

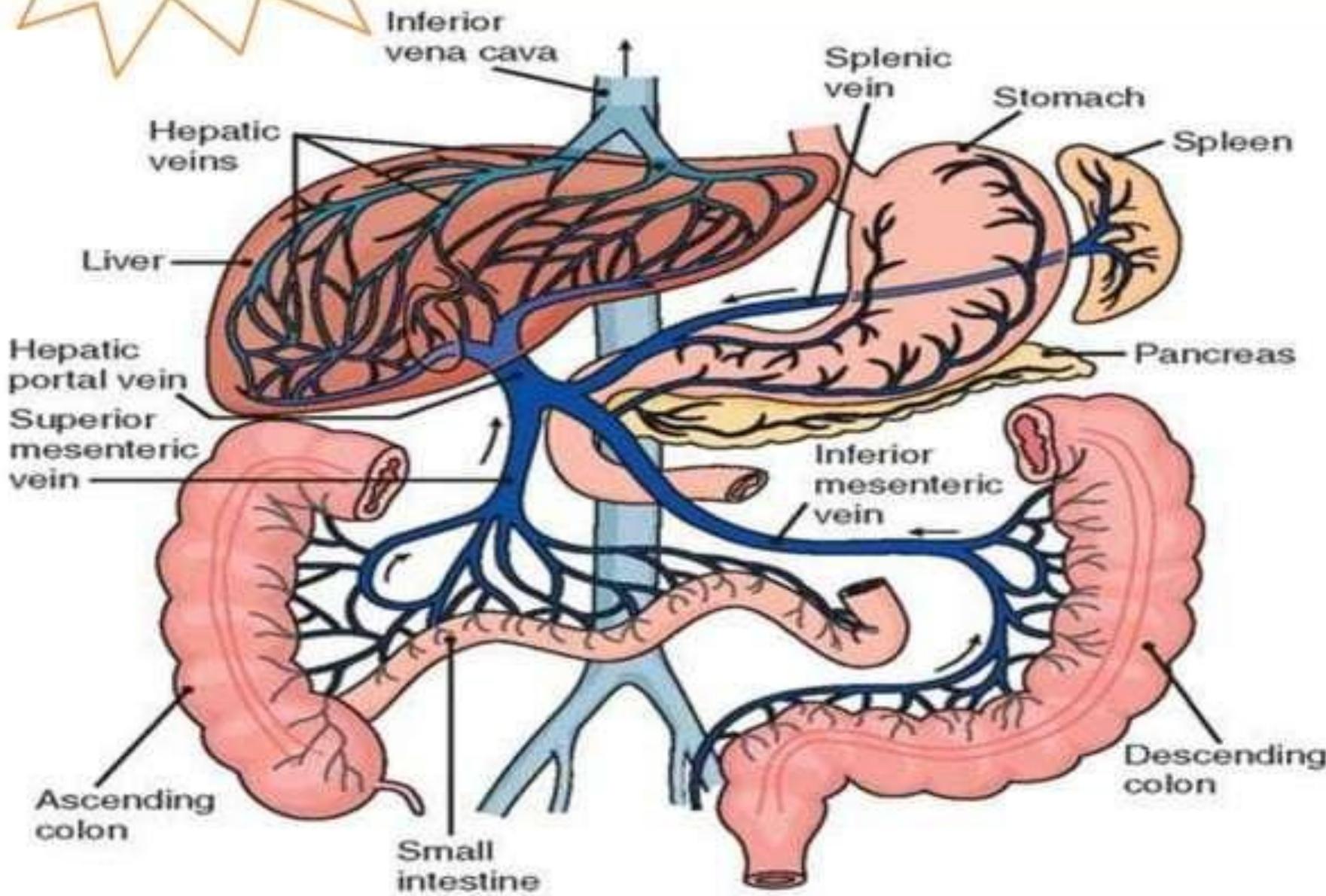
Portal Hypertension

By,
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Assistant Professor.

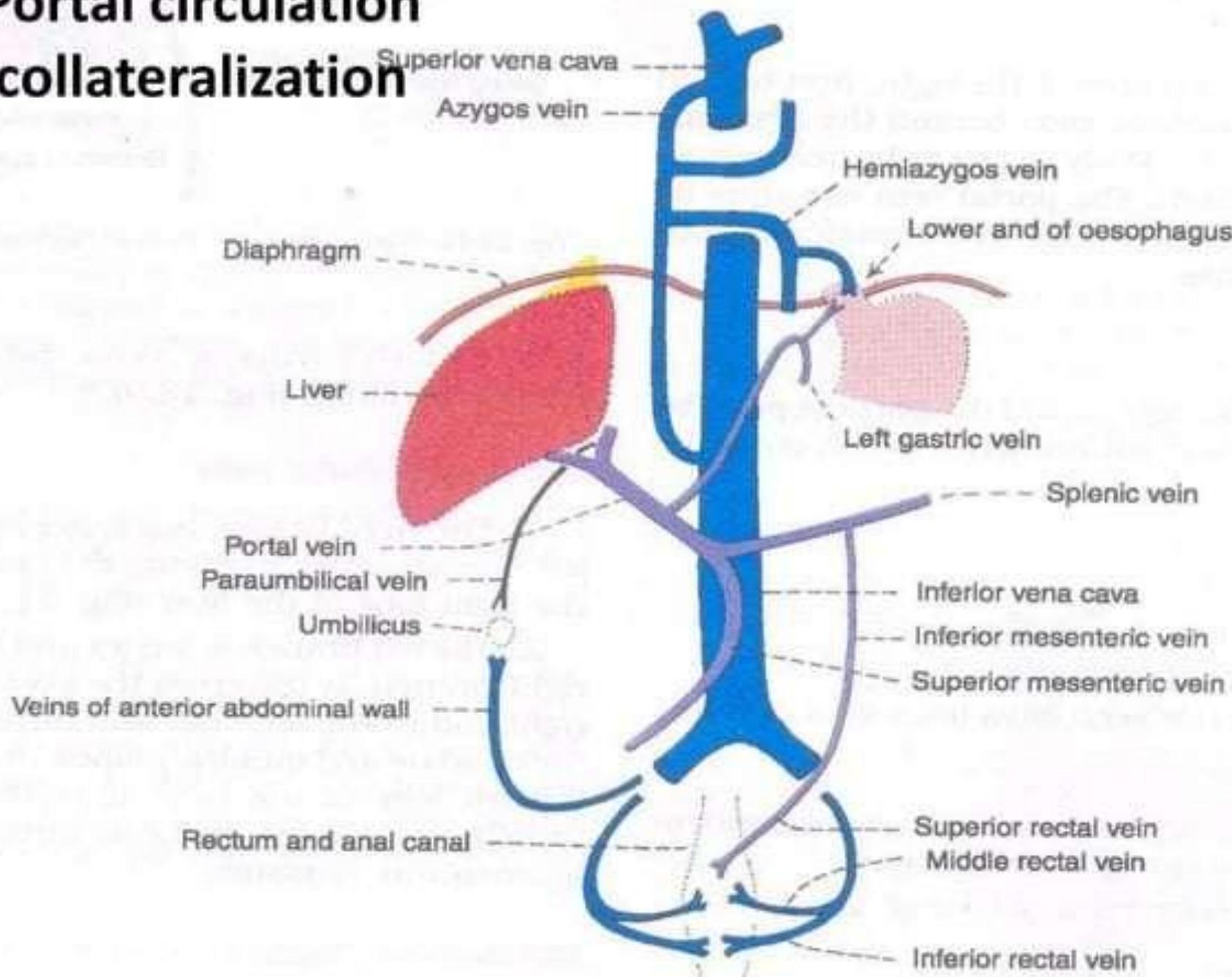
Portal venous pressure is the blood pressure in the hepatic portal vein, and is normally between 5-10 mmHg.



