

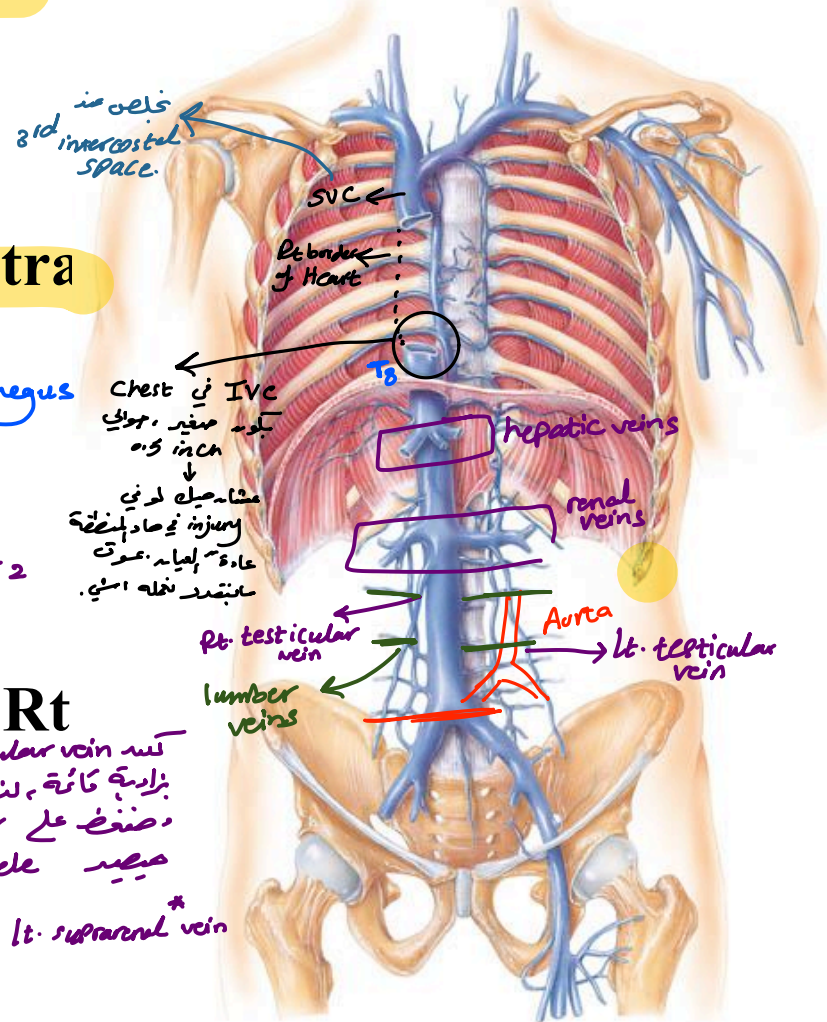
Venous Drainage:

