

CIRRHOSIS OF LIVER

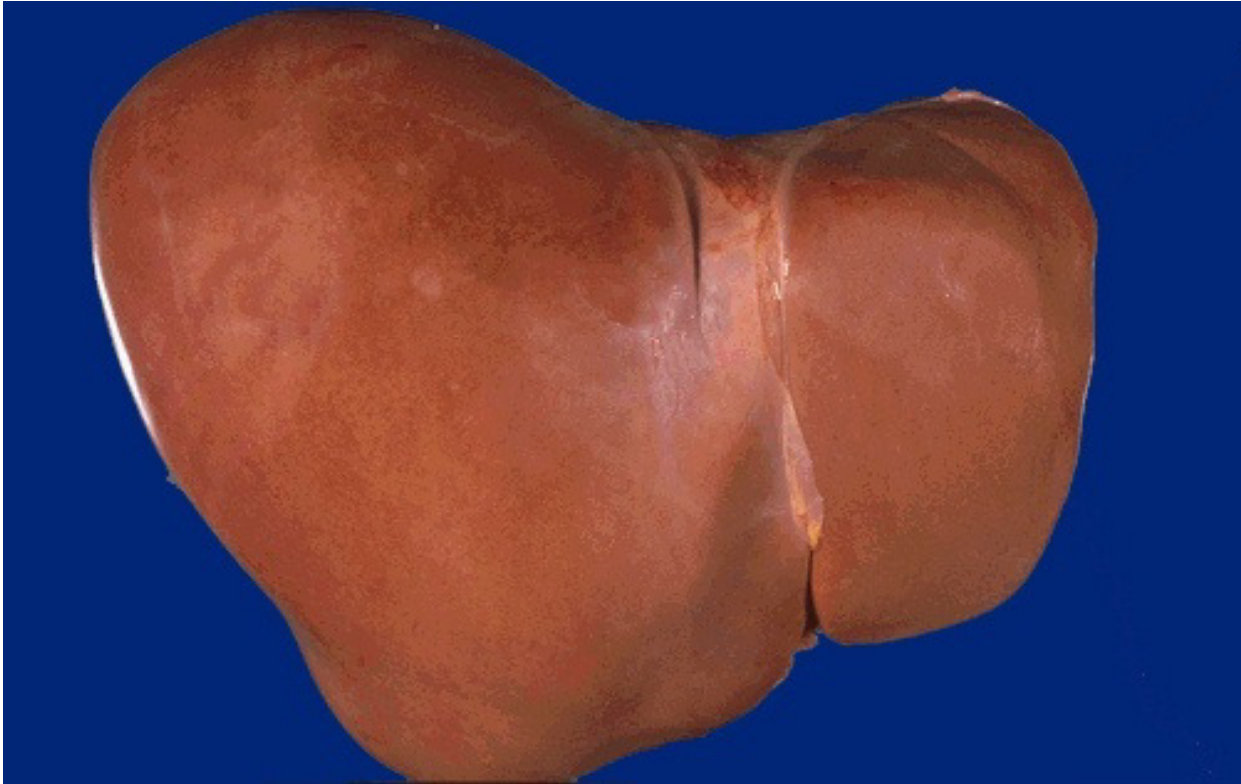
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Surat

Cirrhosis

- Chronic generalized liver disease
- histopathologically
- Has a variety of clinical manifestations and complications
- Some of which can be life threatening.