Portal circulation



Portal circulation collateralization



Meaning

- + Portal hypertension is an increase in the blood pressure within a system of veins called the portal venous system.



Definition

- + It is defined as the elevation of the hepatic venous pressure gradient to $> 10\text{mm Hg}$



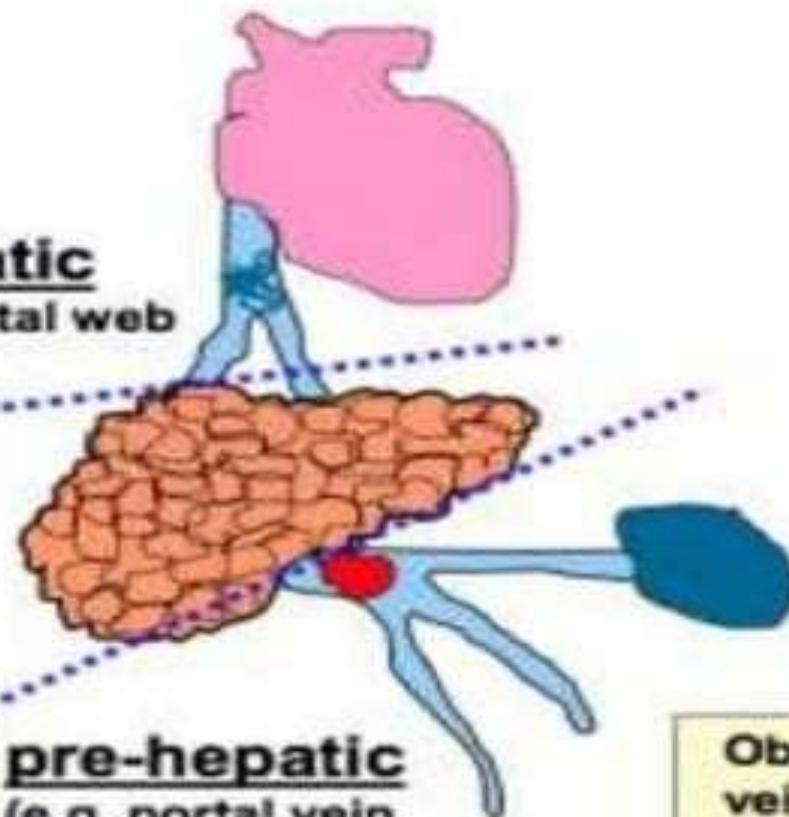
Types:



post-hepatic

(e.g., congenital web
of IVC)

tumors, e.g.
renal cell
carcinoma



intrahepatic

- most common type of portal HTN
- cirrhosis
- other types of pathology

pre-hepatic (e.g. portal vein thrombosis)

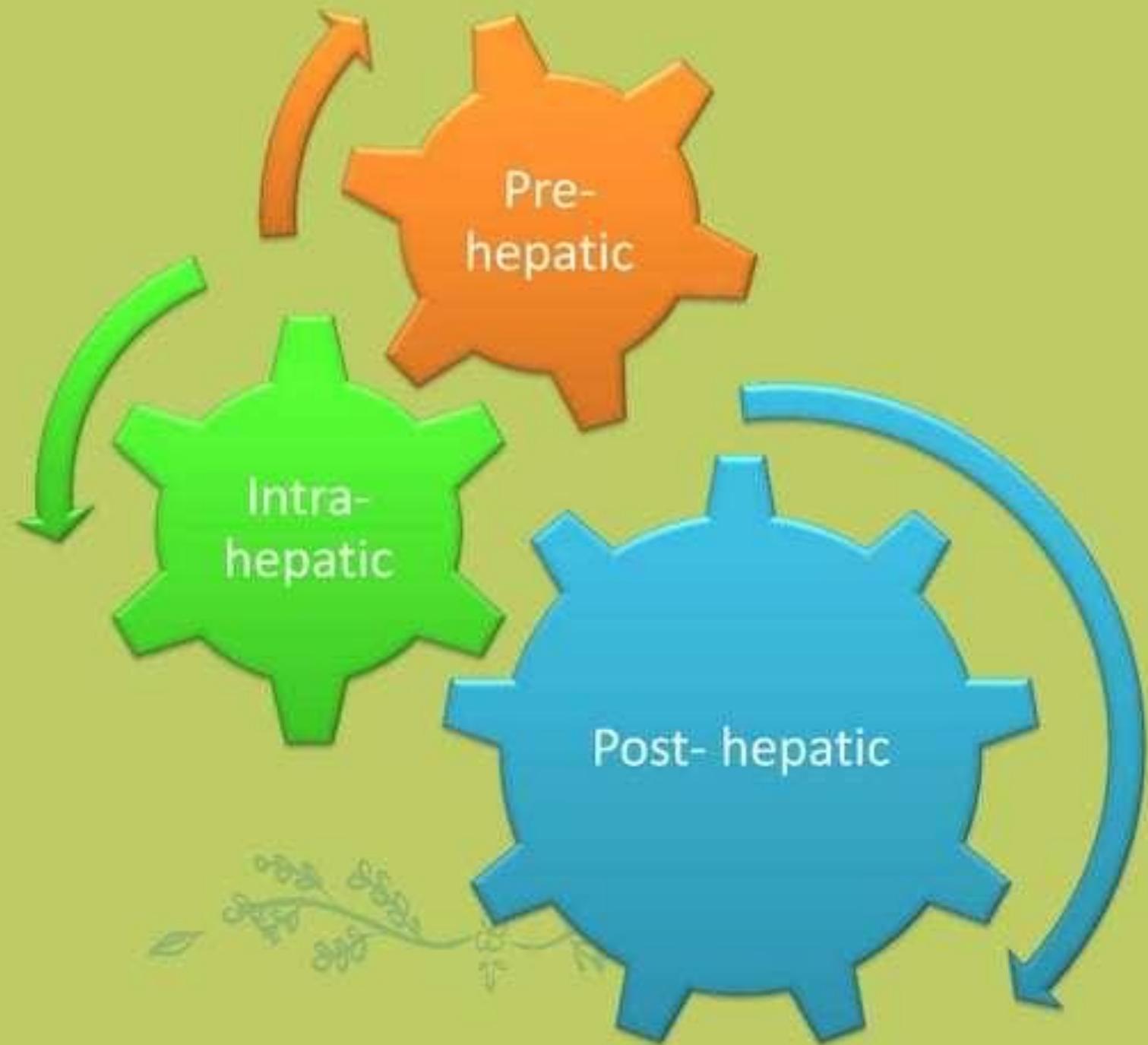
Obstruction to portal vein flow →
↑ pressure >10mm Hg

Classification of Portal Hypertension

Causes:

- + Depending on the site of vascular obstruction;





Pre- hepatic

- + Portal vein Thrombosis
- + Pancreatitis
- + Trauma
- + Hypercoaguable states



Intra-hepatic

- + Schistosomiasis
- + Congenital hepatic fibrosis
- + Sarcoidosis
- + Myeloproliferative diseases
- + Drugs
- + Toxins
- + Cirrhosis
- + Fatty liver
- + Metastatic malignant disease



