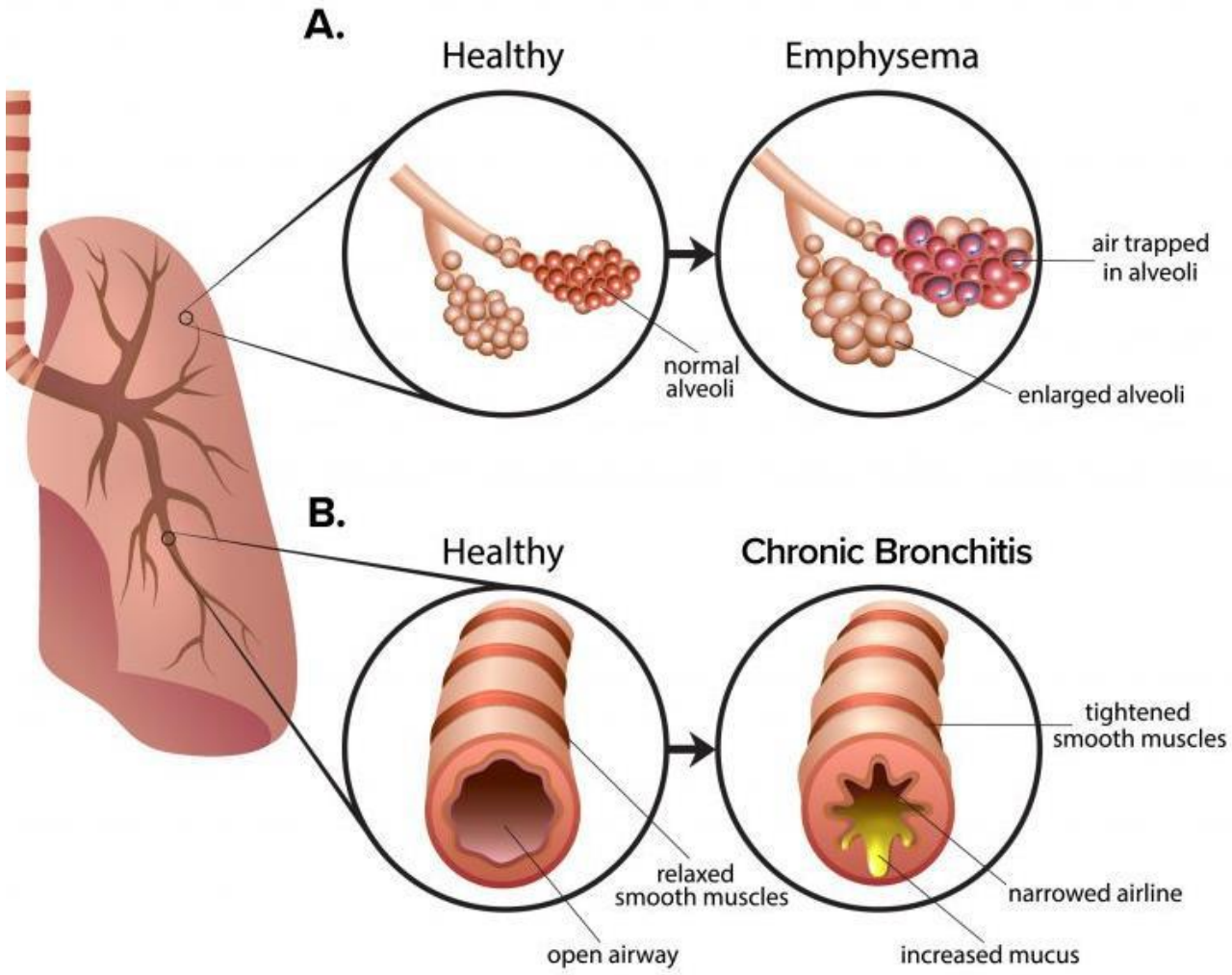
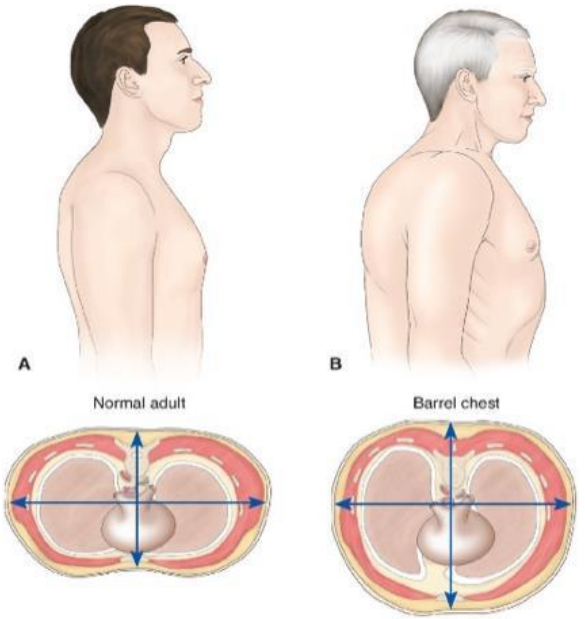
Medicine ward

