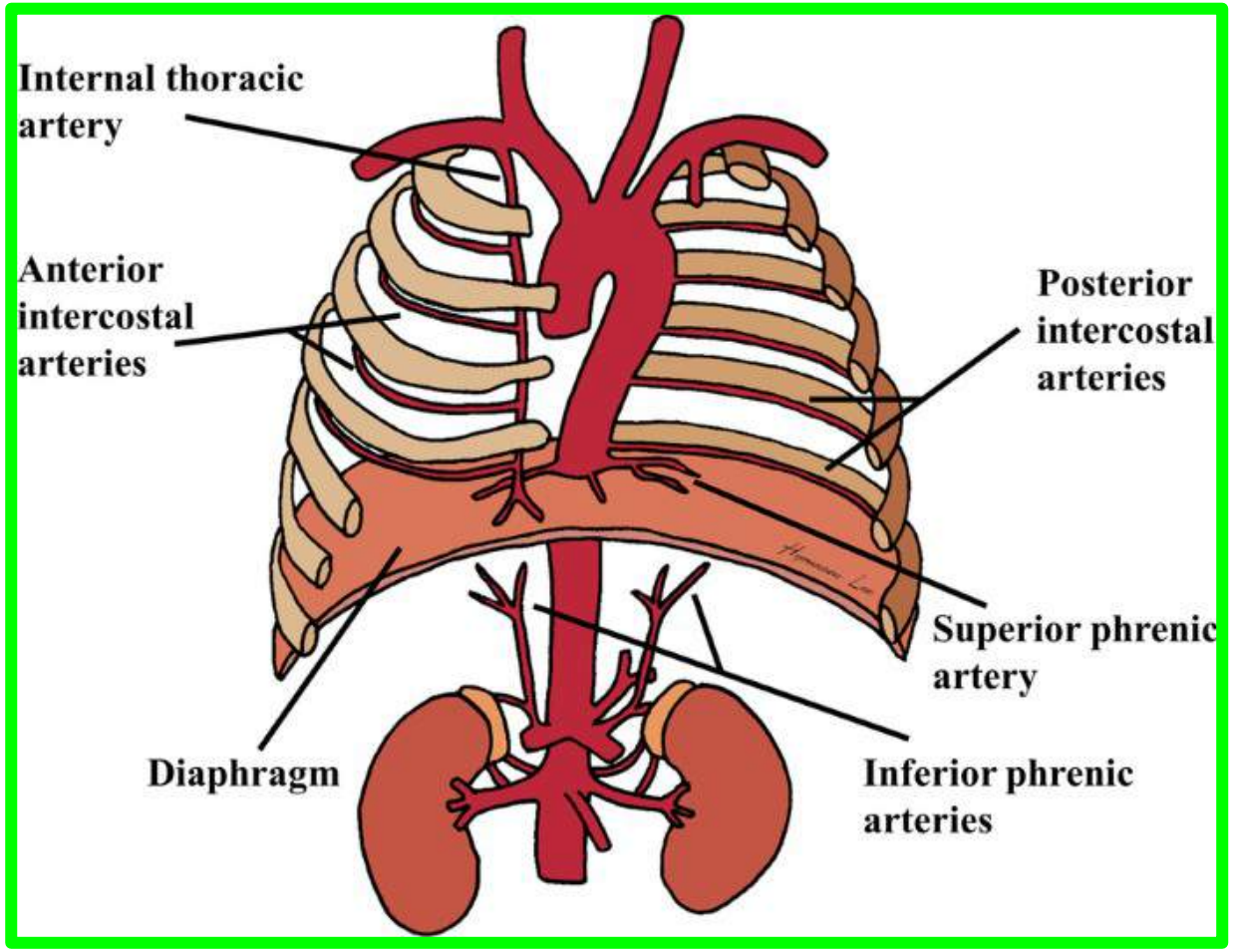
2. If the hepatic artery is ligated distal to the origin of gastroduodenal branch, hepatic necrosis commonly occurs.

- A collateral circulation to the liver is only carried by the inferior phrenic arteries.