Postheaptic:

- Hepatic vein thrombosis
(budd -chiari syndrome)
- Constrictive pericarditis
- Rt sided heart failure



Clinical manifestation:

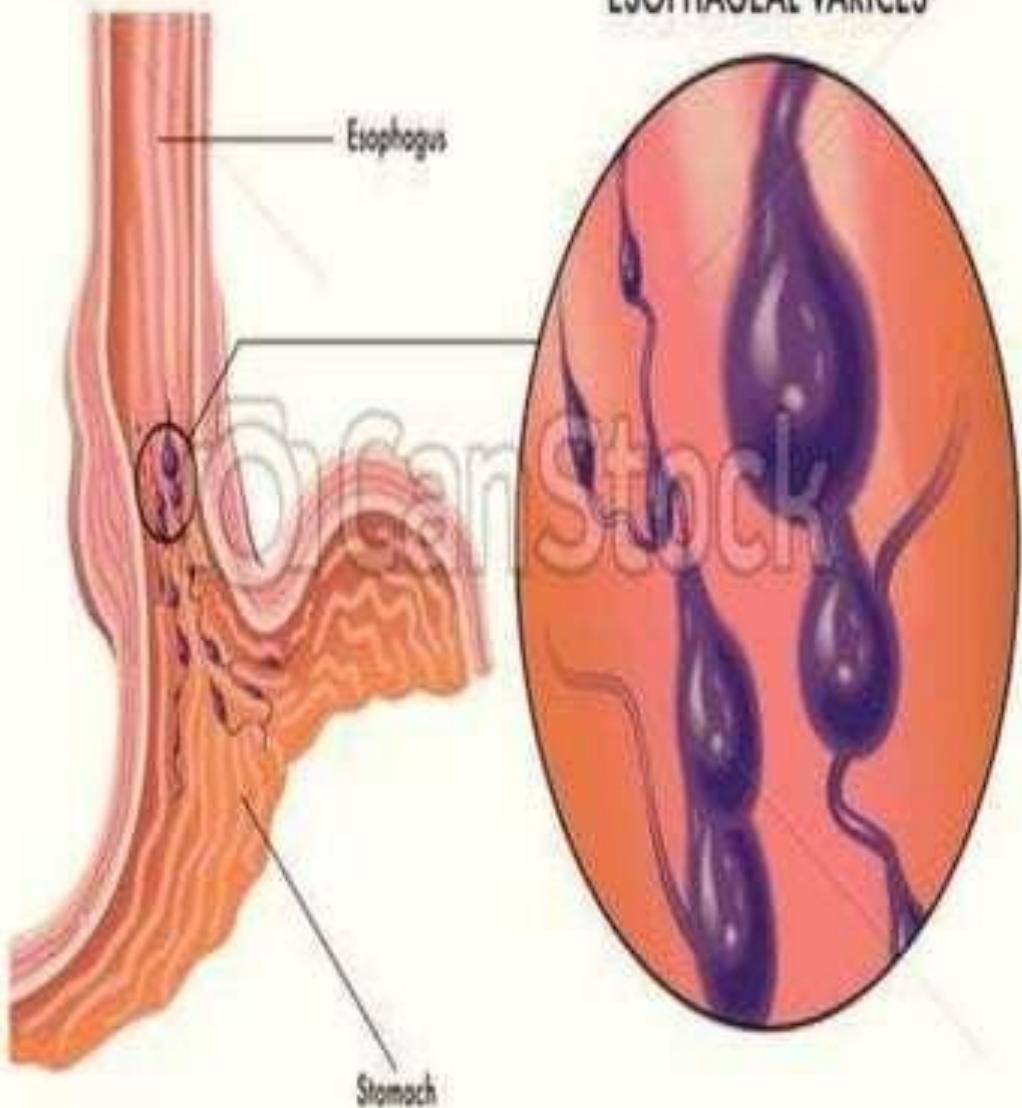
- + Ascites
- + Hypersplenism



- + Increased portosystemic shunting :
 - Oesophageal varices
 - Haemorrhoids
 - Caput medusae



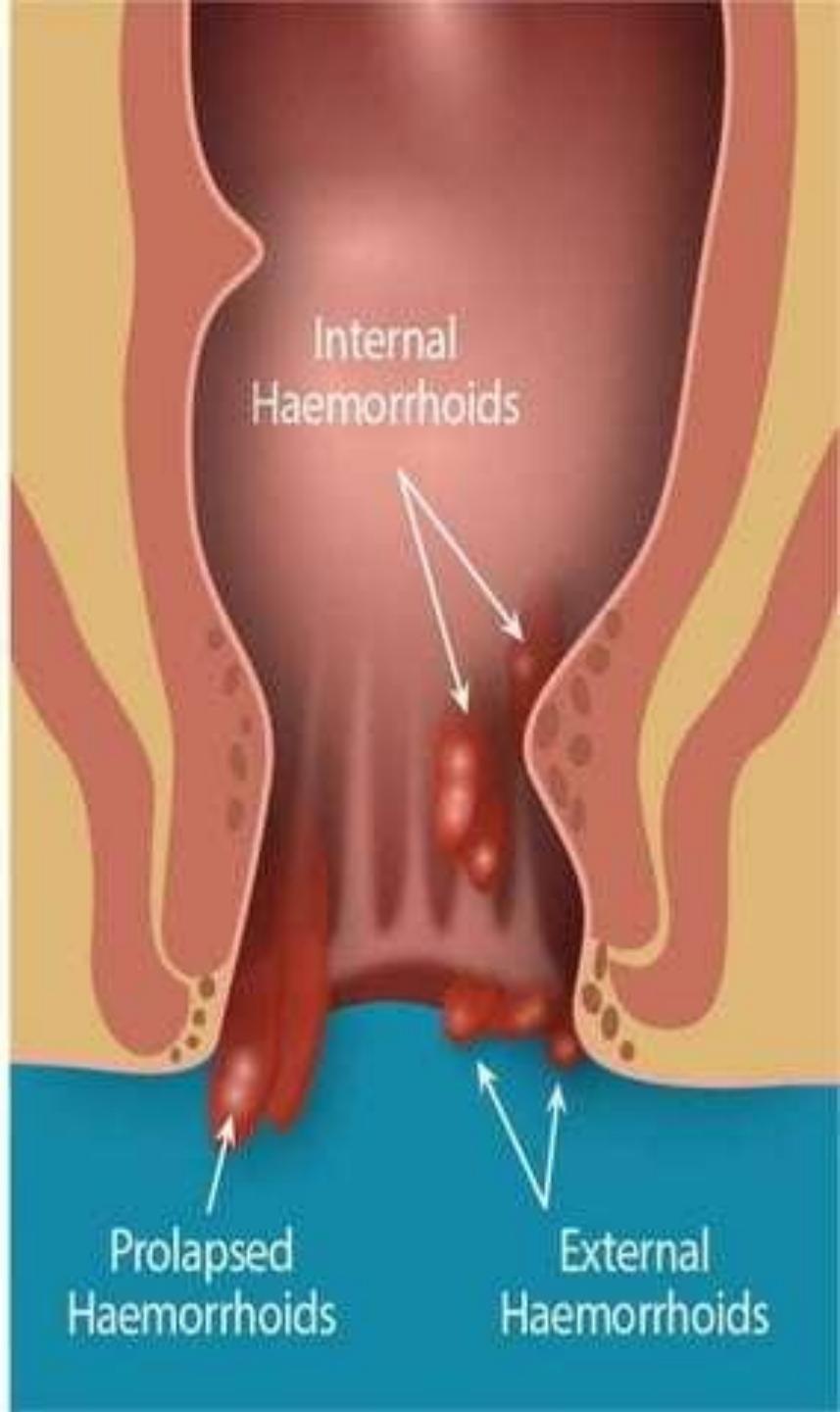
ESOPHAGEAL VARICES



Internal
Haemorrhoids

Prolapsed
Haemorrhoids

External
Haemorrhoids



Caput medusae: is the appearance of distended and engorged superficial epigastric veins, which are seen radiating from the umbilicus across the abdomen.