Chronic Obstructive Pulmonary Disease (COPD)



Clinical presentation

- Chronic **cough** and sputum production,
- Development of a "barrel chest" due to hyperinflation of the lungs,
- Increased resting respiratory rate,
- Shallow breathing,
- Pursing of lips during expiration,
- And use of accessory respiratory muscles



Diagnosis

Diagnosis is based in part on patient symptoms and history of exposure to risk factors such as tobacco smoke and occupational substances. Classification of disease severity is based on assessment of airflow limitation by spirometry, Patients are first classified according to severity of airflow obstruction (Grades 1–4) The hallmark of COPD is reduced FEV1:FVC ratio to less than 70%.

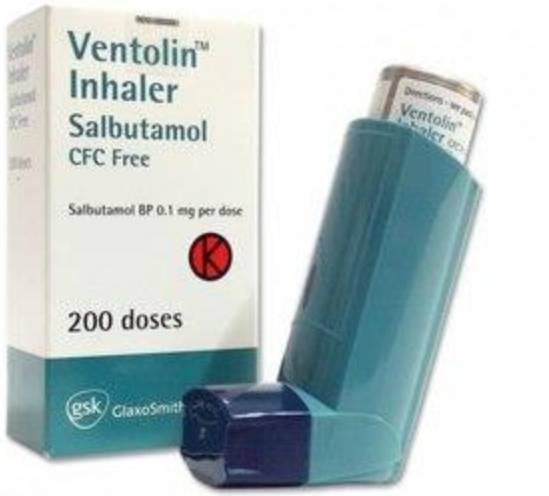
Treatment

Goals of Treatment:

- Smoking cessation is the most important intervention, reducing exposure to occupational dust and fumes as well as other environmental toxins is also important.
- Pulmonary rehabilitation programs include exercise training, breathing exercises.
- Administer the influenza vaccine annually during influenza season

- Short-acting inhaled bronchodilators **β2-agonists** or **anticholinergics** are initial therapy for patients with intermittent symptoms; they relieve symptoms and increase exercise tolerance.
- Long-acting inhaled **β2-agonists** or **anticholinergics** relieve symptoms, reduce exacerbation frequency, and improve quality of life and health status. They are recommended for moderate to severe.

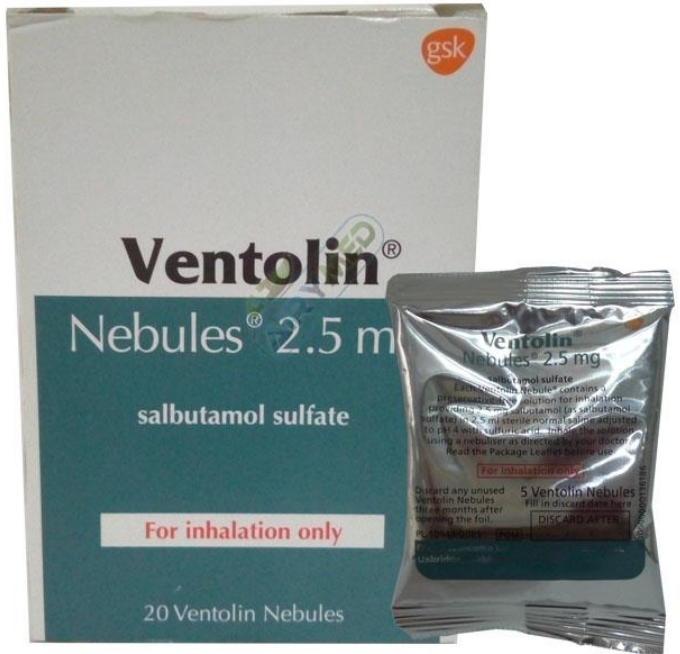
1. **Short-acting β2-agonists (SABA):** cause relaxation of bronchial smooth muscle and bronchodilation and may also improve mucociliary clearance. Administration via metered-dose inhaler (MDI) or dry-powder inhaler (DPI) **[e.g., Albuterol, Terbutaline].**
2. **Long-acting β2-agonists (LABA)** are dosed every 12 to 24 hours **[e.g., Salmeterol & Formoterol]**
3. **Short-acting muscarinic antagonists (SAMA) (anticholinergics):** for COPD include primarily ipratropium bromide. It has a slower onset of action than SABA (15–20 min vs 5 min for albuterol).
4. **Long-acting muscarinic antagonists (LAMA) (anticholinergics):** Tiotropium bromide inhalation spray (Spiriva Respimat).
5. **Methylxanthines:** Theophylline and aminophylline produce bronchodilation by inhibiting phosphodiesterase and other mechanisms.
6. **Corticosteroids:** reduce capillary permeability to decrease mucus, inhibit release of proteolytic enzymes from leukocytes, and inhibit prostaglandins. Combination of inhaled corticosteroids and long-acting bronchodilators is associated with greater improvements in FEV1 **[e.g., Budesonide plus formoterol inhalation aerosol (Symbicort)]**
7. **Phosphodiesterase Inhibitors:** Roflumilast (Daliresp) is a phosphodiesterase 4 (PDE4) indicated to reduce risk of exacerbations in patients with severe COPD.