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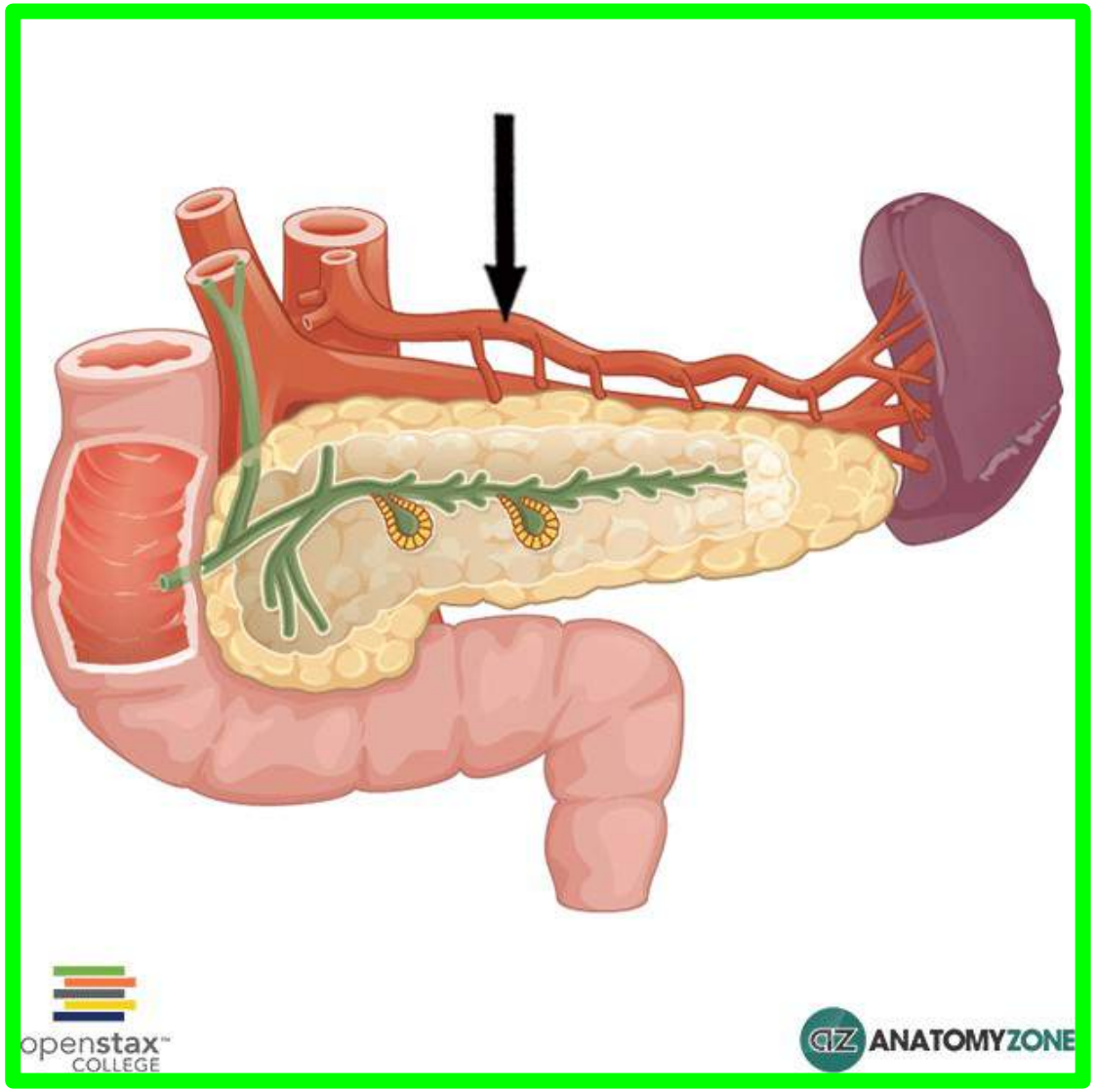
3. Splenic Artery