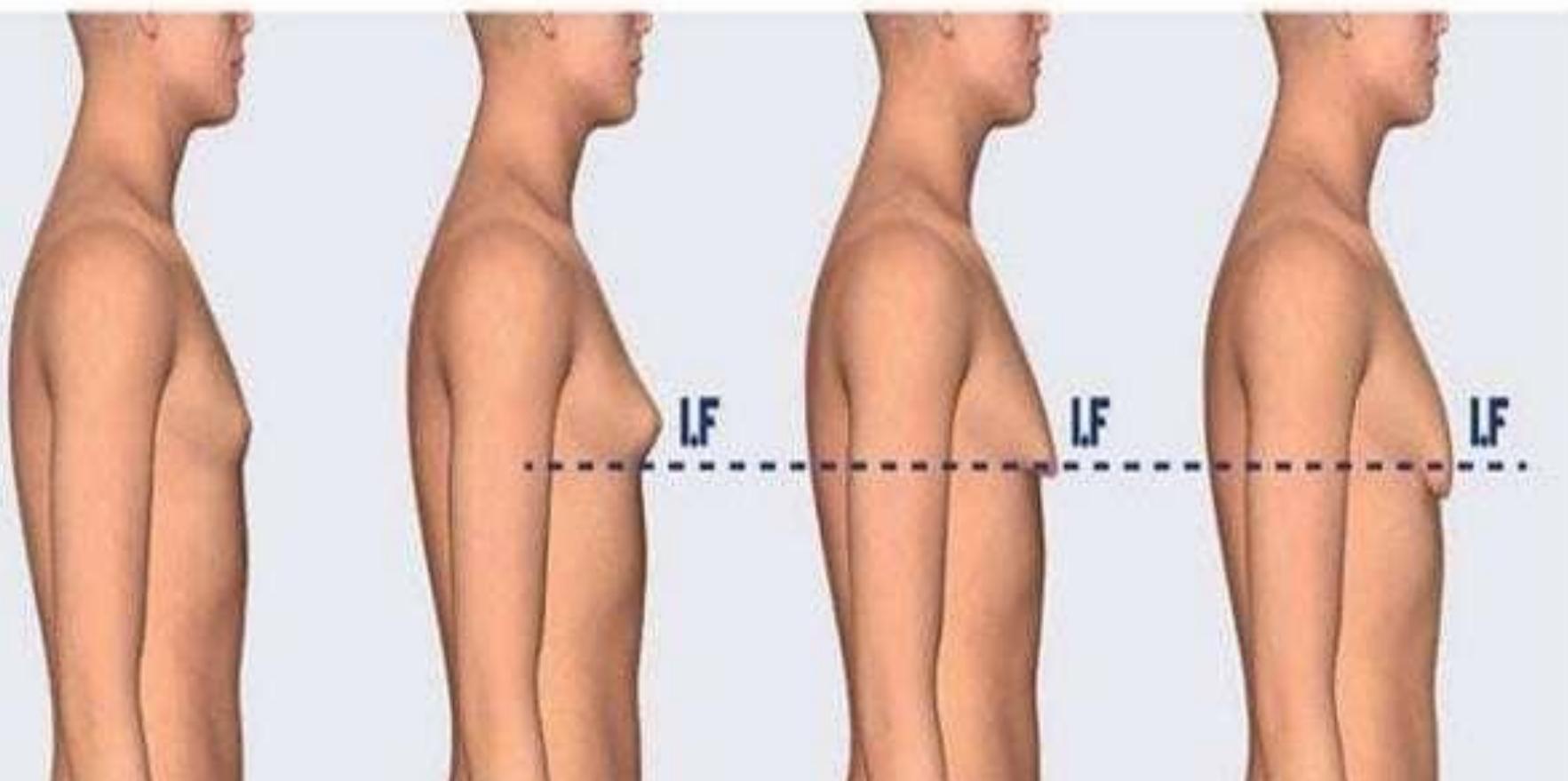
- + Hepatic encephalopathy
- + hepatorenal failure
- + Gastrointestinal bleeding
- + Reduced levels of platelets, blood cells that help form blood clots, or white blood cells



- + Abdominal pain
- + Black, tarry color stool
- + Melena
- + Hematemesis
- + Jaundice
- + Pruritus
- + Gynecomastia



Grades of Gynecomastia



Grade 1

Grade 2

Grade 3

Grade 4

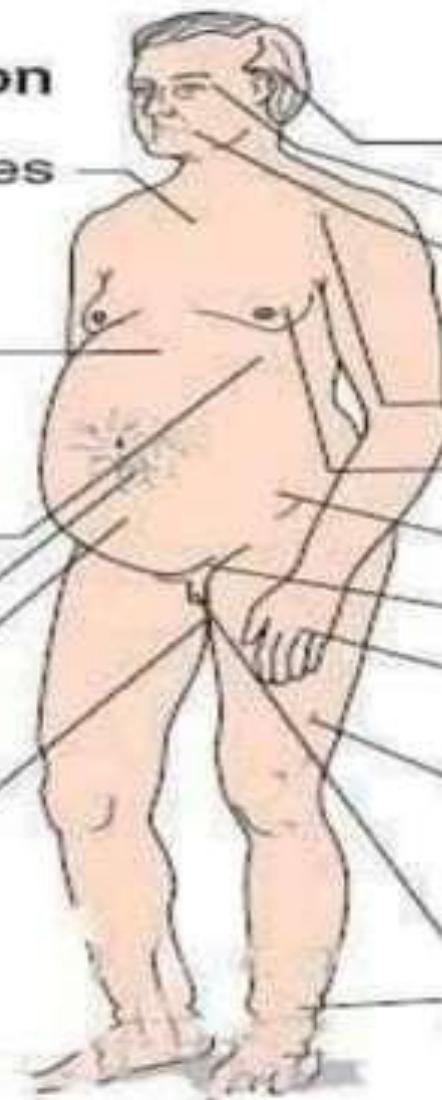


- + Fatigue
- + Increased irritability
- + Altered sleep pattern
- + Weight loss
- + Spider angiomata



Effects of portal hypertension

- Esophageal varices
- Hematemesis
- Peptic ulcer
- Melena
- Splenomegaly
- Caput medusae
- Ascites
- Hemorrhoids



Effects of liver cell failure

- Coma
- Scleral icterus
- Fetor hepaticus (breath smells like a freshly opened corpse)
- Spider nevi
- Gynecomastia
- Jaundice
- Loss of sexual hair
- Liver "flap" = asterixis (coarse hand tremor)
- Bleeding tendency (decreased prothrombin)
- Anemia
- Testicular atrophy
- Ankle edema

Presentation of cirrhosis/portal hypertension.