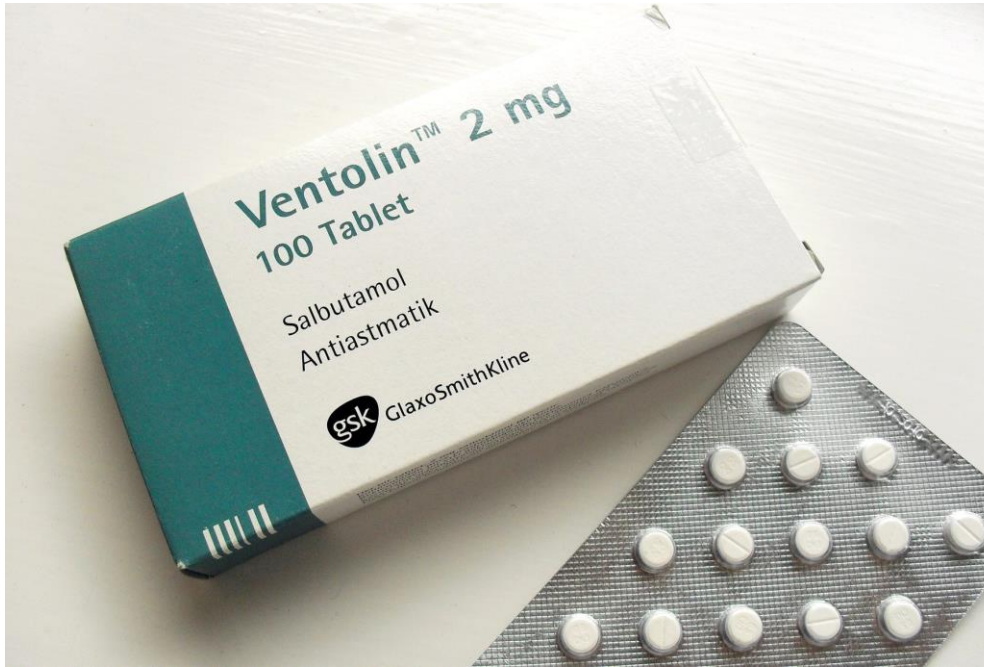

Ventolin™
Inhaler
Salbutamol
CFC Free
Salbutamol BP 0.1 mg per dose
200 doses
GlaxoSmith


Ventolin™
respirator
solution
Salbutamol BP (as sulphate) 0.5%w/v (5mg/ml)
20 ml
For Inhalation only. Not to be Injected or Swallowed.
GlaxoSmithKline
Ventolin™
respirator
solution
Salbutamol
(as sulphate)
0.5%w/v (5mg/
20 ml
For Inhalation only. Not to be Injected or Swallowed.


gsk
Ventolin
Accuhaler
200 micrograms
albutamol sulfate
60 blisters
Ventolin
Accuhaler® 200 micrograms
salbutamol sulfate, 60 blisters
Keep out of the sight and reach of children


gsk
Ventolin™
Syrup
2 mg/5 ml
syrup
salbutamol
Sugar free
150 ml


gsk
Ventolin®
Nebules® 2.5 m
salbutamol sulfate
For inhalation only
20 Ventolin Nebules
Ventolin
Nebules® 2.5 mg
5 Ventolin Nebules
DISCARD AFTER


Ventolin™ 2 mg
100 Tablet
Salbutamol
Antiastmatik
GlaxoSmithKline


PharmEasy


Spiriva® HandiHaler®
(tiotropium bromide inhalation powder)
Do not store the Spiriva®
capsule in the HandiHaler®