IVC & Portal Vein

IVC

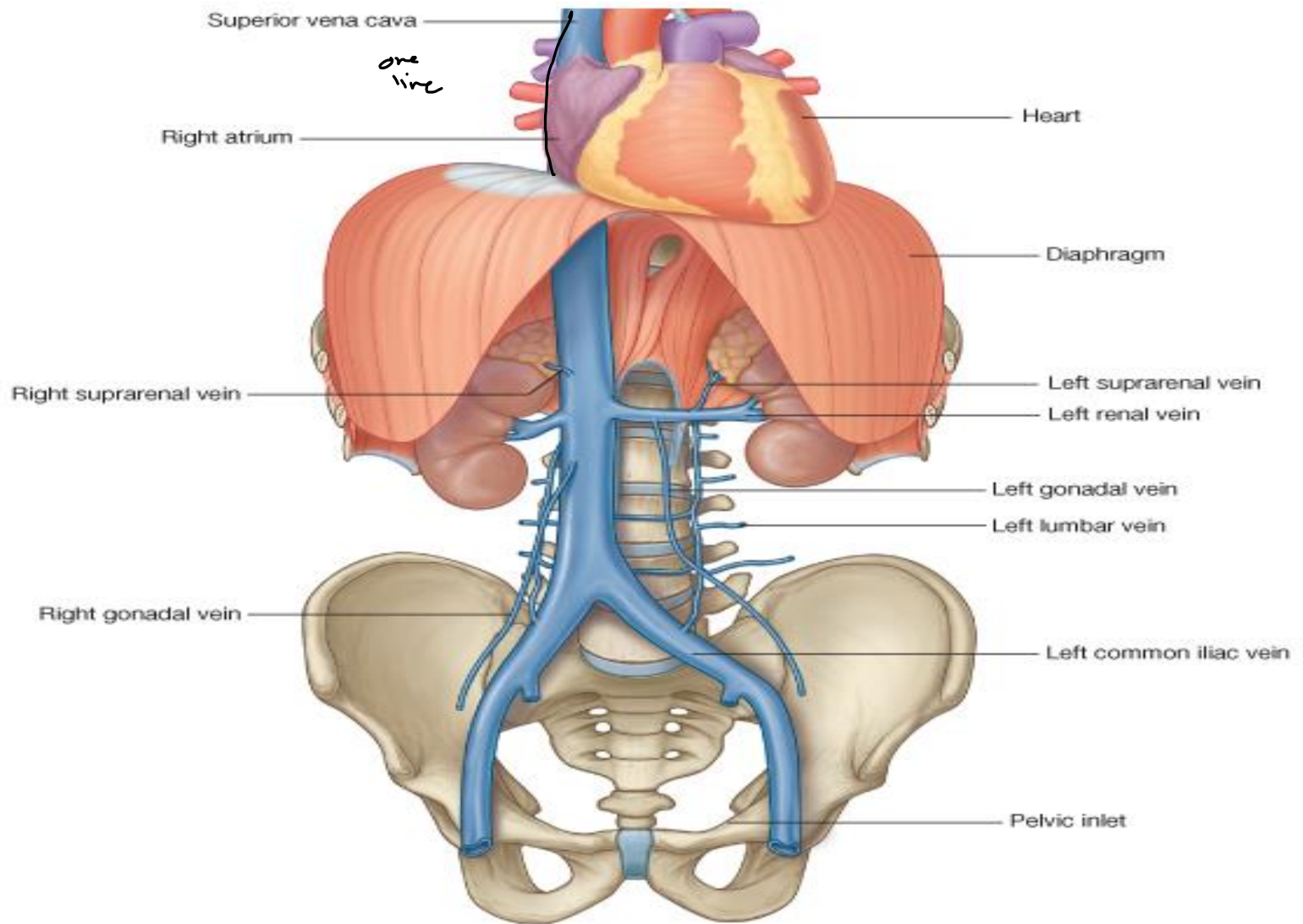
↪ Aorta ends at level $L_3 - L_4$

- IVC is formed on **Rt side of L4-L5 V**
- On **Rt side of abdominal aorta**
- **Union of Rt , Lt common iliac veins**
- Ascend to reach IVC opening in **central tendon of diaphragm at T8.**
- End in **Rt atrium**