** **Origin:** it is the largest branch of the coeliac trunk because the functions of the spleen.



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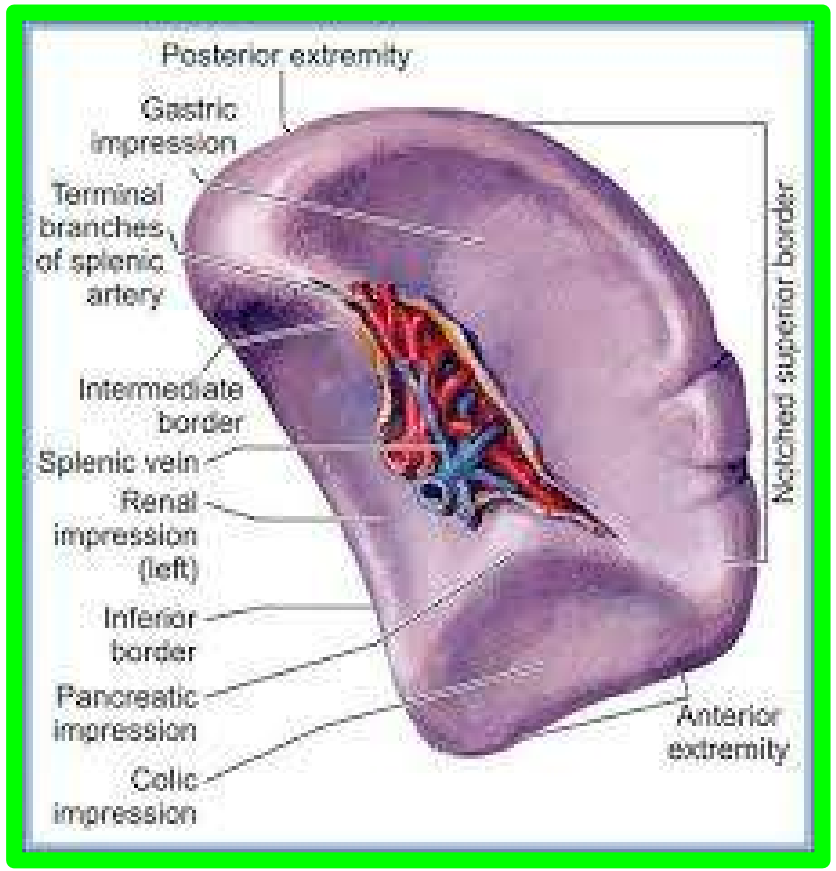
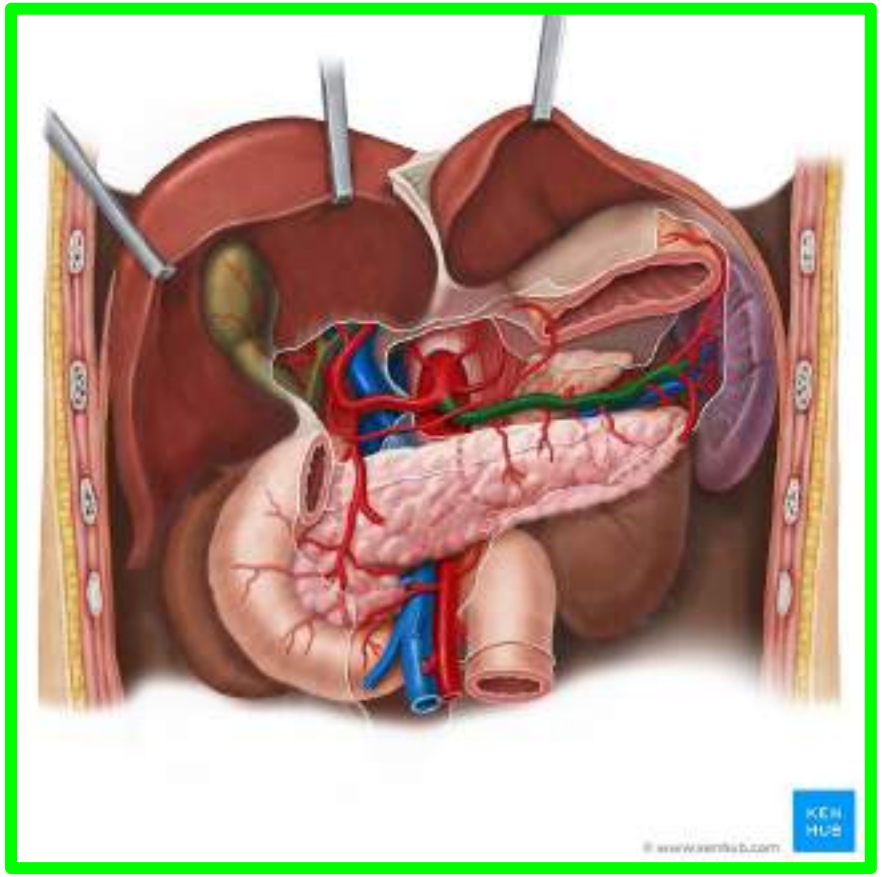
3. Splenic Artery