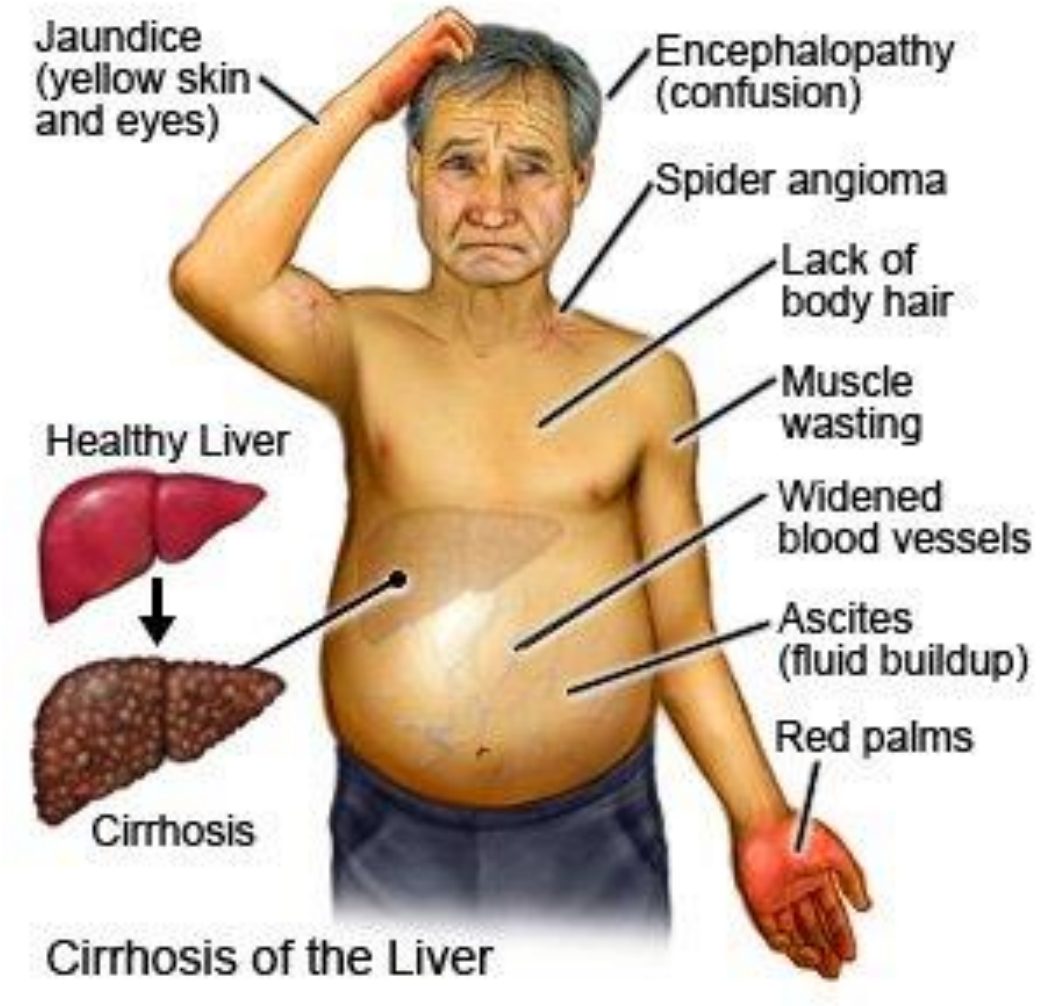

Symbicort
Turbuhaler
budesonide/formoterol fumarate
dihydrate powder for oral inhalation
budésonide/fumarate de formotérol
dihydraté - poudre pour inhalation orale
200/6 µg/dose
Corticostéroïde/Bronchodilateur
Corticostéroïde/bronchodilatateur
200/6
DE/FORMOTEROL
-2013

Treatment of Exacerbations of COPD

1. Provide oxygen therapy for patients with significant hypoxemia (eg, oxygen saturation less than 90%).
2. short course of IV or oral corticosteroids. Although optimal dose and duration are unknown, prednisone 40 mg orally daily (or equivalent) for 10 to 14 days can be effective.
3. Antibiotics are of most benefit and should be initiated if at least two of the following three symptoms are present: (1) increased dyspnea, (2) increased sputum volume, and (3) increased sputum purulence.

Onyx

Cirrhosis and Portal Hypertension

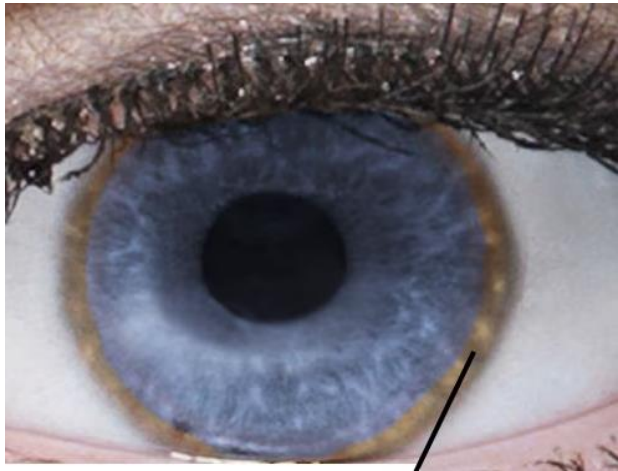


Cirrhosis complications:

1. Portal hypertension and varices
2. Hepatic encephalopathy
3. Coagulation defects

Etiology of Cirrhosis

1. Chronic alcohol consumption,
2. Chronic viral hepatitis (types B and C)
3. Metabolic liver disease (e.g., Wilson's disease), Nonalcoholic steatohepatitis ("fatty liver"),
4. Autoimmune hepatitis, Primary biliary cirrhosis, vascular disease (Cardiac failure),
5. Drugs: (Isoniazid, methyldopa, amiodarone, amoxicillin-clavulanate, nitrofurantoin, diclofenac