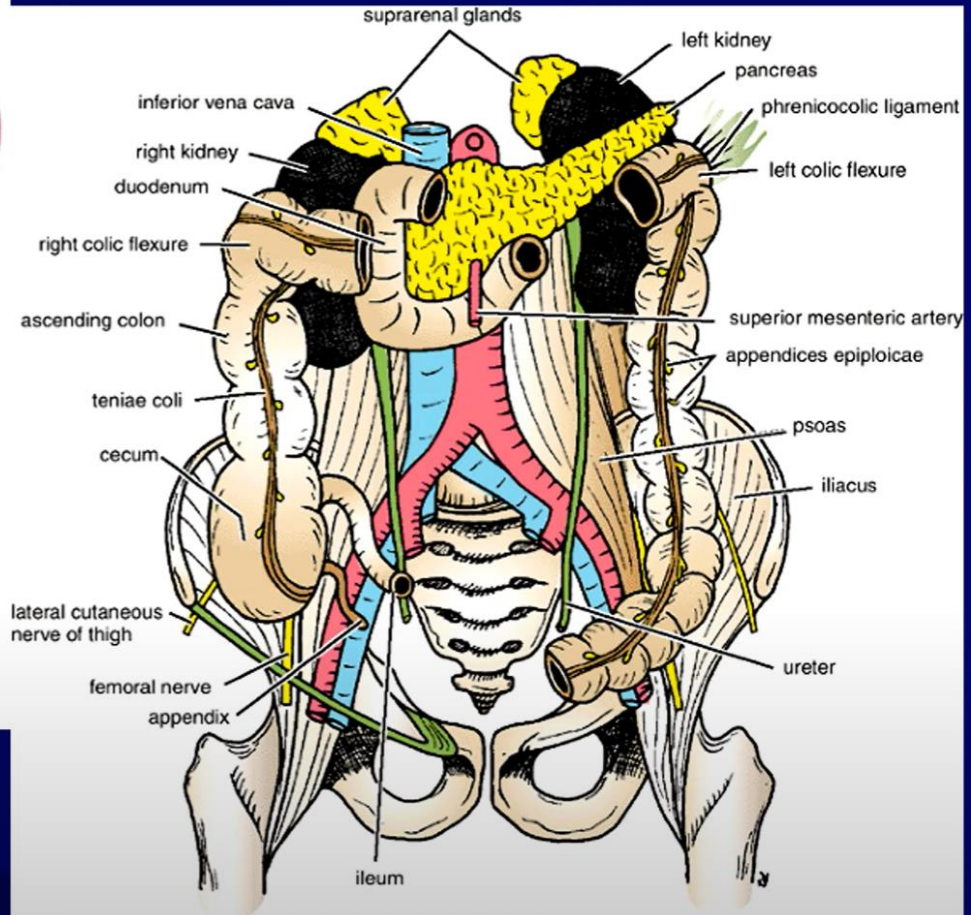
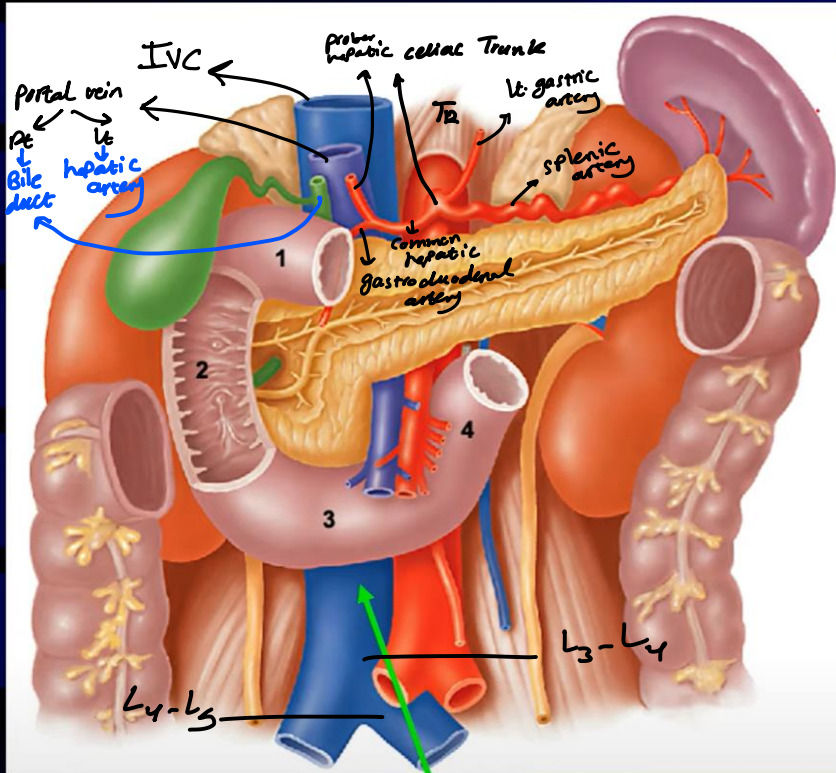


Tributaries of IVC

- Two pair of veins: **Hepatic, Renal**
- Two single Rt veins: **Rt suprarenal, Rt testicular, (ovarian).**
- Four pairs of lumbar veins.



Relations of IVC



on the Rt side of
Abdominal Aorta ← **IVC**

والوريد الكبدية في D3

systemic venous system *
systemic veins
vein ایہ کہیں ہے IVC قریب

portal venous system *
portal vein ایہ کہیں ہے portal vein
portal venous system قریب liver

in front of IVC structures : Portal Triads *

① portal veins (Post)