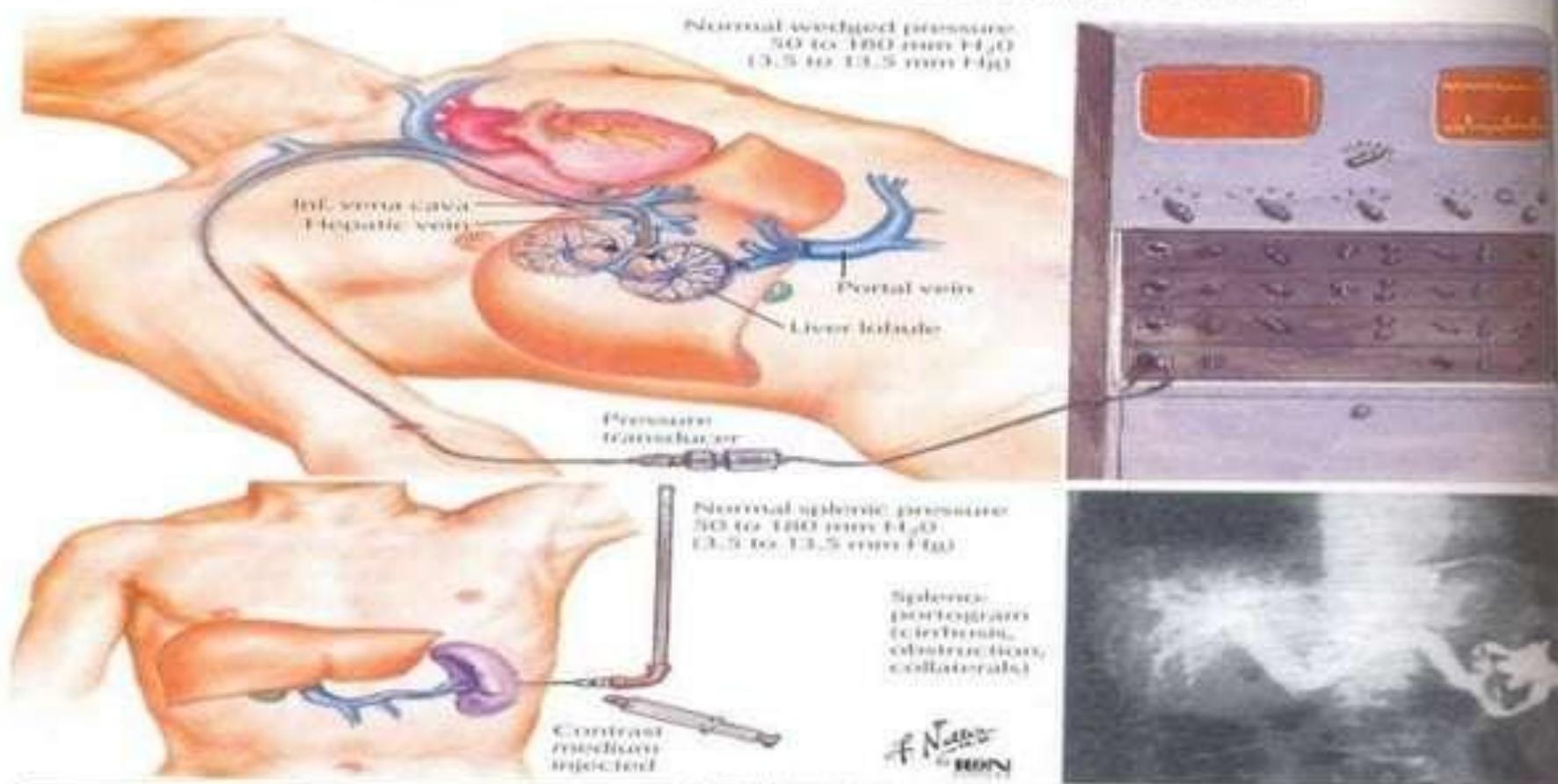
Diagnostic evaluation:

1. Blood Count
2. Liver Function Tests
3. **Oesophagogastroduodenoscopy**
4. Usg
5. Mri
6. Liver Angiography
7. Coeliac-mesenteric Arteriography
8. **Splenic Portogram**



PISAROW 224-1

Clinical Measurement of Portal Hypertension



• <http://www.bartleby.com>

www.ijerph.org

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Table 4.20: NIST atomic ESR: 2430

卷之三

卷之三

卷之三

Scalability

File: 0763 0000 1-4

中醫藥研究 2019年第3期

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（二）（三）

[Sobres](#) | [Contato](#) | [Acessos restritos](#) | [Ajuda](#) | [Sair](#)

2003-001-100-00001-0,0 2003-001-074-0001-0

13.5 for 13.5 mm thick = 13.5 for 3.4 mm thick

Power distribution

— 11 —

Journal of Health Politics, Policy and Law

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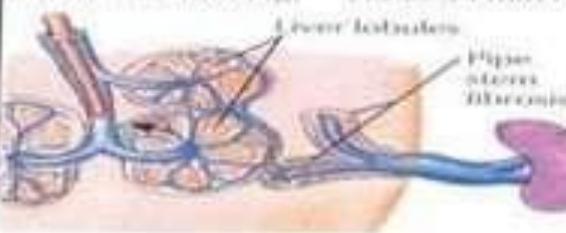
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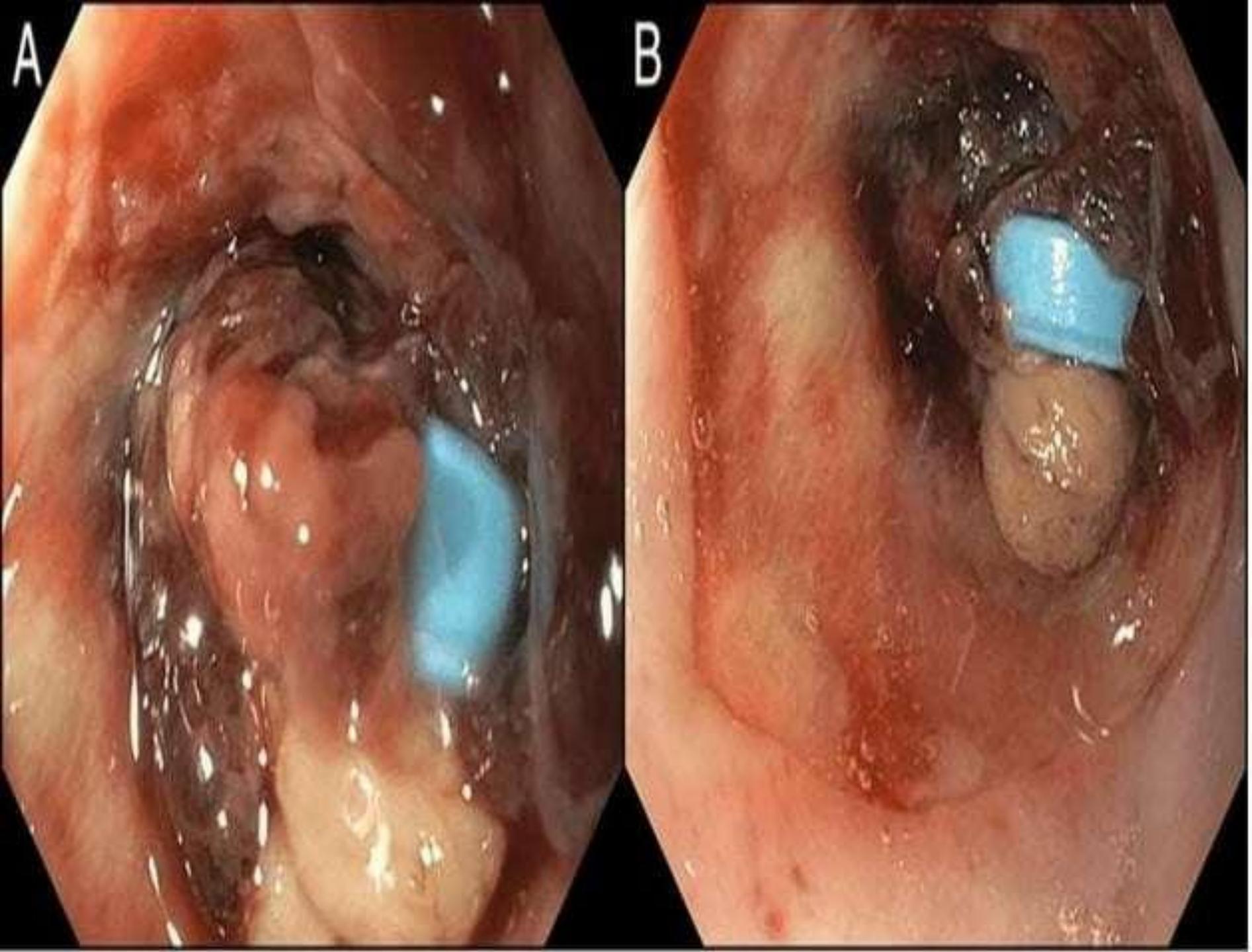
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Treatment :

