

ILO : PORTAL VENOUS SYSTEM

- #Consists of portal vein & its tributaries
- #Their blood pour directly into liver
- #Drains the G.I.T, spleen, pancreas & gall bladder

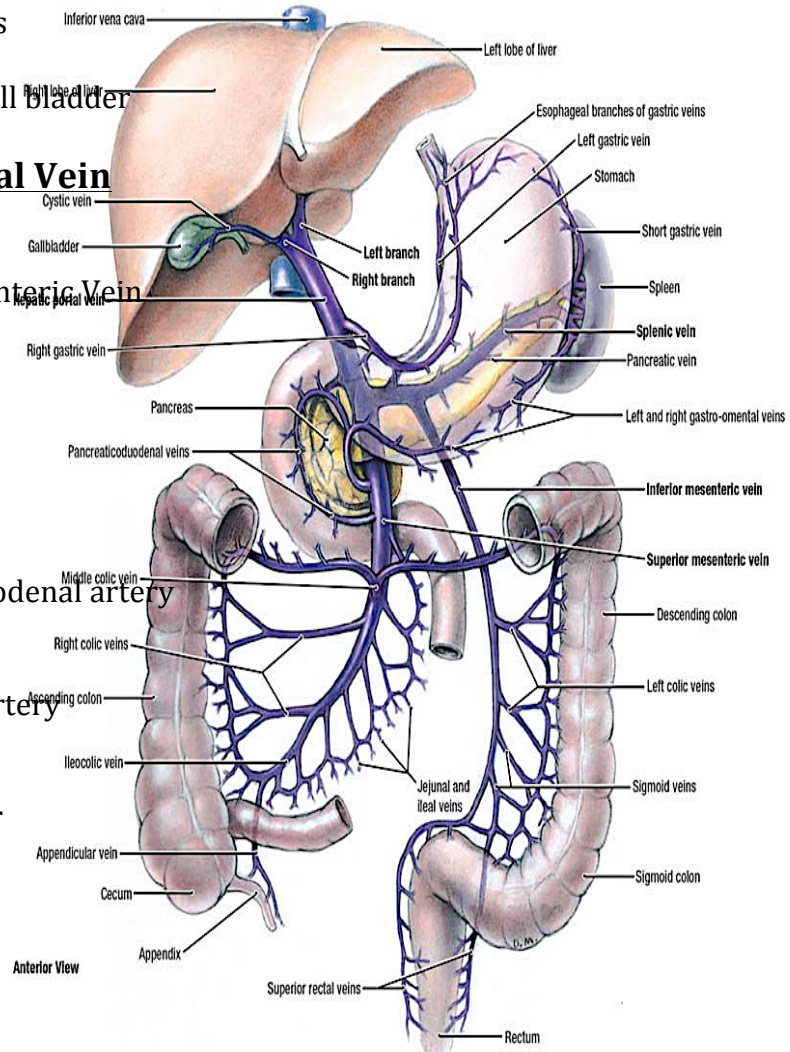
Portal Vein

Formation

- Union of Splenic vein & Superior Mesenteric Vein
- Behind neck of pancreas
- In front of I.V.C
- at level of 1st lumbar vertebrae

Course

1. Behind 1st part of the duodenum
 - In front of I.V.c
 - Behind the bile duct & the gastroduodenal artery
2. Free border of lesser omentum
 - In front of I.V.C
 - Behind the bile duct & the hepatic artery
3. At the porta hepatis
 - Divides into 2 branches:
 - *Right & Left to the lobes of liver



Termination

Divide into 2 branches ---> Liver sinusoids ---> 2 hepatic veins ---> I.V.C

Tributaries

1. Splenic vein : from the spleen
2. Superior Mesenteric Vein : from small intestine, colon as far as left third of the transverse colon & pancreas
3. Left gastric vein : from stomach & abdominal part of esophagus
4. Right gastric vein : from the stomach
5. Para-umbilical vein : connects left branch of the portal vein with the veins of the anterior abdominal wall around the umbilicus
6. Cystic vein : from the GB & joins right branch of portal vein