② hepatic artery

③ Bile duct

* Portal Triads

2 in + 1 out

structures enter
the liver

common Bile duct

hepatic artery

portal vein

oxygenated
بیمین دہا

28-30 %

سہ ہیم ایہ ہرچ ملے liver

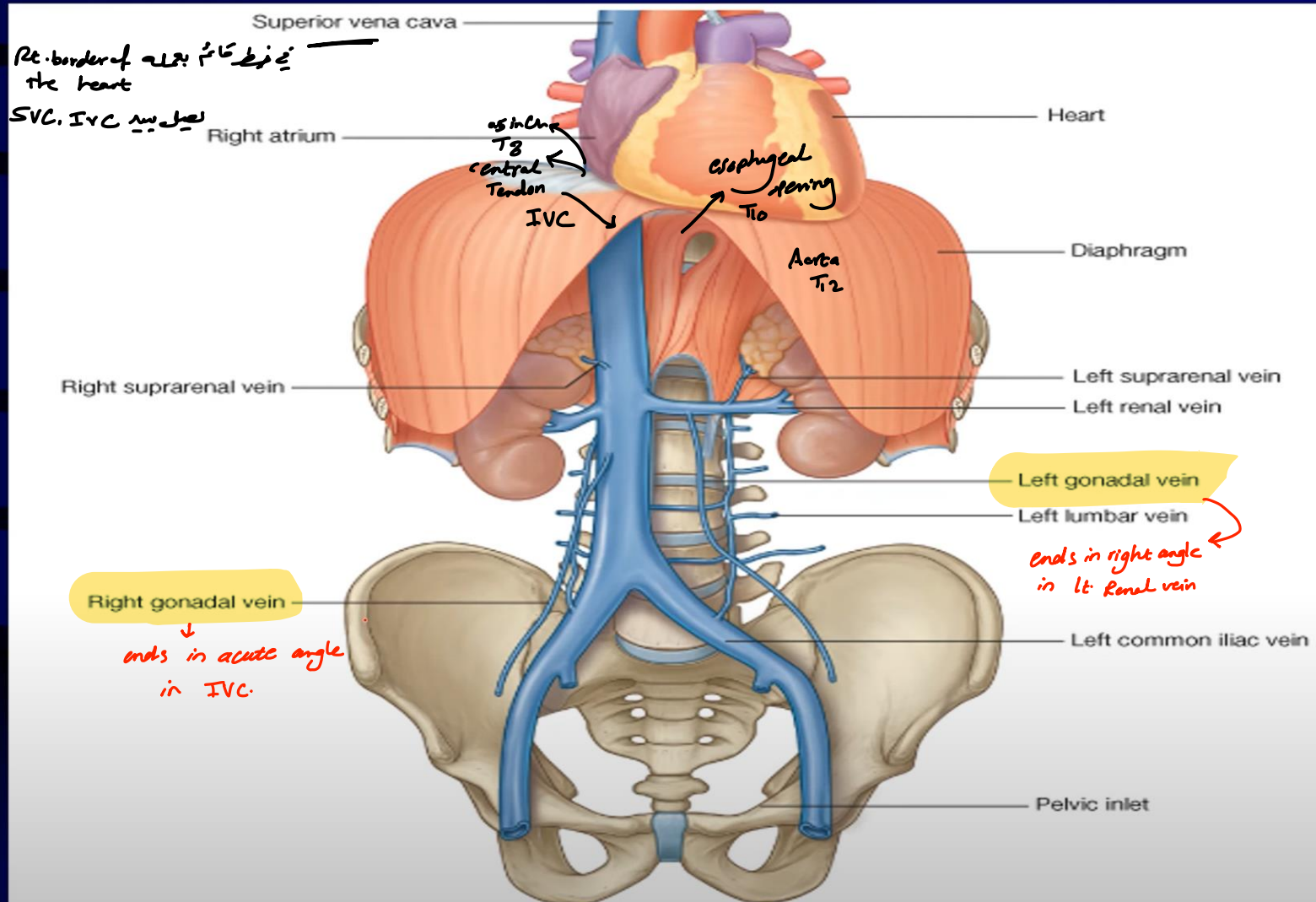
بوسل 70 % سہ ہیم ایہ

rich of nutrients

بال food سہ ہیم ایہ

liver : نیہ

glucose, A.A



Portal Vein → the largest vein in the GIT.

Drains GIT & Abd. Viscera (Spleen & Pancreas & GB)

3 inches long 12 mm in diameter

enter the liver

من الدم من سائر أعضاء البطن
20-25 mm - Portal hypertension
dilated -

Enters porta hepatis as a part of the Triad

(Conveys 70% of bld. To liver)