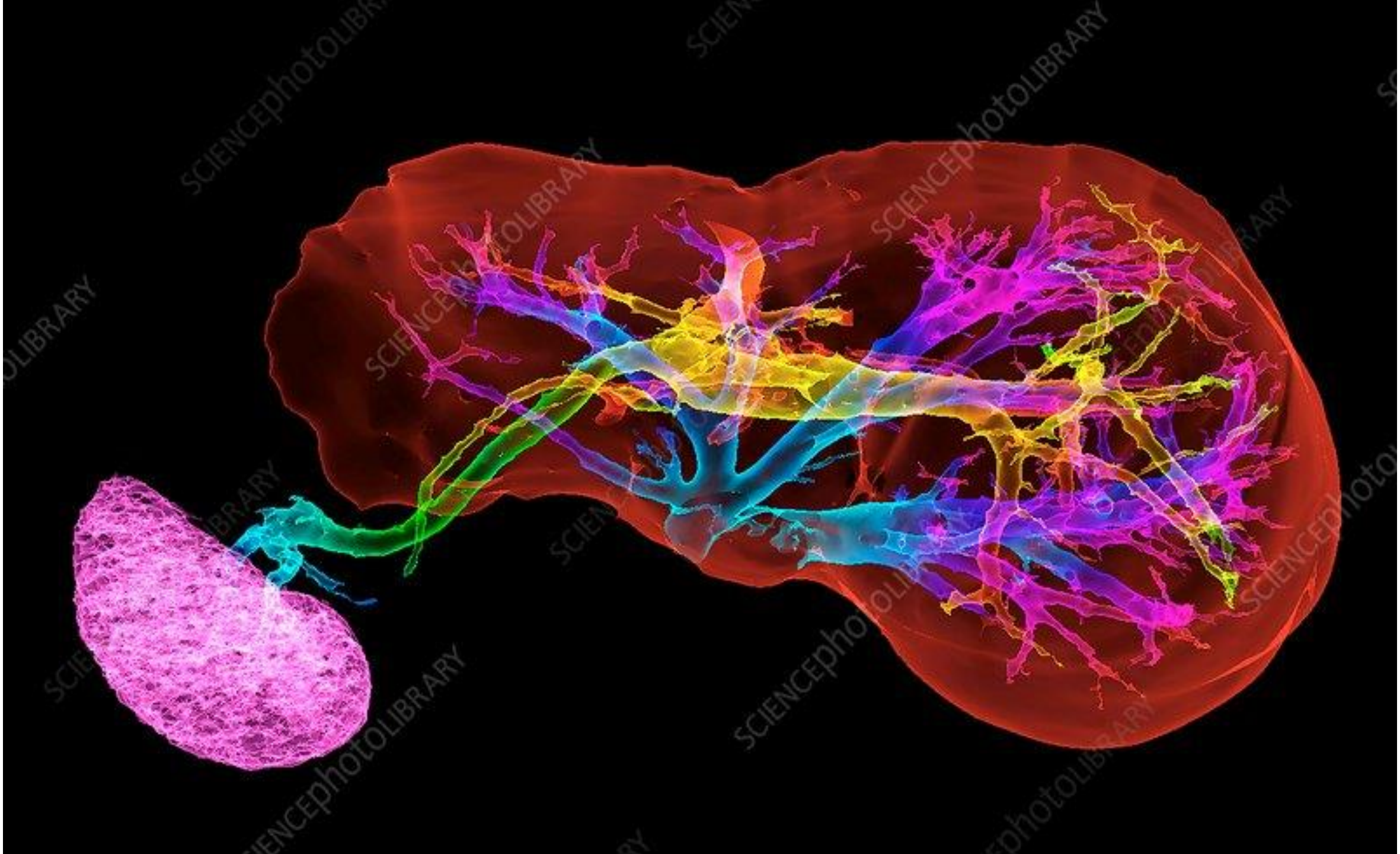
Clinical presentation

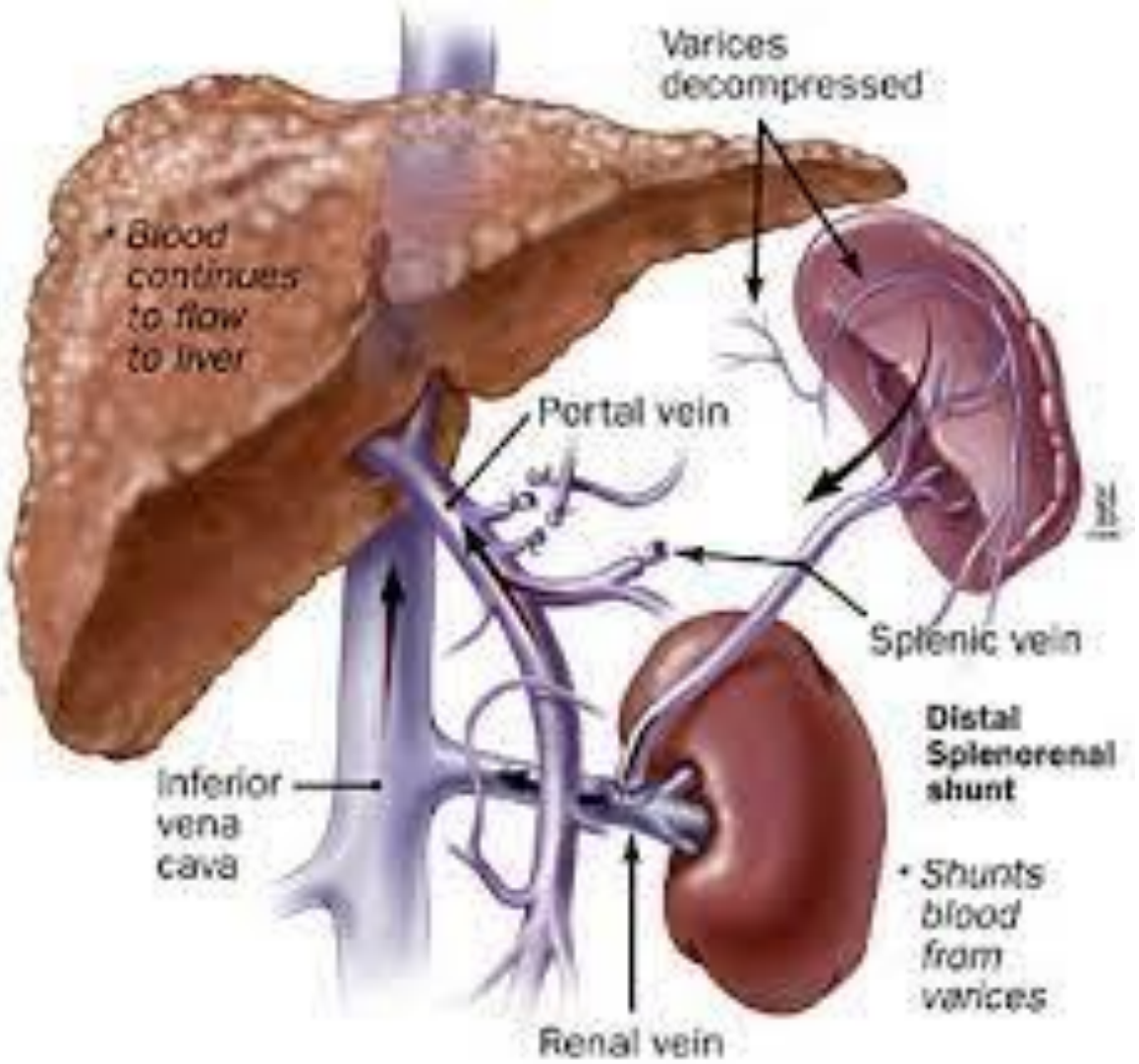
Signs and Symptoms

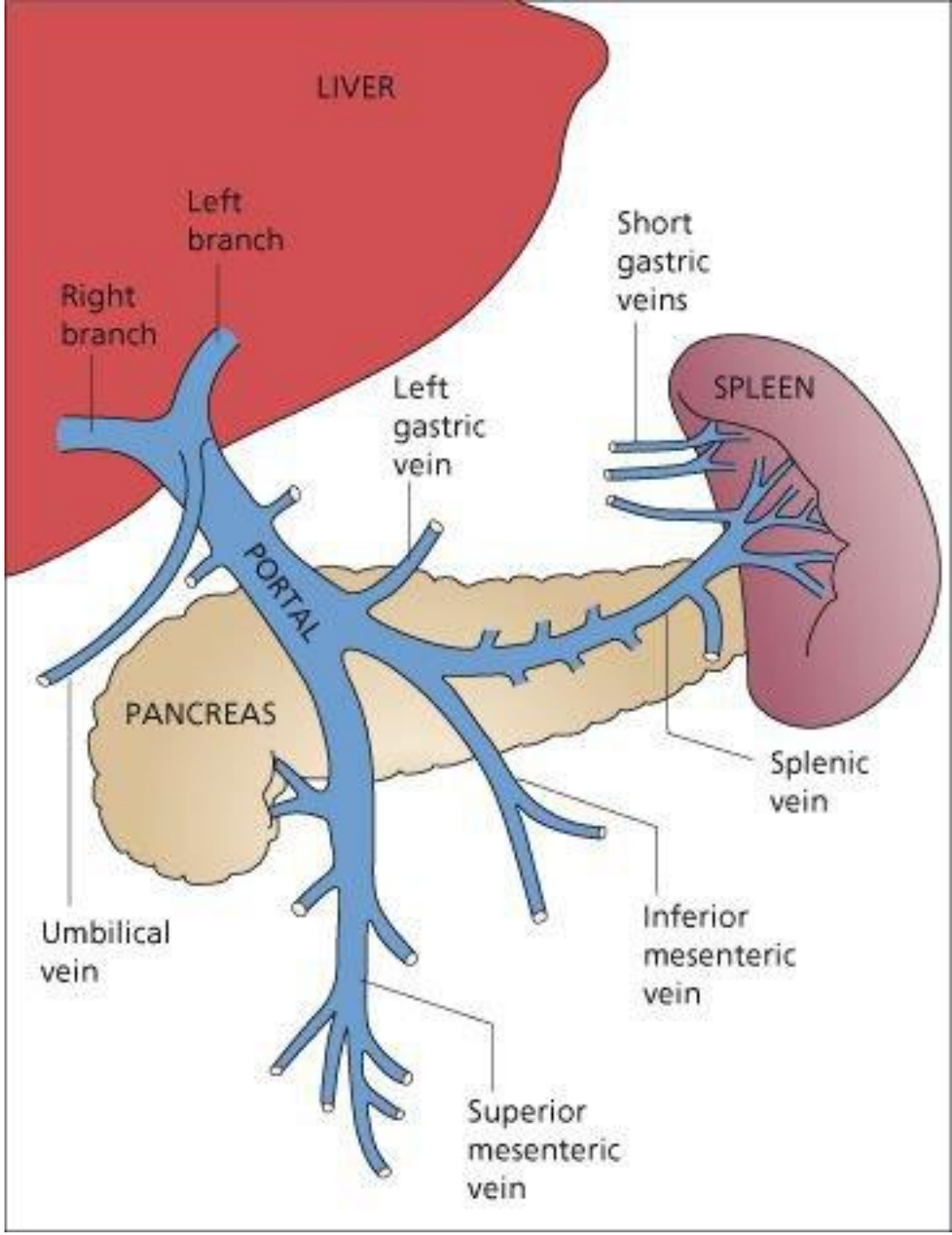
- Asymptomatic
- Hepatomegaly and splenomegaly
- Pruritus, jaundice, palmar erythema, spider angiomata, and hyperpigmentation
- Gynecomastia and reduced libido
- Ascites, edema, pleural effusion, and respiratory difficulties
- Malaise, anorexia, and weight loss
- Encephalopathy