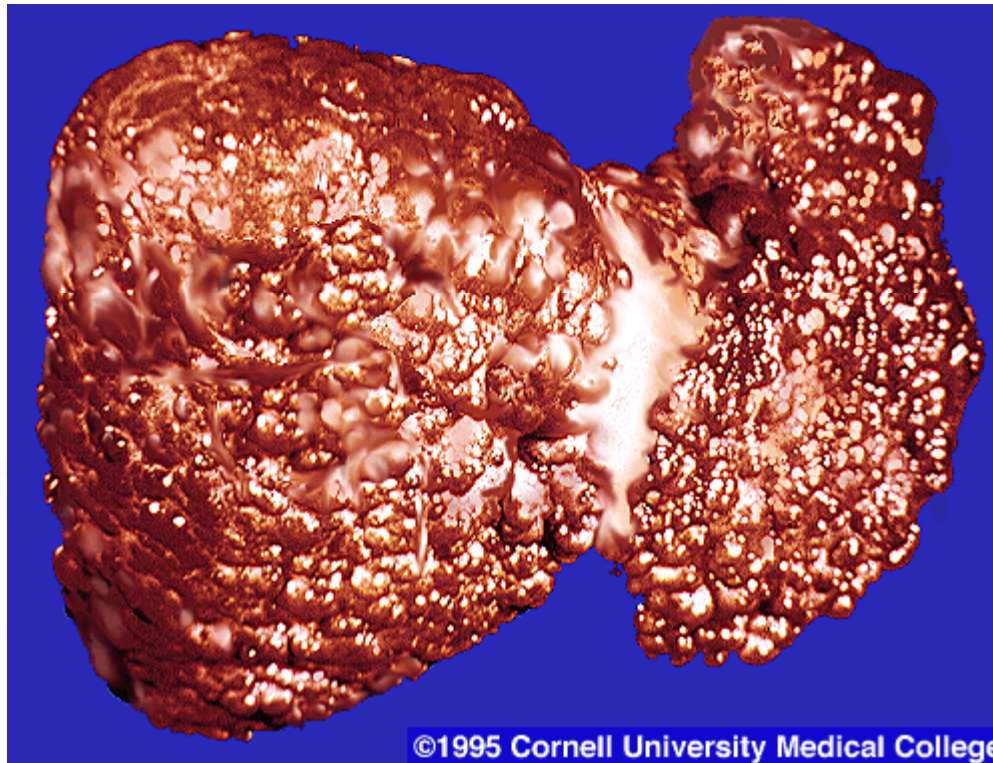
- **Pathologic features :**
- fibrosis
- architectural distortion with formation of nodules
- (micronodular / macronodular)
- **This results in decrease in hepatocellular mass, thus function .**

NORMAL



Dr. Jayaram Swilor

Macronodular Cirrhosis



Epidemiology

- 40% cases asymptomatic
- Deaths due to liver cancer secondary to cirrhosis

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This end stage of Chronic Liver Disease is characterised by :

- Bridging Fibrous Septa
- Parenchymal nodules
- Disruption of the architecture of the entire liver

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Pathogenesis

- **Hepatocellular death**
- **Regeneration**
- **Progressive fibrosis**
- Fibrosis due to formation of increased amounts of
 - collagen
 - extracellular matrix.
- Stimuli :
 - 1.Chronic inflammation = cytokines like TNF, IL-1
 - 2.Cytokine = injured endothelial cells, hepatocytes

Etiology

- Alcoholism
- Chronic Viral Hepatitis
 - Hepatitis B
 - Hepatitis C
- Autoimmune Hepatitis
- Biliary Cirrhosis
 - Primary biliary cirrhosis
 - Primary sclerosing cholangitis
 - Autoimmune cholangiopathy

Etiology

- Cardiac Cirrhosis
- Budd Chiari Syndrome
- Inherited metabolic liver disease :
 - Hemochromatosis
 - Wilson's Disease
 - Alpha 1 Antitrypsin deficiency
 - Cystic Fibrosis
- Drug induced : Methotrexate, Immunosuppressant
- Syphilis