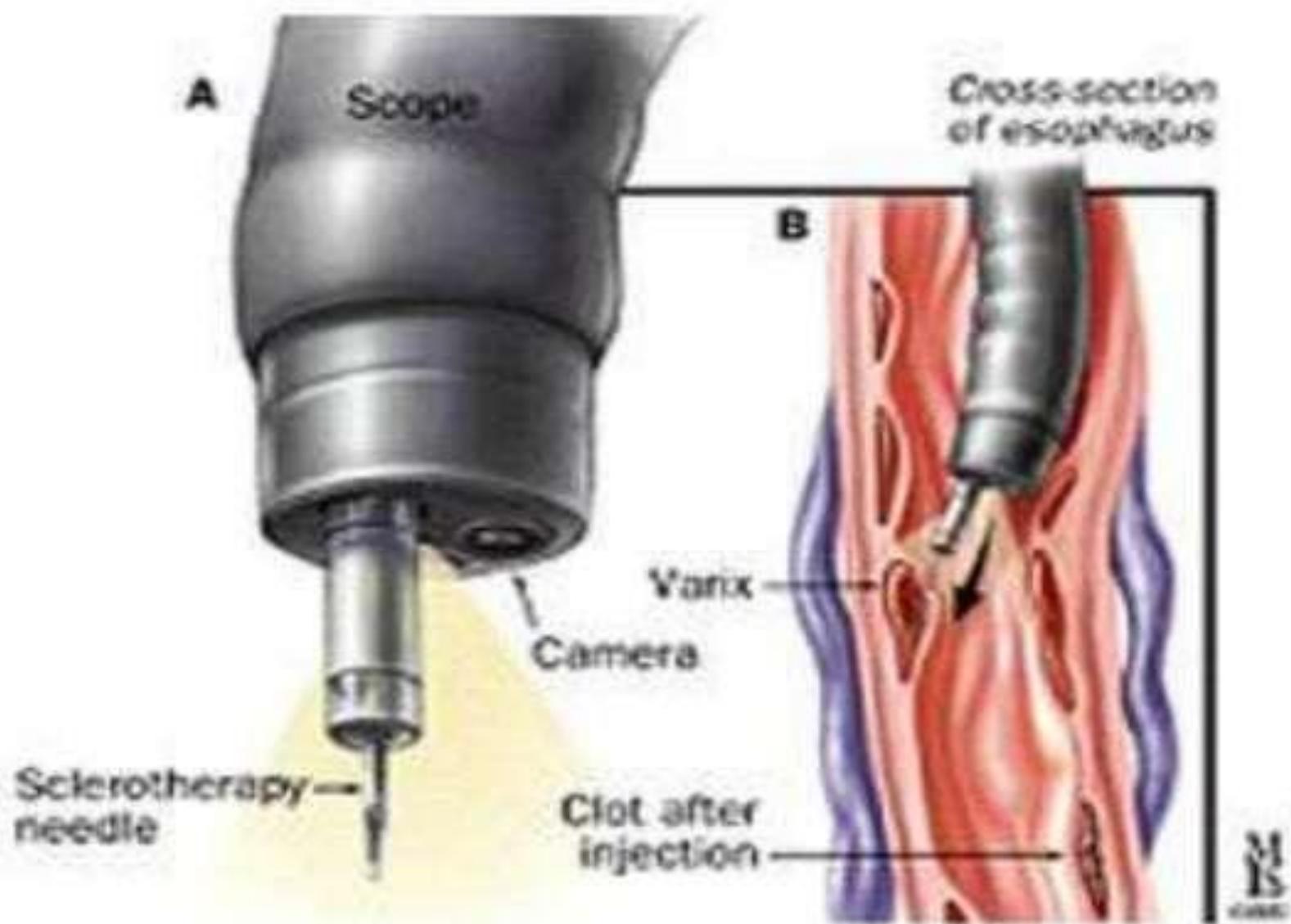
- + Endoscopic therapy :
 - .Banding
 - .Sclerotherapy





A

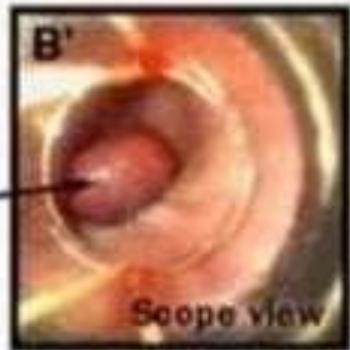
B



Rubber Band
Ligation
System®

Banded
varice

A



Banded
varices

A

Scope

X-sec of esophagus

B



Figure 14. Banding for esophageal varices.

Figure 13. Sclerotherapy for esophageal varices.

- + Medications:
- + Beta blockers
- + Lactulose: to treat mental confusion.





- + Life style changes:



Transjugular Intrahepatic Portosystemic Shunt (TIPS)

Transjugular intrahepatic portosystemic shunt (TIPS)