Laboratory Tests

- Hypoalbuminemia
- Elevated prothrombin time (PT)
- Thrombocytopenia
- Elevated alkaline phosphatase
- Elevated aspartate transaminase (AST), alanine transaminase (ALT), and γ-glutamyl transpeptidase (GGT)




Varices decompressed
Blood continues to flow to liver
Portal vein
Splenic vein
Distal Splenorenal shunt
Inferior vena cava
Shunts blood from varices
Renal 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

Hepatic Encephalopathy HE

Protein intake is limited or withheld (while maintaining caloric intake) until the clinical situation improves.

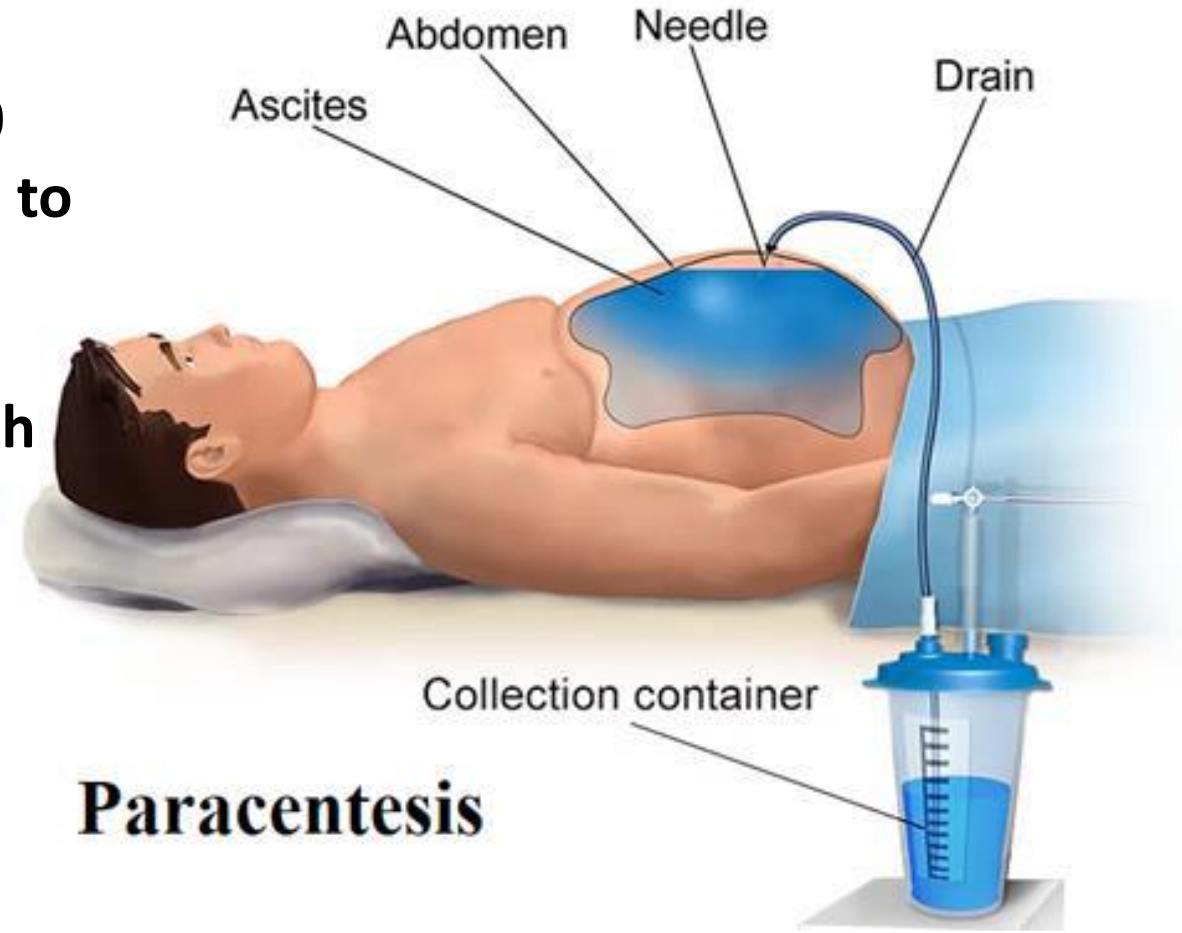
lactulose is initiated at 45 mL orally every hour (or 300 mL lactulose syrup with 1 L water given as a retention enema held for 60 minutes).