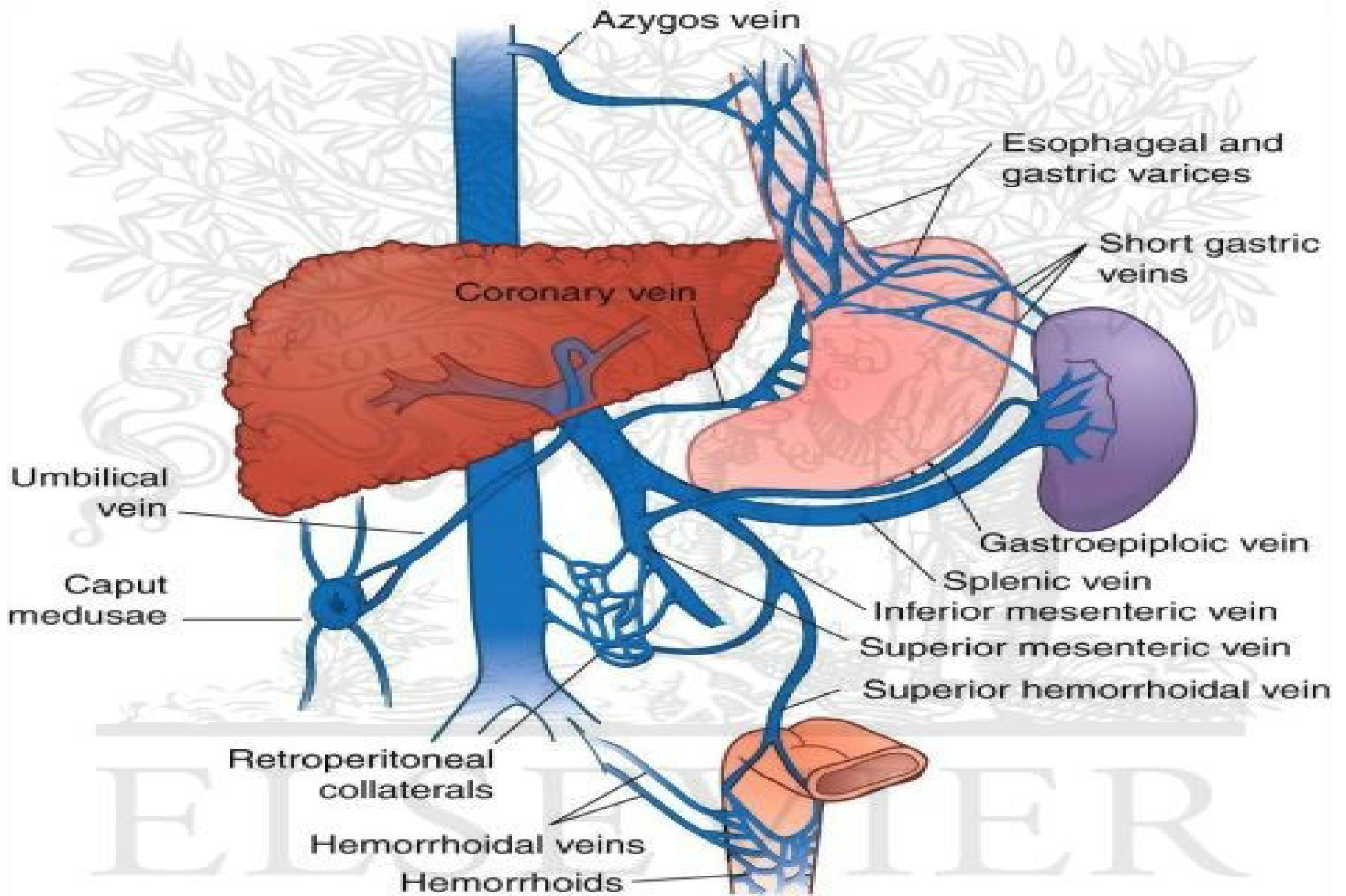
Clinical Features

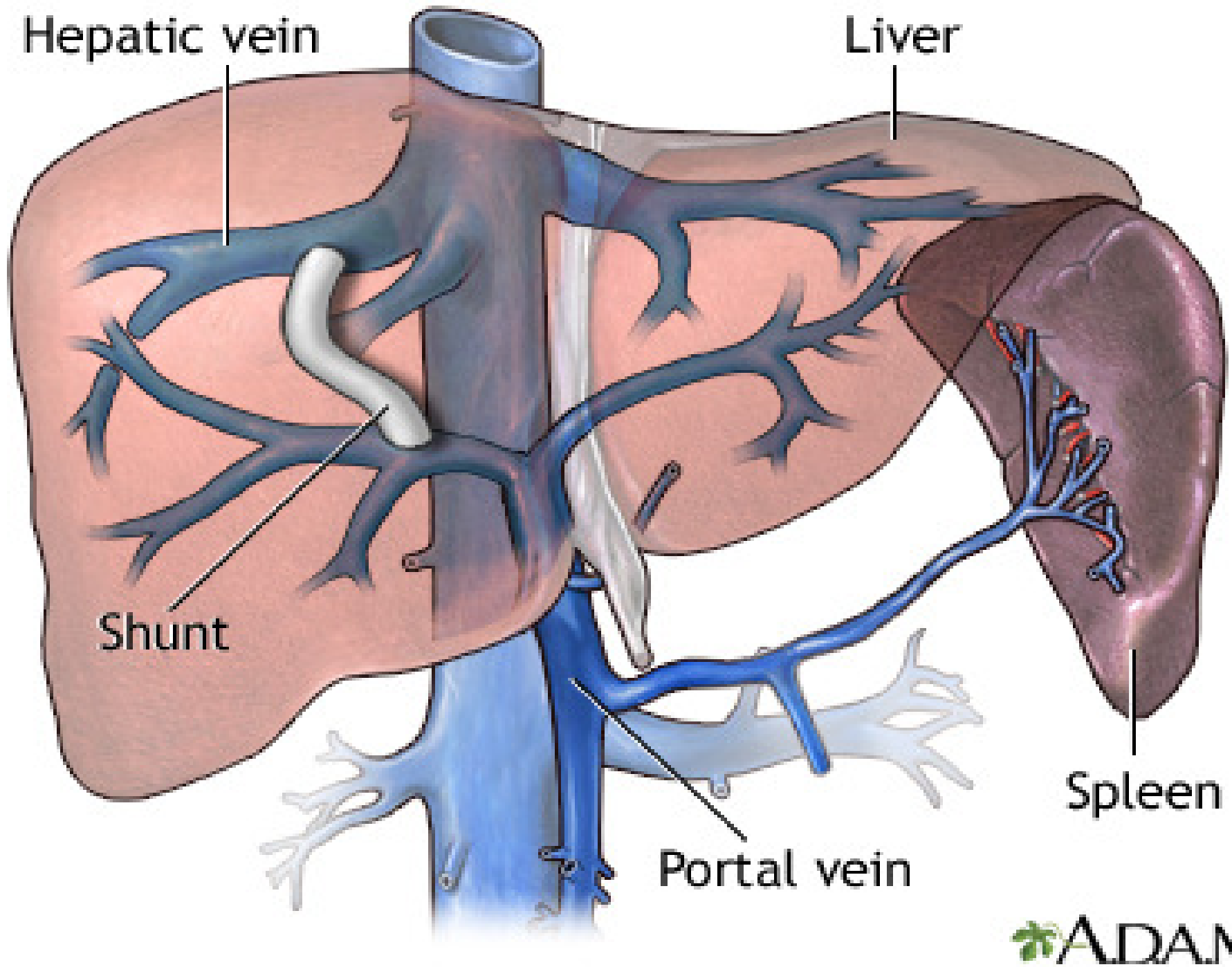
- Asymptomatic for long periods.
- Non specific symptoms –
 - Vague right upper quadrant pain
 - Nausea
 - Vomiting
 - Diarrhea
 - Anorexia & Malaise.
- Specific complication of Chronic Liver Disease
 - Ascites
 - Upper GI bleed
 - Malena
- Hepato Renal Syndrome

Signs

- Edema
- Ascites
- Splenomegaly
- Caput medusae
- Spider Naevi
- Flapping tremors
- Icterus
- Pallor
- Bleeding tendencies
- Gynecomastia
- Loss of hair (alopecia)
- Loss of axillary & pubic hair
- Wasting of muscles
- Glossitis
- Palmar erythema
- Clubbing
- Hyperpigmentation
- Testicular atrophy
- Delirium