** **Course:** It runs a tortuous horizontal course to the left along the upper border of the pancreas behind the lesser sac.

- ✓ It passes in front of the left kidney to enter into the lienorenal ligament.
- ✓ It ends in the hilum of the spleen by dividing into terminal (5-6) splenic branches.





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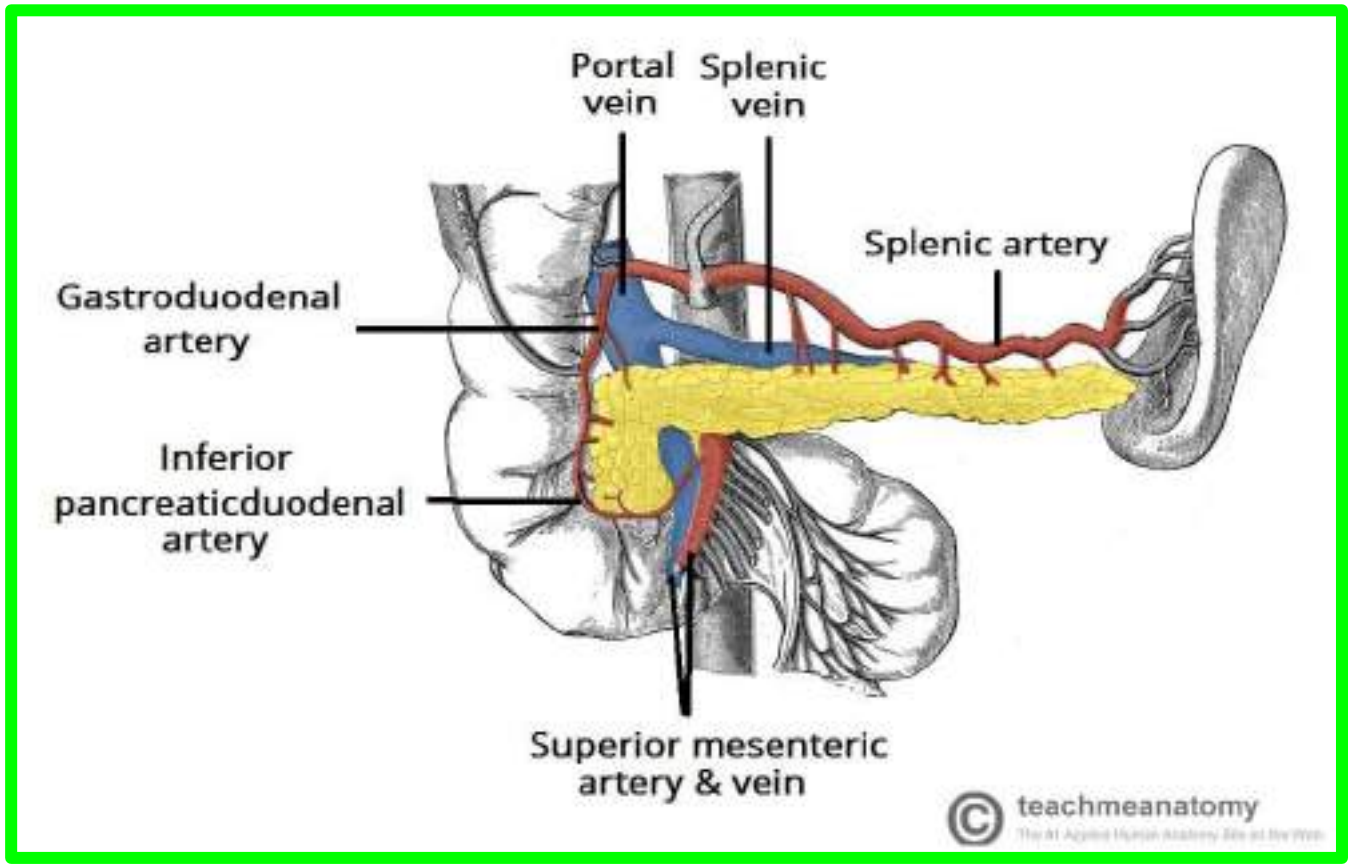
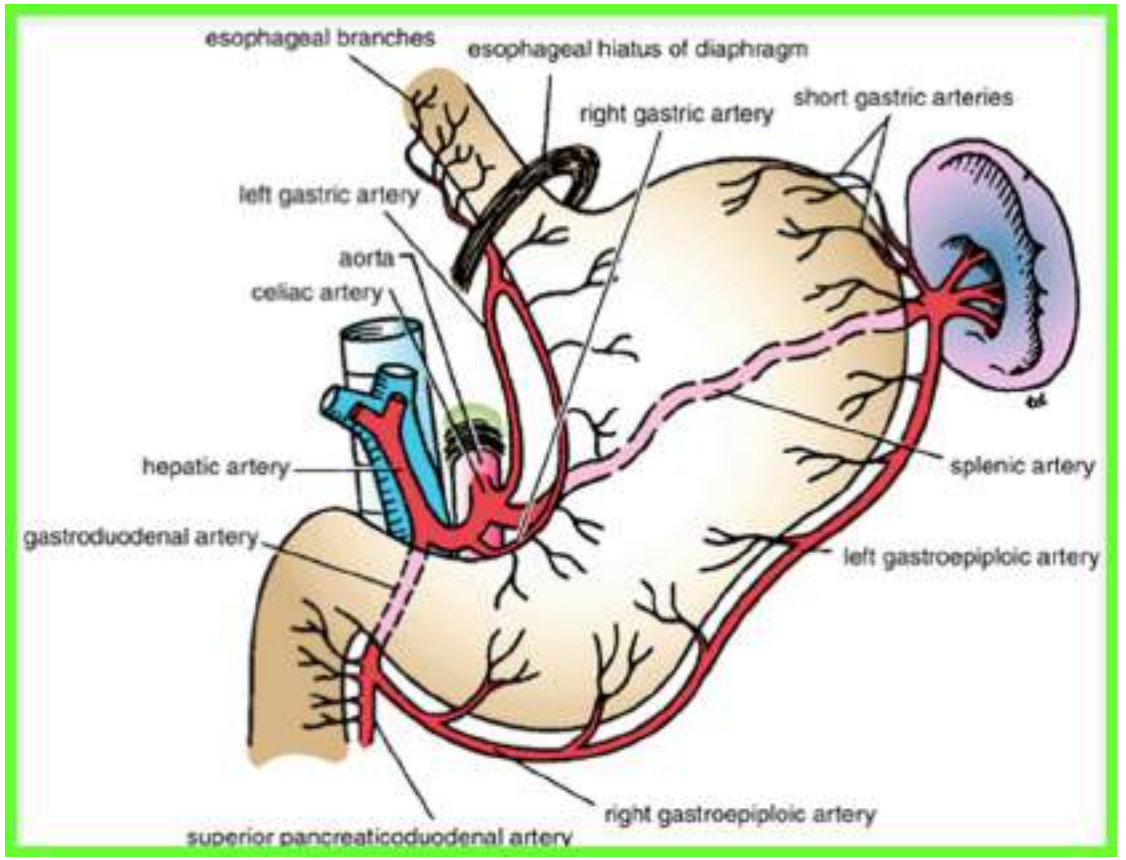
3. Splenic Artery