Form GIT
as blood, nutrients

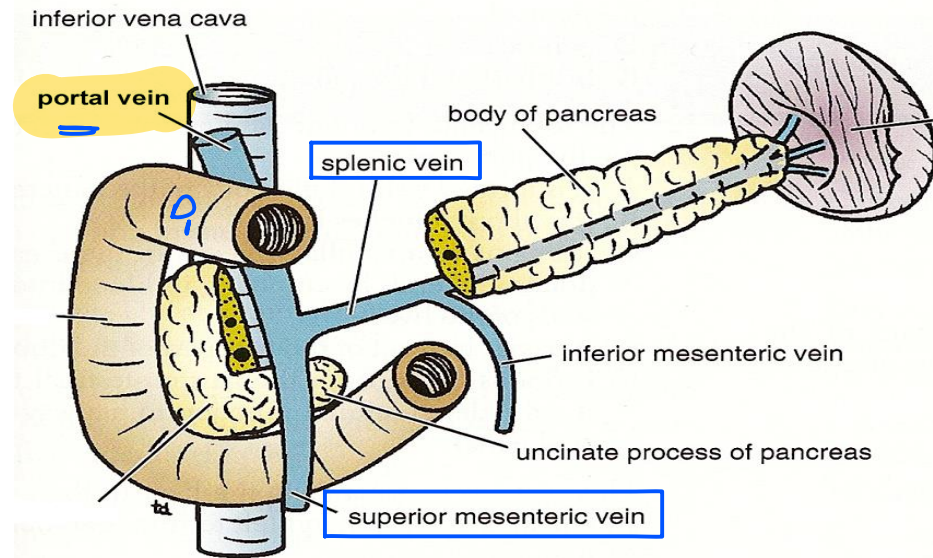
Formed Behind the Neck

of pancreas by union of:

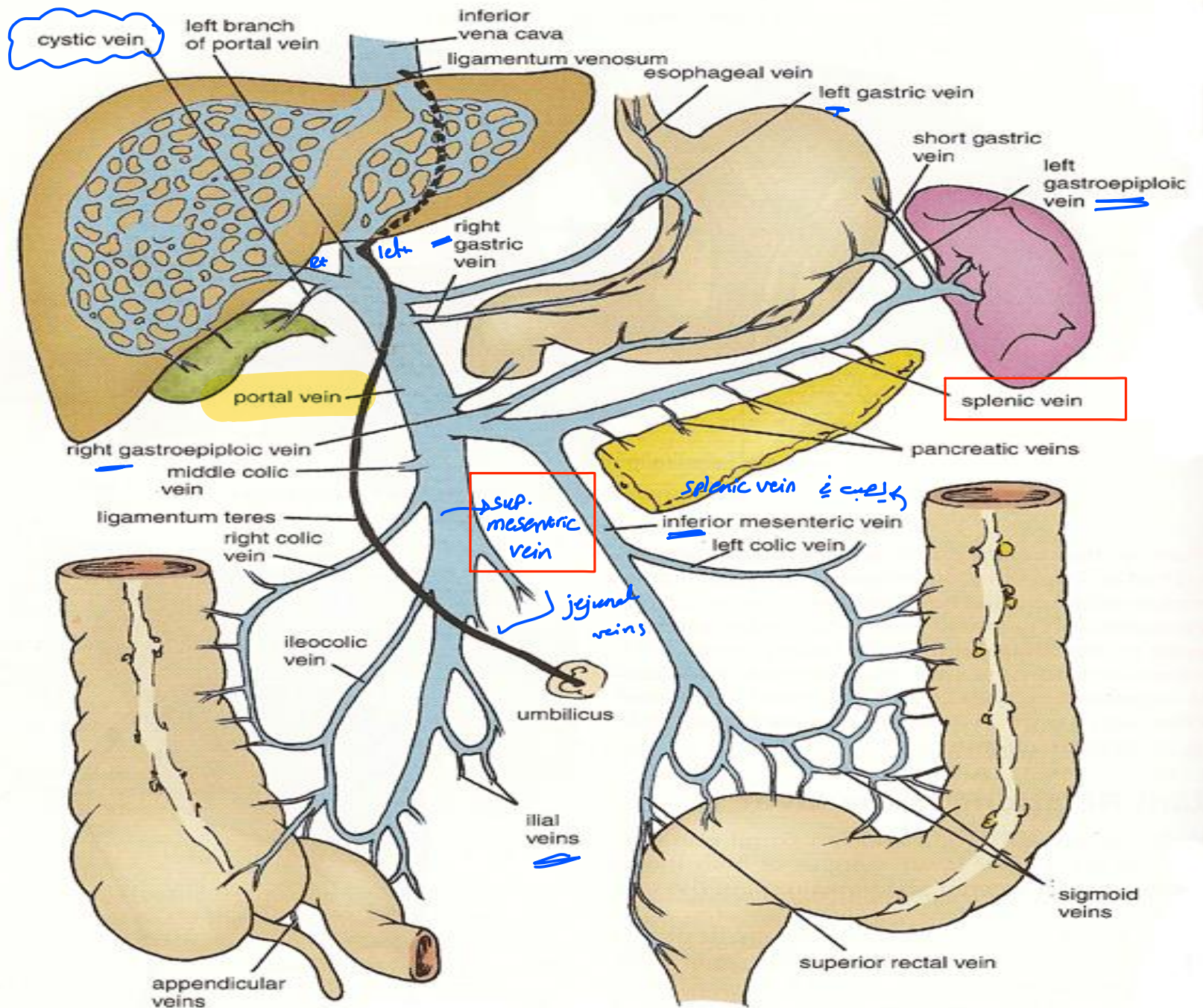
① **Sup. Mesenteric vein**

② **Splenic vein**

**Ascend upward to RT behind D1,
Infront of IVC.**



Bld. Comes from 3 ant. visceral branches of aorta (Celiac trunk, sup. Mesenteric & inf. mesenteric) is returned by portal vein



Main Tributaries of Portal Vein

آبَرِ وین

① Splenic vein:

From spleen, pancreas & stomach

Most important Tributary is IMV → inferior mesenteric vein

② Superior Mesenteric vein:

from intestine (Duodenum → to 2/3 of trans. Colon)

③ Inferior Mesenteric vein:

from Distal 1/3 of trans. Colon → to anal canal (upper 1/3)

less important

Other branches

④ lesser curvature of stomach → Rt. & Lt. Gastric veins, pancreatico - duodenal v

⑤ Cystic vein to RT branch of portal vein

↓
نَسَبِی

↓
رَیْسِ
main portal vein

Porto-Caval Anastomoses

Portal system Anastomose with systemic (caval) venous system at 4 areas:

lower $1/3$

1. At/abdominal esophagus: ** clinical anatomy:*

Esophageal veins drain into:

→ posterior communication between IVC, SVC

Azygos vein (Systemic)

left gastric vein (portal)

* Clinical anatomy:

portal hypertension ← نسیج کبد متورم

into:

صنایع رسانه‌ها
- portal system

↳ gastric vein ↓ صَيِّب (dilatation)

ما نتبع Azagros vein

↓
سبب دہائی ہرے

esophageal varices.

2. *At anal canal & Rectum:*

Rectal veins drain into:

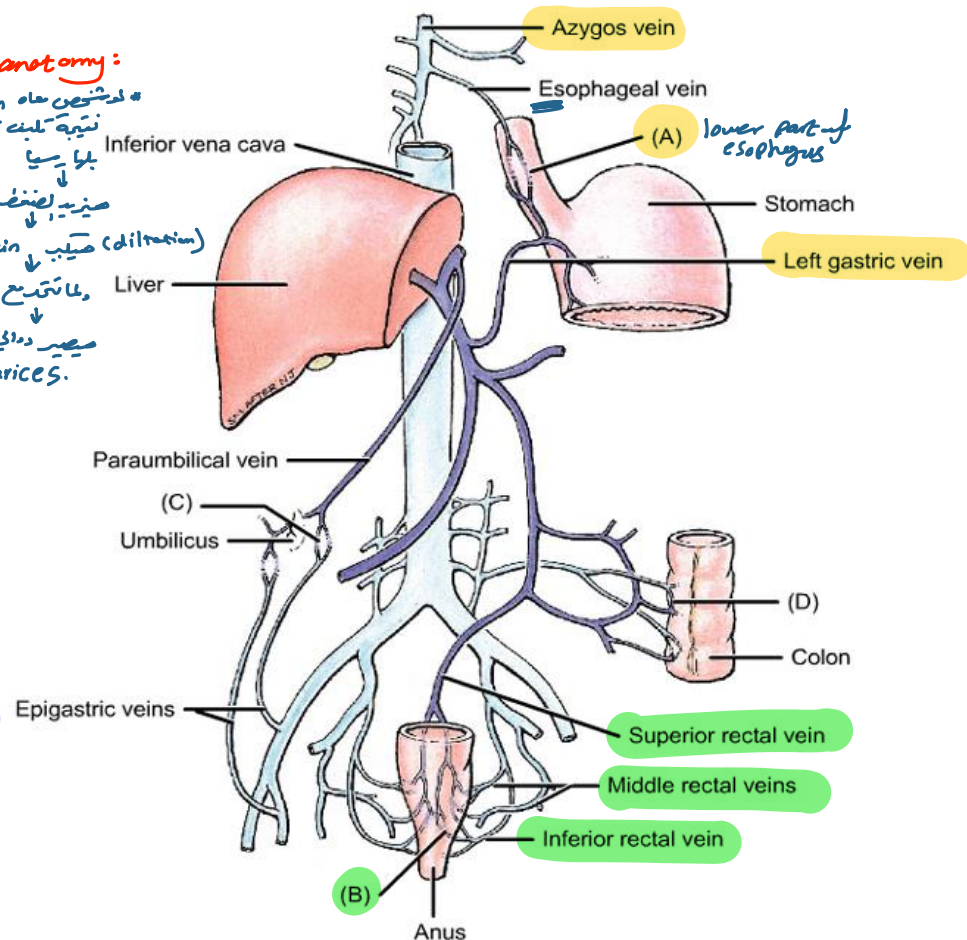
→ continuation of inf. mesenteric vein → splenic vein
↓