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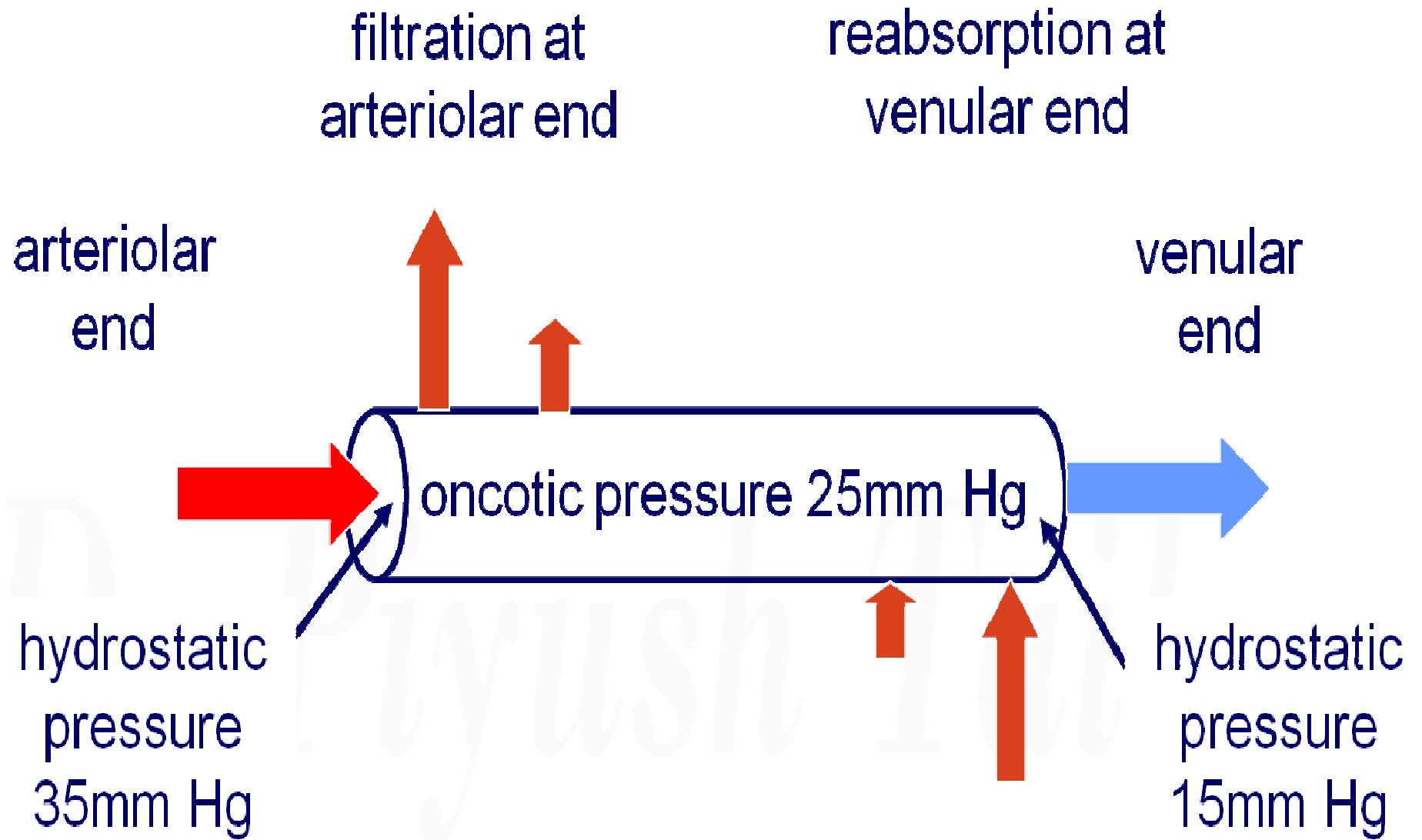




**Biochemical explanation
of
Edema
Ascites
Hypotension
in
Chronic alcoholic**

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filtration pressure = hydrostatic pressure - oncotic pressure



Palmar erythema



Investigation

- Haemoglobin – Decrease
- Platelet count - Low
- Peripheral smear
 - Microcytic / Macrocytic RBC
 - Hypochronic RBC
 - Thrombocytopenia
- Serum Bilirubin – normal / elevated
- Prothrombin Time – often prolonged
- Serum Alanine Transaminases – elevated
- Serum Aspartate Transaminase - elevated
- Serum Protein
- Serum Albumin
- Prothrombin time
- Liver biopsy