** Branches

1. Pancreatic branches: small branches to the pancreas.
2. Short gastric arteries to the fundus of the stomach.





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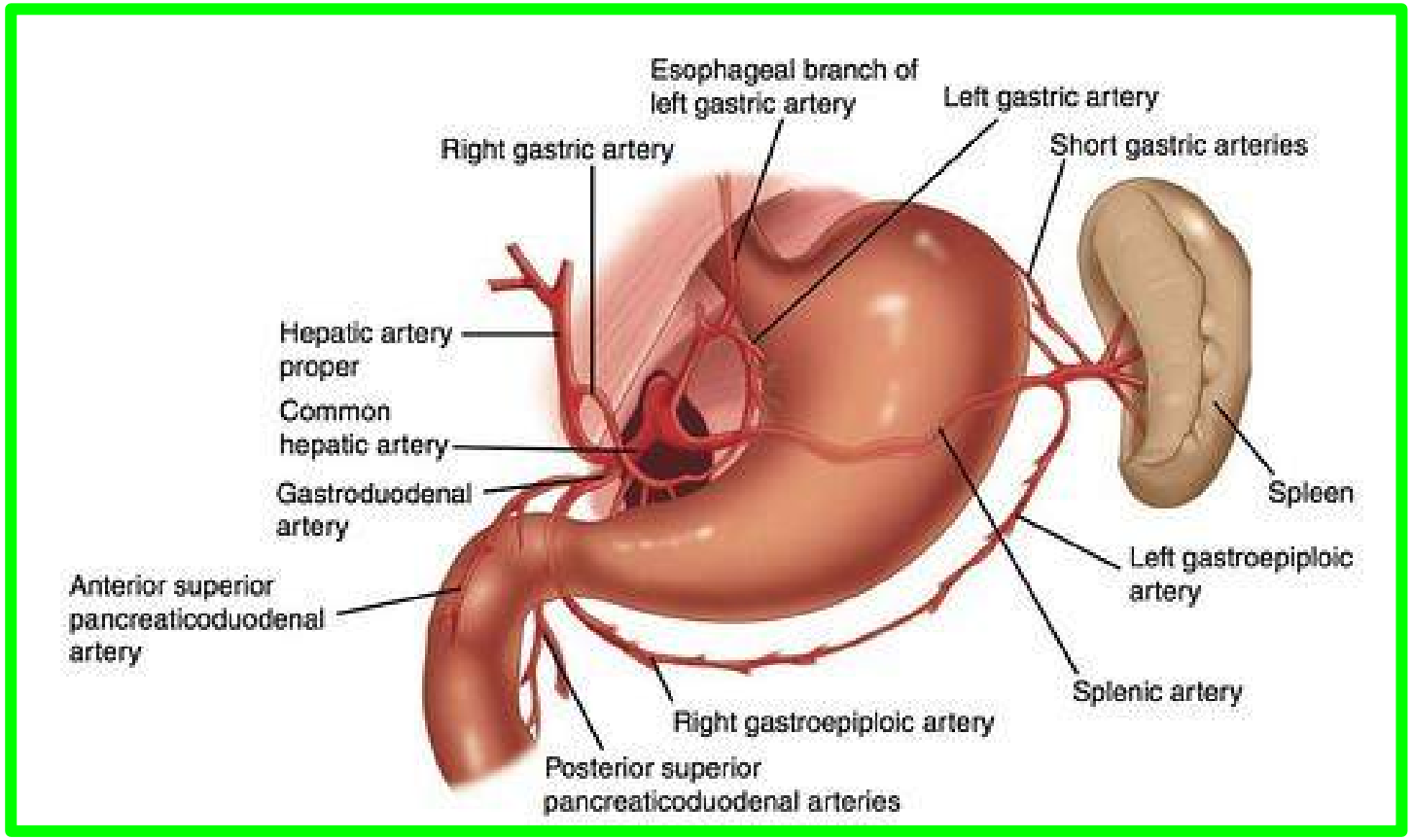
3. Splenic Artery

** Branches

3. Left gastroepiploic artery: runs along the greater curvature of the stomach. It ends by anastomosing with the right gastro-epiploic artery.

