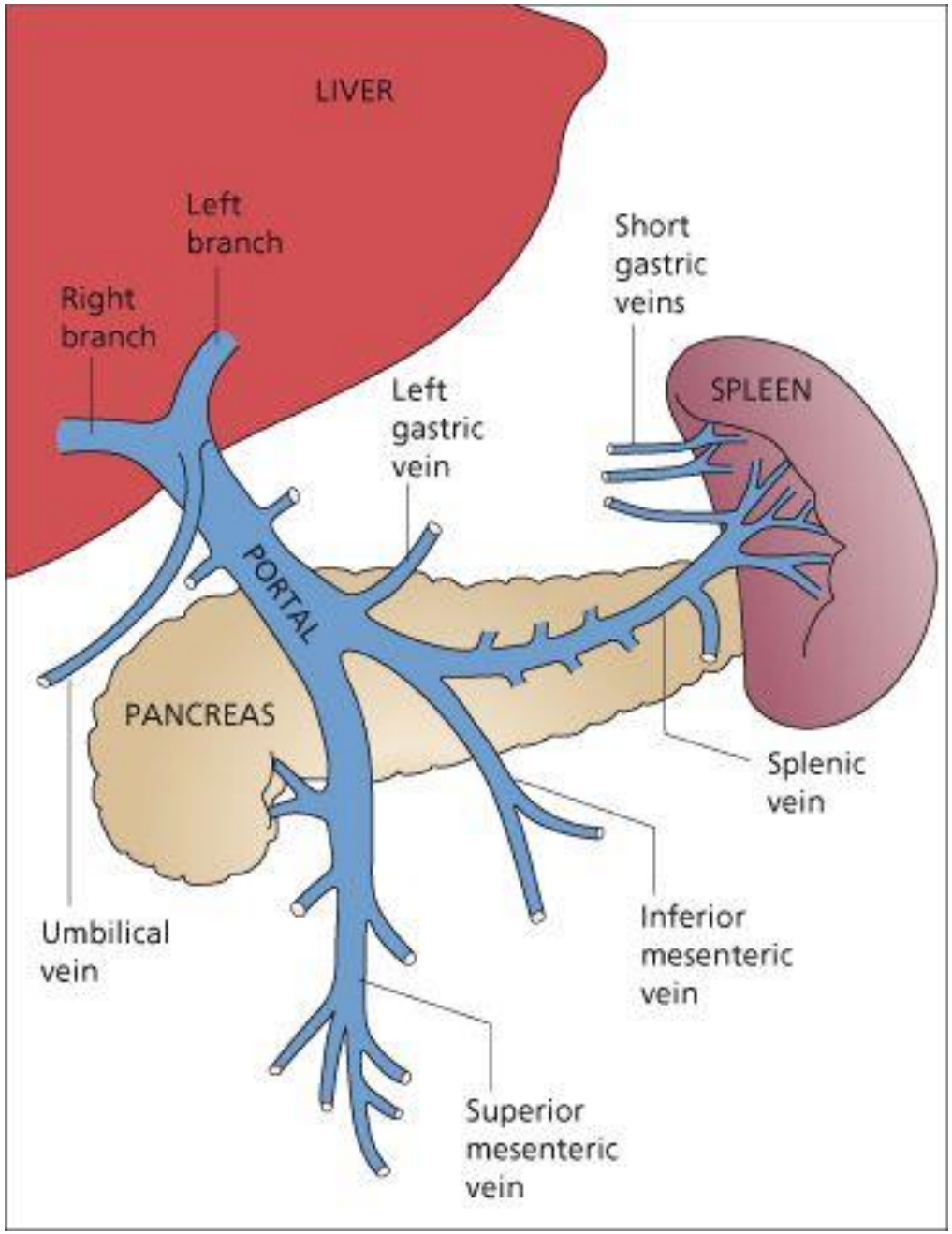
PORTAL VEIN


LIVER
Left branch
Right branch
Short gastric veins
SPLEEN
Left gastric vein
PORTAL
PANCREAS
Splenic vein
Umbilical vein
Inferior mesenteric vein
Superior mesenteric vein

- **The portal vein or hepatic portal vein is a blood vessel that carries blood from the gastrointestinal tract, gallbladder, pancreas and spleen to the liver.**
- **This blood contains nutrients and toxins extracted from digested contents.**
- **Approximately 75% of total liver blood flow is through the portal vein, with the remainder coming from the hepatic artery proper.**
- **The blood leaves the liver to the heart in the hepatic veins.**
- **The portal vein is not a true vein, because it conducts blood to capillary beds in the liver and not directly to the heart.**

- **It is a major component of the hepatic portal system, one of only two portal venous systems in the body – with the hypophyseal portal system being the other.**
- **The portal vein is usually formed by the confluence of the superior mesenteric and splenic veins and also receives blood from the inferior mesenteric, left and right gastric veins, and cystic veins.**