Investigation

- Serology for Hepatitis Virus
 - Anti HBsAg Antibody
 - Anti HCsAg Antibody
- Autoantibody
 - Anti Nuclear Antibody
 - Anti Mitochondrial Antibody
- Ferritin and Transferritin Saturation
- Cholesterol
- Glucose
- Alpha 1 Anti – trypsin
- Histopathology = Liver Biopsy
- Image Study
- Ascitic fluid Examination

Cirrhosis – other causes

- Cardiac cirrhosis
- Hemochromatosis
- Wilson's Disease
- Alpha1 Antitrypsin Deficiency
- Cystic Fibrosis

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Complications of Cirrhosis

- Portal Hypertension
 - Gastroesophageal Varice
 - Splenomegaly
 - Ascites
 - Haemarroids
- Hepato-Renal Syndrome
- Hepatic Encephalopathy
- Coagulopathy
- Bone Disease : Osteopenia/Osteoporosis/ Osteomalacia
- Haematological abnormality
 - Anaemia
 - Hemolysis

Management of Cirrhosis

- Rest
- Ascites
 - Sodium & Fluid restriction
 - Diuretics,
 - Paracentesis
 - Peritoneovenous shunt
 - Continuous reinfusion of ascitic fluid into the venous system
- Nutrition
 - High calcium
 - High Cholesterol
 - Moderate to Low fat
 - Low protein if patient is symptomatic

Management- Drugs

- Fat & Water soluble vitamins
- Hemostasis – Vasopressin
- ↓ portal venous pressure – Propranolol
- Acidify stool, trap ammonia – Lactulose
- ↓ bacterial flora – Neomycin sulfate
- ↓ gastric acidity – Proton Pump Inhibitor
- Diuretics – Spironolactone, Furosemide
- Correct clotting abnormalities – Vitamin K

Portal Hypertension - Cause

Elevation of hepatic venous pressure > 5mm Hg.

- Pre-Hepatic
 - Portal Vein thrombosis
 - Splenic Vein Thrombosis
 - Massive Splenomegaly
- Hepatic
 - Hepatic fibrosis
 - Sinusoidal – Cirrhosis
 - Alcoholic hepatitis
- Post-Hepatic
 - Veno-occlusive Disease

Portal Hypertension - Cause

- Post-hepatic
 - Budd Chiari syndrome
 - Inferior vena caval webs
 - Cardiac Causes
 - Restrictive Cardiomyopathy
 - Constrictive Pericarditis
 - Severe Congestive Heart Failure

Dr. Elyash Tailor

Treatment of Portal HT

- Nasal Gastric Aspiration
- **OCTREOTIDE**
- **VASOPRESSIN**
- Endoscopic Therapy
- Variceal band ligation
- Variceal sclerotherapy
- Balloon tamponade
- Beta blockers – propranolol

Dr. Vijayash Tailor

Ascites - Treatment

- **Mild**
 - Dietary sodium restriction (<2g/day)
 - **Moderate**
 - Diuretic is essential
 - Spiranolactone 100-200 mg/day
 - Furosemide 40-80 mg/day
 - **Severe**
 - Ascites Tapping
 - Liver Transplantation
- ✓ Prognosis – Patients of cirrhosis with ascites is poor
- ✓ <50 % of Patients survive 2 yrs after the onset of ascites.

HEPATIC ENCEPHALOPATHY

- Precipitating factors
 - GI Bleeding
 - Excess protein intake
 - Electrolyte abnormalities
 - Ascitic Aspiration
 - Uremia
 - Dehydration, Constipation
 - Alcohol
 - Viral infections
 - Anaesthetic agents, Surgery, Narcotics, Tranquilisers
 - Hepatic toxins

HEPATIC ENCEPHALOPATHY

- Treatment–CORRECT/ AVOID PRECIPITATING FACTORS
 - Dietary protein restriction-30 - 40 gm protein / day
 - Non absorbable disaccharide – LACTULOSE – 15 to 45 ml BID / QID
 - Lactulose enema
 - Neomycin 1 gm 6th hrly
 - Metronidazole 250 mg 8th hrly
 - Bowel wash / Lactobacillus

Dr. Ajaysh Tailor

THANK YOU

Dr Piyush Tailor