

# PORTAL HYPERTENSION

# DEF :- Elevation of hepatic venous pressure gradient (HVPG) to  $>5$  mmHg

- (OR)
- Increased pressure in portal venous circulation

# CLASSIFICATION :-

## I. Prehepatic

- Portal vein thrombosis
- Splenic vein thrombosis
- Massive Splenomegaly (Banti's Syndrome)

## II. Hepatic

- Alcoholic hepatitis
- Cirrhosis
- Congenital hepatic fibrosis

- Schistosomiasis
- Venoocclusive syndrome

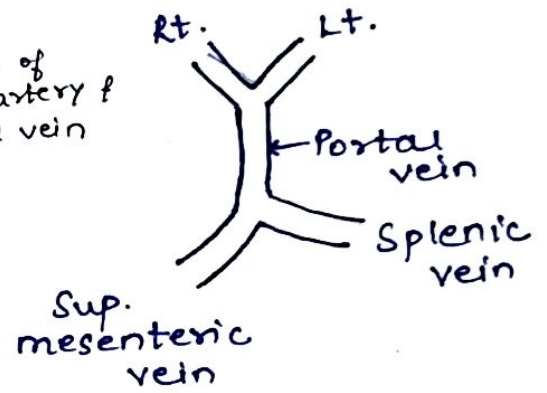
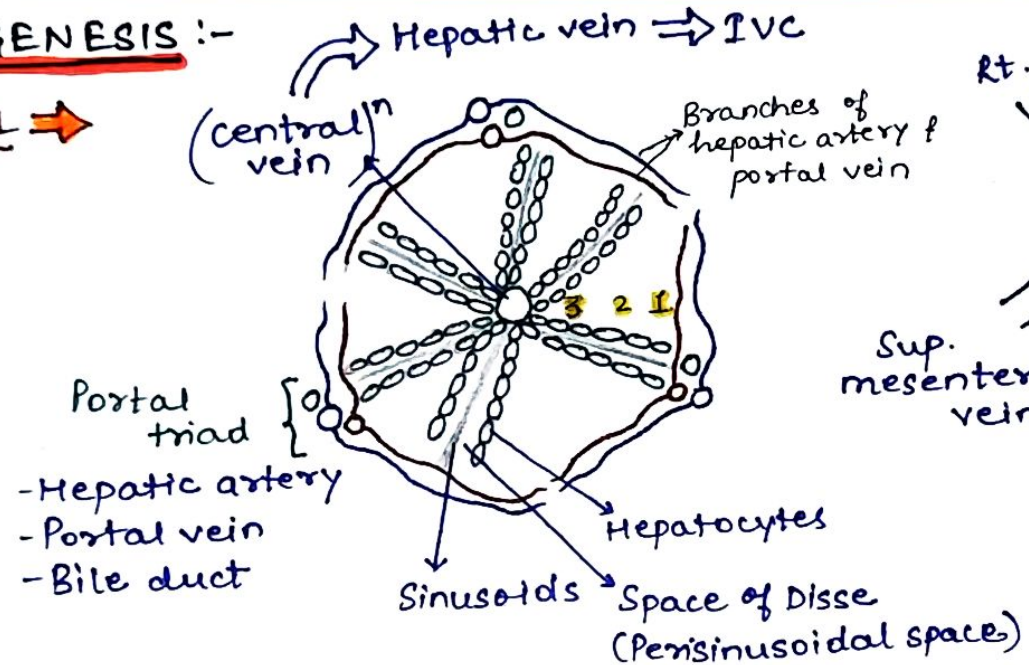
## III. Posthepatic

- Right side heart failure
- Constrictive pericarditis

- Hepatic vein outflow obstruction
- Budd-Chiari syndrome

# # PATHOGENESIS :-

NORMAL →



zone 3 → Pericentral hepatocytes  
zone 1 → Periportal hepatocytes

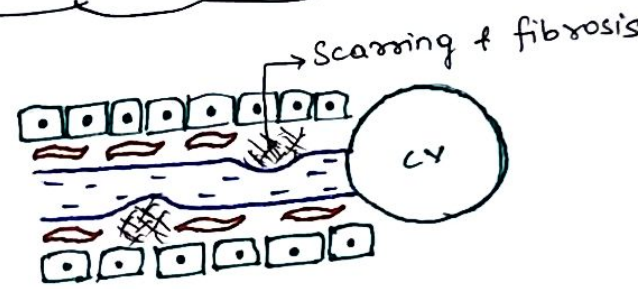
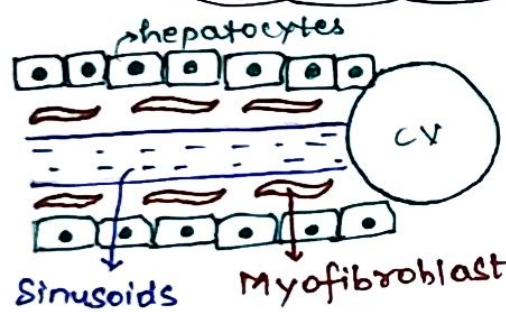
- Portal vein → 60-70% of hepatic blood flow
  - Hepatic artery → 20% of hepatic blood flow
  - Sinusoids contains both mixed blood from portal vein & hepatic artery
  - Hepatocytes are bathed in sinusoids
- } Dual Blood Supply

# Pathogenesis :-

① contraction of vascular smooth muscle cells & myofibroblasts

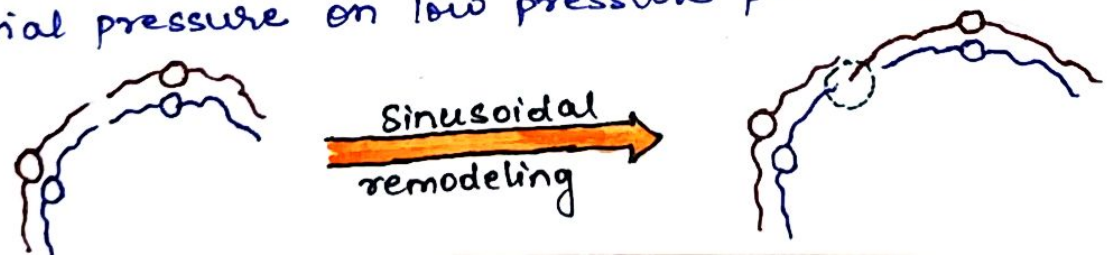
Disruption of blood flow by scarring & formation of parenchymal nodules

Resistance to portal flow



② Increased portal flow caused by hyperdynamic circulation

③ Sinusoidal remodeling & anastomoses between arterial & portal system in fibrous septa contributes to PHTN by imposing arterial pressure on low pressure portal venous system



# # Major Consequences of Portal Hypertension :-

① Hepatic Encephalopathy

② Ascites

③ Portosystemic shunts → sites

◦ Around & within rectum  
(Hemorrhoids)

◦ Esophageal varices

④ Splenomegaly

→ Abdominal wall collaterals

↓ appears as  
subcutaneous dilated veins

↓  
Extending from - umbilicus  
towards - rib margin



k/a → Caput Medusae

{ Clinical hallmark of }  
portal HTN