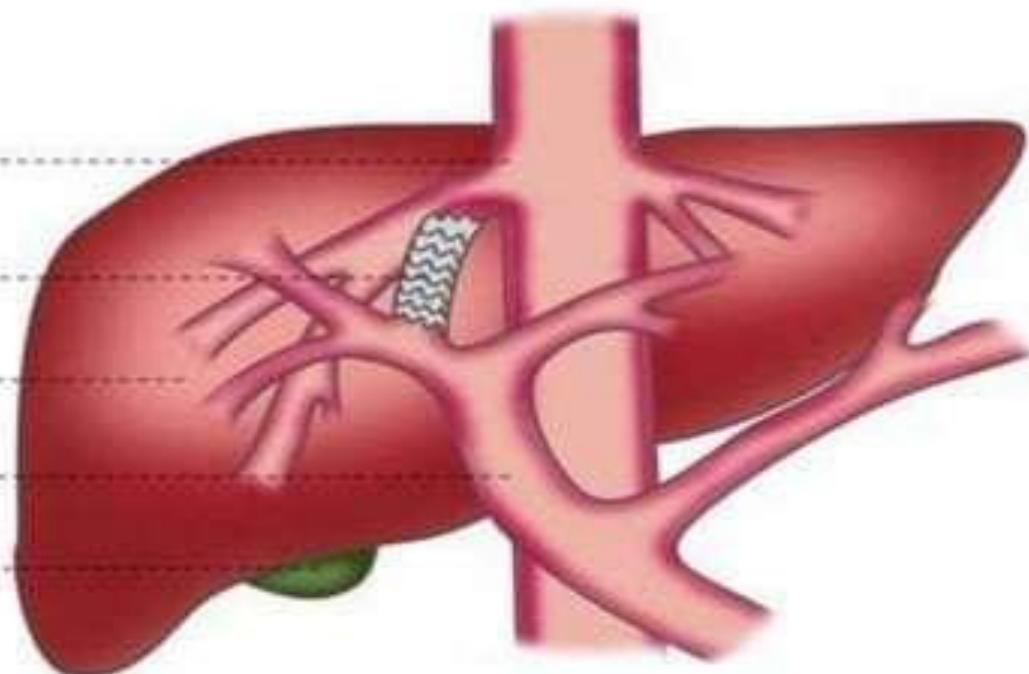
Hepatic vein

Stent

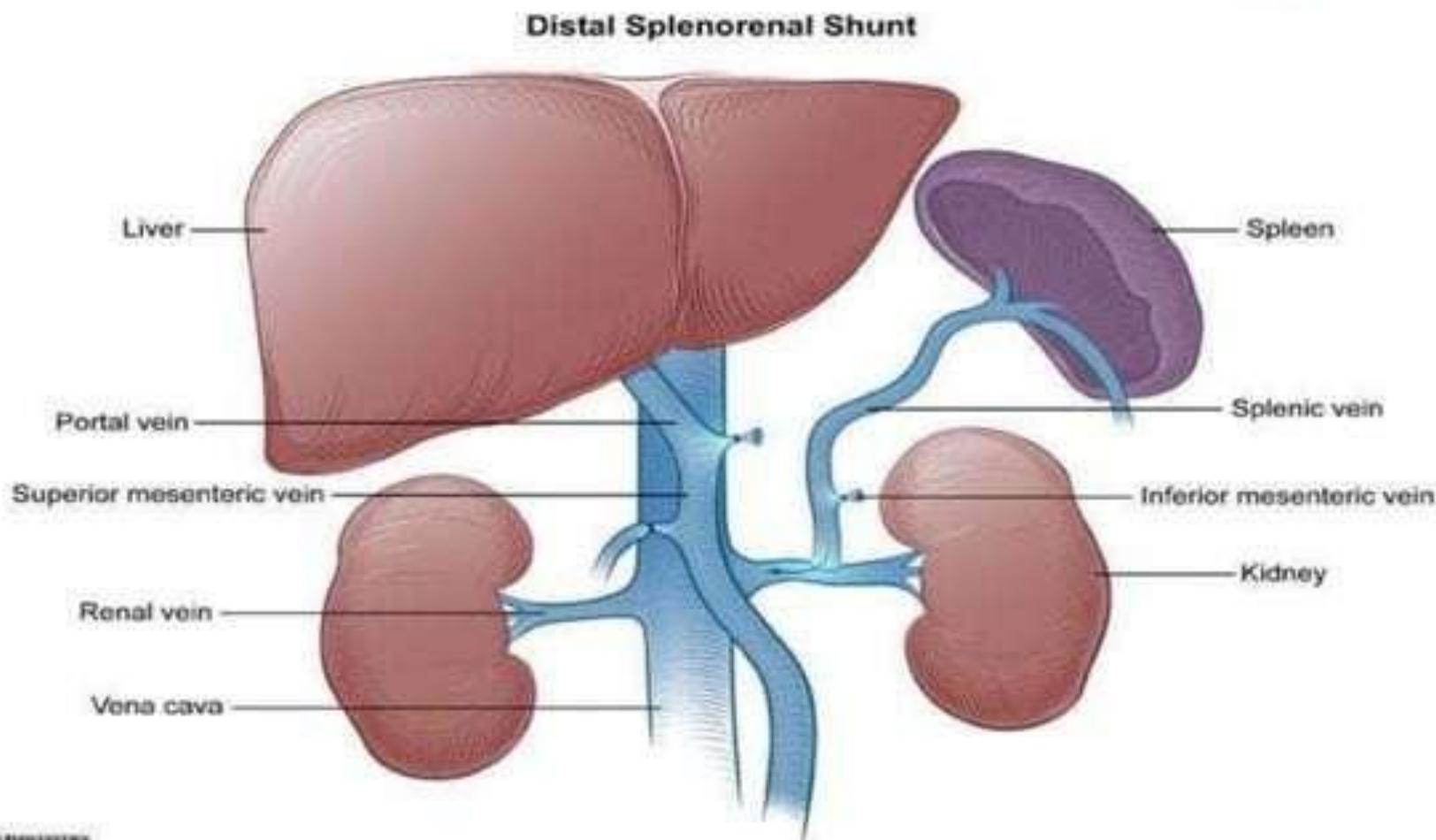
Liver

Portal vein

Gallbladder

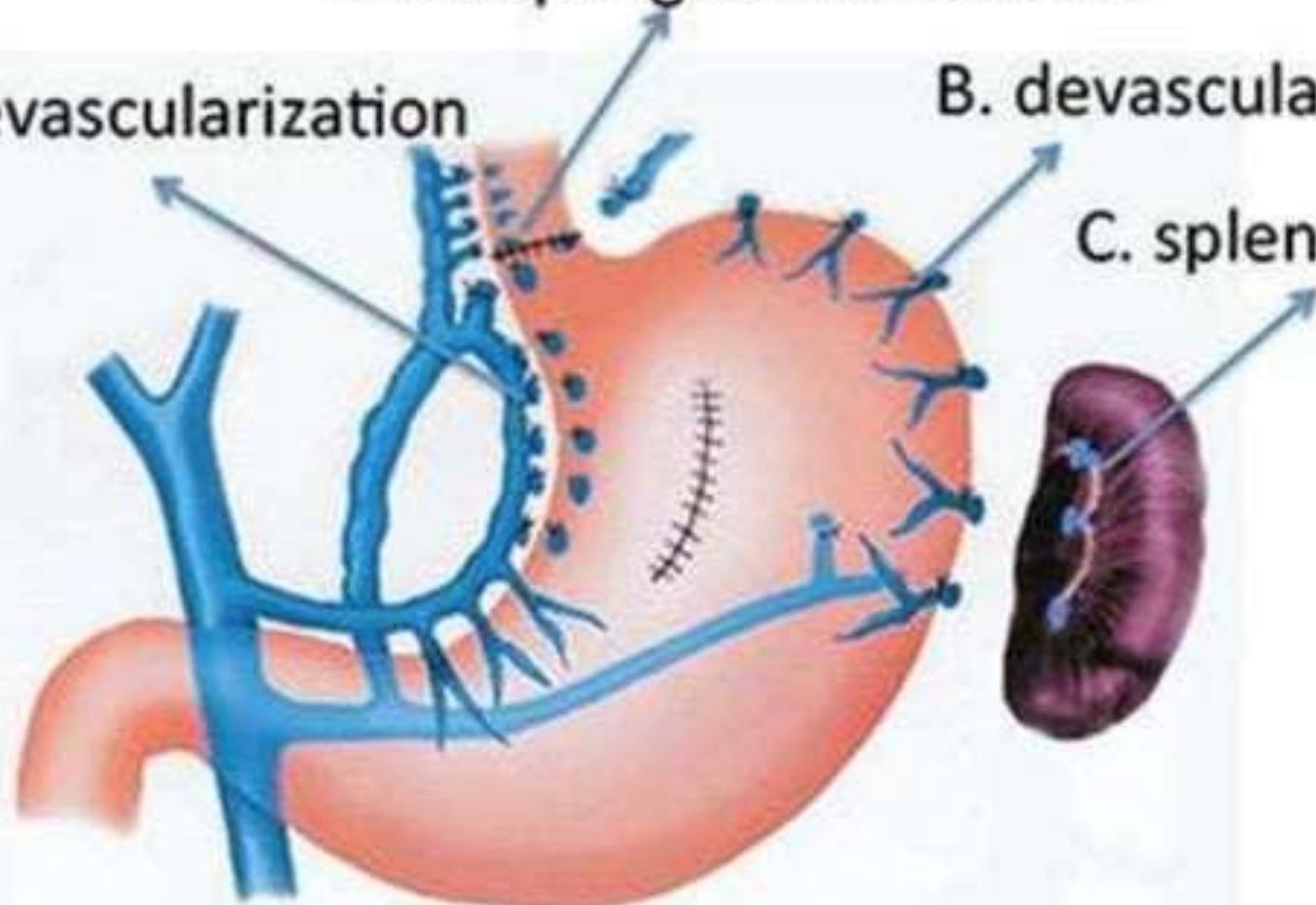


Distal Splenorenal Shunt

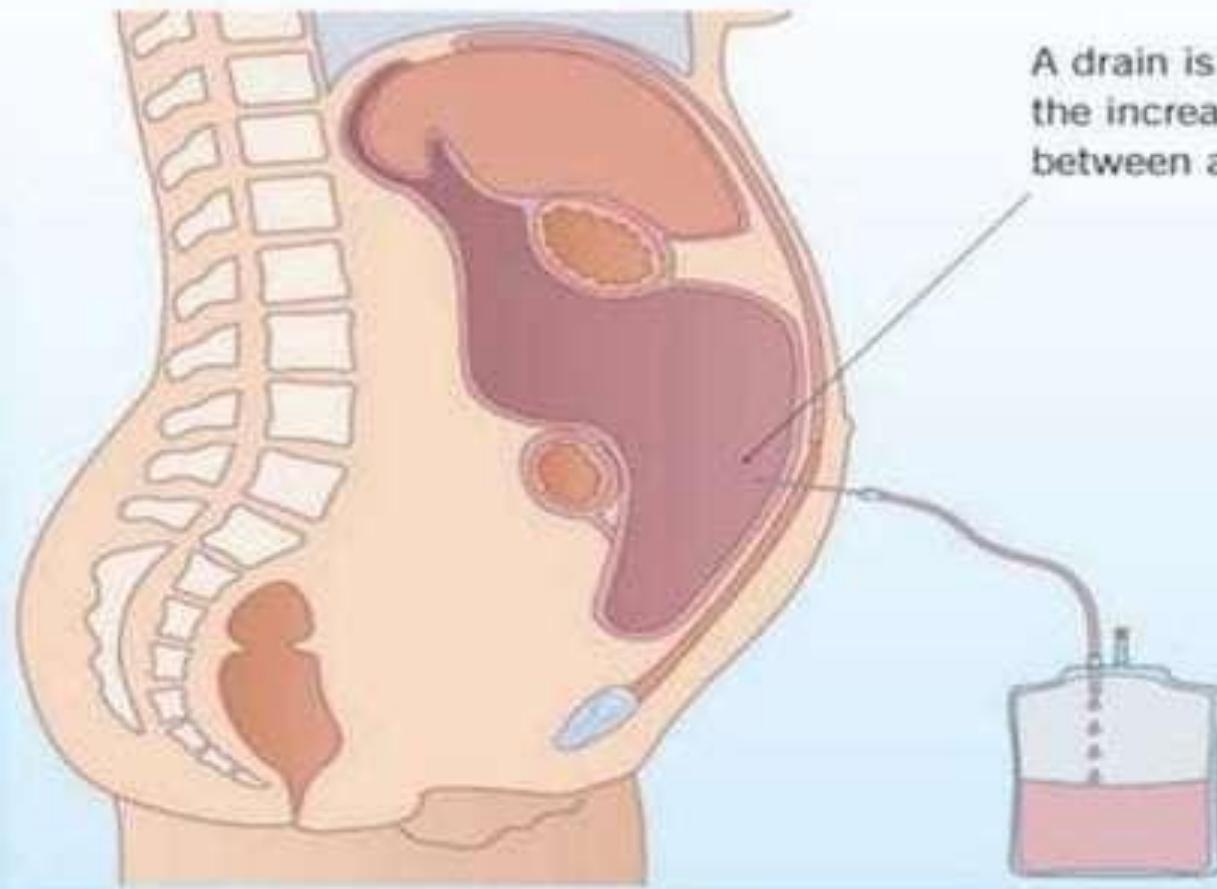


Devascularization

- A. esophageal transection
- B. devascularization