4. Terminal splenic branches (5 to 6 branches) which pass into the hilum of the spleen.



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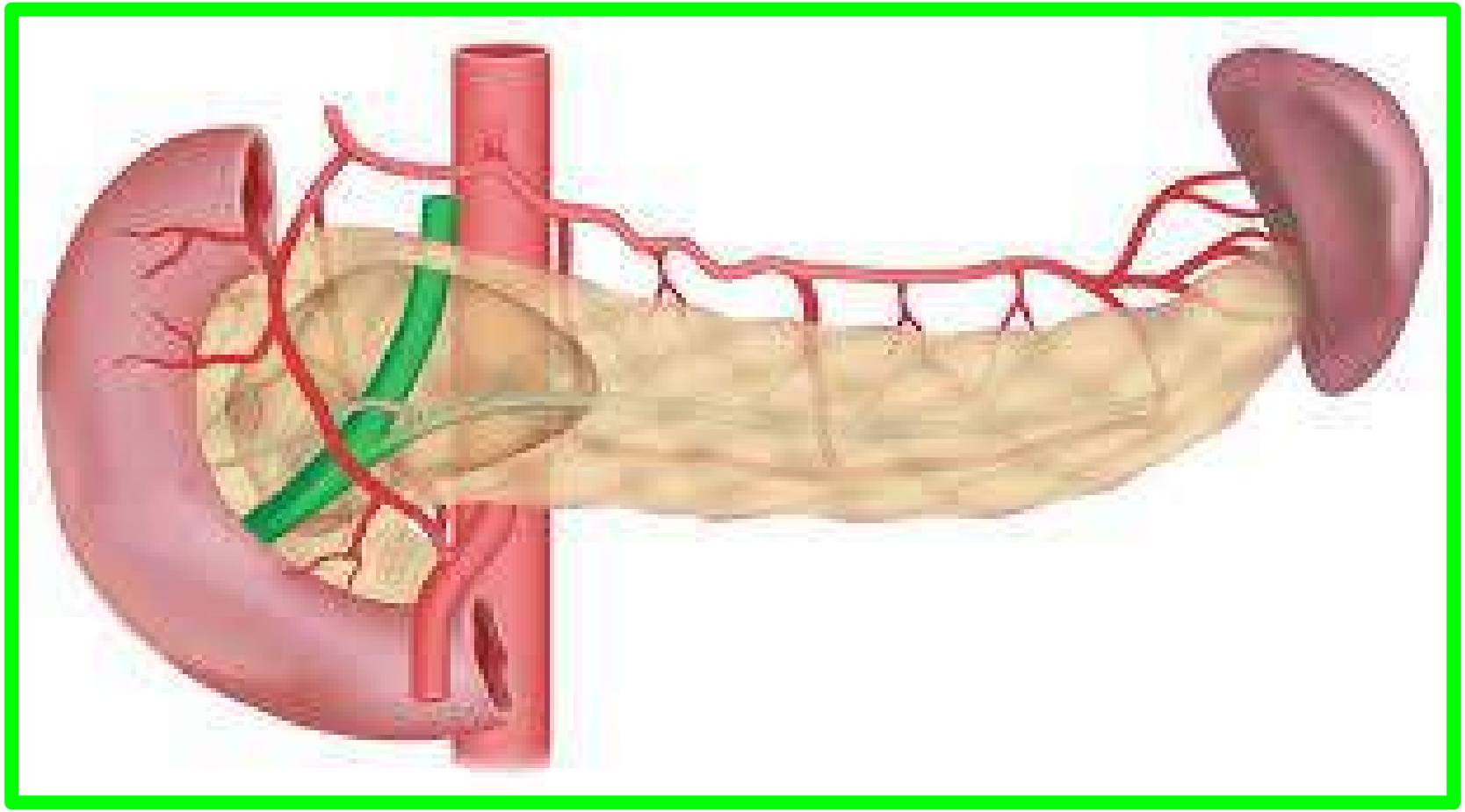
3. Splenic Artery

Why the splenic artery is tortuous in its course?