- **Length- approximately 8 cm**
- **Location- in the right upper quadrant of the abdomen, originating behind the neck of the pancreas.**
- ***Also called splenic-mesenteric confluence.***

- **Immediately before reaching the liver, the portal vein divides into right and left. It ramifies further, forming smaller venous branches and ultimately portal venules. Each portal venule courses alongside a hepatic arteriole. These vessels ultimately empty into the hepatic sinusoids to supply blood to the liver.**

Clinical significance

- **Portal hypertension-**

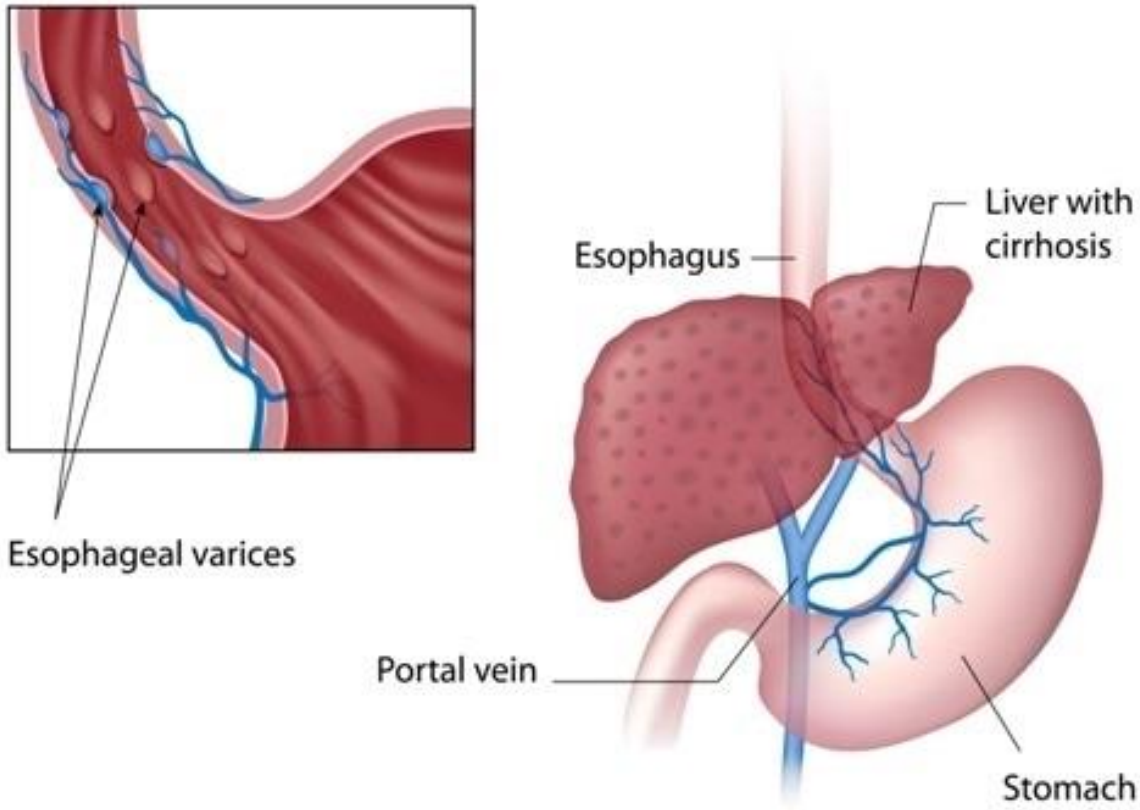
Increased blood pressure in the portal vein, called portal hypertension, is a major complication of liver disease, most commonly cirrhosis.

Clinical signs of portal hypertension include those of chronic liver disease: ascites, esophageal varices, caput medusae and piles.

Portal-systemic anastomoses, in which the portal venous system communicates with the systemic venous system, are in the following locations:

- **Between the esophageal veins draining into either the azygos vein (systemic system) or the left gastric vein (portal system); when dilated these are *esophageal varices.***
- **Between the rectal veins, the inferior and middle veins draining into the IVC (systemic system) and the superior rectal vein continuing as the inferior mesenteric vein (portal system); when abnormally dilated these are *hemorrhoids.***

Esophageal Varices



- **Paraumbilical veins of the anterior abdominal wall (portal system) anastomosing with superficial epigastric veins (systemic system); *when dilated these veins produce caput medusae—varicose veins radiating from the umbilicus. These dilated veins were called caput medusae because of their resemblance to the serpents on the head of Medusa, a character in Greek mythology.***
- **Twigs of colic veins (portal system) anastomosing with retroperitoneal veins (systemic system).**