COPD Concept Map

Pathophysiology

COPD is characterized by chronic inflammation of the airways, leading to obstructed airflow and reduced lung function. Key components include emphysema (alveolar destruction) and chronic bronchitis (increased mucus production).

Manifestations

Common symptoms of COPD include chronic cough, increased sputum production, wheezing, and shortness of breath, particularly during exertion. Patients may also experience fatigue and chest tightness.

Diagnostic/lab tests

OPD is primarily diagnosed using spirometry to measure lung function. Other tests include chest X-rays, CT scans, arterial blood gases (ABG), and pulse oximetry to assess oxygen levels.

Risk factors

Smoking is the leading cause of COPD, followed by exposure to pollutants (e.g., dust, chemicals). Genetic factors, such as alpha-1 antitrypsin deficiency, and frequent respiratory infections can also contribute.

Chronic obstructive pulmonary disease (COPD)

Potential complications

COPD can lead to respiratory infections, heart problems (e.g., cor pulmonale), and acute respiratory failure. Severe COPD increases the risk of lung cancer and exacerbations requiring hospitalization.

Treatment/ medications

Management includes bronchodilators, corticosteroids, and oxygen therapy. In severe cases, surgical interventions (lung volume reduction surgery or transplant) may be considered.

Nursing interventions

Nurses monitor symptoms, administer medication, and provide oxygen therapy. They also assist with respiratory exercises and help prevent infections.

Patient education

Smoking cessation, proper inhaler use, and pulmonary rehabilitation are crucial. Patients are also educated on recognizing early signs of exacerbation and maintaining vaccinations (e.g., flu, pneumonia).