1. **Protects the artery during gastric distention and splenic enlargement.**
2. **Slows the rate of blood flow to the spleen.**



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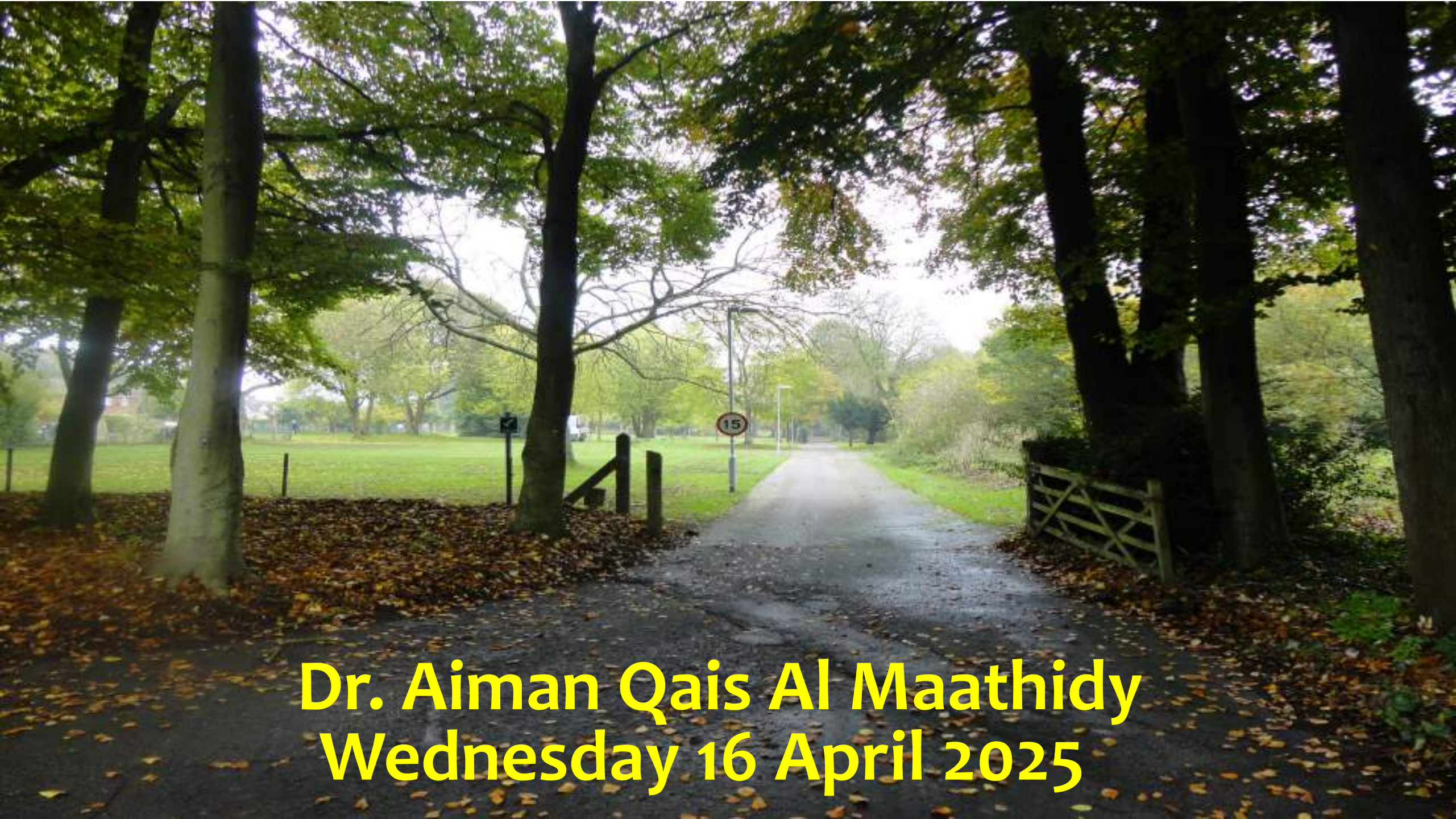

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