The dose is then decreased to 15 to 45 mL orally every 8 to 12 hours and titrated to produce two or three soft stools per day.

Rifaximin 400 to 550 mg twice daily plus lactulose is superior to lactulose alone in patients with a history of recurrent HE.

Ascites: The treatment of ascites secondary to portal hypertension includes abstinence from alcohol, sodium restriction (to 2 g/day), and diuretics.

Diuretic therapy should be initiated with single morning doses of spironolactone, 100 mg, and furosemide, 40 mg, titrated every 3 to 5 days (or spironolactone alone), with a goal of 0.5 kg maximum daily weight loss. The dose of each can be increased together, maintaining the 100:40

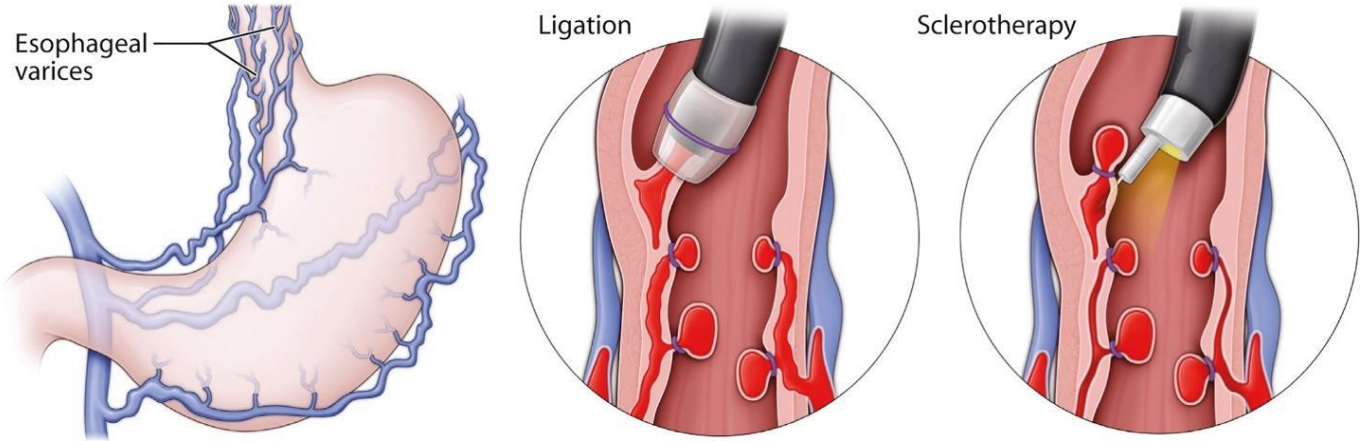


- Spontaneous bacterial peritonitis SBP: Cefotaxime, 2 g every 8 hours, or a similar third-generation cephalosporin for 5 days is considered the drug of choice.
- Oral ofloxacin, 400 mg every 12 hours for 8 days, is equivalent to IV cefotaxime.

- Patients who survive an episode of SBP should receive long-term antibiotic

Acute variceal hemorrhage

- Vasoactive drug therapy (usually octreotide) to stop or slow bleeding is routinely used early in patient management to allow stabilization of the patient
- Endoscopic variceal ligation (EVL) is the recommended form of endoscopic therapy for acute variceal bleeding, although endoscopic injection sclerotherapy (injection of 1–4 mL of a sclerosing agent into the lumen of the varices) may be used.



Portal hypertension: The mainstay is the use of a **nonselective** β-adrenergic blocking agent such as propranolol, nadolol, or carvedilol. Goal HR: 55–60 beats/min or maximal tolerated dose Patients with contraindications should be considered for alternative prophylactic therapy with EVL.


ANY
QUESTIONS?
NO? GREAT! BYE!