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Porto-systemic Anastomosis

Definition

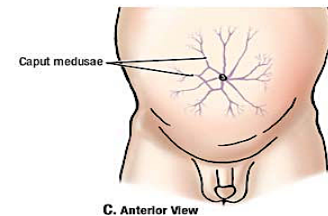
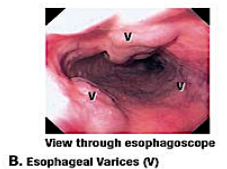
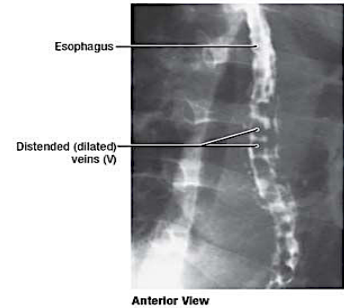
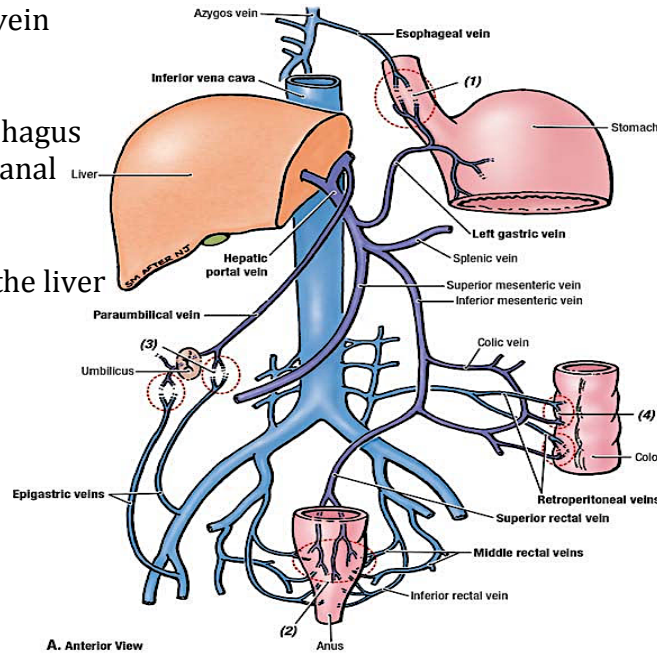
Communication between the tributaries of portal vein & systemic vein

N.B

When the portal vein is obstructed they may establish a collateral circulation. The visceral veins have no valve, a fact that helps their dilatation due to the obstruction of portal vein

Sites

1. Lower end of oesophagus
2. Lower end of anal canal
3. At umbilicus
4. Retroperitoneal
5. At the bare area of the liver
6. Inside liver



Site	Portal	Systemic	Pathology
Lower end of oesophagus	Left Gastric v.	Azygous v.	-Esophageal varices -Complication (Hematemesis)
Lower end of anal canal	Sup. rectal v.	Inf. rectal v.	-Piles or hemorrhoids -Complication (Bleeding piles)
At umbilicus	Paraumbilical v.	Veins of the AAW	Caput medusae
Retroperitoneal	Veins of gut	Veins of PAW	Congestion of viscera
Inside liver	Branches of portal v.	Tributaries of hepatic v.	Hepatomegally
At the bare area of liver	Branches of portal v.	Phrenic v.	Ascitis

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Splenic Vein

Formation:

Form at the hilum of the spleen by the union of about 4 - 5 tributaries from the spleen

Course & Relations

- At the beginning, it lies in the lienorenal ligament in company with the splenic artery & the tail of the pancreas
- Passes to the right across the posterior abdominal wall, behind the body of pancreas lower to the splenic artery

Termination

Unites with the superior mesenteric vein behind the neck of the pancreas to form the portal vein

Tributaries

1. Short gastric veins
2. Left gastroepiploic vein
3. Pancreatic veins
4. Inferior mesenteric vein

Inferior Mesenteric Veins

Formation

Continuation of the superior rectal vein at the middle of the left common iliac artery with the ureter on its lateral side

Course & Relations

- Ascends behind the peritoneum of the posterior abdominal wall
- Then, passes behind the body of pancreas & to the left side of the inferior mesenteric artery

Termination

Ends in the splenic vein, close to the point where it joins the superior mesenteric vein

Tributaries

1. Sigmoid veins : from the sigmoid colon
2. Left colic veins: from the descending colon & the left third of the transverse colon

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Superior Mesenteric Vein

Course & Relations

- Ascends in the root of the mesentery on the right side of the superior mesenteric artery
- Crosses the horizontal part of the duodenum & the uncinata process of the pancreas

Termination

Ends behind the neck of the pancreas by joining the splenic vein to form the portal vein

Tributaries

- 1. Jejunal & ileal veins** : from the jejunum & ileum
- 2. Ileocolic vein** : from ileum & ascending colon
- 3. Right colic vein** : from ascending colon
- 4. Middle colic vein** : from the transverse colon
- 5. Right gastroepiploic vein** : from the stomach & the greater omentum
- 6. Pancreaticoduodenal vein** : from the duodenum & head of pancreas