Sup. Rectal vein (portal)

Middle & Inf. rectal (systemic)

IVC

* هاد anastomosis تؤدي الى البواسير (Chemoirrhoids) internal piles



3. Around the umbilicus:

Paraumbilical veins (Portal)

with lig. teres inside falciform lig.

veins of Ant. abd. Wall

(systemic)

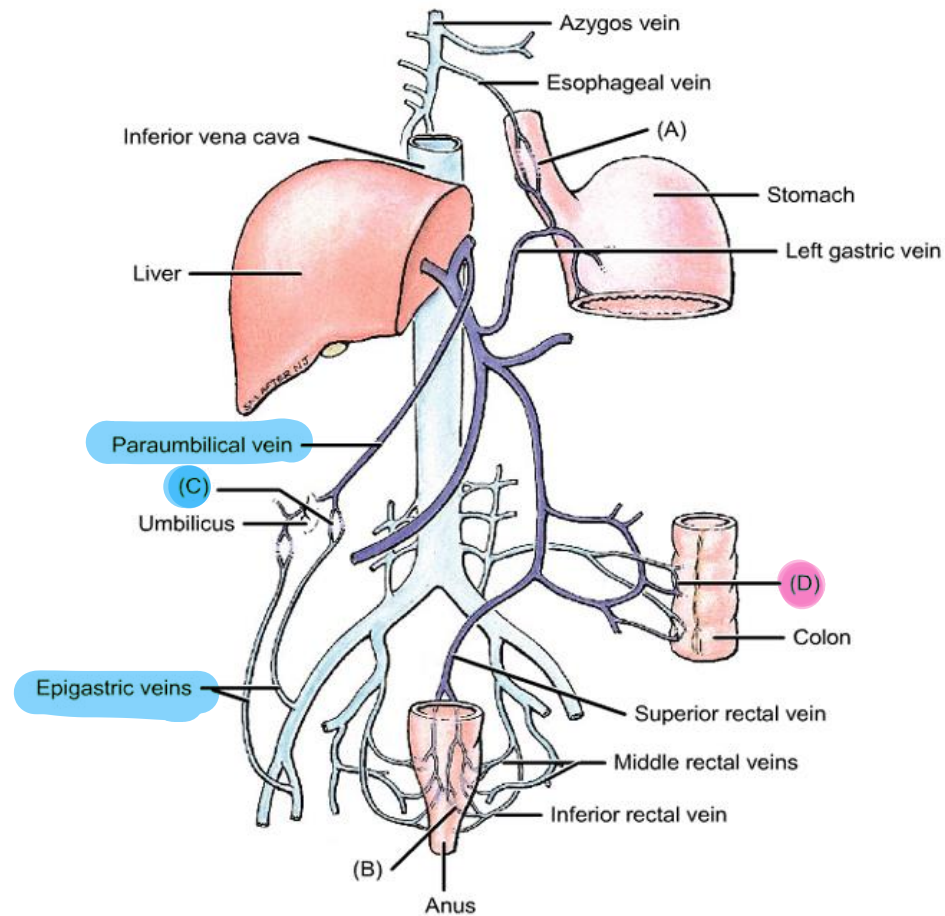
* *anastomosis يسي*
Caput Medusa.