- C. splenectomy



Paracentesis

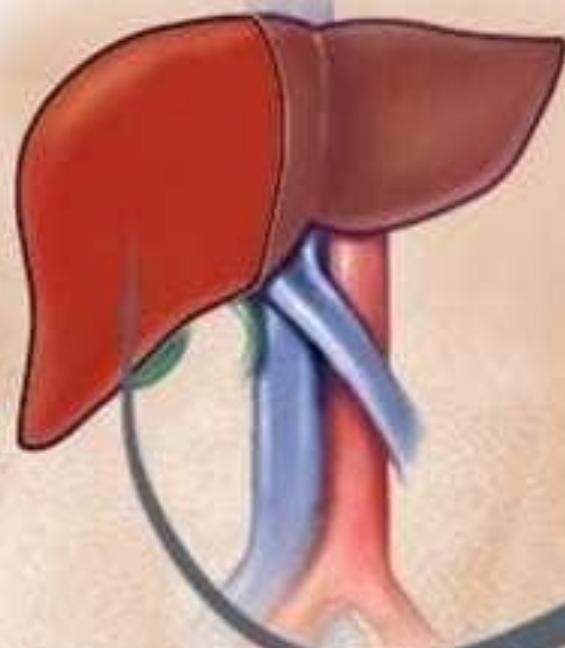


A drain is attached to remove the increased amount of fluid between abdominal organs.

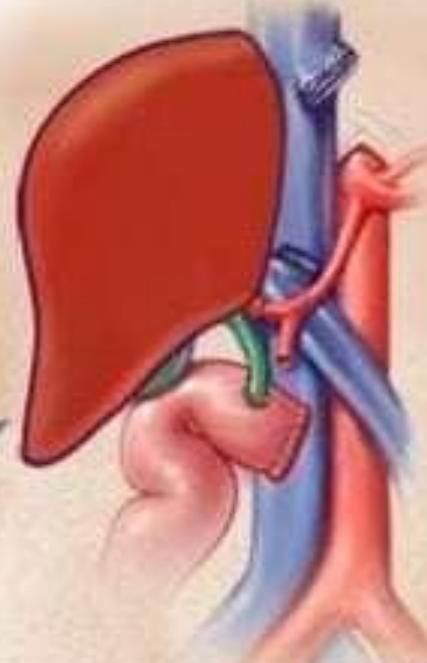
Liver transplant



Donor



Recipient



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