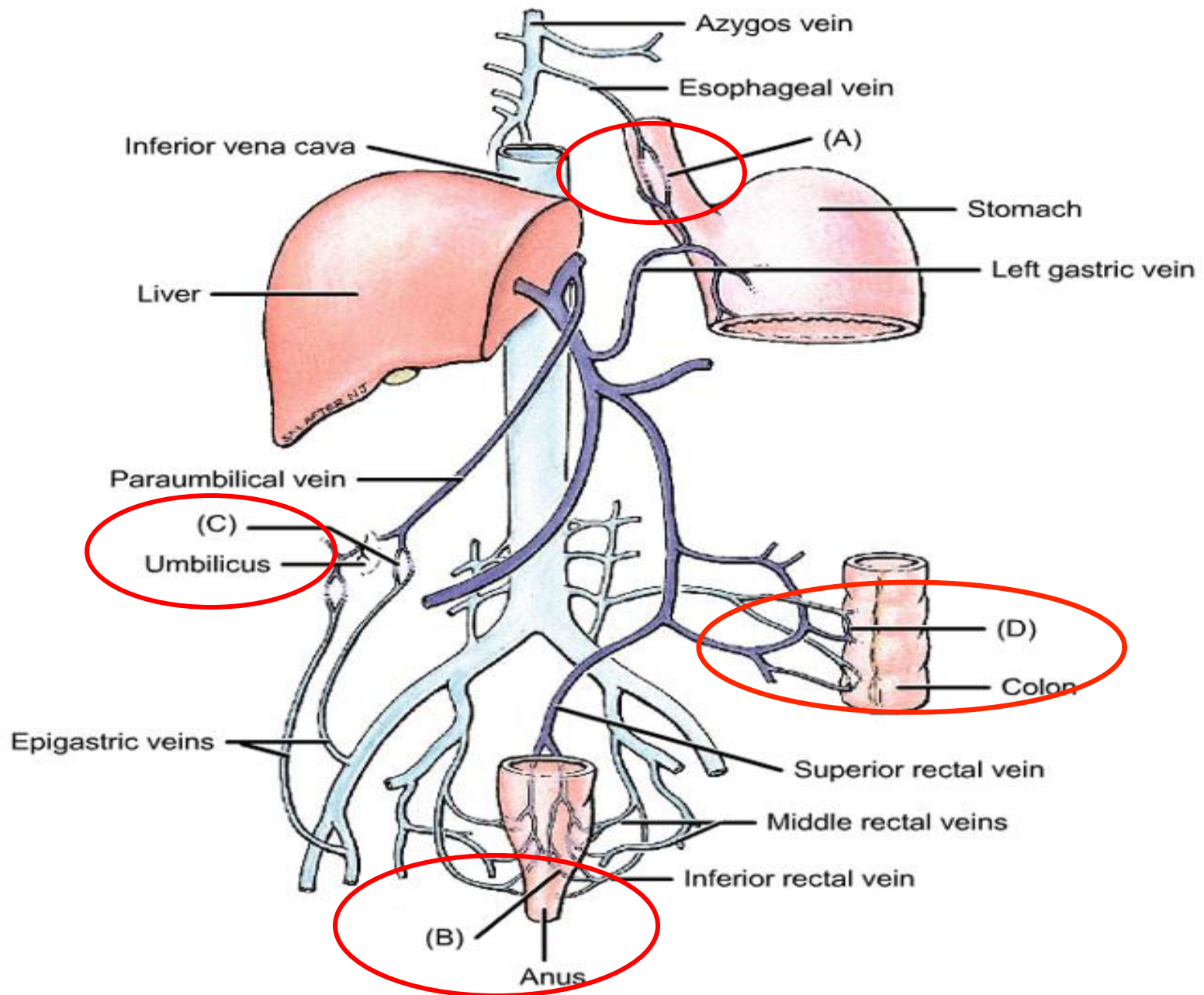
4. Posterior (behind) to Ascending & Descending colons:

Colic veins (portal)

Retroperitoneal veins of the wall

(systemic)





Portal Hypertension

Liver disease (**Cirrhosis**) ^{سکڑ} or ^{سکڑ}



Obstruction of portal vein



bld. Accumulation & Portal hypertension



Bld. Flow ^{خون کا بہاؤ} from Portal to Systemic circulation
(at porto-caval anastomosis sites)



Dilatation of veins
(Varicose veins)

^{آنتریائی}
Esophageal varices
+
hemoroid in anal canal
+
Caput medusae in umbilicus

Porto-Caval Varices

A sign of portal hypertension & liver disease

At 4 regions:

Around esophagus:

Esophageal varices

(easily ruptured $\Rightarrow$ ^{sure} internal bleeding)
fatal *موت يلقاه*

At anal canal:

Hemorrhoids

Around Umbilicus:

dilated veins around the umbilicus $\leftarrow$ Caput Medusa (head of Medusa)
تورم السرة

Behind ascending & descending colons.

